

Land Development Regulations

Update

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ARTICLE I: GENERAL PROVISIONS

1. Purpose

The purpose of this ordinance is to enhance the growth and development of the City of Clemson, and its environs, so as to encourage the development of an economically sound, culturally vibrant, and aesthetically pleasing urban area that retains highly desirable qualities of a small town. To that end, the standards contained herein intend to:

- Ensure that the planning and construction of streets, utilities, facilities, and the provision of necessary services, is accomplished in a well-organized, and cost-effective manner;
- Provide for safe, efficient, and convenient traffic access and circulation in and through all areas of the city for drivers, bicyclists, and pedestrians;
- Promote the connection of new and existing neighborhoods with schools, parks, shopping areas, and other points of destination, in a manner that not only provides convenience, but also, to the degree possible, limits vehicle emissions and their negative impacts through the facilitation of walking, bicycling, and other eco-friendly modes of travel;
- Expands the availability of public open spaces and building sites in new land developments through the dedication or reservation of land for recreational, educational, and other public purposes; and,
- Manages growth and development throughout the City in harmony with the goals established in the Comprehensive Plan.

2. Application of Regulations

No street or other public way or land shall be accepted or maintained; nor shall any water lines, sewerage, street lighting or similar improvements be extended or connected; nor shall any permits be issued by any department of the municipality or county for construction of a building or other improvement in the development of a site, nor any other approval granted for a subdivision of land, which does not meet the requirements set forth in this ordinance. **Additionally, any development characteristics not specifically prescribed in the duly approved regulating plan of a Planned Development shall be subject to the minimum standards, if applicable, established in these Land Development Regulations and adopted zoning standards. Notwithstanding any other standard or requirement established herein, the Director may, for good cause demonstrated by a written interpretation or justification in conjunction with the City Engineer, waive the strict application of these regulations.**

3. Effect of Plat on Dedications

The approval of a plat by the Planning Commission, or any department or staff delegated to perform plat reviews and approvals, shall not be deemed to constitute or effect an acceptance by the City Council of the dedication of any street, easement, or other improvement or ground shown upon the plat.

4. Violation and Penalty

- A. After the adoption of this ordinance by the City Council of the City of Clemson, no subdivision plat or other land development plan within the jurisdiction of the regulations

may be filed or recorded in the office of the county where deeds are required to be recorded, and no building permit may be issued until the plat or plan bears the stamp of approval and is properly signed by the designated authority. The submission for filing or the recording of a subdivision plat or other land development plan without proper approval as required by this ordinance; or the willful misrepresentation of facts in an effort to conform to duly approved plans; or the willful failure to design and/or construct development features in conformance with duly approved plans, is declared a misdemeanor and, upon conviction, is punishable by a fine up to five-hundred (500) dollars for each offense, and as may be otherwise provided for by law.

- B. The owner or agent of the owner of any property being developed within the subdivision jurisdiction of the City of Clemson may not transfer lots or parts of the development unless the land development plan or subdivision has been approved by the Planning Commission, or duly authorized staff, and an approved plan or plat duly recorded in the office of the county Clerk of Court, as provided for by law. A transfer of title in violation of this provision is a misdemeanor and, upon conviction, must be punished in the discretion of the court. A description by metes and bounds in the instrument of transfer or other document used in the process of transfer does not exempt the transaction from these penalties. The City of Clemson may enjoin the transfer by appropriate action.

5. Filing Fees

City Council shall establish, and may from time to time amend, a fee sufficient to offset a portion of the costs associated with implementing these regulations. Said fee shall be submitted along with other required documents and materials at the time of application for Preliminary Plat review.

6. Interpretation of Subdivision Jurisdiction

Where uncertainty exists with respect to the boundary of the subdivision jurisdiction of the City of Clemson, the location of such boundary shall be determined by scaling the distance on the copy of the Official Zoning Map.

ARTICLE II: DEFINITIONS

When used in this ordinance, certain words and terms shall contain the meaning as herein defined, or as defined in the City of Clemson Zoning Ordinance. Words used in the present tense include the future; the single number includes the plural number; the plural number includes the singular number. Except where specifically defined herein, all words used in this ordinance shall carry their customary meaning. The word "shall" is mandatory, not directory.

Americans with Disabilities Act of 1990 (ADA) – A civil rights law that prohibits discrimination based on disability.

Abutting – Having a common border or property line with, or being separated from such a common border or property line by a right-of-way, alley, or easement.

ADT – An abbreviation for ‘Average Daily Trips’, a standard measurement used to indicate traffic levels on roads and streets.

Alley – A public or private right-of-way or easement primarily intended to serve as a secondary or off-street access to a structure(s) with on-street primary access. Alleys are typically not intended for general traffic.

Area, Gross – The horizontal area within a lot or parcel of land before public streets, easements, or other areas to be dedicated or reserved for public use are deducted from such lot or parcel.

Area, Net – The total area of a site for residential or nonresidential development, excluding street rights-of-way and other publicly dedicated improvements such as parks, open space, and stormwater detention and retention facilities.

Arterial Street – A high-capacity street designed to deliver traffic from collector streets to urban centers, interstate highways, and other major thoroughfares and destinations at the highest level of service possible.

Accessory – A building or use serving a principal building or use which is subordinate in area, extent, or purpose to the principal building or use served; located on the same lot as the principal building or use served.

Best Management Practices (BMP's) – For the purposes of these standards, structural, vegetative, or managerial practices used to treat, prevent, reduce, or otherwise manage water pollution.

Bikeway – A generic term denoting a designated path open to public use for bicycle travel. Such paths may be reserved for bicycle travel only, or be open to utilization by multiple transportation modes.

Bike Path – A bikeway physically separated from motorized vehicular traffic by an open space or barrier, and either within the highway right-of-way or an independent right-of-way. A bike path may be designated for shared use by pedestrians and other non-motorized uses.

Bufferyard – A designated area of land that may include features such as landscaping, berms, walls, fences, or building setbacks between land uses of different character with the intention of mitigating potential negative impacts stemming from a more intense use on a residential or vacant

parcel.

Building Line - A line establishing the minimum allowable distance between the nearest portion of any building, excluding steps, gutters, and similar fixtures, and the property line when measured perpendicularly thereto.

Canopy Tree – For the purposes of these regulations, a tree identified as such on the City's preferred plant list.

Cartway - The actual road surface area from curblines to curblines, which may include travel lanes, parking lanes, and deceleration and acceleration lanes. Where there are no curbs, the cartway is that portion between the edges of the paved surface.

City Engineer, The – For the purposes of this ordinance, the City Engineer of the City of Clemson and departmental staff members duly delegated and authorized to implement the land development standards set forth herein.

City of Clemson – The municipality of the City of Clemson, South Carolina.

Collector Street – A low to moderate capacity street that serves to move traffic from local streets to arterial streets; typically designed to provide access to residential properties.

Comprehensive Plan – The master plan adopted pursuant to Title 6 Chapter 29 (The Comprehensive Planning Act) of the South Carolina Code of Laws.

Constraints, Hillside – Topographic features such as slopes, hilltops, and ridgelines that may contain hazards and, when developed, cause noticeable alteration of the topographic feature and its views.

Cul-de-sac - A local street with only one outlet and having the other end for the reversal of traffic movement.

Cut – A term used to reference excavation activity, or the result of excavation activity, that reduces the original grade.

Density - The number of dwelling units per acre situated on the developable land within the boundaries of a residential project.

Developer – For the purposes of this section, the individual or entity undertaking the financial and legal responsibility for a land development project.

Developable Land – All of the area within a land development project's boundaries, including those areas designated for the support of the development. Typical features include lots, parking areas, drives, roads, drainage and utility easements or rights-of-way, sign easements, entrance structure easements, and lands designated for private recreation.

Development – Construction or expansion of any structure or impervious surface, such as hardscape; construction or expansion of any street, or highway, or other access road; construction or expansion of any infrastructure, such as pipes, water and sewerage lines, drainage facilities, telephone lines, and electrical power transmission and distribution lines; grading, such as cut, fill, or combination

thereof, including off-site grading; removal of any native vegetation, including fuel modification; subdivisions; and lot line adjustments.

Development Footprint – The total land area of the project site in which development (as defined by this section) has occurred or impacted.

Development Permit – A term generally used to reference a building permit, zoning permit, subdivision approval, rezoning certificate, special exception, variance, or any other official action by the City of Clemson that has the effect of permitting the development of property.

Director, The – For the purposes of this ordinance, the Director of the City of Clemson Planning and Codes Administration Department, and departmental staff members duly delegated and authorized to implement the land development standards set forth herein.

Divided Street - A street having an island or other barrier separating travel lanes.

Dwelling Unit - A single unit providing complete independent living facilities for one or more persons including permanent provisions for living, sleeping, eating, cooking, and sanitation, or as defined by the most recent edition of the building code duly adopted by the City of Clemson.

Easement – A non-possessory property interest that allows the holder to access or use another person's property for specific limited purposes. The term is also commonly used to identify the physical area in which the property interest exists.

Excavation – For the purposes of this section, the removal of earth materials by tools, machines, explosives, or other human-directed action that alters the existing grade.

Fill – The deposition of earth materials in such a manner as to raise the existing grade.

Flag Lot – See *Lot, Flag*.

Flood Hazard Area – Any area of the city so designated by the Federal Emergency Management Agency (FEMA), and delineated on an applicable Flood Insurance Rate Map (FIRM).

Governing Body – The City Council of the City of Clemson, South Carolina.

Grade – The existing or proposed level or elevation of the ground surface. It may also refer to the slope or incline of a road, expressed as a percent.

Grade, Finished – The grade of the site at the conclusion of all grading efforts.

Grade, Natural – The grade prior to all grading efforts.

Grading – The alteration of the existing ground surface grade through the use of tools, machines, or other human-directed actions to achieve conformity with a proposed grade.

Grading Permit – A document issued by the City authorizing permittees to conduct certain soil disturbance and related activities as part of a development project.

Green Infrastructure (GI) – The vegetation, soils, and other natural features and processes utilized to help manage stormwater.

Green Space – An area of grass, trees, or other vegetation in a development or urban setting, dedicated for recreational, aesthetic, or, provided such features are integrated into an approved recreational area, stormwater management purposes.

Land Development - The alteration of land and its characteristics through subdivision into parcels, construction, and other activities intended to enhance its character, usefulness and/or profitability.

Lane – A narrow street bounded by buildings or other features that typically serves limited through traffic; also, a longitudinal portion of a street delineated for use by vehicles traveling in a specified direction.

Local Street – Although through traffic may be permitted, a street primarily intended to provide access to properties situated adjacent to its right-of-way.

Lot – A tract of land duly recorded as a separate parcel in the appropriate county Register of Deeds office; or, a specified building site in a tract development.

Lot, Flag - Generally, a lot configured so that the bulk of its buildable area (the ‘flag’) is located to the rear of lots fronting a street, with linkage to the street provided through a narrow corridor dedicated to access (the ‘pole’).

Lot of Record – For the purposes of these regulations, a lot duly recorded and existing at the time of the adoption of this section.

Low Impact Development (LID) – Systems and practices that use, or mimic, natural processes that result in the infiltration, evapotranspiration, or use of stormwater in order to protect water quality and associated aquatic habitat.

Marginal Access Street - A service street that runs parallel to a higher order street which, for purposes of safety, provides access to abutting properties, and separation from through traffic.

Mature Tree – For the purposes of these regulations, a tree that has attained maturity based on standards for its species approved by the City; or, any tree with a trunk measuring eight (8) or more inches in diameter, measured at four and one-half (4 1/2) feet above the ground.

