

## Article 6: Subdivision and Land Development

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## Division 6.1: Subdivision Standards

### Sections:

- 6.1.10 Purpose and Intent
- 6.1.20 Applicability
- 6.1.30 Types of Subdivisions
- 6.1.40 General Review Standards
- 6.1.50 Subdivision Improvements
- 6.1.60 Easements
- 6.1.70 Covenants and Restrictions
- 6.1.80 Commercial Subdivision Standards

### 6.1.10 Purpose and Intent

State law defines subdivisions as land development that divides a tract or parcel of land into two or more lots, building sites, or other divisions. This Article provides the standards by which subdivisions will be reviewed. Adherence to the provisions of this Article ensures new subdivisions are consistent with the County's Comprehensive Plan and community-oriented character to:

- A. **Create Neighborhood or Community.** The subdivision plat contributes to the creation of a neighborhood or community rather than the development of an isolated project.
- B. **Enhance Character and Quality.** The subdivision plat preserves or enhances the character and the quality of the County and its neighborhoods.
- C. **Create Safe Roads and Pedestrian Systems.** The street, road, and pedestrian system is created in a manner that is safe and provides the best overall layout for the community, as well as the individual development.
- D. **Ensure Plats Conform to County Public Improvement Plans.** Subdivision plats conform to public improvement plans of the County, such as the proper provision of open space for recreation and other public use, and the convenient and proper location of sites for future schools, other public buildings, community facilities, and shopping and industrial areas.
- E. **Ensure Adequate Public Facilities to Serve Development.** Adequate water, sewer, roads, stormwater systems, and other utilities are provided to serve the development without adversely impacting other portions of the system or adjoining properties.
- F. **Ensure Developments are Functional and Internally Safe.** Proposed developments are functional and internally safe to the greatest degree possible and without adverse impact on the environment and adjoining properties.
- G. **Ensure All Requirements of Development Code Met.** All requirements of this Development Code have been met.
- H. **Process Plats Equitably and Uniformly in Accordance with Development Code.** All subdivision plats are processed equitably according to the uniform procedures and standards delineated in this Development Code.

**6.1.20 Applicability**

Unless exempted by Subsection 7.2.70.D (Exemptions), the standards in this Section shall be minimum standards that apply to all subdivisions of land in the County.

**6.1.30 Types of Subdivisions**

There are three types of subdivisions allowed under this Development Code:

- A. **Minor Subdivision.** Minor subdivisions are land developments that consist of subdividing a tract or parcel of land into four lots or less, provided the subject land has not been previously subdivided within five years. Minor subdivisions shall comply with the procedures in Subsection 7.2.70.E, (Minor Subdivision Plat Procedure), the standards in this Article, and all other relevant provisions of this Development Code.
- B. **Major Subdivision.** Major subdivisions are land developments that consist of subdividing a tract or parcel of land into five or more lots. Major subdivisions shall comply with the procedures in Subsection 7.2.70.F (Major and Commercial Subdivision Plat Procedure), the standards in this Article, and all other relevant provisions of this Development Code.
- C. **Commercial Subdivision.** Commercial subdivisions are land developments that include master planning and subdividing into two or more lots any commercial, industrial, or multi-family tract or parcel of land. Commercial subdivisions shall comply with the procedures in Subsection 7.2.70.F (Major and Commercial Subdivision Plat Procedure), the standards in this Article, and all other relevant provisions of this Development Code. This type of subdivision includes all of the following:
  - 1. Separate ownership of lots, coupled with undivided interest in common property;
  - 2. Restrictive land use covenants or easements that govern use of both the common area and separate ownership interests; and
  - 3. Management of common property and enforcement of restrictions by a property owners' association.

**6.1.40 General Review Standards**

- A. **General.** Applications for subdivisions shall be reviewed and evaluated in accordance with the procedures of Section 7.2.70 (Subdivision), and the standards of this Article.
- B. **Subdivision Design.** Block and lot layout shall meet the standards established in Article 2 (Multi-Lot and Single Lot Community Scale Development).
- C. **Civic and Open Spaces.** Civic and open spaces shall meet the standards established in Division 2.8 (Civic and Open Space Types).
- D. **Streets.** New streets shall meet the standards established in Division 2.9 (Thoroughfare Standards).
- E. **Modulation Standards.** The applicant may request a modulation of some standards, see Section 7.2.30 (Modulation Permit), where appropriate to achieve better design that is consistent with the objectives of this Development Code, as long as the modulation is compatible with surrounding development, does not have an adverse impact on protected resources, and is generally consistent with the goals of this Development Code.

F. **Density and Lot Size.** Maximum gross density and minimum/maximum lot size shall meet the standards established in Article 3 (Specific to Zones). Maximum gross density for a site shall be calculated using the Base Site Area.

G. The Base Site Area shall be determined as follows:

Gross site area as determined by actual survey:

Minus Land separated by a road or utility right-of-way

Minus Land separated by water and/or marsh

Minus Land within existing roads' ultimate rights-of-way

Minus Existing natural water bodies on the property and land/tidal wetlands seaward of the OCRM critical line

Minus Land previously dedicated as open space

Equals = Base site Area

### **6.1.50 Subdivision Improvements**

All subdivision improvements shall meet the standards of this Article. To ensure all required improvements are completed, all subdivisions shall be required to provide adequate surety for roads, utilities, stormwater management systems, landscaping, open space, and other infrastructures and improvements shown on the final plat.

