CHAPTER 2. DISTRICTS AND GENERAL PROVISIONS

2.5. Accessory structures.

A. ***Principal buildings required.*** The construction of an accessory structure or building is not permitted unless a principal building is located on the lot, except as set forth below or as otherwise provided in this ordinance. Accessory structures shall be incidental and subordinate to the principal structure(s). Accessory and principal buildings may be constructed concurrently.

1. Accessory structures utilized for agricultural purposes in association with agricultural principal uses may be permitted in the absence of a principal structure.
2. Garden sheds may be permitted in the absence of a principal structure subject to the following requirements:
    a. Garden sheds shall be no larger than 120 square feet in size;
    b. Garden sheds shall be single-story;
    c. Garden shed shall not be connected to water, sewer, or electricity; and
    d. Garden sheds shall be utilized only for the storage of lawn equipment, garden utensils, and other implements necessary for the maintenance of gardens and grounds.

B. ***Dimensional requirements.***

1. Accessory structures shall meet the yard and setback requirements of Section 2.7.
2. Accessory structures shall not exceed two stories in height.

C. ***Accessory structures on lots with single-family dwellings and duplexes.***

1. Maximum number permitted. No more than two accessory structures shall be permitted per lot. Beehives and chicken coops shall not count toward the maximum number of accessory structures on a lot.
2. Accessory structures shall be located only in the side or rear yards, except for gazebos, private garages, and carports. Such structures shall comply with the front yard setbacks for primary structures in Section 2.7.2. The administrator shall make a determination as to the side or rear yard for accessory structures proposed to be located on lots fronting more than one street.
3. Under no circumstances shall the use of a shipping container be permitted for the purpose of providing permanent storage as an accessory use.

D. ***Accessory structures on lots with non-residential uses, multi-family uses, and group developments.***

1. Maximum number permitted. No more than two accessory structures shall be permitted per lot, except in General Industrial (GI). In all other zoning districts, additional structures shall be considered as principal structures in a group development.
2. Accessory structures shall be located only in side or rear yards except for bona-fide agricultural enterprises.

3. Accessory structures shall comply with the applicable landscaping requirements of CHAPTER 8 of this ordinance.
4. Accessory structures shall be clad in materials similar in appearance to the principal structure in accordance with CHAPTER 5, except when such material is non-conforming with this ordinance.

E. ***Exempt structures.***

1. Structures including but not limited to mailboxes, newspaper boxes, birdhouses, flagpoles, pump covers, garden boxes and planters, doghouses, and any other similar small or ornamental structures shall not be considered principal or accessory structures and shall not require a permit.

2.8. Fences and walls.

A. All fences and walls shall be constructed so that the best face faces outward from the parcel upon which it is constructed and towards adjacent properties. The "best face" shall generally mean the side opposite to framing members.

B. Fences and walls shall not be placed within public utility easements or public right-of-way without first securing an encroachment agreement from the City of Brevard, the North Carolina Department of Transportation, or other appropriate entity.

C. Fence or wall height shall be measured from the side of the fence or wall that is exterior to the property as the vertical distance between the lowest adjacent ground level, natural or filled, and the top of the fence material. Fence heights are restricted as follows:

1. In industrial districts, and public safety and other critical facilities. Fences or walls shall be no greater than six feet in height in the front yard(s) and no greater than eight feet in height in the side and rear yards.
2. All other districts and uses. Fences or walls shall be no greater than four feet in height in the front yard(s) and no more than eight feet in the side and rear yards.
3. No closed fence or wall shall be greater than two-and-a-half feet in height when placed within the sight triangle of any intersection as specified in Section 9.5 of this ordinance. Open fences are exempt from this provision.

D. Fence and wall materials shall conform to the following requirements:

1. *Residential districts:*
    a. All fences and walls must be of brick, stone, stucco, wrought iron, wood, or other materials similar in appearance and durability, except that chain link or woven wire may be used in the side and rear yards.
    b. All other wire fences, including barbed wire or concertina wire, are prohibited.
    c. Nothing in this chapter shall prevent the administrator from approving architecturally variant uses of material to allow creative fence design, such as the contemporary look of heavy-gauged welded wire panels framed in timber.
    d. The use of plastic plumbing pipe is a prohibited fence material.
2. *Commercial districts:*
    a. All fences and walls must be of brick, stone, stucco, wrought iron, wood, or other materials similar in appearance and durability.
    b. Chain link wire fences may be used as secure enclosures internal to the property or site subject to the following requirements:

i. Chain link fences shall not be visible from a public right-of-way,

ii. Chain link fences shall not serve as a perimeter fence or property line fence unless buffered by a type A buffer yard on all sides, and then only in the side or rear yard behind the front building line.

c. All other wire fences, including barbed wire or concertina wire, are prohibited.

d. All walls and fences shall be materially similar to other walls and fences in the same block or general vicinity.

3. *Industrial districts, public safety facilities, and other critical facilities:*

a. All fences and walls must be of brick, stone, stucco, wrought iron, wood, or other materials similar in appearance and durability, and shall be materially similar to other walls and fences on the same block or general vicinity.

b. Vinyl coated, chain link fencing may be approved by the administrator as perimeter fencing with additional filtering through openings using opaque or semi opaque slats or screening or by installing a type A landscaping buffer between incompatible uses, between different zoning districts or where visible from a public street.

4. *Barbed wire:* Barbed wire may be permitted within agricultural operations with livestock and any bona-fide agricultural operations within any zoning district.

E. Retaining walls shall also conform to the following requirements:

1. Retaining walls should minimize the impacts of cut and fill on a site.

2. The height of any retaining wall should not exceed five feet unless required to be higher for engineering reasons.

a. An increase in retaining wall height may be allowed if the proposed design minimizes the cut and fill impacts and enhances the existing landscape.

3. In areas where cuts are steeper, a stepped or terraced wall should be used. Large, unbroken retaining walls in a uniform plane should be avoided.

CHAPTER 3. USE DEFINITIONS AND STANDARDS

3.10. Agriculture uses.

3.10.1. Agricultural use category.

A. *Agriculture:*

1. Definition: Land primarily used to grow crops, produce, flowers, etc., raise animals, harvest timber, and harvest fish and other animals from a farm, ranch, or their natural habitats. A farm, as an establishment, may be one or more tracts of land, which may be owned, leased, or rented by the farm operator. Agricultural uses include, but are not limited to, the following:

a. farms,

b. urban farms,

c. ranches,

d. dairies,
e. horse boarding,
f. community gardens,
g. greenhouses,
h. nurseries,
i. orchards, or
j. hatcheries.

2. Additional Standards:
   a. Areas of cultivation and accessory structures shall be set back:
      i. A minimum of five feet from side and rear lot lines.
      ii. A minimum of ten feet from any lot line abutting a street.
   b. The sale of items grown on-site is prohibited unless permitted separately.
   c. Property that is located in the city's ETJ and that is used for bona fide farm purposes as defined in G.S. 160D-903 is exempt from zoning regulations.
      i. This does not limit zoning regulation with respect to the use of farm property for nonfarm purposes.
      ii. Property that ceases to be used for bona fide farm purposes shall become subject to exercise of the city's zoning regulations.
      iii. For purposes of complying with state or federal law, property that is exempt from the exercise of municipal extraterritorial planning and development regulation jurisdiction shall be subject to floodplain regulation provisions.
   d. Animals and livestock
      i. Per Brevard City Code Section 14-4, no person shall keep or maintain any cow, bull, calf, hog, pig, horse, mule, pony, goat or sheep or other livestock within the city limits.
      ii. Animals and livestock may be kept on property in the city's ETJ, provided that:
         (A) No person shall keep any cows, cattle, sheep, horses, pigs, goats or other livestock within 150 feet of any neighboring, occupied residential building.
         (B) Any person owning or having the use of any stable, shed or place where any livestock is kept shall keep such place in a clean and sanitary condition.
   e. For agricultural research establishments administering programs for regulating and conserving land, mineral, wildlife, and forest use, the administrator shall apply the relevant institutional or research and development categories.

3.13. Accessory uses.

3.13.1. Residential accessory use category.

A. ***Residential accessory use.***

1. Definition: A use of land or of a building or structure or portion thereof, which is incidental and subordinate to a residential or lodging principal use on the same lot.

2. Additional Standards:

a. Accessory uses shall be clearly incidental to the residential or lodging principal use and shall not change the essential character of the dwelling or the neighborhood.

b. Accessory uses shall adhere to the standards outlined in Section 2.5 and all other applicable sections.

B. ***Day care home.***

1. Definition: Supervision or care provided on a regular basis, as an accessory use within a principal residential dwelling unit, by a resident of the dwelling for children or adults who are not related by blood or marriage to, and who are not the legal wards or foster children of, the supervising adult.

2. Additional Standards:

a. Child day care homes shall comply with the definitions and standards for family child care homes set forth in N.C.G.S. §110 (or any successors thereto).

b. Adult day care homes shall comply with the definitions and standards for adult day care programs as set forth in N.C.G.S. §131-D (or any successors thereto).

c. Child day care homes shall provide ample open area in the form of a rear yard with a minimum of 2,500 square feet suitable for children's play. Child day care homes located adjacent to parks are exempt from this provision.

d. Client drop-off and pick-up areas shall be located on the site so as not to obstruct traffic flow on adjacent public streets.

e. All day care establishments shall at all times be properly licensed by the State of North Carolina and all other appropriate governmental entities.

f. All equipment shall be stored in the side or rear yard.

g. No structural or decorative alteration which would alter the single-family character of an existing or proposed residential structure or which would be incompatible with surrounding residences shall be permitted.

C. ***Dwelling— accessory unit (ADU).***

1. Definition: A dwelling unit that exists either as part of a principal dwelling or as an accessory building and is secondary and incidental to the use of the property as single-family or duplex residential.