Open Space (OS) – Site areas generally free of buildings and pavement, and identified for preservation. Open space may be improved to the degree necessary to facilitate recreation, small-scale community agriculture/gardens, safety or aesthetic purposes.

Open Space, Common – Land within or related to a development that is intended for the common use or enjoyment of the residents or occupants of the development (may include structures, parking, and other features intended to facilitate the approved use of the common open space).

Person – An individual, corporation, business or land trust, estate, trust, partnership, association, two or more persons having a joint or common interest, government agency, or any legal entity.

Planning Commission – The Planning Commission of the City of Clemson.

Preliminary Plat – A detailed scaled drawing showing all proposed structures, boundaries, easements, utilities, and other pertinent features, situated on, or serving (if appropriate), a development project.

Preserve – For the purposes of this section, a preserve is an undisturbed open space area that is surrounded or otherwise threatened by development. Preserves typically contain sensitive plant and/or animal species.

Private Road – Any road or right-of-way situated partially or wholly within the jurisdictional boundaries of the City of Clemson, owned and maintained by a non-governmental entity.

Property – All real property subject to land use regulation by the City of Clemson, and includes the earth, water, and air, above and below, on the surface; and any improvements or structures customarily regarded as a part of real property.

Protected Tree – For the purposes of these standards, a tree required by, protected by, or otherwise subject to, the provisions set forth in these Land Development Regulations.

Public – For the purposes of these standards, a feature, structure, or other item available for access and/or use by all.

Public Improvements – Development features such as streets (including curb and gutter), utilities, sidewalks, and any other facilities owned (or proposed to be owned) or maintained by the City of Clemson.

Recreational Space – Areas of developments designated for active or passive recreational uses.

Right-of-Way – A type of easement established by usage or grant that allows for the passage along a specific route through grounds or property belonging to another. The term is also commonly used to identify the physical area in which the easement exists.

Road – An open thoroughfare or route constructed or improved in a manner necessary to allow for vehicular and pedestrian travel, generally accessible by the public.

Single-Family Detached Residential Development – A residential development comprised of stand-alone single-family residential units.

Site Plan – A map or graphic representation prepared to scale depicting the development of a tract of land, including but not limited to the location and relationship of the structures, streets, driveways, recreation areas, parking areas, utilities, and other features; and other site development information.

Sketch Plan – A relatively simple drawing(s) of a proposed subdivision or project containing the

minimum level of detail sufficient to allow reviewers to assess not only compliance with land use standards, but also to evaluate likely impacts of the project on issues such as utilities, transportation, and required services.

Slope – An inclined ground surface, the inclination of which is expressed as a ratio of horizontal distance to vertical distance.

Staff – Unless expressly stated otherwise, the term shall be interpreted to mean members of the Planning and Codes Administration Department, or other employees of the City of Clemson, duly authorized to implement the standards of this ordinance.

Steep Slope Development – For the purposes for this section, any development project proposed to be sited on a parcel lying within the boundaries of the Steep Slope Development Area(s) identified by the these standards.

Stormwater – The flow of water resulting from precipitation immediately following a rain or snowmelt event.

Stormwater Management – The collection, conveyance, channeling, holding, retaining, detaining, infiltrating, diverting, treating, or filtering of surface water, ground water, and/or runoff, together with applicable managerial (nonstructural) measures.

Street – For the purposes of these standards, a thoroughfare or right-of-way.

Street Jog – An offset in the centerline of a street at an intersection.

Street Link – A segment of a street connecting two intersections, nodes, or other feature.

Street Node – Intersections, cul-de-sacs, and other features of a street typically associated with increased activity.

Street Hierarchy – A method of ranking streets based on function and capacity.

Structure – Any object constructed, erected, or otherwise affixed, permanently or temporarily, to a location on the ground.

Structural Soil - A mixture of gap-graded gravels (made of crushed stone), clay loam, and a hydrogel stabilizing agent to keep the mixture from separating, thereby providing an integrated root-penetrable, high strength pavement system.

Stub Street - A portion of a street approved for the sole purpose of connecting the subdivision with a future adjoining subdivision.

Subdivider - Any person, firm, or corporation, or their duly authorized agent who subdivides or develops any land deemed to be a subdivision as herein deemed.

Subdivision - All divisions of a tract or parcel of land into two or more lots, building sites, or other divisions for the purpose, whether immediate or future, of sale, lease, or building development, and includes all division of land involving a new street or change in existing streets, and includes re- subdivision which would involve the further division or relocation of lot

lines of any lot or lots within a subdivision previously made and approved, or recorded according to law; or, the alteration of any streets or the establishment of any new streets within any subdivision previously made and approved or recorded according to law, and includes combinations of lots of record; however, the following exceptions are included within this definition only for the purpose of requiring that the City of Clemson be informed and have a record of the subdivisions:

- A. The combination or recombination of portions of previously platted lots where the total number of lots is not increased and the resultant lots are equal to the standards of the City of Clemson;
- B. The division of land into parcels of five acres or more where no new street is involved and plats of these exceptions are submitted as public record to, and duly identified as such by, the Planning and Codes Administration Department.
- C. The combination or recombination of entire lots of record where no new street or change in existing streets is involved.

Subdivision, Major – A subdivision consisting of **five (5)** or more new lots.

Subdivision, Minor – A subdivision of a parcel(s) consisting of **four (4)** or fewer new lots that includes the construction of a new **public or private** street.

Subdivision, Simple Lot – A subdivision of a parcel(s) that will result in the creation of no more than **four (4)** new lots situated on an existing street.

Suspended Pavement - A general term for any technology that supports the weight of paving, thereby creating a void space underneath.

Terraced Building – A single contiguous building that has two or more distinct grades, one higher than the other, and typically designed to fit “into” the hillside in such a manner that less vertical (cut) grading and landform alteration is required than would be necessary in a single-level structure of a similar nature.

Terraced Pad – A single building pad configured in two or more distinct grades to support a terraced building.

Tree Diameter Breast Height (DBH) – The diameter of a tree trunk or the cumulative diameter of multiple trunks measured at four and one-half (4 ½) feet above natural grade.

Use – Any purpose for which a lot, building, or other structure or tract of land may be designated, arranged, intended, maintained, or occupied; or any activity, occupation, business, or operation carried on, or intended to be carried on, in a building or other structure or on a tract of land.

Waiver – For the purposes of these Land Development Regulations, a reduction or lessening of the strict application of a rule or regulation allowed to be granted, provided it is duly documented in written form and maintained as part of any project review materials, to mitigate the impact of the existence of unique or atypical conditions that negatively impact the limits of compliance of one or more features of a proposed development generally otherwise conforming to City plans and standards.

Wetland – Areas such as marshes or swamps, and other lands often saturated with, or intermittently

covered by, shallow water, subject to regulations governing its disturbance.

Wildlife Corridor – A narrow area of contiguous undisturbed open space, typically at least fifty (50) feet in width, designated for wildlife travel adjacent to or through a project site. Although segregated from the main area of development, small portions of the corridor may be disturbed for the installation of such features as utility pads or trails.

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ARTICLE III: SUBDIVISION APPLICATION PROCEDURE AND APPROVAL PROCESS

1. General

- A. Unless expressly exempted by this section, all subdivisions of land, as defined by this section, created for any purpose and in any manner, shall be subject to the standards set forth herein.
- B. No lot or parcel of land subject to these standards may be sold or otherwise transferred, or approved as the site of any development, prior to the completion of all reviews and the issuance of all permits and other approvals required by these standards.
- C. All subdivisions shall be classified as either a Simple Lot Subdivision, Minor Subdivision, or a Major Subdivision, with each classification subject to those standards required for such development by this ordinance.
- D. The following development shall, other than for the purpose of providing notice of such development to the Planning and Codes Administration Department (the 'department'), be exempt from the requirements of this section:
 - 1. The combination or re-combination of existing lots of record, so that the resulting total number of lots is not increased and new roads are not created, all lot sizes comply with zoning district lot size requirements, and the department determines the development imposes no significant changes are made to, or encroaches upon, the public street system;
 - 2. The public acquisition of land for the widening or opening of new streets;
 - 3. The partition of land by court decree; or,
 - 4. The division of land into parcels of five acres or more, where no new street(s) are created.

Notwithstanding the exemptions granted above or elsewhere in these requirements, plats documenting the resulting development shall be submitted for information to, and duly processed by, the department. In the event it is determined that a developer (or agent) has falsified information, willfully misled staff in a manner that impedes them in the performance of their duties, or otherwise intentionally failed to comply with any portion of these standards, the Director may deny said developer or agent any exemption or relief offered by these regulations.

- E. Any proposed development subject to review by the Board of Architectural Review (BAR) that does not include the creation of a new parcel of land or new street, and has been deemed to conform to all applicable standards and requirements by staff, may be granted final approval by the BAR.
- F. Residential developments shall reserve and dedicate a portion of the gross acreage of the development for use as open or recreational space as set forth in the Planning and Lot Design section of these regulations, with the provision that any other areas required by other sections of these standards to be reserved or dedicated as undeveloped space (open space, green space, recreational areas, or stream buffers) be considered as part of the total.

2. Consistency

No land shall be subdivided or developed for any purpose, or in any manner, that is inconsistent with either the standards set forth in these land development regulations, or any other regulation or standard duly adopted by the City of Clemson.

3. Simple Lot Subdivision Standards

All proposed subdivisions of a parcel(s) of land that results in the creation of no more than **four (4)** new lots, situated so that each lot possesses frontage on an existing street, shall be identified as a Simple Lot Subdivision, and shall be subject to the following standards:

- A. Applicants for Simple Lot Subdivision review shall submit:
 1. Two (2) copies of a plat describing the proposed subdivision. All plats shall conform to adopted state standards of practice for surveying, and shall be prepared by a Registered Land Surveyor licensed by the State of South Carolina.
 2. A complete and accurate application on a form provided by staff.
 3. All appropriate fees.
- B. All proposed Simple Lot Subdivisions shall be subject to review by the City Engineer and/or Stormwater Manager, who may, in the event it is anticipated that future development of the resulting lots may present a potential negative impact on adjacent properties or City infrastructure, impose conditions intended to mitigate such threats.
- C. Upon receipt of all required materials and fees, staff shall provide public notice by posting the property proposed to be subdivided with appropriate signage for a period of no less than ten (10) days, **and notify the owners of adjacent parcels situated within two hundred (200) feet of the subject property by mail.**
- D. In the event any written notice of opposition to a proposed Simple Lot Subdivision submitted by a member of the public identifies a legally valid impediment to its approval, staff shall seek to substantiate said claim and act to approve or reject the application within the provisions of these standards. All written notices of opposition shall be responded to by staff, who shall address each stated reason for opposing the proposed subdivision.
- E. Upon completion of all reviews, if the proposed Simple Lot Subdivision is found to be in conformance with these and all zoning and other standards enforced by the City, the Director may approve the application administratively, with notice of the approval provided to the Planning Commission in a report. The Director shall reserve the right to submit any application for a Simple Lot Subdivision to the Planning Commission for review and approval.
- F. Plats of approved Simple Lot Subdivisions, and any associated documents that may be required as a result of a condition imposed on said approval, shall be recorded in the office of the appropriate county Register of Deeds within thirty (30) days of approval.
- G. Appeals of staff decisions on Simple Lot Subdivision applications shall be heard by the Planning Commission.