### **6.1.60 Easements**

Easements may be required for any of the following purposes: drainage, utilities, access to utilities or drainage areas, and open space. Easements shall comply with the following:

- A. **Location.** Easements shall be located in street rights-of-way, alleys, open space areas, or side or rear yards of lots. Where located on individual lots, the minimum lot size may include the easement.
- B. **Width.** Utility easements shall be a minimum of ten feet wide. Easements that fall on shared side or rear lot lines shall be divided equally, requiring five feet from each lot. Access easements shall meet the standards of Division 2.9 (Thoroughfare Standards) for a comparable roadway.
- C. **Drainage Easements.** Drainage easements shall be placed on lots to convey surface water to storm sewers located on the street or in open spaces. Drainage easements shall be designed to use natural channels or sheet flow to the maximum extent practical. Surface drainage patterns shall be protected by easements or open space.
- D. **Protection of Natural and Historic/Archaeological Resources.** Where subdivisions contain areas of natural and/or historic or archaeological resources, all utilities, if deemed safe, shall be placed within the street rights-of-way and/or under the streets in order to avoid additional destruction of the resource.

### **6.1.70 Covenants and Restrictions**

- A. **General.** The provisions of this Development Code are not intended to replace any deed restriction, covenant, easement, or any other private agreement on the use of land. All such restrictions shall be enforced by parties to the restriction.

- B. **Private Restrictions Required by Development Code.** Private restrictions established to comply with the requirements of this Development Code shall be reviewed by the Director. The County shall only enforce provisions that are required by this Development Code, or as required by state law.
- C. **Protection of Open Space Set-Asides, Protected Resources, and Common Areas.** Private restrictions shall ensure that open space set-asides, protected resources, and long-term maintenance and ownership of common areas, private roads and drainage systems are provided in accordance with this Development Code.

**6.1.80 Commercial Subdivision Standards**

- A. A master development plan for the commercial subdivision, which shall show buildout of the project, including proposed lots and outparcels, shall be submitted for Conceptual Development Plan review and approval by the Director. The master development plan shall be accompanied by a traffic impact analysis (TIA) in accordance with Division 6.3 and include a master signage plan depicting signage to be used by the owners of lots in the commercial subdivision.
- B. Commercial subdivisions shall be subject to restrictive land use covenants or easements, which provide for the installation, maintenance, and shared use of infrastructure and common areas among the lots depicted in a commercial subdivision master development plan. Such restrictive covenants or easements shall provide for shared access, ingress, egress, parking, common area ownership and maintenance, utility and stormwater infrastructure, signage in accordance with the master signage plan and landscaping among the lots in the commercial subdivision. Said restrictive land use covenants or easements shall comply with the Community Development Code and shall be recorded concurrent with the sale or transfer of any lot within the commercial subdivision.
- C. Except for outparcels, individual lots within a commercial subdivision are exempt from the open space standards in Section 2.8.50; the density, lot and building intensity standards within the applicable zoning district in Article 3; the perimeter buffer standards in Section 5.8.90; the resource protection standards in Division 5.11, except for tree protection and removal; and the parking standards in Division 5.5. The intent being that the commercial development will meet these standards as a whole during review of the master development plan, and that subsequent to subdivision, the lots depicted in the master development plan for a commercial subdivision shall be used and shall operate together as a single master planned development.
- D. Amendments to the commercial subdivision, including but not limited to the size, dimension and number of lots depicted therein, shall be approved by the Director.
- E. The original developer of a commercial subdivision may or may not actually develop the entire project to completion. As a special exception to the subdivision process outlined in this Article, the developer of a commercial subdivision may sell or transfer ownership of lots within the commercial subdivision in accordance with the following procedures and provisions:
  - 1. Prior to the sale or transfer of lots, the developer shall build any necessary off-site improvements for the development, including those identified in the traffic impact analysis (TIA), water/sewer extensions to the site, etc., or the developer may elect to provide surety in the amount of 125% of the cost estimates for such improvements in accordance with Section 6.2.60 (Performance Guarantee).

## **Division 6.1: Subdivision Standards**

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2. Property covenants and restrictions (see subsection B above), must accompany the sale or transfer of any lot within the commercial subdivision restricting the new owner to the development shown on the approved master development plan;
3. The developer shall submit to the Director a sworn affidavit from the prospective purchaser of a lot wherein the purchaser waives his or her right to the guarantee of the installation of required improvements afforded through this Article for the subdivision of land, and further states that he or she understands that a final development plan application must be submitted and approved, and a development permit issued by the County in accordance with the procedures in Section 7.2.60.E prior to commencement of any development on the lot;
4. The developer shall submit a plat for certification for recording to the Director and subsequently record such plat prior to sale or transfer of any lot in the commercial subdivision.

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## Division 6.2: Land Development Standards

### Sections:

- 6.2.10 Purpose and Intent
- 6.2.20 Applicability
- 6.2.30 Access
- 6.2.40 Service Standards
- 6.2.50 Survey and Engineering Requirements/Certificate of Compliance
- 6.2.60 Performance Guarantee
- 6.2.70 Maintenance Guarantee

### 6.2.10 Purpose and Intent

It is the purpose and intent of this Division to promote the general health, safety and welfare by regulating the subdivision and development of land to ensure that necessary improvements are provided.