2. Additional Standards:

a. Accessory dwelling units within residentially-zoned, single-family and duplex lots shall be encouraged and designed to meet housing needs. ADUs shall be secondary and subordinate in size to the primary living quarters.

b. ADUs may be created as an independent structure (detached), as an addition to an existing primary structure (attached), conversion of existing space, such as a basement with an exterior entrance, or as a second story within detached garages.

i. When built as a second story of a detached garage, the ground floor area of the garage shall not be considered part of the total square footage of the ADU.

c. Structures for ADUs shall comply with the provisions of Section 2.5, except as provided below.

i. Not more than one ADU is permitted on any lot.

ii. An ADU shall be located in the side or rear yard unless an existing structure is being converted to an ADU.

iii. The total area of an ADU shall not exceed 1,200 square feet or two-thirds of the primary structure, whichever is the lesser. The ground floor area of a detached garage shall not be considered as part of the total square footage of any ADU that is built as the second story of a detached garage; provided, however, such ground floor garage area shall not be subsequently converted to dwelling space.

d. ADUs shall not be considered additional dwelling units for the purpose of determining maximum density or other dimensional requirements as set forth in CHAPTER 2 of this ordinance.

e. ADUs shall be constructed according to North Carolina Building Code.

f. The administrator may impose reasonable conditions regarding the height, bulk, orientation, or location of the structure in order to protect the privacy of existing dwelling units on adjacent parcels in accordance with G.S. 160D-702(b).

D. ***Home occupation.***

1. Definition: An occupation or profession conducted within a dwelling unit by a residing family member that is incidental to the primary use of the dwelling as a residence. Home occupations are small and quiet non-retail businesses which generally cannot be discerned from the frontage, are seldom visited by clients, require little parking, little or no signage, have only one or two employees and provide services such as professional services, music instruction, and hair styling.

2. Additional Standards:

a. The home occupation shall be clearly incidental to the residential use of the dwelling and shall not change the essential residential character of the dwelling or the neighborhood.

b. Home occupation activities shall be confined to the interior of an approved structure. A home occupation housed within a dwelling shall occupy no more than 25 percent of the total floor area of the dwelling. A home occupation conducted in an accessory structure shall be housed only in a garage or other accessory structure that meets the requirements of this ordinance.

c. The use shall employ no more than two persons who are not residents of the dwelling.

d. There shall be no business signage or visible display of stock in trade which is sold on the premises.

e. There shall be no outdoor storage or visible evidence of equipment or materials used in the home occupation, excepting equipment or materials of a type and quantity that could reasonably be associated with the principal residential use.

f. The existence and operation of the home occupation shall not be visible and/or audible to neighboring residents from a street.

g. Only non-commercial vehicles are permitted in connection with the conduct of the home occupation.

h. Home occupations utilizing or proposing to utilize public water and sanitary sewer services shall be subject to all applicable water and sewer system development fees as per Brevard City Code, CHAPTER 70 Utilities.

i. Home occupations shall comply with all applicable requirements of any federal, state, or local agency with jurisdiction over the proposed use. The applicant shall provide the administrator with evidence of approval by any relevant agency.

j. Responsibilities of the administrator and applicant(s):

i. The administrator may impose any necessary condition upon the operation of a home occupation, shall monitor home occupations and conduct site inspections to ensure compliance with this ordinance and any condition of approval, and shall revoke any permit for

the operation of a home occupation and cause the use to be terminated in accordance with the procedures set forth in CHAPTER 18 of this ordinance upon a determination that such use is in violation of this ordinance or any condition of approval.

ii. The administrator shall have broad authority to deny any application for home occupation if in the opinion of the administrator, the proposed use would not be in keeping with the spirit and intent of this section. The burden of proving that a proposed home occupation would be in keeping with the spirit and intent of, and satisfy all requirements of this section as well as any condition of the administrator, shall lie with the applicant.

iii. In reviewing any application for home occupation and in the monitoring and enforcement of any approved permit for home occupation the administrator shall strongly consider the expectation that the residential use and character of each residentially zoned neighborhood be preserved and shall take into consideration these unique characteristics of any proposed use and its relationship to the site and surrounding properties in considering whether such use would be suitable as a home occupation.

k. Uses permitted as home occupations:

i. Examples of uses that may be permitted as home occupations include but are not limited to professional services such as those provided by an architect, engineer or accountant; art, music, or dance instruction; hair styling; bicycle repair or vehicle cleaning; and may include other uses defined herein or listed upon the use matrix in Section 2.2 of this ordinance when such uses can be performed in a manner that is strictly in keeping with the spirit and intent of, and satisfy all requirements of, this section.

ii. Uses involving the fabrication of products may be permitted provided, however, the home occupation shall not utilize mechanical, electrical, or other equipment, materials or processes, or create any by-product or effect, which produces noise, electrical or magnetic interference, vibration, heat, glare, odor, dust, pollution or other nuisances outside the dwelling or accessory structure housing the home occupation. Examples of such uses include but are not limited to baking, candle or soap making, fly-tying, woodworking, engraving, gunsmithing and or other similar small scale craft production or fabrication. This provision shall not be construed to authorize industrial uses within residential zoning districts.

iii. Home occupation shall not include any use that is primarily retail in nature. It is the intention of his section that goods and merchandise produced as part of any home occupation be sold off-site; any on-site retail activity must be incidental to the purpose of this home occupation.

l. Duration of permit:

i. Home occupation permits are temporary, and shall not establish a vested right to renewal. Home occupation permits shall be valid for a period of one year from the date upon which approval is granted.

ii. Applicants may apply for renewal of home occupation permits. Applications for renewal shall include a written report demonstrating compliance with the previously approved permit.

iii. In approving renewal applications, the administrator may modify prior conditions of approval and may impose any necessary, additional conditions. The administrator may deny a request for permit renewal and require the applicant to terminate the home occupation or relocate the home occupation to an appropriate commercial or mixed-use zoning district upon determination that the home occupation operated in violation of a requirement of this section or other applicable condition or requirement; or, that the home occupation has generated

unanticipated effects that are detrimental to the residential character of the neighborhood in which the home occupation is located.

E. ***Keeping bees.***

1. Definition: The keeping of bees as an accessory use. This definition shall include any permanent or temporary structures related to beekeeping.
2. Additional Standards:
   a. Keeping bees within the City of Brevard's corporate limits shall be permitted following the standards set forth in the Brevard City Code, Section 14-9, Keeping bees.
   b. In accordance with NCGS 106-645, the keeping of bees within the City's extra-territorial jurisdiction is not subject to the regulations of this ordinance.
   c. Movable frame hives may be permitted upon parcels of land where no principal structure is present.

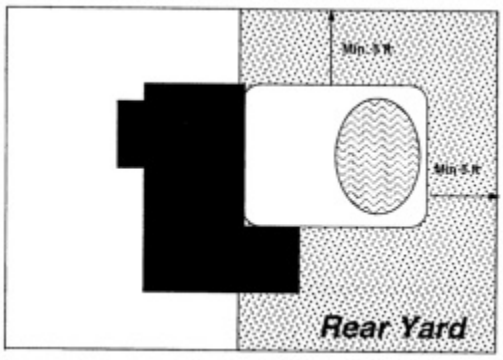
F. ***Keeping domestic fowl (chickens).***

1. Definition: The keeping of geese, ducks, chickens or other domestic fowl as an accessory use. This definition shall include any permanent or temporary structures related to domestic fowl.
2. Additional Standards:
   a. Keeping domestic fowl shall be permitted following the standards set forth in the Brevard City Code, Section 14-6, Keeping fowl.
   b. Chicken coops and chicken runs, as defined in Section 14-1 of Brevard City Code, may be permitted upon parcels of land where no principal structure is present, subject to the requirements set forth in Brevard City Code, CHAPTER 14, Animals and Fowl; Article I, Generally; Sections 14-1, Definitions, and 14-6, Keeping fowl.

G. Swimming Pool or Pond

1. Definition: A structure, in-ground or above ground, that contains water over 18 inches deep and is typically intended for swimming or recreational bathing. The definition of a pool includes all structures, walks or patio areas of cement, stone, or wood, at or above grade, built for, and used in conjunction with the pool.
2. Additional Standards:
   a. All pools permitted as residential accessory uses and structures, whether above-ground or in-ground, shall be built only in side or rear yards.

FIGURE 3.13A: SWIMMING POOL OR POND PLACEMENT



b. Pools and related structures, walks and patio areas shall be set back a minimum of five feet from all side and rear property lines. Patio areas at grade have no setback requirements from rear and side lot lines.

c. All pools shall be designed to prevent unsupervised access by children. Pools shall be enclosed within a secured structure or by an unclimbable privacy fence (with lockable self-latching gate) with a minimum height of four feet and a maximum of eight.

CHAPTER 5. BUILDING TYPES AND ARCHITECTURAL STANDARDS

5.2. Applicability.

With the exception of structures subject to North Carolina Residential Code and industrial development as specifically referenced herein, the standards contained in this chapter shall apply throughout the jurisdiction of this ordinance, regardless of the underlying zoning district provisions.

5.3. Exceptions.

A. While it is expected that some new building types will be introduced to the city, these variations should be based upon the predominant types listed in this chapter. Innovative planning or design ideas for development in any district where the proposed building types are different than those allowed by the base district requirements may be approved as a special use permit by the board of adjustment in accordance with the provisions of CHAPTER 16 of this ordinance.

B. Synthetic and other materials may be substituted for required building materials when the substitute materials are similar in appearance and equal or exceed the durability of the original material.

C. Any regulation relating to building design elements may not be applied to any structures subject to regulation under the North Carolina Residential Code except as authorized under G.S. 160D-702(b).

D. Structures in General Industrial (GI) Districts are exempt from the provisions of this Chapter unless otherwise specified herein.

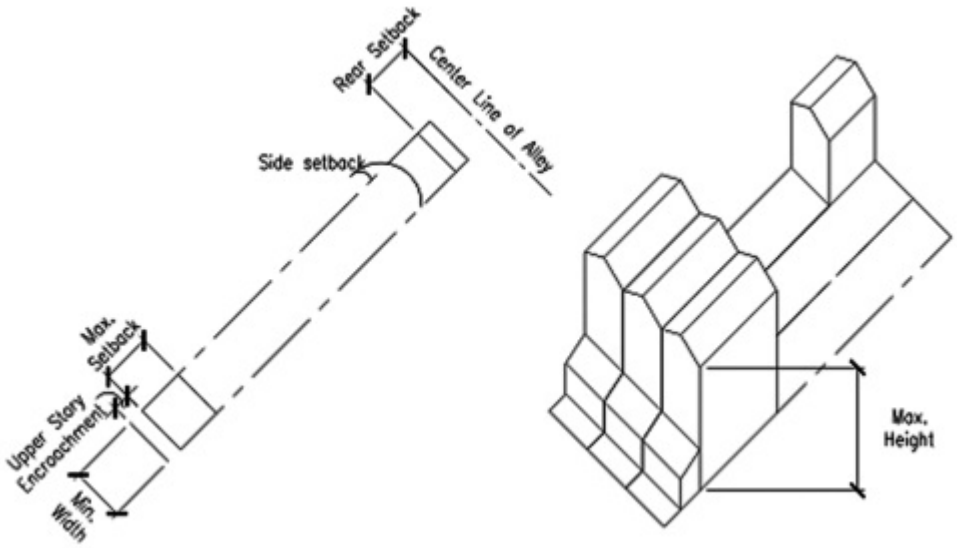
5.9. Reserved.