4. Minor Subdivision Development Standards

All proposed subdivisions of a parcel(s) of land that results in the creation of **four (4)** or fewer new lots and includes the construction of a new street or the establishment of a new permanent easement to provide access to the public right-of-way shall be identified as a Minor Subdivision development, and shall be subject to the following standards:

A. Minor Subdivision Sketch Plan Review

1. Prior to application submission for any subdivision review, the developer shall schedule and participate in a meeting with staff, and other appropriate city officials, to discuss subdivision plat review procedures, requirements related to street layout and

- connectivity, land reservation, infrastructure improvements, drainage and stormwater features, water, sewer, fire protection, and other pertinent issues.
2. Following the required pre-application meeting, developers shall submit an application and required materials for **Planning Commission review** of a sketch plan. The purpose of a sketch plan review is to provide **the Commission with** the level of understanding needed, during a proposed development's formative stages, to offer the developer input and guidance based on the proposed development's appropriateness and consistency with adopted plans. Sketch plans deemed appropriate and consistent with all plans and standards shall be approved, which shall entitle the developer to seek Master Plan approval. Sketch plan approval shall in no way constitute a final project approval or permit.
 3. **No less than ten (10) days prior to the Sketch Plan Review by the Planning Commission, staff shall post the site of the proposed subdivision with appropriate signage visible from the public right-of-way providing notice of the application; and notify all property owners of parcels located within two hundred (200) feet of the proposed subdivision of the proposal and meeting, by mail. All comments and other input from the public shall be documented. All comments on the proposed subdivision received by staff shall be provided to the Commission prior to the meeting at which the review will be conducted.**
 4. Applicants for sketch plan review shall submit two (2) copies of the plan describing the proposed development to the department. The plan shall consist of two (2) sections, with one (1) illustrating existing conditions, and one (1) illustrating proposed conditions, and be drawn in simple sketch form on a topographical survey. All plans shall contain the following:
 - a. Date of the sketch plan
 - b. North arrow and scale
 - c. Name and address of owner of record and applicant
 - d. Boundary lines
 - e. Total acreage of the overall parcel to be subdivided.
 - f. Location of all right-of-way boundaries, existing streets on or within two hundred (200)' feet of the property, and sidewalks
 - g. Water courses and stormwater facilities, to include the identification of Green Infrastructure/Low Impact Development and/or other Best Management Practices.
 - h. Location of all flood hazard area boundaries
 - i. Pervious/impervious area calculations
 - j. Zoning classification of the site and the adjacent properties
 - k. For developments proposed to consist of more than one (1) phase of construction, an overall sketch plan outlining all phases of the project

B. Minor Subdivision Master Plan Review

1. Any developer of a proposed Minor Subdivision development having received Sketch Plan approval may choose to submit an application for the approval of a Master Plan. **The purpose of a Master Plan is to provide a better understanding of the potential relationship between a proposed development and its surroundings, thereby allowing the Planning Commission to evaluate potential impacts, and provide guidance and advice, prior to final design.**
2. Applicants for Master Plan approval shall submit two (2) copies of a proposed

development plan describing both existing and proposed conditions, as well as supporting materials. All plans shall contain the following information:

- a. Name of the proposed development
- b. Name, address and telephone of property owner (s) and applicant(s) (in the event the owner of record is a corporation, the name and address of the president and secretary)
- c. Name, address and telephone number of preparer
- d. Date of plan preparation, with any revision date(s)
- e. Graphic scale (1" = 40'), with true north arrow
- f. Map legend (items displayed on all maps/plans shall be symbolized in a legend)
- g. Parcel identification and lot number of the subject parcel
- h. Zoning district of the subject property
- i. Name, address, phone & stamp of Registered Engineer or Land Surveyor responsible for the plans
- j. Certification that plans and improvements conform to all existing and amended standards for professional engineers and land surveyors licensed by the State of South Carolina
- k. Survey of all **hardwood** trees with a caliper of 8" or greater, noting location and type of each
- l. Existing conditions and date described
- m. Acreage of parcel being developed (to the nearest tenth)
- n. Location, boundaries, and dimensions of the lot
- o. Property lines (indicating directional bearings and distances), parcel location relative to identifiable street intersections, and existing land uses
- p. A scaled map containing the names, addresses, plat information, and parcel identification numbers of all abutting properties
- q. Location of all adjacent, public and private rights-of-way
- r. Location, width, and names of existing streets, curb cuts, sidewalks, and curve data within and immediately adjacent to the parcel
- s. Location, size and description of all existing structures and buildings or significant above-ground structures, including those buildings to be demolished, on and immediately adjacent to the site
- t. Existing easements, rights of way, driveways and rail lines
- u. Location of existing wooded areas, notation of existing ground cover, and **hardwood** trees **greater than eight (8) inches in diameter** proposed to be removed
- v. Location of any unique natural or manmade and/or historic features, significant rock outcroppings, embankments, old trails/road beds, and retaining walls
- w. Location of wetlands or watercourses on site and within two hundred (200) feet of the perimeter of the parcel
- x. Description of watershed boundaries, aquifer locations, public water supply sites, and one hundred (100) year floodplain as defined by the Federal Emergency Management Agency Flood Insurance Rate Maps
- y. Areas of existing agricultural use (if any)
- z. Location of public or private cemeteries within or immediately adjacent to the site (if any)
- aa. Location of percolation test holes **and** (soil evaluation test results), **when applicable**

- bb. Location of groundwater determined test holes and {soil evaluation test results}, when applicable
 - cc. Location and dimensions of all existing utilities and easements within and immediately adjacent to the site
 - dd. Notation on plans if any existing structures or sites within or immediately adjacent to the project boundary are recognized as being culturally or historically significant
 - ee. Identification of any endangered species
3. Upon completion of a staff review of a Minor Subdivision Master Plan which results in a determination that said plan is complete, the applicant shall submit an additional seven (7) print copies, and one (1) digital copy, of the complete plan for review by the Planning Commission.
4. The Planning Commission shall conduct a review of a Master Plan in a public session, with the applicant responsible for presenting all pertinent information and materials required. If approved, the applicant may apply for approval of a Minor Subdivision Preliminary Plat.

C. Minor Subdivision Preliminary Plat

1. Application and Certification of Completeness

Subsequent to approval of a master plan, the developer may submit an application and required supporting materials (as listed in this section) for preliminary plat review. Preliminary plat reviews shall typically be completed no later than thirty (30) days after certification of completeness by staff; any application not specifically denied by the end of that period shall be considered approved. The review time period may, for cause, be extended by mutual agreement between the developer and staff. Additionally, if any application for preliminary plat review is found to be deficient or otherwise requiring additional support, clarification, or revision, the applicant shall be notified in writing of said deficiency, and, if it is determined by the Director to be necessary, the review period extended as needed to allow for the review of additional submissions or revisions.

2. Requirements for Preliminary Plat Materials and Documents

The developer (or agent) shall complete and submit an application for preliminary plat review on a form supplied by staff. An accurate, stamped plat(s) meeting the standards established by this section shall accompany the application and other additional supporting materials (as necessary). Preliminary plats shall be subject to the following requirements:

- a. Be submitted at a scale no smaller than one (1) inch equals one hundred (100) feet, and drawn upon one of the following standardized sheets: 8.5" x 11"; 8.5" x 14"; 11" x 17"; 24" x 36"; staff may, when deemed necessary, specify a sheet size to facilitate communication of information.
- b. In the event more than one sheet is used to show the property, each sheet must be numbered in a manner indicating its relation to other sheets.
- c. No review of any preliminary plat shall be completed by staff until the following information (or supporting materials, as appropriate) is provided:
 - 1. Date of original plan and all revisions (with all sheets revised noted), and tax map and parcel number and type of application
 - 2. North arrow and scale denoted both graphically and numerically

3. Vicinity map at a scale no smaller than one (1) inch equals one thousand (1,000) feet, showing the location of the development in relation to adjacent streets and properties; streets and other significant features shall be labeled
4. Boundaries, as determined by survey, of the tract to be subdivided with all bearings and distances
5. Any existing infrastructure including, but not limited to, streets, railroads, utility transmission lines, storm and sanitary sewers, water mains, bridges, and buildings
6. Water courses, flood hazard areas and wetlands on the site and within two hundred (200) feet of the site. Flood hazard area information shall be rated according to the Federal Emergency Management Agency (FEMA) insurance rate maps
7. Existing contours showing the topography of the site and within two hundred (200) feet of the site at intervals of not less than five (5) feet
8. Boundary of canopy areas, with street trees located and identified
9. Location and identification of **hardwood trees greater than eight (8) inches in diameter** proposed to either be removed or replanted
10. Street rights-of-way, pavement widths and grades. Street profiles and cross-sections shall be provided when required by the Planning Commission
11. Plans sufficient to describe proposed infrastructure, prepared by a registered engineer, including but not limited to, sanitary sewers, storm sewers, water, electricity, and telecommunications, illustrating connections to existing systems. Storm and sanitary sewer profiles, cross-sections and sizes shall also be provided
12. Other easements and rights-of-way including location, dimensions and purposes
13. Proposed lot lines with bearings and length and minimum building setback lines
14. Typical orientation and location of building footprints
15. Open space, parks, school sites, and other public areas along with total acreage of each
16. Exterior lighting plan
17. Stormwater management and sediment control plan that considers all flows impacting the site, including any from adjacent properties
18. Areas to be used for purposes other than residential or public, if any, with the purpose, location, and dimensions of each area indicated
19. Surveyor's certificate of information certifying that the error of closure is at least 1:7,500
20. Any existing or proposed deed restrictions or covenants, with any homeowner's association maintenance responsibilities listed
21. A schedule of zoning district(s) requirements including lot area, width, depth, setbacks, and density
22. Site calculations including total acreage of tract, acreage of parks and other non-residential uses, total number and acreage of lots, average lot size, and pervious/impervious surface calculations
23. A timetable for estimated project completion for each phase covered by the preliminary plat

24. The proposed name of the subdivision and all street names
25. The owner's name (and/or owner's duly authorized agent) and address, the name and seal of the engineer or surveyor, the names of the adjoining property owners, the date of plat preparation, and the zoning classifications of both the property developed, and adjoining properties
26. Documentation of compliance with Canopy Protection and Replacement standards
27. Location of percolation test holes and soil evaluation test results, when applicable
28. Location of groundwater determined test holes and soil evaluation test results when applicable

3. Review and Approval Process

Staff reviews of preliminary plat applications and supporting materials shall include the following steps:

- a. Examination of all submitted materials to determine compliance with the City of Clemson's Comprehensive Plan and adopted standards, particularly those governing preliminary plats contained in this section.
- b. Distribution of submitted materials to other appropriate City departments charged with reviewing preliminary plat applications to determine compliance with standards for which they have oversight. Said departmental reviews shall be conducted, and a report indicating approval or any necessary changes submitted to the Planning and Codes Administration Department, within ten (10) working days of receipt of materials.
- c. Staff shall conduct a final review that includes consideration of all reports submitted by other departments and officials. If the final review reveals the application to be in compliance with all standards and requirements, staff shall coordinate the effort to place the review of the Preliminary Plat application as an item on the agenda of the Planning Commission.

Applications deemed complete and in compliance with all standards and requirements shall be reviewed by the Planning Commission in a public session, with the applicant responsible for presenting all pertinent information and materials required. If approved, the applicant may pursue development in conformance with these standards.

4. Security in Lieu of Completion of Site Improvements

Subsequent to approval of a Minor Subdivision preliminary plat, the developer shall post a surety bond, certified check, or other instrument readily convertible to cash, in lieu of the completion of the physical development and installation of the required improvements. The surety must be in an amount equal to at least one hundred and twenty five (125) percent of the cost of the improvements, and secure the installation of the improvements within a period specified by the City Engineer, and expressed in an instrument in a form approved by the City Attorney. This surety must be in favor of the City to ensure that, in the event of default by the developer, funds will be used to install the required improvements at the expense of the developer.