### 6.2.20 Applicability

All proposed land developments (major and minor) and subdivisions (major and minor) shall conform to the standards in this Division unless expressly exempt.

### 6.2.30 Access

#### A. Legal Access

1. While it is the intent of this Development Code that all property proposed for development be provided adequate and legal access to public thoroughfares, it is recognized that in some instances legal right of access may not be clearly established at the time of proposed development activity.
2. For development not involving the sale of lots or residential units, the concern over legal access is not as great, except that such proposed development may impact other property across which access to the development depends.
3. The County, however, has determined it is essential that subdivision development involving the sale of lots or dwelling units have legal access to a public thoroughfare to avoid potential litigation involving unsuspecting consumers.
4. All applicants requesting the development of property not immediately contiguous to deeded public rights-of-way shall submit copies of recorded deeds, plats, and easements clearly documenting access to the development property, or in the absence of such recorded documents, evidence that reasonable effort has been made to acquire the necessary easements for access from property owners whose lands can be used to access a public thoroughfare.
5. Disclosure or notice where access not established
  - a. Development involving the sale of lots where access cannot be documented in accordance with the provisions of Subsection 6.2.30.A.4, above, and consequently cannot clearly meet this requirement, shall include on the face of recorded plats and surveys and in the body of associated deeds, master deeds, covenants and

restrictions the following disclosure statement: "It has been determined by Beaufort County that access to all lots or units contained in this development are not clearly and legally established or defined at the time of approval of this development for construction and sale of lots or units to the general public."

- b. For development not involving the sale of lots or units which cannot meet the provisions of Subsection 6.2.30.A.4, above, the staff shall send notice of development intent by certified mail to all affected property owners whose land over which access to the proposed development property is dependent at least 14 days in advance of scheduled project review.
6. All applications shall be reviewed for physical adequacy of access. The application may be denied where access is inadequate for emergency vehicles or users may experience unwarranted inconvenience.
7. Upon determining reasonable access to adjoining property would be seriously affected by a proposed development design, the County shall notify the adjacent property owner, by registered mail, of the findings and recommend that the property owner take whatever action is deemed necessary. (This is merely for the purpose of notifying an adjacent property owner and in no way affects existing laws regarding access to properties by right of necessity.)

**B. Temporary Access**

1. No developer shall be denied a subdivision, land development plan, or certificate of zoning compliance approval for the sole reason that a parcel of record existing on December 8, 2014 cannot comply with the permanent access standards of this Section, provided the subdivision or land development plan complies with all other requirements of this Code.
2. In cases where permanent access is unavailable, temporary access may be granted which automatically expires when permanent access to the property is available in accordance with this Section. The property owner shall bear the cost of closing the temporary access and connecting to the permanent access.

**C. Standards for Restricted Access Developments.** If an applicant proposes a development that prohibits general public access, the development shall comply with the following:

1. No local residential street in the development shall have a peak hour volume of greater than 240 trips, and the development shall be designed to ensure this volume cannot be exceeded.
2. The County Attorney, assisted by other County departments, shall determine if there are any water access areas on the development site that are subject to prescriptive right of use. If the County Attorney issues an opinion that there is a prescriptive right of access and the applicant refuses to acknowledge the prescriptive easement, no permit approval for the development shall be issued until a final order resolving such question is entered by an appropriate court, or the developer posts a bond which, in the opinion of the court, protects the potential prescriptive users.
3. Public access to existing cemeteries shall be ensured. See Section 5.10.80 (Access to Cemeteries on Private Property).
4. Any road(s) identified by the County in a transportation or circulation plan as providing transportation to, through, or into an area affecting multiple land owners shall be established as a public road.

5. An analysis of the potential effects from the restricted access on future road capacities in the vicinity of the project shall be evaluated as part of the TIA (see Division 6.3), and mitigated, if appropriate.