5.11. Building type: Townhouse.

The following restrictions only apply to regulation of townhouse buildings not subject to the N.C. Residential Code.

A. *Description:* The townhome is a building with more than two residential units that are located side-by-side. When an entrance is provided at-grade, the townhome may be used as a live-work unit. The uses permitted within the building are determined by the regulations in place for the district in which it is located.

FIGURE 5.11A : ILLUSTRATION OF ATTACHED HOUSE



B. *General requirements:*

1. The bulk and scale of townhome infill development shall be similar to and consistent with the surrounding neighborhood as evaluated by the bulk of buildings adjacent, abutting and surrounding the proposed development. All buildings should be designed to adhere to the existing architectural pattern of the surrounding neighborhood.
2. Useable porches and stoops should form a predominate motif of the building design and be located on the front and/or side of the building. Useable front porches are at least eight feet deep and extend more than 30 percent of the facade.
3. Garage doors are not permitted on the front elevation of any townhome.
4. All building elevation visible from the street shall provide doors, porches, balconies, and/or windows. A minimum of 60 percent of front elevations, and a minimum of 30 percent of side and rear building elevations shall meet this standard. "Percent of elevation" is measured as the horizontal plane (lineal feet)

containing doors, porches, balconies, terraces, and/or windows. This standard applies to each full and partial building story.

5. To provide privacy, all front entrances shall be raised from the finished grade (at the building line) a minimum of 1½ feet.
6. All townhome buildings shall provide detailed design along all elevations. Detailed design shall be provided by using as many of the following architectural features on all elevations as appropriate for the proposed building type and style (may vary features on rear/side/front elevations):
    a. Dormers.
    b. Gables.
    c. Recessed entries.
    d. Covered porch entries.
    e. Cupolas or towers.
    f. Pillars or posts.
    g. Eaves (minimum ten-inch projections which may include gutter).
    h. Off-sets in building face or roof (minimum 16 inches).
    i. Window trim (minimum four inches wide).
    j. Bay windows.
    k. Balconies.
    l. Decorative patterns on exterior finish (e.g. scales/shingles, wainscoting, ornamentation, and similar features).
    m. Decorative cornices and roof lines (for flat roofs).

FIGURE 5.11B: EXAMPLES OF TOWNHOUSE BUILDINGS	
Multi-Family Townhomes with Alley	**Multi-Family Townhomes with Alley**
	
Multi-Family Townhomes with Driveways	**Live-Work Units**
	

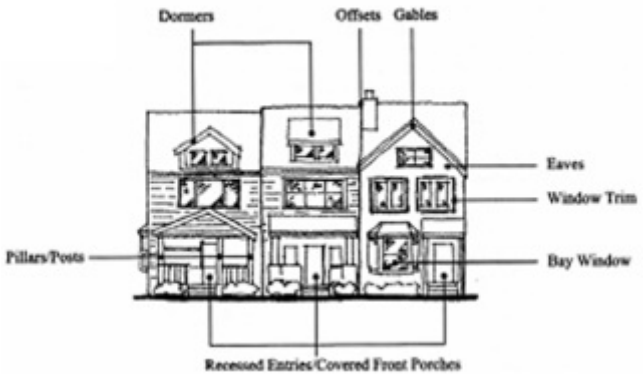
C. *Materials:*

1. Residential building walls shall be one or more of the following: wood clapboard, cementitious fiber board, wood shingle, wood drop siding, primed board, wood board and batten, brick, stone, stucco, or vinyl.
2. Residential roofs shall be clad in wood shingles, standing seam metal, terne, slate, and/or asphalt shingles.

D. *Other requirements:*

1. Main roofs on residential buildings shall be symmetrical gables or hips with a pitch between 6:12 and 12:12. Monopitch (shed) roofs are allowed only if they are attached to the wall of the main building. No monopitch roof shall be pitched less than 4:12.
2. Two wall materials may be combined horizontally on one facade. The heavier material should be vertically placed below the other material.
3. The undercroft of buildings shall be enclosed.
4. All buildings should be designed to adhere to the existing architectural pattern of the surrounding neighborhood.
5. Overhanging eaves may expose rafters.
6. Flush eaves shall be finished by profiled molding or gutters.
7. All rooftop equipment shall be screened from view.

FIGURE 5.11C : ILLUSTRATION OF TOWNHOUSE BUILDING FACADE



CHAPTER 6. ENVIRONMENTAL PROTECTION

6.6. Stormwater runoff provisions.

The purpose this section is to (1) protect life and property and minimize nuisances by limiting destructive runoff and flooding generated by impervious surface areas; (2) to protect water quality and natural ecosystems by filtering sediments and pollutants such as nitrogen, phosphorus, trace metals, and hydrocarbons; and (3) limit additional impervious surface areas to the greatest extent possible.

A. *Affected property:* The requirements of this section shall apply to the following activities:

1. Any new non-residential or mixed-use development that disturbs more than one acre of land, or will have an impervious surface area more than 50 percent of the total acreage of the site.
2. Any new residential development or subdivision of eight or more dwelling units.
3. Any project for which stormwater management is required as a condition of approval by the planning board, board of adjustment, or city council.
4. In the event of redevelopment that results in increased impervious area, only the new impervious areas are subject to the standards in subsection 6.6.C.

B. *Exempt activities:* The following activities are exempt from the stormwater management provisions of this section:

1. Existing bona fide agricultural structures used exclusively for agricultural purposes.
2. Development or redevelopment of a single one or two-family dwelling unit that disturbs less than one acre and will have an impervious surface area less than 20,000 square feet.
3. Redevelopment that results in no net increase of impervious surface area on a property.
4. Development or redevelopment of parcels located within the Heart of Brevard Municipal Service District.
5. Small accessory buildings or structures, or additions less than 400 square feet.
6. Residential infill development as defined in CHAPTER 19 of this ordinance.

C. *Stormwater management requirements:* The following requirements shall apply to all impervious surface areas of affected properties.

1. Design standards:

a. Runoff volume shall be calculated with the use of the Soil Conservation System (SCS) method.

b. The stormwater run-off generated by a two-year and ten-year, 24-hour rain event, shall be limited to the pre-development discharge rates.

c. At a minimum, stormwater measure shall be designed to remove 85 percent of the Total Suspended Solids (TSS) from the first inch of any rain event.

d. Stormwater measure shall have a drawdown of 48 hours, but not more than 120 hours.

2. Stormwater measures shall be designed by a certified design professional licensed in the State of North Carolina, and shall be constructed and maintained in accordance with commonly accepted best practices.

3. Small scale Stormwater management practices, non-structural techniques, low-impact designs (LID), and site planning designed to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources must be implemented. Only when it is absolutely necessary is the use of a structural BMP warranted.

4. Structural treatment devices used as an alternative to, or in conjunction with LID techniques are acceptable only when practically necessary.

5. Stormwater measures may be located off-site provided such measures are located within a parcel of land under the same ownership as the affected property or within a common area under the management of a property owners' association or similar entity. When stormwater measures are located off-site, deeds of both the affected property and the property containing the stormwater measure shall be provided and shall clearly reference an access easement and the right and responsibility of the owner of the affected property to access and maintain such measure.

6. In all instances stormwater measures shall be designed to complement a development and surrounding community and to minimize any threat to public health. If ponds or lakes are used, such areas shall be landscaped as amenities or hidden from view. This provision applies regardless whether the pond or lake typically contains water or may be dry for periods of time.

D. *Permit requirements:* The administrator shall review all stormwater plans required by this ordinance to ensure compliance therewith. In making this determination, the administrator shall use the *Stormwater Best Management Practices Design Manual* published by the North Carolina Department of Environmental Quality or other commonly accepted information and engineering data.

1. Stormwater management system concept plan. When required as part of any project, a written or graphic concept plan of the proposed post-development stormwater management system shall be submitted along with other application materials and shall include the following: preliminary selection and location of proposed structural stormwater controls; low impact design elements; location of existing and proposed conveyance systems such as grass channels, swales, and storm drains; flow paths; location of floodplain/floodway limits; relationship of site to upstream and downstream properties and drainages; and preliminary location of proposed stream channel modifications, such as bridge or culvert crossings.

2. As-built plans and final approval. Upon completion of a project, and before final zoning approval or a certificate of occupancy may be granted, the applicant shall certify that the completed project has been built in accordance with the approved stormwater management plans and designs. The applicant shall submit actual "as built" plans for all stormwater management facilities or practices after final construction is completed.

3. The plans shall show the final design specifications for all stormwater management facilities and practices and the field location, size, depth, and planted vegetation of all measures, controls, and devices, as installed. The designer of the stormwater management measures and plans shall certify, under seal, that

the as-built stormwater measures, controls, and devices are in compliance with the approved stormwater management plans and designs and with the requirements of this ordinance.

4. A final inspection and approval by the administrator is necessary prior to the issuance of any certificate of occupancy, release of performance guarantee, or other final approval.

E. *Inspection of measures:* The Administrator may, from time to time, inspect approved stormwater measures for compliance with this section and approved plans. Inspections may include, but are not limited to, reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in stormwater measures; and evaluating the condition of stormwater measures. No person shall obstruct, hamper or interfere with the Administrator while carrying out his or her official duties. If the owner or occupant of any affected property refuses to allow such inspection, the Administrator shall proceed to obtain an administrative search warrant pursuant to G.S. 15-27.2 or its successor.