D. Minor Subdivision Final Plat

1. Plat Submittal

- a. An applicant seeking final approval of a proposed development plat shall submit three (3) copies of prints, and a digital copy in a format approved by staff, illustrating the final site conditions, specifications, and appropriate notes and information. There shall also be submitted one (1) set of proposed plans and specifications for all improvements and the proposed deed restrictions and covenants.
- b. The final plat shall be prepared by a registered land surveyor, licensed to practice in the State of South Carolina, and must be drawn to a scale no smaller than one (1) inch equals one hundred (100) feet, and shall meet the requirements of the appropriate county Register of Deeds Office.
- c. The final plat shall constitute all portions of the preliminary plat site which the developer proposes to record and develop at the time.
- d. Final plats for Minor Subdivision Developments may be approved either:
 1. Following the inspection and approval of all streets, utility infrastructure, and other proposed features of the development; or,
 2. After the submission of a bond in an amount adequate to provide for the completion of the construction of any portion of all streets, utility infrastructure, and other features remaining to be developed. All such bonds shall conform to the requirements set forth in this section, and shall be subject to the review and approval of the City Engineer.
- e. For subdivisions consisting of more than one phase of construction, only the phase to be recorded shall be submitted for final plat approval.

2. Plat Contents

The final plat must conform substantially to the approved preliminary plat upon which it is based, and shall contain the following:

- a. The exact boundary of the tract of land being subdivided showing clearly the disposition of all portions of the tract.
- b. The drawing scale denoted both graphically and numerically.
- c. A north arrow.
- d. A vicinity map showing the location of the subdivision with respect to adjacent streets and properties.
- e. Sufficient data to determine readily and reproduce accurately on the ground the location, bearing and length of every street, alley line, lot line, building line, easement line, and setback line. All dimensions shall be measured to the nearest one-hundredth of a foot and all angles to the nearest second.
- f. The lines and names of all streets, alley lines, lot lines, lot and block numbers, lot addresses, building setback lines, easements, and areas dedicated to public purpose with notes stating their purposes.
- g. All lots subject to flooding shall be noted with the following statement:
"Any construction, development or use within a Flood Hazard Area is subject to the standards established by the City of Clemson Flood Damage Prevention Ordinance".
- h. The accurate locations and descriptions of all monuments, markers, and control points.

- i. The deed restrictions (or reference, as appropriate) or other similar covenants proposed for the development.
- j. The name of the development; the name of the owner; the name, registration number, and seal of the registered surveyor under whose supervision the plat was prepared; and the date of the plat.
- k. Notes identifying any tree or canopy protection requirements.

3. Documents and Materials Required at Time of Application

The following items shall be submitted at the time of application for Minor Subdivision approval:

- a. *As-Built Drawings* - At the time of application, or as part of the request for the release of any surety for required improvements, if applicable, drawings showing the as-built location of all water, sewer, and other utility and storm-drainage system facilities, and their layouts and connections to existing systems, including all easements and rights-of-way; all fire hydrants, blow offs, manholes, pumps, force mains, and gate valves; location of all corner pins; and all significant landscaping features.
- b. *City Engineer's Statement* – Applicants for final plat review must submit a statement from the City Engineer verifying that the City is in receipt of as-built plans showing all streets and utilities and easements in exact location and elevation, and identifying those portions already installed and those to be installed, and/or certified in the amount of performance guarantees required to assure completion of those improvements not yet installed.
- c. *Offer of Public Facilities* - All formal irrevocable offers of dedication to the public, in a form reviewed and approved by the City Attorney, of streets, local government uses, utilities and easements, parks, and easements.
- d. *Tree Planting Program* - For developments required by the City of Clemson zoning standards to develop and implement a tree planting program, a plan showing the location, species, type, and size of all proposed trees shall be submitted as part of the application for final plat approval.
- e. *Agency Endorsements* - Appropriate endorsement and documentation by the South Carolina Department of Health and Environmental Control (DHEC) and/or the South Carolina Department of Transportation (SCDOT) with respect to all water, sewer, stormwater and erosion controls, and encroachments, verifying that same comply with all rules, regulations, and requirements of local, state, and federal authorities.

4. Processing and Administrative Approval

Staff shall review the final plat application and supporting materials as required in these regulations to determine consistency with the associated preliminary plat, and to determine compliance with any conditions of approval that may apply. Upon verification of consistency with requirements and conditions, staff shall administratively approve the application. All final plats for Minor Subdivision developments shall be duly endorsed and signed and dated by the Director. In the event a final plat is disapproved, the applicant shall be notified, in writing, of the specific grounds for such action, with all inconsistencies with these regulations listed in detail, with the appropriate sections cited. In the event staff, at any point and for any reason, deems the administrative approval of a Minor Subdivision development final plat to be inappropriate, it shall be referred to the Planning Commission, who shall review and, if found to meet all applicable standards, approve said application in a manner consistent with a Major Subdivision final plat.

5. Recording of Final Plat

All approved final plats shall be duly recorded in the office of the appropriate county Clerk of Court within thirty (30) days of the date of approval.

6. Effect of Plat Approval on Dedications

The approval of the final plat or land development plan may not be deemed to automatically constitute or effect an acceptance by the City Council of the dedication of any street, easement, or other ground shown upon the plat.

4. Major Subdivision Development Standards

All proposed subdivisions of a parcel(s) of land that result in the creation of **five (5)** or more new lots shall be identified as a Major Subdivision, and shall be subject to the following standards:

A. Major Subdivision Pre-Application Meeting

Prior to application submission for any subdivision review, the developer shall schedule and participate in a meeting with staff, and other appropriate city officials, to discuss subdivision plat review procedures, requirements related to street layout and connectivity, land reservation, infrastructure improvements, drainage and stormwater management features, water, sewer, fire protection, and other pertinent issues. The Director may waive this pre-application meeting requirement on a case-by-case basis.

B. Major Subdivision Sketch Plan Review

1. Following the required pre-application meeting, developers of proposed Major Subdivisions must submit an application and supporting materials for sketch plan review by the Planning Commission prior to making application for preliminary plat approval. Applicants seeking sketch plan review shall submit the items required by this section at least twenty one (21) workdays prior to a regularly scheduled Planning Commission meeting. The developer (or agent) shall be responsible for the presentation of the sketch and providing pertinent information to the Commission. As the review is intended to allow the Commission to provide input and guidance based on a proposed development's appropriateness and consistency with adopted plans while it is in its formative stages, approval of the sketch plan in no way constitutes a final project approval or permit.
2. **No less than ten (10) days prior to the Sketch Plan Review by the Planning Commission, staff shall post the site of the proposed subdivision with appropriate signage visible from the public right-of-way providing notice of the application; and notify all property owners of parcels located within two hundred (200) feet of the proposed subdivision of the proposal and meeting, by mail. All comments on the proposed subdivision received by staff shall be provided to the Commission prior to the meeting at which the review will be conducted.**
3. Applicants for sketch plan review shall submit two (2) copies of the plan describing the proposed development to the department. The plan shall consist of two (2) sections, with one (1) illustrating existing conditions, and one (1) illustrating proposed conditions, and be drawn in simple sketch form on a topographical survey. All plans shall contain the following:
 - a. Date of the sketch plan

- b. North arrow and scale
- c. Name and address of owner of record and applicant
- d. Boundary lines
- e. Total acreage of the overall parcel to be subdivided.
- f. Location of all right-of-way boundaries, existing streets on or within two hundred (200) feet of the property, and sidewalks
- g. Water courses and stormwater facilities, to include the identification of Green Infrastructure/Low Impact Development and/or other Best Management Practices.
- h. Location of all flood hazard area boundaries
- i. Pervious/impervious area calculations
- j. Zoning classification of the site and the adjacent properties
- k. For developments proposed to consist of more than one (1) phase of construction, an overall sketch plan outlining all phases of the project

C. Major Subdivision Master Plan Review

- 2. Any developer of a proposed Major Subdivision development having received Sketch Plan approval shall submit an application for the administrative approval of a Master Plan. **The purpose of a Master Plan is to provide a better understanding of the potential relationship between a proposed development and its surroundings, thereby allowing the Planning Commission to evaluate potential impacts, and provide guidance and advice, prior to final design.**
- 3. Applicants for Master Plan approval shall submit two (2) copies of a proposed development plan describing both existing and proposed conditions, as well as supporting materials. All plans shall contain the following information:
 - a. Name of the proposed development
 - b. Name, address and telephone of property owner (s) and applicant(s) (in the event the owner of record is a corporation, the name and address of the president and secretary)
 - c. Name, address and telephone number of preparer
 - d. Date of plan preparation, with any revision date(s)
 - e. Graphic scale (1" = 40'), with true north arrow
 - f. Map legend (items displayed on all maps/plans shall be symbolized in a legend)
 - g. Parcel identification and lot number of the subject parcel
 - h. Zoning district of the subject property
 - i. Name, address, phone & stamp of Registered Engineer or Land Surveyor responsible for the plans
 - j. Certification that plans and improvements conform to all existing and amended standards for professional engineers and land surveyors licensed by the State of South Carolina
 - k. Date of existing conditions described
 - l. Acreage of parcel being developed (to the nearest tenth)
 - m. Location, boundaries, and dimensions of the lot
 - n. Property lines (indicating directional bearings and distances), parcel location relative to identifiable street intersections, and existing land uses
 - o. A scaled map containing the names, addresses, plat information, and parcel identification numbers of all abutting properties
 - p. Location of all adjacent, public and private rights-of-way

- q. Location, width, and names of existing streets, curb cuts, sidewalks, and curve data within and immediately adjacent to the parcel
 - r. Location, size and description of all existing structures and buildings or significant above-ground structures, including those buildings to be demolished, on and immediately adjacent to the site
 - s. Existing easements, rights of way, driveways and rail lines
 - t. Location of existing wooded areas, notation of existing ground cover, and **hardwood** trees **greater than eight (8) inches in diameter** proposed to be removed
 - u. Location of any unique natural or manmade and/or historic features, significant rock outcroppings, embankments, old trails/road beds, and retaining walls
 - v. Location of wetlands or watercourses on site and within two hundred (200) feet of the perimeter of the parcel
 - w. Description of watershed boundaries, aquifer locations, public water supply sites, and one hundred (100) year floodplain as defined by the Federal Emergency Management Agency Flood Insurance Rate Maps
 - x. Areas of existing agricultural use (if any)
 - y. Location of public or private cemeteries within or immediately adjacent to the site (if any)
 - z. Location of percolation test holes **and** soil evaluation test results **when applicable**
 - aa. Location of groundwater determined test holes **and** soil evaluation test results **when applicable**
 - bb. Results of soil compaction tests
 - cc. Location and dimensions of all existing utilities and easements within and immediately adjacent to the site
 - dd. Notation on plans if any existing structures or sites within or immediately adjacent to the project boundary are recognized as being culturally or historically significant
 - ee. Identification of any endangered species
 - ff. Survey of all **hardwood** trees with a caliper of eight (8) inches or greater, noting location and type of each
- 3. Upon completion of a staff review of a Major Subdivision Master Plan which results in a determination that said plan is complete, the applicant shall submit an additional seven (7) print copies, and one (1) digital copy, of the complete plan for review by the Planning Commission.**
- 4. The Planning Commission shall conduct a review of a Master Plan in a public session, with the applicant responsible for presenting all pertinent information and materials required. If approved, the applicant may apply for approval of a Major Subdivision Preliminary Plat.**

D. Major Subdivision Preliminary Plat

1. Application and Certification of Completeness

Subsequent to approval of a **Major Subdivision** Master Plan, the developer shall submit an application and required supporting materials (as listed in this section) for Preliminary Plat Review. Reviews of preliminary plats by staff shall typically be completed no later than thirty (30) days after certification of completeness; *any application not specifically denied* by the end of that period shall be considered approved and recommended for Planning Commission review. The review time period

may, for cause, be extended by mutual agreement between the developer and staff. Additionally, if any application for preliminary plat review is found to be deficient or otherwise requiring additional support, clarification, or revision, the applicant shall be notified in writing of said deficiency, and, if it is determined by the Director to be necessary, the review period extended as needed to allow for the review of additional submissions or revisions.