#### **6.2.40 Service Standards**

- A. **Minimum Service Requirements.** The developer shall be responsible for provision of the following minimum service, where applicable. This requirement does not in any way obligate the County Council or any County departments to provide these services.
  1. **Potable Water for Domestic Needs.** Potable water supply of sufficient quantity to satisfy domestic needs;
  2. **Water for Commercial and Industrial Demand.** Water supply of acceptable quality and sufficient quantity to satisfy commercial and industrial demand;
  3. **Sewage.** Means for treatment and disposal of domestic sewage and other liquid waste;
  4. **Solid Wastes.** Means for collection and disposal of solid wastes;
  5. **Vehicular Access to Streets.** Vehicular access to existing streets and thoroughfares;
  6. **Paving of Driveways.** The paving of all driveways, from the property line to the edge of the street or road pavement (except to private dirt roads);
  7. **Power Supply.** Power supply, normally electricity; and
  8. **Water for Fire Protection.** Water supply for fire protection (see Subsection 6.2.40.C.2, below).
- B. **Sewer Standards**
  1. **Public Sewer Systems.** All public sewers shall be installed to the specifications of the water and sewer agency providing that service. The plans for such service shall be approved in writing to the County prior to final plat or development plan approval. A letter accepting the facilities as properly installed shall be submitted to the County prior to the release of surety or the issuance of a Certificate of Occupancy.
  2. **On-Site Systems.** All on-site systems shall be permitted by DHEC prior to final plat or development plan approval, with locations being identified on the final plat or plan. All septic permits shall be submitted with the application for final approval.
  3. **Public Sewer Systems in T1 and T2 Zones.** Public sewer extensions into T1 or T2 zones shall only be permitted when a documented health condition warrants such expansion, and not merely to accommodate new development. New development in T1 and T2 zones may access existing wastewater trunk lines if such lines are located within 300 feet of the development and serviced the area as of 1999.
  4. **Remote Septic Drain Fields.** Remote (off-site) septic drain fields shall not be permitted for new subdivisions.
- C. **Water Standards**
  1. **Water Supply for Public Use.** All public water systems shall be installed to the specifications of the water and sewer agency providing that service. The plans for such service shall be approved in writing to the County prior to final plat or development plan approval. A letter from the water and sewer agency accepting the facilities as properly installed shall be submitted to the County prior to the release of surety or the issuance of a Certificate of Occupancy.

2. **Water Supply for Fire Protection.** All new development serviced by a public or quasi-public water system and approved by DHEC shall provide firefighting capability through the provision and placement of fire hydrants and adequate pressure flow. The location and spacing of hydrants shall be as follows:
  - a. **Subdivisions.** Fire hydrants shall be required for all subdivision of property except single-family subdivisions of four lots or less (minor subdivisions). Hydrants shall be placed along streets and roads at intervals not to exceed 1,000 feet. In no case shall the nearest property line of a subdivided lot exceed 500 feet from a fire hydrant.
  - b. **Buildings.** All properties where buildings or portions of buildings, other than one or two-family dwellings, are located more than 150 feet from a public or quasi-public water main shall be provided with approved fire hydrants connected to a water system capable of supplying the required fire flow, unless the fire district has approved an alternate fire protection plan. The location and number of such on-site hydrants shall be as designed by the Fire Official with the minimum arrangement being a hydrant available within 300 feet of the building, and allow for distribution of hoses to any portion of any building on the property at distances not exceeding 500 feet.
  - c. **Exemption.** Commercial buildings in existence prior to December 8, 2014 shall not be required to meet fire safety standards for approved changes that do not involve or affect the structures.
  - d. **Private Water Systems.** Private water systems shall be designed to handle fire flow in the subdivision they serve by water mains or an approved alternative system. The required fire flow shall be established according to the 2006 International Fire Code Table B105.1 or its most current update.
  - e. **Fire Protection Options.** In providing fire protection for the development, the developer shall have one of the following three options:
    - (1) Tying into an existing public or quasi-public water system capable of providing required fire flow;
    - (2) Installing an approved alternate system, as listed in the National Fire Prevention Code, and installed according to code; or
    - (3) Presenting an approved engineering system designed to meet the required fire flow.
3. **Alternative Water Supply.** An alternative method of water supply for fire protection can be utilized if it is approved by the local fire district. The alternative method shall provide a degree of fire protection that is at least equivalent to that required by the adopted codes. In T2 Zones that have no suitable public or quasi-public water system available, water supply for fire protection shall be provided that complies with National Fire Protection Association 1142 or its most current update as a viable alternative method of providing the required fire flow.
4. **Other Conditions for Water Supply.** If required water supply will not be contrary to the public interest and where, owing to conditions peculiar to the property and not resulting from any action on the part of the property owner, an enforcement of this standard would result in an unusual and undue hardship, the local fire district may approve alternate protection systems.

5. **On-site Systems.** All on-site potable water systems (wells) shall be permitted by DHEC prior to final plat or development plan approval, with locations being identified on the final plat or plan. All well permits shall be submitted with the application for final approval.

**D. Fire Safety Standards**

1. **Compliance with Other Laws and Codes.** The fire safety standards prescribed in this Section shall be in accordance with the 2012 International Fire Code, as amended; with other life, fire, building and safety codes that are adopted by the county and the state; and shall apply to all development. The local fire district shall review all new development for compliance with fire and life safety standards of the county.
2. **Review.** All proposed land development plans or subdivisions, whichever occur first, shall be reviewed by the local fire district having jurisdiction in accordance with this Section. Prior to approval, the local fire district shall make written recommendations indicating approval of the design as submitted, or delineating needed design changes consistent with fire and life safety standards and practices.
3. **Inspection.** The local fire district shall inspect the completed development site for compliance with the approved plans and submit findings to the Director prior to issuance of a Certificate of Compliance for the development.
4. **Building Height Restriction.** Except for single-family and two-family dwellings, all development that exceed 35 feet in height or exceeds a total fire flow demand of 3,500 gallons per minute (gpm), as referenced in the Insurance Service Organization (ISO) requirements for specialized equipment, must have adjustments to plans approved by the Fire District Fire Chief and the Building Official and, as necessary, reach financial arrangements acceptable to the Fire District and County Council that provide assistance in purchasing the appropriate firefighting apparatus or equipment. This standard shall be applied to the Fire Management Plan as defined for each fire district.
5. **Emergency Vehicular Access.** No development shall be constructed in any manner so as to obstruct emergency vehicle access to the development or associated buildings and structures. To ensure that access will not be impaired in any emergency situation, attention should be given to the design and layout of such features as signs, fences, walls, street intersections and curves, parking lots, sidewalks, ditches, lagoons, recreational amenities, landscaping, alleys and maintenance of roads. Where buildings are over 20,000 square feet in area or over 35 feet in height, or a wall is more than 300 feet from a fire hydrant, special all-weather fire access may be required to meet the local fire district's approval.
6. **Combustibles.** Except for minor subdivisions, the landowner shall request a determination from the local fire district as to whether quantities of potential materials are hazardous prior to bringing any combustibles to a site. The fire district shall notify the County if the site requires a temporary or permanent water supply prior to the start of construction, and whether adequate access is provided.
7. **Gate Access.** The installation of gates across fire apparatus access roads must be approved by the Director. All developments that utilize electronic vehicular access gates shall install an emergency gate opener approved by the Fire District Fire Chief. The owner of the property shall be responsible for all costs associated with the purchase, installation, and maintenance of this system.