F. *Maintenance of stormwater measures:*

1. The owner of any stormwater measure installed pursuant to this section shall maintain and operate such measure so as to preserve and continue its function in controlling stormwater quality and quantity at the degree or amount of function for which the stormwater measure was designed.
2. Furthermore, stormwater measures installed prior to the enactment of this ordinance as a requirement of the issuance of any permit shall be subject to the maintenance requirements herein.
3. The owner of each stormwater measure, whether structural or non-structural in design, shall maintain it so as not to create or permit a nuisance condition.

G. *Reserved.*

H. *Illicit discharges:* Except as provided herein, no person shall cause or allow the discharge, emission, disposal, pouring, or pumping, whether directly or indirectly, of any liquid, solid, gas, or other substance, other than stormwater, into any surface water, ground water, or stormwater conveyance. This prohibition applies to any substance deposited upon the land in manner and amount that the substance is likely to reach a stormwater conveyance, surface or ground water.

1. The following discharges shall not be deemed illicit and shall be permitted under the terms stated:
    a. Water line flushing, except any anti-freezing agent;
    b. Landscape irrigation;
    c. Diverted stream flows;
    d. Rising ground waters;
    e. Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20));
    f. Uncontaminated pumped ground water;
    g. Discharges from potable water sources;
    h. Foundation drains;
    i. Air conditioning condensation;
    j. Irrigation water;
    k. Springs;
    l. Water from crawl space pumps;
    m. Footing drains;
    n. Lawn watering;

o. Individual residential car washing;

p. Flows from riparian habitats and wetlands;

q. Dechlorinated swimming pool discharges;

r. Street wash water; and

s. Other non-stormwater discharges for which a valid NPDES discharge permit has been approved and issued by the State of North Carolina.

2. Prohibited discharges include but are not limited to the following:

a. Discharges of oil, anti-freeze, chemicals, paints, garbage, litter;

b. Raw sewage discharges or overflows;

c. Discharges of wash water resulting from the hosing or cleaning of gasoline stations, auto repair garages, or other types of automotive service facilities;

d. Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility (including motor vehicles, cement-related construction equipment, port-a-potty servicing, etc.);

e. Discharges of wash water from mobile operations such as steam cleaning, power washing, pressure washing, carpet cleaning, and mobile carwash facilities; discharges of wash water from the cleaning or hosing of impervious surfaces in industrial and commercial areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards, and outdoor eating or drinking areas;

f. Discharges of runoff from material storage areas containing chemicals, fuels, grease, oil or hazardous materials or chemicals;

g. Discharges of pool or fountain water containing chlorine, biocides or other chemicals, and also discharges of pool or fountain filter backwash water;

h. Discharges of water containing sediment or construction-related wastes; and

i. Discharges of food-related wastes such as grease, oil, fish processing water, kitchen mat wash water, trash bin wash water, pouring liquids into dumpsters.

I. *Illicit connections:* Other than those exceptions listed in Section 6.6.H.1, above, it shall be unlawful to cause or permit any connection to a surface water or stormwater conveyance or stormwater conveyance system that allows the discharge of anything other than stormwater.

1. Prohibited connections include, but are not limited to the following: floor drains, wastewater from washing machines or sanitary sewers, wash water from commercial vehicle washing or steam cleaning, and wastewater from septic systems.

2. Where such connections exist in violation of this section and said connections were made prior to the adoption of this provision or any other ordinance prohibiting such connections, the property owner or the person using said connection shall remove the connection within one year following the effective date of this ordinance. Provided, however, the one-year grace period shall not apply to connections which may result in the discharge of hazardous materials or other discharges which pose an immediate threat to health and safety, or are likely to result in immediate injury and harm to real or personal property, natural resources, wildlife, or habitat.

3. Upon determining that an illicit connection may result in the discharge of hazardous materials or may pose an immediate threat to health and safety, or is likely to result in immediate injury and harm to real or personal property, natural resources, wildlife, or habitat or that a connection was made in violation of any applicable regulation or ordinance, other than this section the administrator shall designate the time

limit within which the connection shall be removed. In setting the time limit for compliance, the administrator shall take these matters into consideration:

a. The quantity and complexity of the work;

b. The consequences of delay;

c. The potential harm to the environment, to the public health, and to public and private property; and

d. The cost of remedying the damage.

J. *Fee-in-lieu of stormwater compliance:* On-site compliance with the requirements of this section may be impractical or impossible on certain parcels within the city. The owner and/or developer of affected properties may pursuant to the provisions set forth herein, opt to pay a fee-in-lieu of compliance with the stormwater management requirements of this section.

1. Payment may be made in the form of contribution of funds, contribution of land, contribution of engineered stormwater control construction work, or a combination of these.
2. Fees shall be based upon the actual cost of construction of a structural stormwater measure to control and treat stormwater runoff from the total impervious surface area of the affected property.
3. Fee-in-lieu contributions shall be set aside in a dedicated fund, and applied to stormwater management and other water quality improvement projects.

   Purposes eligible for fee-in-lieu contributions include the following:

   a. The acquisition, design, or construction of stormwater control and treatment measures.

   b. Stream bank, wetland, or other surface water protection and restoration projects that enhance stormwater management goals, reduce erosion, and enhance water quality.

   c. The elimination of illicit or inappropriate connections to stormwater conveyances.

   d. Other activities identified by the city manager, provided that such activities are for the sole purpose of improving water quality.

   e. Matching funds for grants to fund any of the aforementioned types of activities.

   f. Matching funds for participation in any water quality improvement program funded by the Transylvania County Soil and Water Conservation Service, the North Carolina Department of Environmental Quality, the USDA Natural Resources Conservation Service, or other local, regional, state or federal agencies.
4. The expenditure of stormwater contributions is limited as follows:

   a. To the extent practical, contributions shall be applied to activities that will result in water quality benefits comparable to the benefits of controlling and treating stormwater on the contributing property.

   b. Contributions shall not be applied to the stormwater management requirements of other affected properties, or to the same affected property to satisfy the stormwater management requirements of future site plan approvals.

   c. Contributions shall not be applied to any other purpose or activity of the city not directly related to stormwater management and water quality improvement.

CHAPTER 9. CIRCULATION AND CONNECTIVITY

9.3. Access management.

Access management standards that regulate the connection of new driveways to the street system shall be as follows. NCDOT must approve the design and location for the connection of new driveways when located on state-maintained roadways.

A. New driveways, on public streets with curbing, shall be limited in accordance with the following standards:

TABLE 9.3A: DRIVEWAY SEPARATION DISTANCES		
Posted Speed Limit (mph)	**Minimum Distance Between Driveways**	**Minimum Distance Between Driveways and Intersections***
15	20 feet	40 feet
20	40 feet	80 feet
25 to 35	60 feet	120 feet
40	120 feet	240 feet
45	140 feet	280 feet
50	160 feet	320 feet
55	180 feet	360 feet
Note: Access separation between driveways shall be measured from inside edge of curb cuts. Access separation between a driveways and intersecting streets shall be measured from the nearest inside edge of the driveway curb cut to the intersecting right-of-way lines.		

B. *Shared Private Drives*: Whenever feasible in the interests of access management the administrator shall encourage the establishment of shared private drives and entrances with adjacent properties, and may require that driveways and entrances be situated along property lines. The approving authority may require the establishment of access easements along property lines to be reserved for future use by adjacent properties as part of any development.

1. *Capacity* – No more than 3 properties or 6 dwelling units shall use the same driveway. At all times, the shared private drive shall be maintained in a good, safe and usable condition, in good repair, and in compliance with all applicable state, county and local ordinances.
2. *Easement* – The minimum width of the easement for shared private drives shall be 30 feet.
3. *Minimum Design and Construction* – The minimum design and construction standards which apply to a public street (Section 13.5) shall apply to a shared private drive except that:
    a. All shared private drives are to be paved to City standards with a minimum width of 20 feet.
    b. Street names shall not be allowed for shared private drives. The properties with ingress and egress on the shared private drive are required to have an address on the abutting public street.
    c. Pedestrian and bicycle infrastructure shall not be required, but it is encouraged. This also includes multi-use paths and other similar types of infrastructure.
3. *Plats* - All shared private drives must be shown as such on all affected plats.

4. *Through Streets* - Through streets connecting 2 public streets may not be designated as a shared private drive.
5. *Connections to Public Streets* - All shared private drives connecting with public streets require approved driveway applications from the city (or NCDOT, if applicable).

C. *Additional private access, when all frontage requirements are met:* The administrator may permit the establishment of additional private rights-of-way or access easements to properties that otherwise conform to public street frontage requirements of this ordinance.

D. *Additional provisions:*

1. The administrator shall require the closure of any nonconforming driveway or curb cut as a condition of approval of any land development application.
2. Single-family, duplex, and secondary dwellings on existing lots of record and new infill development lots on roads 35 mph and under shall be exempt from the "Minimum distance between driveways" standards for the first driveway, but shall meet minimum separation requirements for additional driveways. Additionally, driveway separation distances on new dead-end streets posted 30 mph and under and with no on-street parking may also be exempted by the administrator. Further modification of these requirements shall be considered by the board of adjustment.
3. Parking lots with a one-way drive aisle that are required to have at least two driveways in accordance with Section 10.8 may be exempt from the "minimum distance between driveways" standards. The exemption may be granted by the administrator for local and private roads and by NCDOT for state roads.
4. The board of adjustment may modify these requirements only after the following are satisfactorily provided by an applicant:
    a. A transportation assessment performed by an certified professional licensed in the State of North Carolina containing sufficient detail to demonstrate that the modification request does not adversely impact public safety or traffic operation; and
    b. Evidence that the modification request represents the minimum necessary to address existing site constraints or to improve site circulation stemming from urban infill and/or redevelopment.

CHAPTER 12. SIGNS

12.5. General standards for all signs.

A. *Maintenance of signs:*

1. Repainting. Nonconforming painted signs may be repainted so long as the new coat of paint is for maintenance purposes and the design of the sign is not altered in any fashion. If, during repairing, the design of the sign or structure is altered in any way, then the entire structure shall comply with the provisions of this ordinance.
2. Vandalism and adverse weather. Signs destroyed by vandals or adverse weather events shall be allowed to be replaced even if such signs do not conform to this ordinance provided they existed before the date of enactment of this ordinance and they are replaced in the exact same location, in the exact same manner, and with the exact same advertising copy and graphics of the same size as the previously destroyed sign. However, if a sign is allowed to deteriorate over time due to exposure to the weather elements, then it shall not be deemed as replaceable under this section.