2. Requirements for Preliminary Plat Materials and Documents

The developer (or agent) shall complete and submit an application for Preliminary Plat Review on a form supplied by staff. An accurate, stamped plat(s) meeting the standards established by this section shall accompany the application and other additional supporting materials (as necessary). Preliminary plats shall be subject to the following requirements:

- A. Be submitted at a scale no smaller than 1 inch equals 100 feet, and drawn upon one of the following standardized sheets: 8.5" x 11"; 8.5" x 14"; 11" x 17"; 24" x 36"; staff may, when deemed necessary, specify a sheet size to facilitate communication of information.
- B. In the event more than one sheet is used to show the property, each sheet must be numbered in a manner indicating its relation to other sheets.
- C. No review of any preliminary plat shall be completed by staff until the following information (or appropriate supporting materials, as appropriate) is provided:
 1. Date of original plan and all revisions (with all sheets revised noted), and tax map and parcel number and type of application
 2. North arrow and scale denoted both graphically and numerically
 3. Vicinity map at a scale no smaller than one (1) inch equals one thousand (1,000) feet, showing the location of the development in relation to adjacent streets and properties; streets and other significant features shall be labeled
 4. Boundaries, as determined by survey, of the tract to be subdivided with all bearings and distances
 5. Any existing infrastructure including, but not limited to, streets, railroads, utility transmission lines, storm and sanitary sewers, water mains, bridges, and buildings
 6. Water courses, flood hazard areas and wetlands on the site and within two hundred (200) feet of the site. Flood hazard area information shall be rated according to the Federal Emergency Management Agency (FEMA) insurance rate maps
 7. Existing contours showing the topography of the site and within two hundred (200) feet of the site at intervals of not less than five (5) feet
 8. Boundary of canopy areas, with street trees located and identified
 9. Location and identification of trees proposed to either be removed or replanted
 10. Street rights-of-way, pavement widths and grades. Street profiles and cross-sections shall be provided when required by the Planning Commission
 11. Plans sufficient to describe proposed infrastructure, prepared by a registered engineer, including but not limited to, sanitary sewers, storm sewers, water, electricity, and telecommunications, illustrating connections to existing systems. Storm and sanitary sewer profiles, cross-sections and

- sizes shall also be provided
12. Other easements and rights-of-way including location, dimensions and purposes
 13. Proposed lot lines with bearings and length and minimum building setback lines
 14. Typical orientation and location of building footprints
 15. Open space, parks, school sites, and other public areas along with total acreage of each
 16. Exterior lighting plan (including street lighting)
 17. Stormwater management and sediment control plan that considers all flows impacting the site, including any from adjacent properties
 18. Areas to be used for purposes other than residential or public, if any, with the purpose, location, and dimensions of each area indicated
 19. Surveyor's certificate of information certifying that the error of closure is at least 1:7,500
 20. Any existing or proposed deed restrictions or covenants, with any homeowner's association maintenance responsibilities listed
 21. A schedule of zoning district(s) requirements including lot area, width, depth, setbacks, and density
 22. Site calculations including total acreage of tract, acreage of parks and other non-residential uses, total number and acreage of lots, average lot size, and pervious/impervious surface calculations
 23. A timetable for estimated project completion for each phase covered by the preliminary plat
 24. The proposed name of the subdivision and all street names
 25. The owner's name (and/or owner's duly authorized agent) and address, the name and seal of the engineer or surveyor, the names of the adjoining property owners, the date of plat preparation, and the zoning classifications of both the property developed, and adjoining properties
 26. Documentation of compliance with Canopy Protection and Replacement standards
 27. Tree restoration plan

3. Staff Review Process

Staff reviews of preliminary plat applications and supporting materials shall include the following steps:

- A. Examination of all submitted materials to determine compliance with the City of Clemson's Comprehensive Plan and adopted standards, particularly those governing preliminary plats contained in this section.
- B. Distribution of submitted materials to other appropriate city departments charged with reviewing preliminary plat applications to determine compliance with standards for which they have oversight. Said departmental reviews shall be conducted, and a report indicating approval or any necessary changes submitted to the Planning and Codes Administration Department, within ten (10) working days of receipt of materials.
- C. Staff will conduct a final review that includes consideration of all reports submitted by other departments and officials and submit a report of their conclusions and recommendations to the Planning Commission.

- D. Staff will coordinate the scheduling of a review of the application for preliminary plat approval by the Planning Commission, and notify the applicant of the date and time of the review no later than ten (10) days prior.

4. Planning Commission Review Process

The Planning Commission review of preliminary plat applications shall include the following steps:

- A. Members shall prepare for the review by reading the staff report and examining supporting materials to familiarize themselves with the matter at hand prior to the date of the meeting at which the application will be reviewed.
- B. Copies of all pertinent documents and plans shall be made accessible to the public through typical means at least one (1) week prior to the meeting. Any objection to a proposed development submitted in writing to the Planning Commission by a resident of the City shall be provided to the developer, who shall in turn provide a response to said objection in writing, or in a manner otherwise deemed appropriate by the Commission, prior to the approval of the preliminary plat.
- C. The Commission will consider all facts, exhibits and evidence presented in the formation of their decision; the Commission may provide recommendations, or apply appropriate conditions, as necessary for approval.
- D. Applicants shall be advised in writing of any conditions or changes required by the Commission.
- E. The Commission shall review, and act to either approve, approve with conditions, or disapprove, preliminary plat applications within sixty (60) days of the date of certification of completeness. This time may be extended with the consent of the applicant. Any application not duly approved, approved with conditions, or disapproved at the end of said sixty (60) day period shall be considered approved.
- F. The approval or disapproval of any subdivision development application shall be based upon compliance with adopted standards, and consistency with the Comprehensive Plan. In the event any member deems an application to be in conflict with adopted standards and/or the Comprehensive Plan, it shall be the duty of said member, at the earliest opportunity, to enter their determination and justification, into the meeting record.
- G. Preliminary plats found to conform to all of the standards of this section shall be acted on by the Commission; in the event the proposed development is to be completed in phases, action may be taken on the entire project or by phase. A minimum of two (2) copies of all approved preliminary plats shall be identified as such, and signed by the Commission Chairperson, with one (1) copy being retained by staff.
- H. Any conditions applied to a preliminary plat shall be provided in writing to the applicant in a document signed by the Commission Chairperson. In addition to listing all conditions, the document shall include specific citations of the applicable standards the conditions are intended to address. The Commission may at its discretion require applicants to submit an updated plat for their review prior to granting any approvals. A minimum of two (2) copies of all conditionally approved plats, with all conditions duly noted in writing, shall be

signed by the Commission Chairperson, with one (1) copy being retained by staff.

- I. Applicants submitting disapproved plats shall be notified in writing of the specific reasons for disapproval, with specific deficiencies and applicable standards listed.

5. Security in Lieu of Completion of Site Improvements

Subsequent to approval of a Major Subdivision preliminary plat, the developer shall post a surety bond, certified check, letter of credit, or other instrument readily convertible to cash, to ensure the completion of the physical development and installation of the required improvements. The surety must be in an amount equal to at least one hundred and twenty five percent (125%) of the cost of the improvements, and secure the installation of the improvements within a period specified by the City Engineer, and expressed in an instrument in a form approved by the City Attorney. This surety must be in favor of the City to ensure that, in the event of default by the developer, funds will be used to install the required improvements at the expense of the developer.

6. Effective Period of Preliminary Plat Approval

Approvals of preliminary plats granted by the Planning Commission shall be effective for a period of one (1) year from the date of approval, by which time a final plat must be submitted for approval. An extension of the effective period of a preliminary plat approval may, if demonstrated to be warranted, be granted by the Director. Applicants seeking an extension of the effective period of an approval must submit a written request justifying the need for additional time to staff no later than forty-five (45) days prior to the expiration of the period of effectiveness. In the event the effective period of a preliminary plat approval expires prior to the submission of a final plat, and no extension has been duly granted, the proposed development described on the plat is considered abandoned by the applicant, with any future efforts to pursue development of the project requiring a new application and preliminary plat review subject to any and all standards in place at that time.

E. Major Subdivision Final Plat

1. Plat Submittal

Plats submitted for final approval of a development plat shall conform to the following:

- a. The applicant shall submit three (3) copies of prints, and a digital copy in a format approved by staff, illustrating the final site conditions, specifications, and appropriate notes and information. There shall also be submitted one (1) set of proposed plans and specifications for all improvements and the proposed deed restrictions and covenants.
- b. The final plat shall be prepared by a registered land surveyor, licensed to practice in the State of South Carolina, and must be drawn to a scale no smaller than one (1) inch equals one hundred (100) feet, and shall meet the requirements of the appropriate county Register of Deeds Office.
- c. The final plat shall constitute all portions of the preliminary plat site which the developer proposes to record and develop at the time.
- d. The approval of a final plat of any Major Subdivision Development shall be contingent upon the developer providing a construction bond in an amount adequate to provide for the installation of all proposed development features.

All such bonds shall conform to the requirements set forth in this ordinance, and shall be subject to the review and approval of the City Engineer.

- e. For subdivisions consisting of more than one phase of construction, only the phase to be recorded shall be submitted for final plat approval.

2. Plat Contents

The final plat must conform substantially to the approved preliminary plat upon which it is based, and shall contain the following:

- a. The exact boundary of the tract of land being subdivided showing clearly the disposition of all portions of the tract.
- b. The drawing scale denoted both graphically and numerically.
- c. A north arrow.
- d. A vicinity map showing the location of the subdivision with respect to adjacent streets and properties.
- e. Sufficient data to determine readily and reproduce accurately on the ground the location, bearing and length of every street, alley line, lot line, building line, easement line, and setback line. All dimensions shall be measured to the nearest one-hundredth of a foot and all angles to the nearest second.
- f. The lines and names of all streets, alley lines, lot lines, lot and block numbers, lot addresses, building setback lines, easements, and areas dedicated to public purpose with notes stating their purposes.
- g. All lots subject to flooding shall be noted with the following statement:

"Any construction, development or use within a Flood Hazard Area is subject to the standards established by the City of Clemson Flood Damage Prevention Ordinance".

- h. The accurate locations and descriptions of all monuments, markers, and control points.
- i. The deed restrictions (or reference, as appropriate) or other similar covenants proposed for the development.
- j. The name of the development; the name of the owner; the name, registration number, and seal of the registered surveyor under whose supervision the plat was prepared; and the date of the plat.
- k. Surveyor's certifications.
- l. Notes identifying any tree or canopy protection requirements

3. Additional Documents and Materials Required at Time of Application

- a. *As-Built Drawings* - At the time of application, or as part of the request for the release of any surety for required improvements, if applicable, drawings showing the as-built location of all water, sewer, and other utility and storm-drainage system facilities, and their layouts and connections to existing systems, including all easements and rights-of-way; all fire hydrants, blow offs, manholes, pumps, force mains, and gate valves; and all significant landscaping features.
- b. *City Engineer's Statement* – Applicants for final plat review must submit a statement from the City Engineer verifying that the City is in receipt of as-built plans showing all streets and utilities and easements in exact location and elevation, and identifying those portions already installed and those to be

installed, and/or certified in the amount of performance guarantees required to assure completion of those improvements not yet installed.