**E. General Utility Standards**

1. **Compliance Required.** All proposed development shall conform with all applicable standards, regulations, specifications, and permitting procedures established by any

duly authorized governmental body or its authorized agents for the purpose of regulating utilities and services. It shall be the responsibility of the developer to show that the development is in conformance with all standards, regulations, specifications, and permitting procedures.

2. **Utility Easements.** All proposed development shall provide adequate easements to accommodate all required or planned utilities and drainage. The developer shall also demonstrate that adequate provisions have been made for access to and maintenance of all easements.
3. **Installation.** All electrical, cable, telephone, and gas utility lines in a development shall be installed according to plans and specifications approved by the respective utility companies providing such service. In addition, all such utility lines shall be installed underground, unless it is determined that a modulation to allow for overhead facilities is warranted due to exigencies of construction, undue and unreasonable hardship, or other conditions related to the development. Request and justification must be presented to the Director by the respective utility company prior to final subdivision plat or land development plan approval.

#### **6.2.50 Survey and Engineering Requirements / Certificate of Compliance**

- A. **Certificate of Compliance.** All subdivision plats and land development plans shall include a Certificate of Compliance, signed by the County Engineer, setting forth that the development complies with the standards set forth in this Division and all conditions of approval.
- B. **Survey Requirements**
  1. **Generally.** Survey requirements for subdivisions specified in this Division are only for control survey connections between geodetic survey monuments and land parcels. Boundary surveys shall be performed, in accordance with the state minimum standards published by the State Board of Registration for Professional Engineers and Land Surveyors unless more stringent requirements are specified. Insofar as possible, control surveys between geodetic monuments and property boundaries shall be extended from the nearest geodetic monument. County specifications for horizontal control are as provided in this Section.
  2. **Survey Ties to Geodetic Control Monuments.** All subdivision and land development exceeding ten acres shall tie control of the survey to geodetic control monuments, as follows:
    - a. State plane coordinates will be shown on the plan/plat, for at least two property corners. The geodetic monuments used for control will be shown on the plan/plat, with the grid distance and azimuth to the coordinated property corners shown.
    - b. Horizontal ground distances (not grid distances) will be shown on the plan/plat for all segments of the boundary survey. A combined state plane coordinated, sea level reduction factor will be noted on the plan/plat. Area will be based on horizontal ground distances.
    - c. All bearings will be referenced to state plane coordinate grid north.
    - d. Surveyors shall tie all surveys, whenever possible, to the state plane coordinate system. With the exception of closing/loan or mortgage surveys in existing subdivisions, all surveys not tied to geodetic control shall have two locator ties. A locator tie is defined as: a bearing and distance tie from a property corner to the nearest tie point; intersections of a street or right-of-way; and/or property corners

- on adjoining properties used in the establishment or verification of property corners.
- e. All locator tie points must be described on the plan/plat, with data given to show their location and type. The tie line shall be shown between the locator tie point and the property corner, with its bearing and distance, to an accuracy consistent with the class of survey.
3. **Terrestrial Surveys.** Standards for terrestrial surveys are as follows:
    - a. If control is extended no more than one-half mile from control monument to property boundary, third-order class I (1/10,000) specifications shall be followed.
    - b. If control is extended more than one-half mile from the control monument to the property boundary, second-order class II (1/20,000) specifications shall be followed.
  4. **Global Positioning System (GPS) Surveys.** If GPS is used, procedures shall be followed to ensure compatibility with the nearest geodetic control monuments to the accuracy specified under Subsections 6.2.50.B.1 and B.2 above or two-tenths foot, whichever is the most stringent.
  6. **Electronic Copy.** All subdivisions shall be required to submit a final electronic copy of the subdivision plat.
  6. **Monuments and Markers.** Standards for monuments and markers are as follows:
    - a. All property corners shall be identified with a concrete or iron rod monument. For horizontal control and to reestablish lost monuments, concrete control monuments shall be placed on each corner of the property boundary.
    - b. To establish vertical control for use with setting finished floor elevations, construction of drainage systems, and benchmark monuments referenced to NGVD 1929, shall be located a minimum of one every four acres, and reference elevations shall be placed on the plan or plat.
- C. **Mapping Criteria for Natural or Manmade Features.** For subdivisions and land developments, mapping criteria for natural or manmade features are as follows:
1. **Streams.** Streams (perennial, intermittent, mapped, and unmapped) with identifiable banks and beds shall have their boundaries set at the top of the bank.
  1. **Watercourses/Waterbodies.** Initial identification of the watercourses/water bodies shall be made using the U.S. Geological Survey quadrangle maps or more accurate information, as available. Field survey verification to determine evidence and location of channelized flow is required for conceptual subdivision plats and land development plans. Vegetation shall be measured by the canopy line for the determination of areas of forest, woodlands, or trees. Other vegetation types shall be measured from the middle of the vegetation transition. Wetlands shall be measured by USACE criteria.
  2. Measurements for the boundary are to be made horizontally, perpendicular from or radial from any feature or point.
  3. Boundaries that are dependent on elevation shall be based on site elevations and shall not be interpolated.
  4. Topographic lines shall be at one-foot intervals. Where slopes exceed 25 percent, two foot contour intervals are permitted. Five-foot intervals are permitted for slopes in excess of 50 percent.