3. Any maintenance action that alters or modifies the location, area, height, or illumination of a sign, shall require a permit and full compliance with this chapter.

B. *Permitting:*

1. *Permits required.* A permit, issued by the administrator, shall be required for all signs unless otherwise exempted herein. No permit shall be issued until the administrator inspects plans for such signs and determines that they are in accordance with the requirements contained in this chapter. The fee schedule for sign permits shall be determined by city council. When a permit is required, a permit shall be issued prior to the installation or placement of such sign.
2. *Inspections.* Preliminary and final site inspections may be required by the Administrator as necessary.
3. Only those signs which meet all of the requirements established by this chapter for the particular type of sign may be permitted.
4. Failure to obtain a permit for any sign that is required to be permitted prior to displaying it is a violation of this ordinance.
5. In accordance with NCGS 160D-912.1, a lawfully erected on-premises advertising sign visible from a public road may be relocated or reconstructed within the same parcel so long as the square footage of the total advertising surface area is not increased, and the sign complies with the local development rules in place at the time the sign was erected.
    a. However, the City of Brevard may require the removal of preexisting nonconforming on-premises advertising sign that were lawfully erected, provided adequate monetary compensation, in accordance with state law, is paid to the sign owner.
    b. These provisions shall apply to any on-premises advertising signs removed from October 1, 2021 through July 9, 2024. Construction work on the relocation or reconstruction, in accordance with this section and NCGS 160D-912.1, must commence before July 9, 2026.
    c. These provisions shall not apply to signage for establishments no longer in existence, products no longer being sold, and services no longer being rendered on the property.

C. *Removal of obsolete signs:*

1. Signs identifying establishments no longer in existence, products no longer being sold, and services no longer being rendered shall be removed from the premises within 30 days from the date of termination of such activities, except that ground sign supports, braces, and guys which are not easily dismantled and are to be sold as a portion of the business assets or property may remain.
2. Upon failure of the owner or lessee of these signs to remove such signs within the prescribed time period, the administrator may order their removal, subject to the terms of this article and CHAPTER 18 of this ordinance, and any expense of removal shall be billed to the owner or lessee of said sign(s).

D. *Signs on public property forfeited:* Any sign installed or placed on public property or within a public right-of-way, except in conformance with the requirements of this section, shall be forfeited and is subject to confiscation. In addition to other remedies in CHAPTER 18, the administrator shall have the right to recover from the owner or person placing such a sign the full costs of removal and disposal of such sign.

E. *Sign area computations:* The following principles shall control the computation of sign area and sign height:

1. *Area.*
    a. The area of a sign face (which is also the sign area of a wall sign or other sign with only one face) shall be computed by means of the smallest rectangle that will encompass the extreme limits of the writing, representation, emblem, or other display, together with any material or color forming an

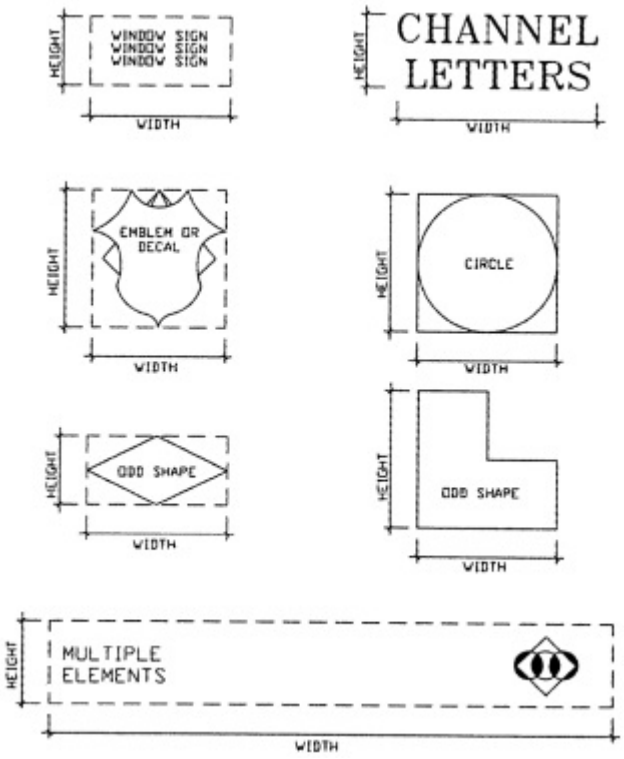
integral part of the background of the display or used to differentiate the sign from the backdrop or structure against which it is placed but not including any supporting framework, base, bracing, or decorative fence or wall when such fence or wall otherwise meets the regulations of this chapter and is clearly incidental to the display itself.

b. For a single wall on a single-occupant building, all pieces of information or other graphic representations on that wall shall be measured as though part of one sign, encompassed within one rectangle, which may not exceed the permitted total wall area to which the sign is affixed. For a single wall on a multi-occupant building, the area of signs shall be computed using these principles and each individual sign shall not exceed the permitted total wall area for the facade area of the space occupied by the tenant requesting the sign.

c. Where the sign faces of a double-faced sign are parallel or the interior angle formed by the faces is 60 degrees or less, only one display face shall be measured in computing sign area. If the two faces of a double-faced sign are of unequal area, the area of the sign shall be the area of the larger face. In all other cases, the areas of all faces of a multi-faced sign shall be added together to compute the area of the sign. Sign area of multi-faced signs is calculated based on the principle that all sign elements that can be seen at one time or from one vantage point should be considered in measuring that side of the sign.

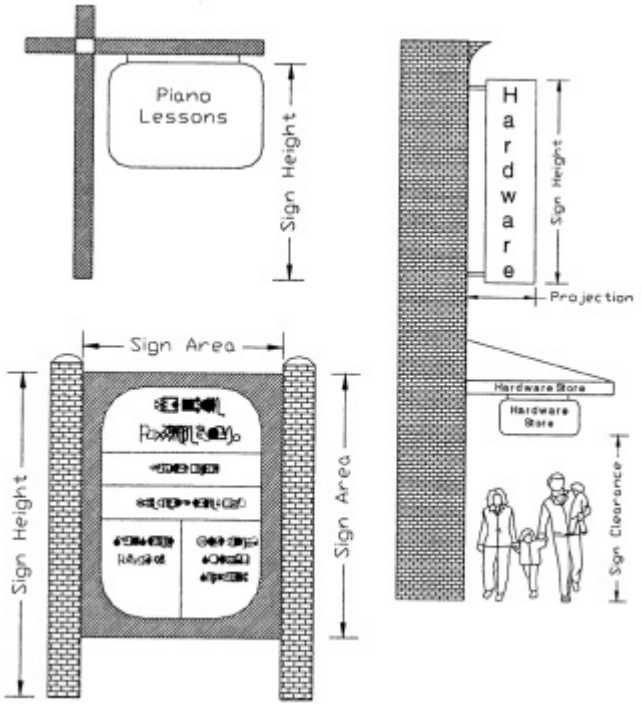
d. Spherical, cylindrical, or other three-dimensional signs not having conventional sign faces shall be computed from the smallest three-dimensional geometrical shape or shapes which will best approximate the actual surface area of such faces.

FIGURE 12.5A: COMPUTATION OF SIGN AREA



2. *Height.*
   a. Sign height shall be measured from the street grade of the closest point in the street the sign is located along or the grade at the base of the sign, whichever is higher, to the highest point of the sign structure.

FIGURE 12.5B: COMPUTATION OF SIGN HEIGHT AND AREA



F. *Clear sight distance at street intersections required:* Signs shall be located outside of the required sight triangle as detailed in Section 9.5.

G. *Building code compliance:* All signs and support structures shall comply with all applicable State of North Carolina Building Code requirements.

H. *Enforcement*: Violations of this ordinance shall be subject to the enforcement provisions of CHAPTER 18.

CHAPTER 13. INFRASTRUCTURE IMPROVEMENT REQUIREMENTS

13.2. Required improvements for all development plans.

Pursuant to G.S. 160D-702, the following improvements are required for all development plans within the city limits of the City of Brevard and its Extraterritorial Jurisdiction. Specific requirements for the following public improvement types are set forth in subsequent sections.

TABLE 13.2A: REQUIRED PUBLIC IMPROVEMENTS		
Public Improvement Types	**Brevard City Limits**	**Extraterritorial Jurisdiction**
Potable Water	City Water Required Dedication to City Required	Private Water Required; City Water Optional with dedication to City required
Fire Suppression System	Hydrants Required Dedication to City Required	Hydrants required if City Water Provided; Dry Hydrants may be required
Sanitary Sewer	City Sewer Required Dedication to City Required	Adequate Septic Required; City Sewer Optional with dedication to City required.[1]
Public Streets	City Streets Required Dedication to City Required	NCDOT Streets Required
Street Rights-of-Way	Required. Dedication to City Required	Required. Dedication to NCDOT Required
Utility and Access Easements	Required. Dedication to City Required	Required. Dedication to City Required
Sidewalks	Required. Dedication to City Required	Optional [2]
Multi-Use Paths/Other Pedestrian Facilities	Required when identified upon adopted transportation plans, recreation plans, and similar plans and policies of the City of Brevard or Transylvania County Dedication to City may be Required	Required when identified upon adopted transportation plans, recreation plans, and similar plans and policies of the City of Brevard or Transylvania County Dedication to City may be Required
Pedestrian Easements or Right-of-Way	Dedication to City Required	Required Along Streets; Dedication to NCDOT Required
Curb and Gutter	Required Dedication to City Required	As required by NCDOT
Street lights	Required Dedication to City Required	Optional
Underground Wiring	Required	Optional
Dedicated Open Space	Required as per CHAPTER 7 of this ordinance. Dedication to City may be Required	Required as per CHAPTER 7 of this ordinance
Street Trees and Landscaping	Required. Dedication to City may be Required	Required

Notes:
[1]Annexation is required in order to provide sanitary sewer to properties lying outside the corporate limits of the City of Brevard, except in certain circumstances outlined in Brevard City Code Section 2-292.
[2] In accordance with NCGS 160D-804(c), sidewalks are not required in the extraterritorial jurisdiction.