- c. *Offer of Public Facilities* - All formal irrevocable offers of dedication to the public, in a form reviewed and approved by the City Attorney, of streets, local government uses, utilities and easements, parks, and easements.
- d. *Tree Planting Program* - For developments required by the City standards to develop and implement a tree protection or planting program, a plan showing the location, species, type, and size of all proposed trees, and any required tree or landscape maintenance plan, shall be submitted as part of the application for final plat approval.
- e. *Agency Endorsements* - Appropriate endorsement and documentation by the South Carolina Department of Health and Environmental Control (DHEC) and/or the South Carolina Department of Transportation (SCDOT) with respect to all water, sewer, stormwater and erosion controls, and encroachments, verifying that same comply with all rules, regulations, and requirements of local, state, and federal authorities.

4. Processing by Staff

Staff shall review the final plat application and supporting materials as required in these regulations to determine consistency with the associated preliminary plat, and to determine compliance with any conditions of approval. Upon verification of consistency with requirements, staff shall certify the application and forward the final plat to the Planning Commission.

5. Action by the Planning Commission

The Commission shall act to approve or disapprove the final plat within sixty (60) days following staff's certification of the application. If approved, the plat shall be duly endorsed and signed and dated by the Planning Commission Chairperson. In the event a final plat is disapproved, the applicant shall be notified, in writing, of the specific grounds for such action, with all inconsistencies with these regulations listed in detail, with the appropriate sections cited, in a document signed by the Planning Commission Chairperson. Any final plat application not either approved or disapproved by the Planning Commission within sixty (60) days of the staff certification shall be deemed to have been approved.

6. Recording of Final Plat

All approved final plats shall be duly recorded by the applicant in the office of the appropriate county Clerk of Court within thirty (30) days of the date of approval.

7. Effect of Plat Approval on Dedications

The approval of the final plat or land development plan may not be deemed to automatically constitute or effect an acceptance by the City Council of the dedication of any street, easement, or other ground shown upon the plat.

ARTICLE IV: GENERAL REQUIREMENTS AND DESIGN STANDARDS

1. General

A. Approval Criteria

Notwithstanding any approval or permit granted under these or other sections of the City of Clemson Code of Ordinances, no development shall be approved until it has been determined that:

1. The area identified for development is physically suited for platting and development as proposed; and,
2. The proposed development is not only in compliance with the Land Development Regulations and Zoning Ordinance, but also with all other applicable state and local regulations.

B. Installation of Improvements Prior to Final Plat Approval

1. Improvements subject to these standards shall be installed in the manner required prior to the approval of the final plat. No improvement proposed for dedication to the City of Clemson shall be accepted until duly inspected and verified by all appropriate parties to be in compliance with the standards set forth herein.
2. One (1) set of as-built plans and specifications for improvements proposed for dedication to the City, certified by a registered engineer licensed by the State of South Carolina, shall be filed with the City prior to acceptance of any improvement.

C. Acceptance of Dedication by City

Notwithstanding any other approval, permit, or other form of consent or permission granted by any department or agency of the City of Clemson, all streets, utilities and easements, or other structures or development features subject to the provisions set forth in these regulations, proposed to be dedicated to the City for ownership and/or maintenance, shall only be approved for acceptance by majority vote of City Council duly meeting in public session. Additionally, the regulation by these standards of any portion of a sidewalk, green space, or other structure or development feature not accepted for dedication by the City, shall not constitute the establishment of, or the expansion of, any obligation, responsibility, or liability not specified herein.

2. Development in Flood Hazard Areas

Land identified by the Federal Emergency Management Agency (FEMA) to lie within the bounds of a Special Flood Hazard Area (SFHA), as shown on Flood Insurance Rate Maps (FIRM's) published as part of the National Flood Insurance Program (NFIP), subject to inundation by a one-hundred (100) year flood, shall not be subdivided or developed for residential occupancy. All grading, and other development activity, proposed to occur within any SFHA shall be subject to the approval of the Stormwater Manager, or designee, who may require, in addition to any applicable plans, applications and support materials, the submission of duly prepared elevation certificates and/or other documentation deemed necessary. Any such lands within the boundaries of a proposed development project shall be duly set aside, and identified on the final plat as such, for uses consistent with the Flood Damage Prevention regulations established in Chapter 5, Article II of the Code of Ordinances, as amended.

3. Planning and Lot Design

- A. All development proposals subject to the requirements of this section shall be designed

to meet generally accepted principles of land use planning, soil mechanics, engineering geology, civil engineering, environmental management, civic design, architecture, landscape architecture, landscape ecology, and other appropriate related disciplines. As such, planning of proposed developments should take into account the topography, soils, geology, hydrology, vegetation, and other pertinent features associated with the site, paying particular attention to potential negative impacts on adjacent sensitive natural areas. Site designers are encouraged to propose and apply innovative concepts for slope and soil stabilization, grading, landscaping, and building placement and design to meet the purposes and intentions of this section.

- B. All lots created by a Major Subdivision or Minor Subdivision after the date of adoption of these standards shall be configured so as to be accessible from the public right-of-way. In the event a proposed Simple Lot Subdivision of property would result in the creation of a parcel with no road frontage, a private street, duly surveyed and recorded as such, meeting standards established by the City Engineer allowing ingress and egress to and from said parcel, may be approved.
- C. All lots intended for the development of structures shall be arranged, designed, and shaped in a manner that will provide appropriate building sites in harmony with the surrounding topography.
- D. Double frontage lots shall not be created except where necessary to provide for the separation of development from traffic arteries, or, when approved by staff, to overcome specific disadvantages of topography and orientation.
- E. In the event a residential lot abutting a traffic artery is required by the City of Clemson to install and maintain a screen along the artery, a planting screen easement of at least twenty (20) feet in width, with no right of access across the screen, shall be provided along the portion of the lot abutting said artery.
- F. No subdivision of property proposed after the date of the adoption of these standards may result in the creation of a flag lot; however, in the event an existing lot of record is situated so that access to the public right-of-way is otherwise impractical, a flag lot may be approved, provided:
 - 1. The frontage of the 'pole' to the primary right-of-way is no less than twenty-five (25) feet; and,
 - 2. Building setbacks are no less than forty (40) feet in the front and rear, and no less than twenty-five (25) feet on the side.

A permanent recorded access easement across adjacent parcels may be approved as the 'pole' if obtaining fee-simple title is deemed to be impractical. The Planning Commission may waive the strict application of these requirements on a case-by-case basis, provided the resulting subdivision is considered the best achievable outcome, and no significant negative impacts are imposed on neighboring properties.
- G. All Major Subdivision single-family detached residential developments, excepting patio home developments, shall be required to dedicate a percentage of their total acreage as open space as established in the following table:

Table IV.3.1 Required Open Space Dedication			
Number of Total Lots	10 or less	11 to 20	21 or more

Percentage of Total Acreage Dedicated	10%	15%	25%
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4. Blocks

- A. The length, width, and shape of blocks shall be determined with due regard for the following:
1. Provision of adequate building sites suitable to the special needs of the type of use proposed;
 2. Zoning requirements as to lot sizes and dimensions;
 3. Needs for convenient access, circulation, control and safety of street traffic;
 4. Connectivity to adjacent areas, with emphasis on allowing for multi-modal travel opportunities; and,
 5. Limitations and opportunities of topography.
- B. Blocks in residential developments shall not be longer than one thousand (1,000) feet, and shall not be less than six hundred **sixty (660)** feet in length, measured along the center line of the block. Developments situated in areas of steep or unusual topography may be permitted to contain blocks up to an additional twenty five (25) percent in length, provided the developer demonstrates:
1. No other practical alternative exists; and,
 2. The block design provides connectivity and does not negatively impact traffic flow.
- All blocks greater than twelve-hundred (1,200) feet in length shall be designed for alley-loaded residences.
- C. Blocks for residential use shall be of sufficient width to allow for two (2) tiers of lots of such depth as is appropriate.
- D. Blocks for non-residential uses should be of sufficient width for the intended use, with due allowance for off-street parking and loading facilities.

5. Topography

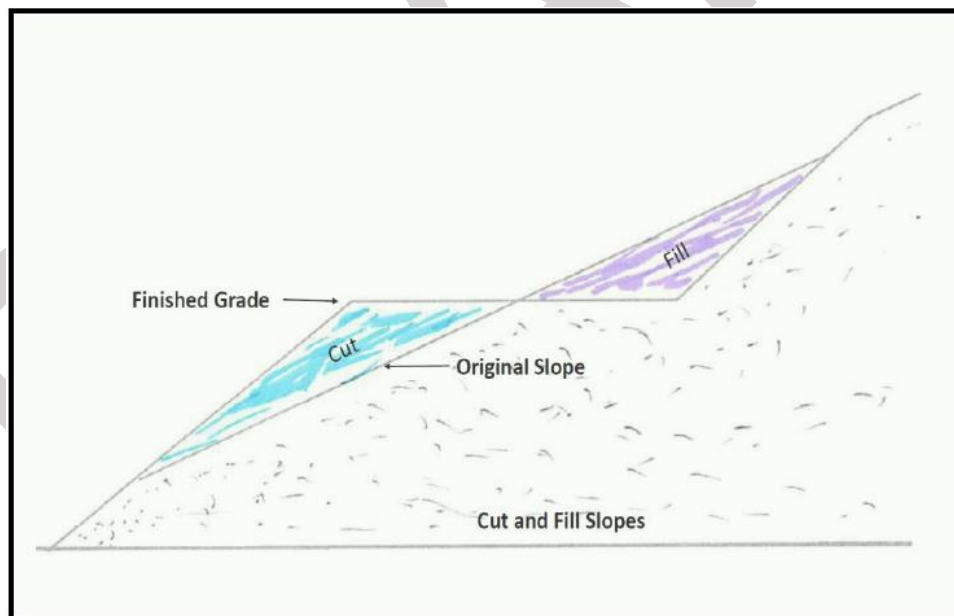
A. General

1. The natural slope of a lot, or any portion thereof, shall be calculated perpendicular to topographic contours from property line to property line, prior to grading, using quadrangle maps of the United States Geological Survey, LIDAR data approved by City Geographic Information Systems (GIS) staff, or a topographic survey of the subject property performed by a registered surveyor licensed by the State of South Carolina.
2. The submission of a detailed topographic survey, with contour intervals of no more than two (2) feet, illustrating conditions for all areas directly or indirectly impacted by a project shall be required as part of any application for a building, grading or other development permit. Undisturbed areas within the project boundary may be excluded from the survey.
3. Natural drainage ways shall be preserved to the maximum extent possible; however, realignment of a natural drainage channel may be permitted if it is shown that maintaining the natural course will prohibit the development of a proposed project. In no case, shall the natural or typical flow of surface or subsurface water be altered or obstructed in any way by grade changes so as to adversely affect another property by either contributing to pooling or the collection of waters, or to the concentration or intensification of surface water discharge. All proposed

development shall conform to the standards established in the City Stormwater Manual, as amended, and be approved by the Stormwater Manager prior to start of construction. This requirement shall in no manner be considered to exempt, or otherwise provide relief from the strict application of, any applicable state or federal permitting requirement.