5. The width of existing impervious area such as roadways, parking lots, structures, sidewalks, etc., shall not count towards the area of any natural resource.
- D. **Drainage Plan Requirements:** A master drainage plan, complying with the latest version of the County's Manual for Stormwater Best Management and Design Practices (BMP), for a subdivision or land development plan showing all existing and proposed features shall be included in the construction plans.

**6.2.60 Performance Guarantee**

- A. **Applicability.** All improvements required by this Development Code for roads, water, sewer, drainage, and detention, as well as other improvements such as lighting, landscaping, and bufferyards, shall be installed prior to obtaining a Certificate of Compliance or recording a plat. A developer may also submit surety.
- B. **Cost Estimates and Surety.** If surety is offered in accordance with this Development Code, the developer's engineer shall submit a cost estimate for road, sidewalks, water, sewer, storm drainage, detention, lighting, and any off-site improvements. The designers of the landscaping, buffers, and/or other improvements shall submit cost estimates. Valid bids from contractors may be substituted for cost estimates. The staff shall review all cost estimates to ensure they are reasonable. A surety shall be required in the amount of 125 percent of the cost estimates. Surety shall be valid until released by the Director.
- C. **Form of Surety.** Surety required under this Development Code shall be cash, an irrevocable letter of credit approved by the County Attorney, or other such equivalent surety.
- D. **Release of Surety.** Upon completing all or part of required improvements under this Development Code, the developer may request a reduction or closure of the surety. The Director shall then have the development inspected by the County Engineer. Any deficiencies shall be identified and the developer notified in writing of the deficiencies. If all work is complete and a maintenance bond provided, the surety shall be closed. If 25 percent of the work has been completed or is in stages identified in the original cost estimates, the surety shall be reduced accordingly.
- E. **Calling Surety.** Under normal circumstances and in accordance with this Development Code, the developer should finish construction of improvements well before the surety expiration date and will, on the developer's own initiative, request inspection and reduction or closure of the surety. Should the developer want additional time, a new surety covering the time (minimum six months) shall be submitted to the Director. If all work is not completed or an extended surety has not been presented at least 30 days prior to expiration, the Director or County Engineer shall notify the County Attorney to call the surety so the work can be completed.

**6.20.70 Maintenance Guarantee**

Upon completing the improvements required under this Development Code, the surety will be reduced or eliminated. A maintenance guarantee in the form of an irrevocable letter of credit, surety, or cash equal to ten percent of the actual construction cost for improvements (e.g., road, sidewalk, and drainage facilities) shall be deposited with the County for anticipated maintenance for a period of two years after the completion of all improvements. For landscaping improvements, a survival bond equal to 120% of the cost shall be required (refer to Section 5.8.110.B.4).





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## Division 6.3: Traffic Impact Analysis

### Sections:

- 6.3.10 Purpose and Intent
- 6.3.20 Applicability
- 6.3.30 General Requirements
- 6.3.40 Methodology
- 6.3.50 Mitigation Plan
- 6.3.60 Review and Approval

### 6.3.10 Purpose and Intent

It is the purpose of this division to measure the effects of development against the County's traffic service level goals set forth in the *Beaufort County Comprehensive Plan (2010)* in order to ascertain road facilities and improvements needed as a result of new development.

### 6.3.20 Applicability

- A. Any development that will generate more than 50 trips during the peak hour as determined by the County Traffic Engineer shall require a Traffic Impact Analysis (TIA) as part of the application for development plan or subdivision plat approval.
- B. A second phase, second subdivision, or addition that takes a property over 50 trips during the peak hour when taken as a whole shall require a TIA as part of the application for development plan or subdivision plat approval even though the development does not qualify on its own.
- C. A change of use to another use permitted in the zoning district shall require a TIA as part of the application for a change of use if the proposed use will generate over 50 trips during the peak hour, even if a TIA was conducted for the previous use.
- D. An application for a rezoning shall include a TIA where the particular project or zoning district may result in a development that generates 50 trips during the peak hour or will change the level of service of the affected street.