13.5. Street design.

A. *Streets required:*

1. New development and substantial improvements to existing development with frontages on existing public streets shall be required to upgrade all their frontages to meet the standards of this chapter.
2. New development without frontages upon a public street shall, in all cases, extend and connect to a public street. Public street extensions and improvements required for new development, including those beyond the development boundary, are the sole responsibility of the developer. Such improvements must be provided in accordance with the requirements of the CHAPTER 62 of Brevard City Code and this ordinance. This section shall apply to all subdivisions, the development of which is subject to the control of the city, both inside and outside the city limits.
3. Streets shall be installed by the developer and dedicated to the city prior to the approval of any final subdivision plat or development plan unless a performance guarantee is provided to the administrator in accordance with City Code, this ordinance, and procedures established by the administrator. Streets shall be installed by the developer and dedicated to the city prior to the issuance of any certificates of occupancy for any building within that phase or on that street, as applicable to the particular development.
4. City streets shall be built to the minimum specifications of this chapter and CHAPTER 62 of Brevard City Code, and shall comply with all standards and specifications of the public works director. New streets in the ETJ shall meet all standards and requirements of the North Carolina Department of Transportation.

B. *Streets to connect:* Streets shall interconnect within a development and with adjoining development in accordance with CHAPTER 9 and CHAPTER 10 of this ordinance. Culs-de-sac are permitted only where topographic conditions and/or exterior lot line configurations offer no practical alternatives for connection or through traffic. Street stubs shall be provided with development adjacent to open land to provide for future connections at the discretion of the administrator. Streets shall be planned with due regard to the designated corridors shown on adopted plans and policies of the city or Transylvania County.

C. *Pedestrian and bicycle infrastructure:* Pedestrian and bicycle infrastructure shall be required as set forth within this chapter and conformance with adopted plans and policies of the city or Transylvania County.

D. *Topographic considerations:* Wherever possible, street locations should account for difficult topographical conditions, paralleling excessive contours to avoid excessive cuts and fills and the destruction of significant trees and vegetation outside of street-rights-of way on adjacent lands.

E. *Infrastructure in steep slope areas*: Infrastructure shall be installed in steep slope areas in accordance with the provisions of this chapter and any other applicable provisions in CHAPTER 6.

F. *On-street parking:*

1. On-street parking may be required by the administrator.
2. When required, all on-street parking provided shall be parallel. Curb or angle parking is permitted upon approval of the administrator when the fronting buildings are more than 22 feet in height to provide spatial definition and when the posted speed limit is less than 25 mph.
3. When required, minimum right-of-way widths shall be modified to account for on street parking.

G. *Traffic calming devices:* The use of approved traffic calming measures is encouraged as alternatives to conventional traffic control measures on Neighborhood Streets and within circulation areas of commercial and mixed-use developments.

H. *Flood elevations:* No street in an area subject to flooding shall be approved if it is more than one foot below the elevation of the 100-year flood. The administrator may require, where necessary, profiles and elevations of streets for areas subject to flooding. Fill may be used for streets in accordance with CHAPTER 34 of Brevard City Code. Drainage openings shall be so designed as to not restrict the flow of water and unduly increase flood heights.

I. *Storm drainage:* Stormwater shall not be discharged into any stream and shall be retained and treated accordance with CHAPTER 6 of this ordinance, except that streets and related retention/treatment infrastructure shall be designed to accommodate a 25-year, 24-hour storm drainage standard.

J. *Street names:* Streets shall be named and property addressing assigned in accordance with Brevard City Code, Chapter 62, Streets, Sidewalks and Other Public Ways, Article VII, Property Addressing and Road Naming. The administrator shall require evidence that road names and property addresses have been approved and assigned by the Transylvania County Property Addressing Coordinator prior to approving any development.

K. *Blocks:*

1. The lengths, widths, and shapes of blocks shall be determined with due regard to:
    a. The provision of adequate building sites suitable to the special needs of the type of use contemplated, and adequate public open spaces accessible and visible to residents.
    b. District requirements and design criteria.
    c. Needs of non-vehicular and vehicular traffic circulation and traffic control and safety.
    d. Opportunities and constraints of topography, with convenient access to important physical and topographical features such as lakes and rivers, significant areas of trees and other natural features, and areas of high ground offering scenic views.
2. Blocks shall not be less than 200 feet nor more than 660 feet (⅛-mile), as measured from edge of right-of-way, unless site and topography or other special circumstances are present as determined by the administrator. Where deemed necessary by the administrator, a pedestrian crosswalk of at least ten feet in width may be required.
3. Blocks shall have sufficient width to allow two tiers of lots of minimum depth except where single tier lots are required to separate residential development from another type of use, or when abutting a perennial stream or lake.

L. *Landscaping:*

1. Streets shall be landscaped with street trees. Commercial streets shall have trees which compliment the face of the buildings and which shade the sidewalk. Residential streets shall provide for an appropriate canopy, which shades both the street and sidewalk, and serves as a visual buffer between the street and the home.
2. All street trees shall be installed in accordance with CHAPTER 8 of this ordinance. Large canopy trees shall be planted in a planting strip at a minimum average distance of 40 feet on-center.
3. The minimum width of all planting strips shall be six feet. For large canopy trees such as Willow Oaks and Red Maples, a minimum of eight foot planting strip is suggested. Refer to CHAPTER 8 of this ordinance for additional information on landscaping.

M. *Street markers and traffic control signs:* Street markers and traffic control signs shall be required and posted in accordance with city standards and the Manual of Uniform Traffic Control Devices. Such infrastructure shall be installed by the developer prior to the issuance of any Certificates of Occupancy for any building on that street.

N. *Pedestrian and bicycle infrastructure:* Sidewalks, multi-use paths, or other pedestrian/bicycle infrastructure shall be constructed in accordance with the following requirements:

1. In determining the type of pedestrian/bicycle infrastructure that shall be required the Administrator shall refer to any adopted plan or policy of the city for guidance. Such plans or policies include but are not limited to: *City of Brevard Comprehensive Transportation Plan, City of Brevard Comprehensive Pedestrian Plan, City of Brevard Street Schedule, City of Brevard Comprehensive Land Use Plan, City of Brevard Recreation Plan,* other master plans and small area plans, and other plans and policies.
2. Sidewalks, multi-use paths, and other pedestrian and bicycle improvements shall be installed by the developer and dedicated to the city prior to the approval of any final subdivision plat, or issuance of final zoning approval or certificate of occupancy for any development plan. Pedestrian and/or bicycle infrastructure shall be constructed within the street right-of-way. The approving authority shall require the dedication of additional street right-of-way or a pedestrian easement when sufficient right-of-way does not exist to comply with this requirement. The approving authority may accept the dedication of additional right-of-way or a pedestrian easement in order to accommodate alternative routes and designs that do not follow streets.
3. Streets shall be bordered by pedestrian/bicycle infrastructure on both sides. Exceptions to this requirement and modifications to the design of pedestrian/bicycle infrastructure may be granted by the TRC for developments in steep slope areas and where warranted by environmental or topographic conditions, or where this requirement would serve no useful purpose.
4. Without exception, pedestrian/bicycle infrastructure shall be required along all new public and private streets within new subdivisions or developments, and within new phases of existing subdivisions and any other form of development.
5. Without exception, pedestrian/bicycle infrastructure shall be required along existing streets within or abutting new subdivisions and any other form of development (except subdivisions in GR districts establishing less than eight dwelling units); or along existing streets within or abutting any form of existing development undergoing substantial improvement (except single-family and duplex residential structures in GR districts).
6. Pedestrian/bicycle infrastructure shall be required along the same side of the street upon which the development fronts, except that when a development project is located on both sides of the same street the approving authority may require that infrastructure be installed on both sides of the street.
7. When site characteristics and/or traffic patterns are such that the construction of pedestrian/bicycle infrastructure in accordance with this section would be a hardship and would not result in useful pedestrian walkways, the administrator, upon recommendation from the TRC may allow the applicant to pay the designated cost of constructing such infrastructure into the city sidewalk fund in lieu of requiring construction of the infrastructure. In determining whether to accept a fee in lieu of construction of infrastructure, the administrator shall refer to any adopted plan or policy of the City for guidance. Such plans or policies include but are not limited to: *City of Brevard Comprehensive Transportation Plan, City of Brevard Comprehensive Pedestrian Plan, City of Brevard Street Schedule, City of Brevard Comprehensive Land Use Plan, City of Brevard Recreation Plan,* other master plans and small area plans, and other plans and policies.
8. The administrator may accept a performance guarantee for the construction of sidewalks on behalf of the city in situations where no other public infrastructure is proposed in accordance with CHAPTER 16 of this ordinance.
9. Multi-use paths and other infrastructure:

a. Multi-use paths, and other pedestrian and bicycle infrastructure shall be provided instead of or in addition to sidewalks wherever called for on an adopted plan or policy of the city. Such plans or policies include but are not limited to: *City of Brevard Comprehensive Transportation Plan, City of Brevard Comprehensive Pedestrian Plan, City of Brevard Street Schedule, City of Brevard Comprehensive Land Use Plan, City of Brevard Recreation Plan,* other master plans and small area plans, and other plans and policies.

b. When a multi-use path is required in an area not adjacent to a public or private street, then such facility shall be credited towards the satisfaction of the open space requirements as set forth in CHAPTER 7 of this ordinance.

c. All required multi-use paths shall be dedicated to the City of Brevard by means of right-of-way or pedestrian easement.

d. On-street bicycle lanes shall be required when called for upon an adopted plan or policy of the city.

10. Pedestrian and bicycle improvements shall be as follows:

TABLE 13.5A: PEDESTRIAN AND BICYCLE IMPROVEMENT WIDTHS

Zoning District	Facility Width	
	City Streets	NCDOT Streets*
GR	5 feet	5 feet
RMX, NMX, CMX, DMX, GI, IC	5 feet	8 feet
Public Streets	City Streets Required; Dedication to City Required	NCDOT Streets Required
Street Rights-of-Way	Required; Dedication to City Required	Required; Dedication to NCDOT Required
Multi-Use Path (where required)	10 feet	10 feet
On-Street Bike Lane (where required)	5 feet	5 feet

*Sidewalks are not required along alleys and commercial service streets except when required as a condition of a Conditional Zoning District, Group Development, or special use permit.