B. Steep Slope Development

1. Any portion of a lot with a natural slope greater than twenty (20) percent in grade shall, for the purposes of these regulations, be considered a steep slope. As such, all development proposed to be situated so as to impact a steep slope shall be subject to the standards contained in this section. Proposed additions to single-family residences located on lots of record in existence at the time of the adoption of these regulations shall, provided the addition results in a building footprint area increase less than fifty (50) percent, be exempted from this requirement.
2. All plans for development that will impact steep slopes shall be reviewed and approved by the City Engineer prior to the issuance of any building, grading or other development permit.
3. All land-disturbing activity impacting a steep slope shall conform to the following standards:
 - a. Unless otherwise approved by the City Engineer, cut and fill slopes shall be no steeper than a ratio of two (2) horizontal to one (1) vertical; and fill slopes shall not be located on natural slopes steeper than two (2) horizontal to one (1) vertical. (See Section 5.B.3.f., as amended, for Retaining Wall standards)



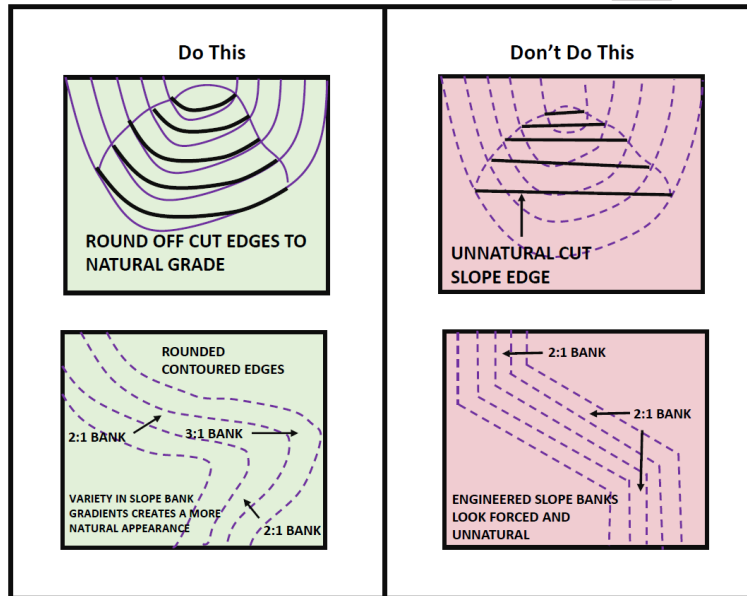
- b. All fill shall be stabilized in conformance with generally accepted engineering standards, including a compacted density of a least ninety-five (95) percent. The City Engineer may at any time require verification of compacted density by a qualified testing firm.
 - c. All earth moving and land disturbance shall be accomplished in the shortest practical period of time. Therefore, projects proposed to result in the

development of more than one structure or use; or, that are scheduled to be developed in phases; or, otherwise include grading activities that impact areas outside the bounds of those to be developed, shall conform to a timeline approved by the Stormwater Manager prior to the start of development activities.

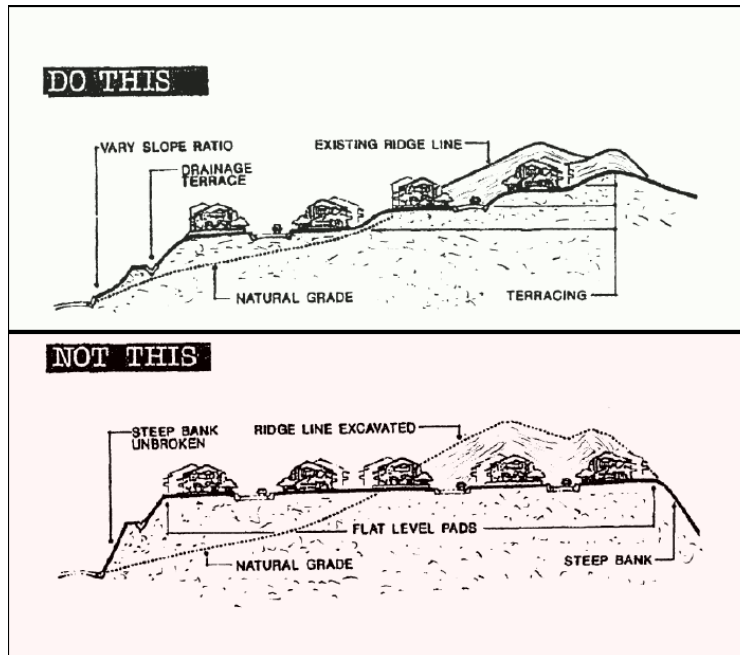
- d. Run-off from concentrated impervious surfaces shall be collected and transported in a pipe or other approved manner to a storm sewer system if available, or if unavailable, to the bottom of the drainage way or other approved location. The utilization of Green Infrastructure and/or Low Impact Development processes and features are encouraged. Notwithstanding this or other standard in this section, all proposed development shall be accomplished and made operational as quickly as possible, and in full compliance with the City Stormwater Manual, as amended.
 - e. All applications for development projects proposed to have a gross floor area of at least two thousand (2,000) square feet, excepting the construction of an individual single-family dwelling use and accessory structures, shall include the submission of the following information/documents to the City Engineer:
 1. A soils report prepared by a registered professional engineer, soil scientist, or other qualified registered professional licensed by the State of South Carolina, identifying soil conditions, anticipated impacts, and appropriate recommendations for the proposed development.
 2. A hydrology report and plan prepared by a registered professional engineer or other professional experienced and knowledgeable in the practice of hydrology, and licensed by the State of South Carolina, that includes a complete description of the hydrology of the site, conclusions and recommendations regarding the effect of hydrologic conditions on the proposed development, and the capability of the site to be developed. At minimum, said plan shall show and take into account the direction of flow within the local drainage basin; all natural drainage channels directed toward and away from the site within fifty feet of the perimeter of the site, and other natural drainage ways which may affect or be affected by the development proposal. Alterations of natural drainage ways shall be prohibited except for approved road crossings and drainage structures. Natural drainage ways shall be riprapped or otherwise stabilized below drainage and culvert discharge points for a distance sufficient to convey the discharge without channel erosion. Special notations which highlight details of the terrain, existing natural surface drainage, and areas subject to seepage or spring flow, shall be included on the plan.
 3. A Tree Protection and Restoration Plan conforming to Article IV Section 15.7 (Canopy Protection and Restoration) of these standards, as amended.
 - f. Retaining walls on steep slopes, unless otherwise approved waiver granted by the Director, shall not exceed six (6) feet in height, and should be stepped or terraced. Earth berms, rock forms, or stone retaining walls should be used to minimize visual impacts of cuts; hedges and fences may also be approved in some locations.
4. Permitted densities for residential units in proposed tract developments shall be reduced by fifty (50) percent in areas with natural grades greater than twenty (20) percent. Additionally, the minimum lot size for all proposed new individual lots

containing steep slope areas greater than one thousand (1,000) square feet, and not protected from disturbance in a conservation easement, shall be doubled.

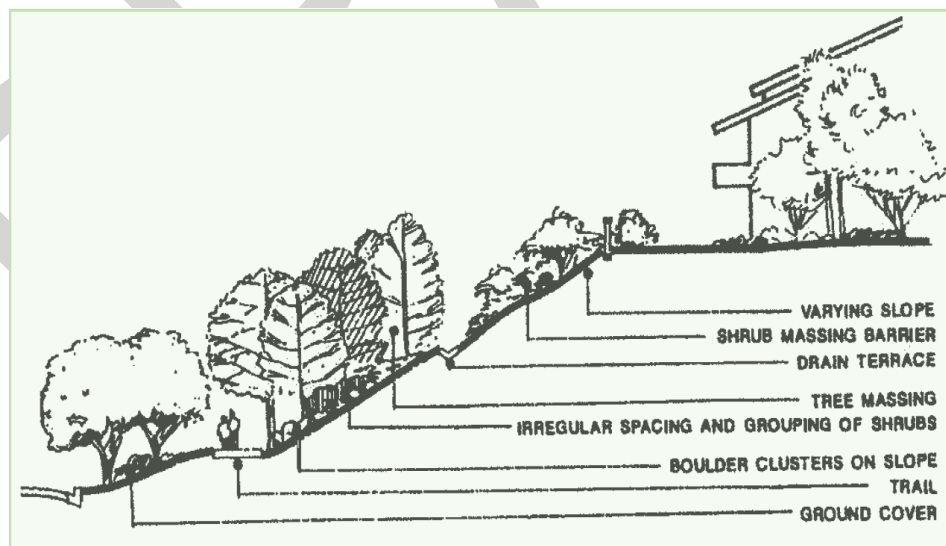
5. The following shall be considered best practices for development on steep slopes in the City of Clemson, with all developers expected to conform to the degree possible.
 - a. Grading of steep slopes should be limited to the minimum required for project development, with all impacted areas stabilized as soon as possible in a manner conforming to the approved Stormwater Management Plan. Contours should be rounded to appear undulating and natural, and conform to the natural landform to the degree possible. See examples below:



- b. Building pads, streets and drives, and site features situated on steep slopes should be designed to minimize grading activities, and to conform to the natural landform to the degree possible. For subdivisions and developments with multiple buildings, building pads (i.e., clearing and grading for buildings and structures) should be varied in elevation above or below road level to avoid the appearance of monotonous, flat, level pads. See examples below:

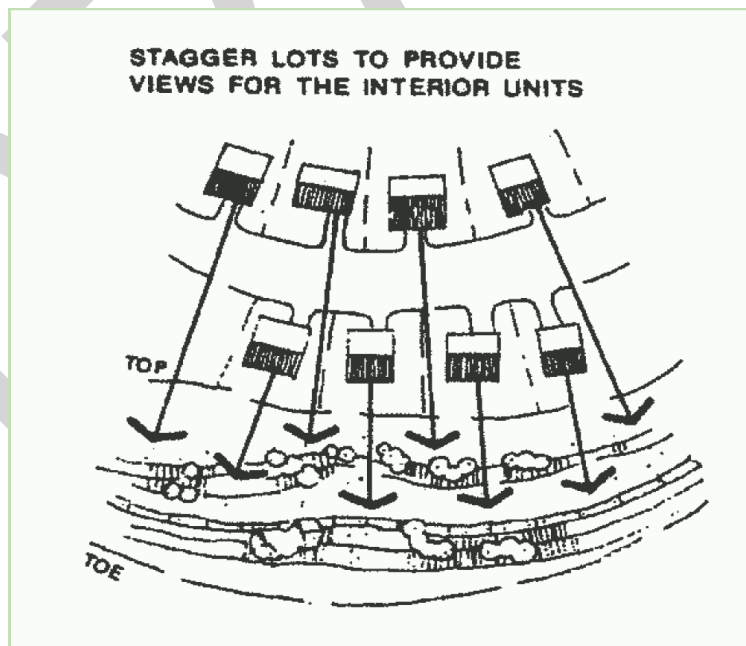
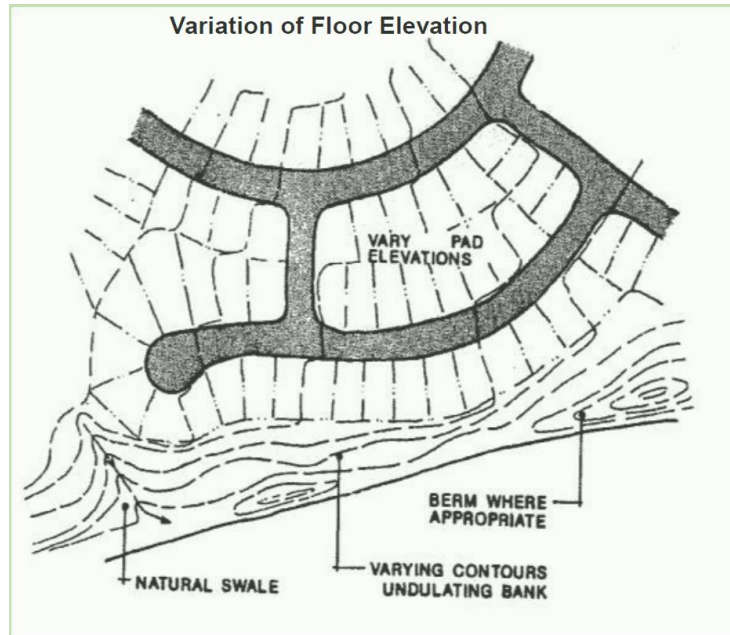


- c. The removal of existing trees, shrubs, and other vegetation and ground covers should be limited to those areas approved for the construction of proposed structures and installation of required utilities and easements. Replanted areas should be vegetated by plant materials conforming to the City's approved plant list, and be chosen to blend into the natural landscape. The use of native species is highly encouraged. The example below illustrates desirable steep slope development landscape features.