### 6.3.30 General Requirements

- A. The TIA shall be conducted by an engineer registered in the state who is experienced in the conduct of traffic analyses and approved by the County Traffic Engineer.
- B. The TIA shall indicate current conditions, the traffic generated by the subject site at full development, traffic generated by developments approved in the area that would affect future traffic flows, and an estimate of future traffic on the system at the time of buildout.
- C. The TIA shall review access to the site. The adequacy of the entrance design shall be evaluated and recommendations made for acceleration and deceleration lanes, left turn lanes, or signalizations.
- D. The TIA shall review the number and types of curb cuts that are permitted. In particular, the TIA shall assess the connection of the property to adjoining properties. Where the use, scale of development, or size of adjoining properties is such that trips would be anticipated between the proposed use and the other properties, the TIA shall make recommendations

on interconnections to provide a smooth flow of traffic between uses along arterials and collector roads to ensure that as much traffic as possible uses secondary roads rather than major roads for short trips.

- E. The TIA shall assess the adequacy of the roads from which the development takes access. Recommendations for improvements shall be made. The relative share of the capacity created shall be broken down as follows: development share, other developments share, any existing over capacity, and capacity available for future growth.
- F. Residential development, residential care facilities, hospitals, hotels and resort-oriented developments shall submit an emergency evacuation analysis (EEA) as part of the TIA. The EEA shall indicate how the proposed development utilizes the county's prescribed evacuation routes and the effect of the proposed development upon existing evacuation times for that portion of the county. The EEA shall be reviewed and approved by the Director of Emergency Management prior to submittal as part of the TIA.

**6.3.40 Methodology**

- A. The applicant's engineer will rely on the most current edition ITE trip generation manual or any alternative acceptable to the County Traffic Engineer, and available information on land use, travel patterns and traffic conditions, and will supply in writing to the County Traffic Engineer for approval the parameters to be followed in the TIA, including the directional split of driveway traffic, trip distribution, and background traffic growth rate. Previously approved but not completed projects and the intersections to be analyzed along with any associated and available turning movement counts will be provided by the Country Traffic Engineer.
- B. The following elements shall be included in a TIA plan:
  - 1. A conceptual site plan or subdivision plat identifying accesses to and from existing or proposed streets and intersection.
  - 2. Description of the proposed development, including the type of proposed land use, the number of residential units by type, the number of existing and proposed lots, the type of proposed nonresidential development and the amount of such development measured by gross floor area or other appropriate unit of measurement, the general size and type of accessory development or facilities, and, for non-residential development, adequate information to identify the appropriate land use category for trip generation.
  - 3. Projected vehicular trips to and from the completed development during a.m. and p.m. peak hour. The percentage of pass-by trips, if used in the plan, shall be included, as well as the source of this information. Trip rates shall be taken from the ITE manual provided, however, an applicant may elect to perform, at his own expense, a trip generation study that may be submitted as part of the traffic impact analysis plan. Such trip generation study shall be subject to the review and verification of the County Traffic Engineer. For proposed uses not specifically listed in the ITE manual, and for which a trip generation study has not been performed, the County Traffic Engineer, in consultation with the applicant's traffic engineer, shall determine the most appropriate trip generation rate.
  - 4. A written narrative setting forth the assumptions upon which any projection made in developing the traffic analysis plan shall be included in the analysis. If the assumptions are derived from the ITE manual, the materials shall be referenced and

properly cited. If the assumptions are not from the ITE manual, appropriate excerpts from other reliable transportation planning resources shall be stated in the narrative.

5. The traffic impact analysis shall be based on intersection analysis procedures for signalized and unsignalized intersections as identified in the most current edition of *Transportation Research Board's Highway Capacity Manual* and/or the last update that analyses and emulates these procedures by means of computer software, if available. The results of any required analysis/computer analysis shall, at a minimum, indicate compliance or variance from the traffic goals in the *Beaufort County Comprehensive Plan (2010)*.
6. The intersections that must be analyzed in the study are as follows:
  - a. Any intersection that serves as a development's point of access. This will include intersections of public and/or private roads with arterials, and driveways offering direct access.
  - b. The first major intersection as identified by the County Traffic Engineer on either side of the development's point of access.
  - c. Other intersections on arterials if development generates more than 50 a.m. or p.m. peak hour trips to that intersection or when in the opinion of the County Traffic Engineer there is a potential for a significant impact to the intersection's level of service from site related traffic or intersection demand critical.
  - d. Unsignalized intersections and access drives shall be considered if development impacts are anticipated. The plan must include the results of an analysis of the operating conditions of critical intersections and/or all intersections identified in the concept plan. The analysis shall reflect the projected condition of these intersections and movements, based on the scheduled opening date of the development. Other phases of the development shall be considered as well.
7. Accident analysis for intersections identified to be included in the study shall be completed for the most recent three years of accident data available from the S.C. Department of Public Safety or the County Traffic Engineer.
8. The average stop time delay in seconds per vehicle for each intersection determined to be critical to the traffic impact analysis shall be compared to the County's adopted traffic service level goal of "D" for the average delay for all vehicles at any signalized intersection during the a.m. and p.m. peak hours.