11. All pedestrian/bicycle infrastructure shall comply with the minimum requirements for handicapped accessibility in compliance with the North Carolina Accessibility Code or other federal, state, or local regulations. During the construction of pedestrian/bicycle infrastructure, whether new or replacement, handicapped ramps shall be placed in the sidewalk where it intersects with streets and other pedestrian and vehicular travel ways.

12. All sidewalks shall be made of 4,000 PSI concrete with a minimum depth of four inches, except that street and driveway crossings shall be a minimum of six inches in depth. Bike lanes and multi-use paths shall be made of asphalt, designed according to the North Carolina Bicycle Planning and Design Guidelines published by the NCDOT and shall include all appropriate signage and pavement markings. Alternative materials and designs may be approved by the TRC in consultation with the public works director.

O. *Culs-de-sac and closes.* Where practical, a close (see graphic, below) shall be used in place of a cul-de-sac. Culs-de-sac and closes shall be designed to facilitate the turning radius of emergency vehicles.

FIGURE 13.5A: ILLISTRATION OF CLOSE

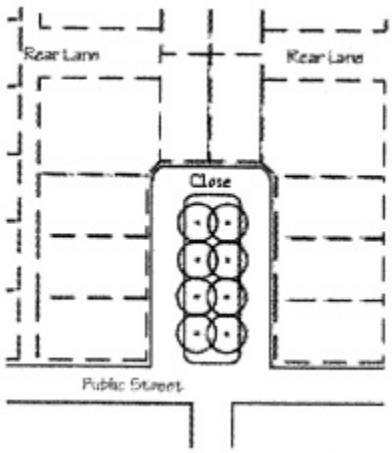
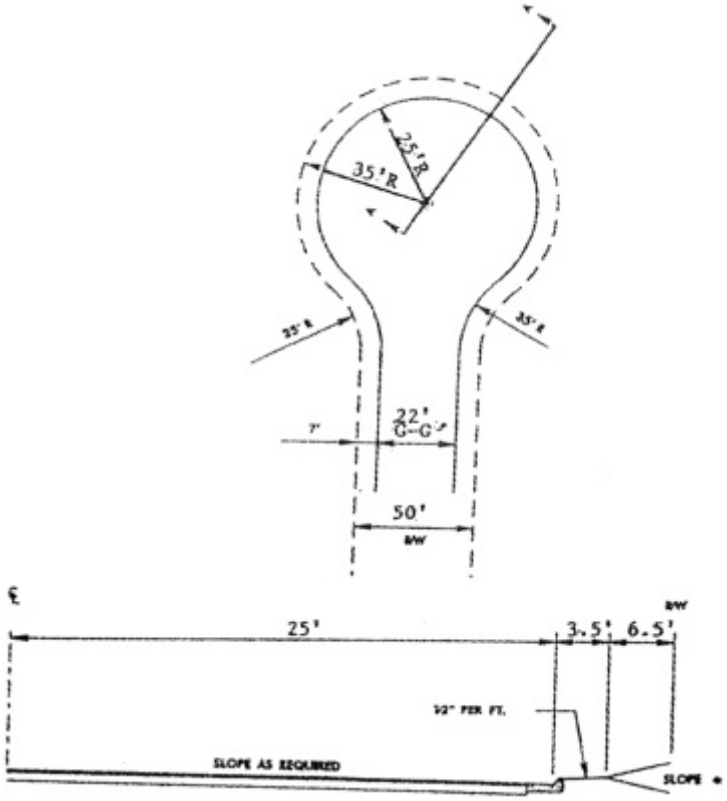


FIGURE 13.5B: ILLISTRATION OF CUL-DE-SAC WITH CURB AND GUTTER SECTION



P. *Intersections:*

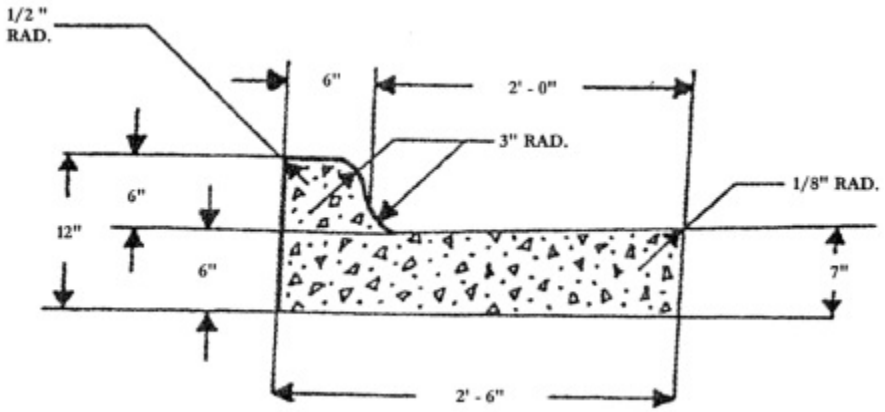
1. All streets shall intersect at right angles as nearly as possible and no street shall intersect at less than 60 degrees.
2. Where practical, intersections should be aligned to create four-way intersections.

3. Off-set intersections for local streets and neighborhood collectors should be at least 125 feet apart measured from centerline to centerline. A larger spacing in accordance with American Association of State Highway and Transportation Officials (AASHTO) standards may be required for all other streets.
4. Property lines at street intersections shall be rounded with a minimum radius of 20 feet. At an angle of intersection of less than 90 degrees, a greater radius may be required.
5. Proper sight lines shall be maintained at all intersections of streets to permit adequate sight distance. Where the posted speed limit is less than 20 mph, the intersection sight distance may be reduced to 105 feet.
6. Bulb-outs are discouraged on narrow streets (less than 30 feet face-of-curb to face-of-curb) but encouraged on wider streets.
7. Property lines at street intersections shall be rounded with a minimum radius of 20 feet. Where a street intersects a state highway, the design standards of the state department of transportation shall apply.

Q. *Curb radii:* Curb radii shall be designed to reduce pedestrian crossing times along all streets requiring sidewalks. In general, curb radii should not exceed 20 feet except along NCDOT-maintained roads.

R. *Curbs and drainage for city streets:* The following requirements shall apply to streets within the city. Streets within the ETJ shall meet all applicable requirements of the North Carolina Department of Transportation.

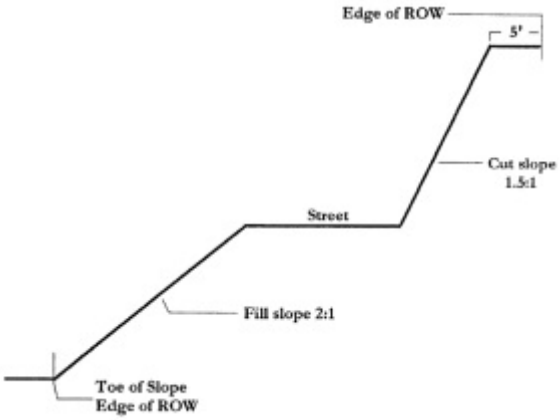
FIGURE 13.5C: STANDARD VERTICAL FACE CURB AND GUTTER



1. Curb and gutter shall be required on all new residential and commercial streets constructed within the city.
2. Standard vertical face curb and gutter within the city shall be two-foot, six-inch concrete with a height of six inches (see graphic, above). All curbing shall be properly backfilled.
    i. Exceptions to this requirement may be made by the administrator subject to circumstances in the area under study. Such circumstances shall relate to the topography of the area, future maintainability of the streets, or other factors deemed relevant by the administrator.
    ii. This shall not limit, or prohibit the use of, curb and gutter design standards adopted by the North Carolina Department of Transportation for subdivision roads adjacent to, and serving dwellings subject to North Carolina Residential Code.

3. Vertical face curbing is required along all streets with on-street parking and around all required landscaping areas and parking lots.
4. All drainage gates must be safe for bicyclists. Bicycle-safe drainage grates are types E, F, and G as approved by the NCDOT.
5. City street culvert dimensions shall be subject to the requirements of the public works director.
6. The right-of-way shall extend from a point five feet outward from the top of the bank of any cut slope to the toe of any fill slope. Maximum slope of any cut slope shall be at a ratio of no greater than 1.5 feet of horizontal run to one foot of vertical rise (1.5:1 slope), and the maximum slope of any fill slope shall be at a ratio of no greater than two feet of horizontal run to one foot of vertical rise (2:1 slope).

FIGURE 13.5D: RIGHT-OF-WAY MAXIMUM SLOPE CROSS SECTION



S. *Centerline radius:* A 90-foot minimum centerline radius shall be used for local streets, parkside drives, and minor streets between reverse curves though they may be reduced to 45 feet for design speeds less than 20 mph. All other streets shall be in accordance with AASHTO standards.

T. *Street lights:* Street lights shall be installed by the developer on all streets in accordance with CHAPTER 12 of this ordinance.

U. *Posted speed limits:* All streets shall be posted in accordance with the Manual of Uniform Traffic Control Devices and the City of Brevard Traffic Schedule.

V. *Street grades:* The maximum permissible street grade shall be 18 percent.

W. *Design standards:* Design standards not specifically addressed in this ordinance must comply with the minimum design and construction criteria of the N.C. Department of Transportation.

X. *Minimum right-of-way:* The administrator shall determine right-of-way widths based upon the characteristics of the proposed development. However, unless otherwise specified, the minimum right-of-way for all new streets within the city shall be 50 feet, and shall satisfy minimum requirements of the North Carolina Department of Transportation in the ETJ.

CHAPTER 16. ADMINISTRATION

16.12. Performance guarantees.

A. To assure compliance with these and other development regulation requirements, G.S. 160D-702(a) and 160D-804.1 provides for performance guarantees to assure successful completion of required improvements at the time the subdivision plat is recorded or the certificate of occupancy issued for site plans. For any specific development, the type of performance guarantee shall be at the election of the person required to give the performance guarantee.

B. In lieu of meeting the requirement for the completion, installation and dedication of any and all public infrastructure improvements (e.g., underground utilities, streets, sidewalks, storm drainage, trees, landscaping, supplemental buffer plantings, street lights, etc.) prior to final plat approval for subdivisions or certificate of occupancy for site plans, the city manager (or the administrator for new sidewalks along existing streets and landscaping) may enter into a written agreement with the developer whereby the developer shall agree to complete all required improvements (which shall be called an infrastructure improvement agreement). Once the agreement is signed by the city manager and the developer and the required financial security is provided, the final plat or certificate of occupancy (only in cases where public infrastructure is not the subject of the guarantee) may be approved by the administrator if all other requirements of this Code are met. To secure this agreement, the developer shall provide either one, or a combination of the following performance guarantees:

1. Surety bond issued by any company authorized to do business in this state.
2. Letter of credit issued by any financial institution licensed to do business in this state.
3. Other form of guarantee that provides equivalent security to a surety bond or letter of credit.