### 6.3.50 Mitigation Plan

If the initial analysis indicates that the County's adopted traffic service level goal of "D" will be exceeded, a mitigation plan must be prepared based on additional analysis. The mitigation plan must show how the County's service level goals are addressed as mitigated. Applicants will be responsible to mitigate the traffic impacts at any intersection affected by a proposed development.

- A. If a traffic signal is recommended, the analysis shall provide information that does the following:
  1. Clearly indicates the need for a traffic signal.

2. Assesses the ability of other existing or planned or proposed public roads to accommodate the new traffic at a location other than the main highway in the vicinity of the proposed development.
  3. Describes in detail how a specific development will affect the study area transportation system.
  4. Provides documentation of appropriate South Carolina Manual of Uniform Traffic Control Devices (SCMUTCD) signal warrant satisfaction.
  5. Gives design geometry of the private road that is consistent with that of public road intersections including curbs, appropriate lane widths, pavement markings and vertical alignment. Other roadway factors to be considered include, but are not limited to, speed, type of highway, grades, sight distance, existing level of service, conflicting accesses, and the effect of future traffic signal systems.
  6. Provides an approach throat length for the road to guarantee the movement of vehicles entering the site will not be impeded by on site conditions, and insure that all signal spacing requirements are adequately met.
- B. A traffic signal progression analysis is required if the proposed location is closer than the SCDOT standards given the presence of existing signals or the possible existence of future signals proposed as part of a highway signal system.
- C. The desirable spacing of signalized intersections on principal arterials is the SCDOT standards or county standards. The County Transportation Engineer may recommend to SCDOT the installation of a traffic signal at locations where using SCDOT standards, spacing is inappropriate due to: topography, existing or proposed road layout; documented accident history; unique physical constraints; existing or proposed land use patterns; or requirements to achieve specific objectives for highway segment designations as shown in any locally adopted land use or transportation plan or approved County transportation plan or approved transportation policy.
- D. Signal spacing concerns may be ameliorated in the following ways:
1. A proposed private road that may otherwise be considered for the installation of a traffic signal may be replaced by an onsite route or a frontage road that directs traffic to or from a nearby public road;
  2. A private road that is being considered for traffic signal installation may be required to connect to the existing or planned local road system to allow uses of surrounding properties;
  3. An existing or proposed intersection may be relocated; or
  4. A shared private road may be required to serve the needs of the multiple properties.
- E. A traffic signal progression analysis for all new, revised or planned traffic signal systems on state highways shall be performed using methods, models, computer software, data sources, roadway segment length, and assumptions approved by the County Traffic Engineer. The roadway segment, analyzed to the extent possible, shall include all traffic signals in the existing or future traffic signal system. The progression analysis shall:
1. Demonstrate acceptable existing and future traffic signal systems operation that may include the morning peak, evening peak, midday period, and other appropriate time period during any day of the week adjusted for peak season, for cycle lengths and travel speeds approved by the County Traffic Engineer;

2. Demonstrate sufficient vehicle storage is available at all locations within the traffic signal system without encroaching on the functional boundaries of adjacent lanes and signalized intersections. The functional boundary of an intersection shall be determined in discussion with the County Traffic Engineer based on existing or projected conditions;
  3. Provide a common cycle length with adequate pedestrian crossing times at all signalized intersections; and
  4. Provide a progression bandwidth as large as that required, or as presently exists, for through traffic on arterials & collectors at the most critical intersection within the roadway segment. The most critical intersection is the intersection carrying the highest through volume per lane at the lowest green time/cycle time (g/c) ratio.
- F. The traffic signal progression analysis shall be supplemented by a traffic engineering report that also considers highway capacity and safety of the roadway segment under consideration. Traffic volumes, intersection geometry and lane balance considered at all locations shall be appropriate for the present and future conditions. Present and future conditions are usually considered to include the year of completion, and five years into the future.
- G. A clear and concise summary of recommended improvements that can serve as an executive summary is required.

#### **6.3.60 Review and Approval**

- A. **Traffic Impact Analysis Plan Submittal and Review.**
1. A traffic impact analysis plan (TIA) shall be submitted to the County Traffic Engineer for review as part of an application for a conceptual development plan or conceptual subdivision plat.
  2. The County Traffic Engineer shall determine whether a TIA is complete and accurate. Failure by an applicant to provide a complete and accurate TIA where required by this Division may result in review delays for the accompanying plan or plat application.
  3. TIA review coordination with other entities in the county and the South Carolina Department of Transportation (SCDOT) shall be the responsibility of the County Traffic Engineer.
- B. **Action on Traffic Impact Analysis.** Based on the TIA findings and recommendations, as approved by the County Traffic Engineer, an applicant may be required to provide construction of recommended improvements, pay fees in lieu of construction, or phase or revise the proposed development to insure the County's adopted traffic service level goals are met.
- C. **Timing of Implementation.** If a traffic mitigation program is part of an approved traffic impact analysis plan, the developer may be required to place a performance bond on all traffic mitigation improvements required as a result of the development. This requirement may arise if the timing of the improvements needs to be synchronized with other scheduled improvements anticipated for the area.
- D. **Responsibility for Costs of Improvements.** The costs of implementation of an approved mitigation program shall be the responsibility of the applicant. No Certificates of Compliance or Building Permits shall be issued unless the traffic impact analysis recommendations are met.

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