C. Any expenses associated with the cost of reviewing and entering into the agreement, including expenses associated with reviewing and approving the instrument of financial security and the estimate of costs of the secured improvements shall be paid entirely by the developer.

D. The base cost of the guarantee shall be the entire cost of installing all required improvements and conveying or dedicating the same to the City of Brevard as estimated and certified by a licensed design professional and verified/approved by the city manager or his designee, plus any expenses associated with the cost of reviewing and entering into the agreement, plus any costs associated with inspecting the associated infrastructure during and after installation. Further, the base cost shall be adjusted upwards in an amount equal to the most recent Consumer Price Index (as issued by the U.S. Bureau of Labor Statistics of the U.S. Department of Labor) multiplied by the base cost, multiplied by the number of years that the guarantee will be in effect [i.e., (base cost + ((base cost*CPI)*number of years of guarantee))]. The amount of the performance guarantee shall not exceed 125 percent of the reasonably estimated cost of completion at the time the performance guarantee is issued. Any extension of the performance guarantee necessary to complete required improvements shall not exceed 125 percent of the reasonably estimated cost of completion of the remaining incomplete improvements still outstanding at the time the extension is obtained.

E. The performance guarantee shall only be used for completion of the required improvements and not for repairs or maintenance after completion.

F. No person shall have or may claim any rights under or to any performance guarantee provided pursuant to this subsection or in the proceeds of any such performance guarantee other than the following:

1. The local government to whom such performance guarantee is provided.
2. The developer at whose request or for whose benefit such performance guarantee is given.
3. The person or entity issuing or providing such performance guarantee at the request of or for the benefit of the developer.

G. *Inspection of improvements upon completion*: The City shall conduct an inspection of the improvements subject to a performance guarantee within 30 days of a request received from a developer and advise the developer whether the improvements are completed to the required specifications. In the event a the City and the developer disagree whether a required improvement is completed to the required specifications, a developer may obtain a certification under seal from a licensed professional engineer that the required improvements have been completed to the specifications of the City of Brevard.

H. *Dedication of improvements and release of guarantee security*: The performance guarantee shall be returned or released, as appropriate, within 30 days upon the acknowledgement by the City of Brevard that the improvements for which the performance guarantee is being required are complete or upon receipt of a certification under seal from a professional engineer that the required improvements have been completed to the specifications of the City. Upon completion of public improvements, such improvements shall be dedicated to the City of Brevard by means of a plat of dedication, dedication agreement, and other documents in confirmation of dedication in accordance with procedures established by the administrator within 30 days. When the city manager has accepted dedication of the improvements on behalf of the city, the administrator shall release the security posted by the developer. The dedication agreement shall stipulate a warranty period of not less than three years for the accepted improvements.

I. *Extension*: If the improvements are not complete and the current performance guarantee is expiring, the performance guarantee shall be extended, or a new performance guarantee issued, for an additional period until such required improvements are complete. A developer shall demonstrate reasonable, good-faith progress toward completion of the required improvements that are the subject of the performance guarantee or any extension. The form of any extension shall remain at the election of the developer. No reduction in the security will be allowed under any circumstances prior to completion of the required improvements.

J. *Default*: Upon default as defined in CHAPTER 19, the developer shall pay all or any portion of the bond, cash account, or funds represented by the letter of credit to the City of Brevard up to the amount needed to complete the improvements based on an estimate by the city. Any surety or bank issuing a letter of credit shall likewise comply with the city's demand for payment. Upon payment, the city, in its discretion, may expend such portion of these funds, as it deems necessary to complete all or any portion of the required improvements, including dedication of the improvements to the city and acceptance by the city. The amount to be withdrawn from the deposit account, or the claim against a surety bond, or a drawing statement against a letter of credit upon default may, in the city manager's discretion, be the exact amount expended or expected to be expended, or an estimate of such costs. The city shall return to the developer any funds not spent in completing and dedication of the improvements.

CHAPTER 17. DEVELOPMENT PLAN REQUIREMENTS

17.12. Traffic impact study (TIS).

A. *Rezoning traffic analysis:* Evaluates whether adequate transportation capacity exists or will be available within a reasonable time period to safely and conveniently accommodate proposed uses permitted under the requested land use or zoning classification.

B. *Traffic impact report:* Required for certain uses, land subdivisions, and preliminary plats exceeding specific trip generation threshold.

C. *Preparation:* The applicant shall provide the full rationale, from a licensed design professional, to support the recommendations of this analysis. The submission shall include all pertinent traffic data and computations affecting the design proposal.

D. *Contents:* The rezoning traffic analysis or the traffic impact report shall contain the following:

1. *Site description:* A detailed report, containing illustrations and narrative, shall describe the site's characteristics, adjacent land uses, as well as any anticipated development within the site's vicinity influencing future traffic conditions.
    a. A rezoning traffic analysis shall provide a description of the development's potential uses.
    b. A traffic impact report shall include access plans, staging plans, and land use/intensity information.
2. *Study area:* The report shall indicate the geographic location of the study area, roadway segments, critical intersections, and access points to be analyzed. The study area shall extend not less than one-half mile from the site.
3. *Existing traffic conditions:* An analysis of the existing traffic conditions, including all data used for the analysis shall be provided in the report, including:
    a. Traffic count and turning movement information, including the date and source from which this information was obtained;
    b. Correction factors used to convert collected traffic data into representative average daily traffic volumes;
    c. Roadway characteristics, including:

        Design configuration of existing or proposed roadways;

        Existing traffic control measures;

        Existing driveways and turning movement conflicts in the vicinity of the site

    d. Existing level of service (LOS) for roadways and intersections without project development traffic. LOS shall be calculated for the weekday peak hour, and in the case of uses generating high levels of weekend traffic, the Saturday peak hour.
4. *Horizon year(s) and background traffic:* The report shall identify the horizon year(s) that were analyzed in the study, the background traffic growth factors for each horizon year, and the method and assumptions used to develop the background traffic growth. Unless otherwise approved, development impacts shall be examined for the first (1st) and tenth (10th) years after the development is completed.
5. *Trip generation, trip reduction, and trip distribution:* A summary of projected a.m. and p.m. peak hour and average daily trip generation for the proposed development shall be provided in addition to projected trip distribution to and from the site. The factors used to determine trip generation, reduction, and distribution are also to be included in the summary.
6. *Traffic assignment:* The report shall identify the projected roadway segment, intersection or driveway traffic volumes, with and without the proposed development, for the horizon year(s) of the study.

7. *Impact analysis:* The report shall address the impact of projected horizon year(s) traffic volumes. It shall identify the methodology used to evaluate the impact. The weekday peak hour impact shall be evaluated as well as the Saturday peak hour for those uses exhibiting high levels of weekend traffic generation.
8. *Mitigation/alternatives:* The report shall identify alternatives for achieving traffic service standards, including:
    a. Additional rights-of-way necessary to implement mitigation strategies.
    b. Suggested phasing improvements necessary to maintain compliance with traffic service standards.
    c. Anticipated costs of recommended improvements.
9. *Procedures:*
    a. The applicant shall work with the city engineer to determine if a traffic study is necessary and its associated parameters.
    b. The report shall be submitted to the city engineer for distribution to staff and related roadway jurisdictions. The city engineer shall notify the applicant if additional studies or analysis are necessary.
    c. Once a report is determined to be complete, a finding shall be made by the administrator on the traffic impact study. Proceedings on any application that were stayed pending completion of traffic analysis may resume.
10. *Report findings:* If a proposed development does not meet the applicable service level standards, one or more of the following actions may be necessary:
    a. Reduce the size, scale, scope, or density of the development to decrease traffic generation.
    b. Divide the project into phases, allowing for only one phase at a time until traffic capacity is adequate for the next phase of development;
    c. Dedicate right-of-way for street improvements;
    d. Construct new streets;
    e. Expand the capacity of existing streets;
    f. Redesign ingress and egress to the project to reduce traffic conflicts;
    g. Alter the use and type of development to reduce peak hour traffic;
    h. Reduce existing traffic;
    i. Eliminate the potential for additional traffic generation from undeveloped properties in the vicinity of the proposed development;
    j. Integrate non-vehicular design components (i.e. pedestrian and bicycle and transit improvements) to reduce trip generation;
    k. Recommend denial of the application for which the TIS is submitted.

CHAPTER 19. DEFINITIONS

19.3. Definitions.

Agriculture: Land primarily used to grow crops produce, flowers, etc., raise animals, harvest timber, and harvest fish and other animals from a farm, ranch, or their natural habitats. A farm, as an establishment, may be one or more tracts of land, which may be owned, leased, or rented by the farm operator. Agricultural uses include, but are not limited to the following: farms, urban farms, ranches, dairies, horse boarding, community gardens, greenhouses, nurseries, orchards, or hatcheries.

Impervious area*:* Any man-made surface which restricts the percolation of rain water into the soil including, but not limited to, areas covered by roofs, roof extensions, patios, porches, driveways, sidewalks, parking areas and athletic courts. Also referred to as built-upon area, impervious surface or impervious coverage. In accordance with NCGS 143-214.7D, the following is not considered an impervious area:

1. A slatted deck.
2. The water area of a swimming pool.
3. The surface of number 57 stone, as designed by the American Society for Testing and Materials, laid at least 4 inches thick over a geotextile fabric.
4. A trail or greenway that is either unpaved or paved with pavement that is porous with a hydraulic conductivity greater than 0.001 centimeters per second (1.41 inches per hour).
5. Landscaping material, including, but not limited to, gravel, mulch, sand, and vegetation, placed on areas that receive pedestrian or bicycle traffic or on portions of driveways and parking areas that will not be compacted by the weight of a vehicle, such as the area between sections of pavement that support the weight of a vehicle.
6. Artificial turf, manufactured to allow water to drain through the backing of the turf, and installed according to the manufacturer's specifications over a pervious surface.