- d. Residential development situated partially or entirely on steep slopes should conform to the following design standards.
1. Buildings and structures should be located so as to minimize soil disturbance and

- removal of vegetation.
2. Adjacent single-family dwellings proposed to be located in steep slope portions of developments should be sited with floor elevations varying between two (2) and six (6) feet to achieve height variation. For multi-family projects, alignment of buildings should be staggered both horizontally and vertically to create unit identity, privacy at entry and private outdoor space, and to share common open space. See examples below:



3. Roads, walkways, and parking areas should to the degree possible be designed to conform to the natural contours of the site. Collective driveways, shared parking areas, and on-street parallel parking bays should be utilized where possible to minimize land and soil disturbance and limit impervious surface coverage.
4. Non-residential buildings should be oriented so that the front façade faces the closest public thoroughfare.
5. Street lights, lighting for signage, and other outside illumination should be certified Dark Sky Compliant by the International Dark-Sky Association, and be muted and directed so that it does not spill over on to neighboring properties.
6. Visually intrusive structures (i.e. towers, water tanks, etc.) should be configured, located, or screened so they cannot be seen from public areas and roads.
7. Muted earth-tone colors and materials should be used on all retaining walls, unadorned cementitious block structures, storm gutters, and other exposed hardscape surfaces.

6. Streets

A. Connectivity and Coordination

All streets in proposed developments shall be designed to comply with the rules for connectivity established by this section. The City Engineer may, in the event that unusual site conditions or other problematic issues present potential threats to safety or potentially impact the existing street system in a negative manner, modify requirements to mitigate said issues, provided any such modifications are only site specific, and the result is a positive impact on connectivity.

1. All proposed development shall, to the degree possible, provide multiple direct connections in its local street system to and between local destinations, such as parks, schools, and shopping, without requiring the use of arterial streets. Each development shall incorporate and continue all existing collector or local streets stubbed to the boundary of the development plan by previously approved but unbuilt development or existing development.
2. Local streets, alleys, and other minor routes shall be designed to accommodate traffic patterns appropriate for the neighborhood, with consideration given to facilitating movement and connectivity for all modes of travel.
3. Streets in proposed developments shall be designed to allow for future connections to adjacent parcels, with no more than six-hundred sixty (660) feet between local street connections along any boundary that abuts undeveloped land.
4. In proposed developments where cul-de-sacs or other the street design features limit connectivity with local destination points, through connections for bicyclists and pedestrians shall be provided.
5. Proposed developments shall be liable for the installation of non-signalized, potentially limited-movement intersection of a collector or local street with an arterial street, at an interval no greater than six-hundred sixty (660) feet between the full-movement collector and the local street intersection. Notwithstanding this or any other requirement contained in this section, the design and installation of all intersections, signalization, and associated features shall comply with applicable South Carolina Department of Transportation standards.

6. No public street accepted by the City for ownership and maintenance shall have a gated entrance. Notwithstanding this or any other standard contained in these Land Development Regulations, the City reserves the right to close or otherwise manage access, traffic, and parking in conformance with Section 16-30, and Section 18-3, of the Code of Ordinances, as amended.

B. Marginal Access Streets

1. In the event land consisting of more than one (1) acre is proposed to be developed through subdivision for commercial or multi-use development, and is situated so that it abuts the right-of-way of either US 76 (Anderson Highway), US123 (Tiger Boulevard), SC 93 (Old Greenville Highway), SC 133 (College Avenue), or SC 28 (Pendleton Road), a marginal access street approximately parallel to said right-of-way shall be constructed at a distance suitable for the appropriate use of the land. Such distances shall also be determined with due regard for the requirements of approach grades and future grade separations. The Planning Commission may, in the event such a street is deemed unnecessary or unfeasible due to specific conditions, waive this requirement.
2. In the event a proposed development abuts an arterial street, the Planning Commission may require additional marginal access streets, deep lots, or other treatments necessary for providing adequate for the protection of residential properties.
3. All streets in proposed developments, unless specifically approved as a private street by **the City Engineer**, shall be designed as, and duly constructed, inspected and proposed for, acceptance as public streets.
4. Private streets shall be constructed to the same standards adopted for public streets. All plats showing the development in which the private street lies must clearly identify the street as such, with the party responsible for street maintenance clearly identified. **Construction specifications for each proposed private street shall be established on a case-by-case basis.**

C. Design Standards

All streets designs shall conform to the following standards:

1. Street jogs shall have a minimum centerline offset of one hundred and twenty-five (125) feet. In the event specific site conditions prevent compliance with this standard, provided potential threats to safety may be mitigated through additional signalization or other appropriate traffic control measures, the City Engineer may waive this requirement.
2. A tangent of at least one hundred (100) feet on local streets, one hundred and fifty (150) feet on collector streets, and two hundred (200) feet on arterial streets shall be introduced between curves.
3. The centerline of no more than two (2) streets shall intersect at any one point. Streets shall be laid out to intersect as nearly as possible at right angles, and no street shall intersect any other street at less than sixty (60) degrees. The maximum grade approaching intersections shall not exceed five (5) percent for a distance of not

- less than fifty (50) feet from the centerline of said intersection. Ninety (90) degree intersections shall have a minimum back of curb radius of fifteen (15) feet.
4. Property lines at street intersections shall be rounded with a radius of twenty (20) feet.
 5. Where horizontal street alignment deflects at an angle greater than ten (10) degrees, a curve with the following minimum radius shall be introduced:
 - a. Arterial Streets – three hundred (300) feet
 - b. Collector Streets –two hundred (200) feet
 - c. Local Streets – one hundred (100) feet
 6. All vertical curves connecting changes in grade shall conform to the latest version of SC Department of Transportation standards.
 7. Dead end streets designed to be permanently terminated shall be permitted only when topographic conditions are such that a proposed road connection would necessitate either grading a fifty (50) percent slope, or grading a twenty-five (25) percent slope for a distance of more than five hundred (500) feet. All other terminating streets shall be configured as a cul-de-sac street, and shall not exceed six hundred (660) feet in length, shall terminate at the closed end with a turn-around of no less than fifty (50) feet in radius measured at the property line, and no less than thirty-five (35) feet measured at the curb line. In the event the City Engineer deems such a turnaround impractical due to specific site conditions, a “hammerhead”, “T”, “Y”, or other dead-end fire apparatus turnaround may be approved by the Planning Commission, provided said turnaround has a right-of-way of not less than forty (40) feet, and each leg of the back-out turn shall be not less than thirty (30) feet in length.
 8. Temporary dead end streets which extend for a greater distance than the depth of one abutting lot shall be provided with a temporary turn-around meeting the dimensional standards identified for permanent dead-end fire apparatus turnarounds above.
 9. Proposed street names shall be unique in the City of Clemson, and shall not present a significant risk of confusion, or other apparent threat to efficient emergency response. Names shall not be vulgar, insulting, intentionally embarrassing, or otherwise generally considered inappropriate. Pursuant to the Code of Laws of the State of South Carolina, all roads names shall be approved by the Planning Commission.
 10. The Planning Commission may, after consideration of the City Engineer’s report on the matter, approve a divided street with separated travel lanes configured to minimize damage to unique or important natural features.
 11. Bridges are encouraged to span and preserve natural watercourses and allow for wildlife migration through dedicated wildlife corridors when possible, provided all structures are designed to conform to the surrounding neighborhood, and meet all standard engineering standards and best practices.
 12. Alleys:
 - a. Alleys of no less than thirty (30) feet in width shall be provided in commercial and industrial districts. In the event definite and assured provision is made for service access, loading, unloading and other activities consistent with and adequate for the proposed uses, the Director may ~~reduce or~~ waive this provision.
 - b. Alleys shall be encouraged but are not required for residential districts, but when provided shall be not less than sixteen (16) feet in width, and shall be constructed

- to the standards set forth for alleys in these regulations.
 - c. Alley intersections and sharp changes in alignment should be avoided, but where necessary, the curve radius shall permit safe vehicular movement.
 - d. Alleys terminating in a dead-end shall be constructed with an appropriate fire apparatus turnaround, approved by the Fire Marshal.
13. Unless otherwise approved by the City Engineer, all residential driveways proposed to be situated on roadways with \geq two thousand (2,000) ADT's, or which are proposed to generate more than fifty (50) Peak Hour Trips, shall conform to the following standards:

Table IV.6.1 Posted Speed Limit (Miles per Hour)	Spacing (Feet)
30	75
35	125
45	175
≥ 50	275

The spacing of all other driveways shall be consistent with City policy, and approved by the City Engineer.

14. The approval of proposed developments which are to include the entire width of an existing platted street, deemed as a result of these regulations to be substandard due to insufficient right-of-way width, shall be contingent upon the owner's dedication to the City of the whole width, or of the greatest portion possible, of right-of-way required to bring the street into compliance. If the proposed development abuts only one (1) side of such a road, the width of the required dedication shall only be for any insufficiency, up to fifty (50) percent of the total width, as measured from the centerline of the street, on the side the proposed development lies. In the event the right-of-way is substandard along only one side, dedication of additional right-of-way will only be required on the substandard side. In no instance will dedication of right-of-way be required beyond the minimum set by these standards for the category of road.
15. Notwithstanding any other rule or regulation that may apply, all streets shall be classified according to the following criteria:
- a. Street hierarchy shall be based on a combination of road function and total anticipated number of dwelling units to be located on the street. Trip generation rates utilized to assess potential impacts of various uses on streets shall, unless otherwise specified by the City Engineer, be taken from the latest edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual. In the event a proposed street is anticipated to serve multiple land uses, the City Engineer may designate a classification with standards appropriate to serve the development.
 - b. Every street within the City of Clemson shall be classified in conformance with this section, with one of the following designations assigned to each road:
 - ii. Arterial Street (Major)
 - iii. Arterial Street (Minor)
 - iv. Collector Street
 - v. Sub-Collector Street
 - vi. Major Local Street
 - vii. Minor Local Street

16. Hierarchy classifications, and any associated standards or requirements, assigned to a street shall be effective over the entire length of said street, regardless of any variation in density of development, or other factor, that may impact any given point.
17. All liabilities and burdens, whether financial or otherwise, associated with conducting studies and analyses as part of the identification of anticipated traffic levels expected to result from a proposed development, shall be on the developer. The Planning Commission may, in the event the City Engineer determines a developer has failed to satisfy requirements to provide sufficient evidence or documentation of future traffic impacts, impose additional standards intended to improve capacity and traffic flow.
18. The following table contains dimensional design standards for each classification of residential neighborhood streets:

Table IV.6.2 Dimensional Requirements for Street Classifications				
Street Classification	R-O-W Width	Minimum Cartway	Curb Required	*Sidewalk Required
Alley	24'	16'	None	None
Cul-de-sac	50'	22'	Yes	Both Sides
Residential Local Street	50'	22'	Yes	Both Sides
Residential Sub-collector	50'	24'	Yes	Both Sides
Residential Collector	60'	28'	Yes	Both Sides

*All sidewalks shall conform to the standards for sidewalk design contained in these regulations. Notwithstanding any other requirement or standard, the dimensions and details shown on specific street section designs shall govern.

19. In addition to the standards set forth for the installation of bicycle lanes in these standards (see below), all bikeways proposed to be created or upgraded as part of a development shall be accomplished in compliance with the City of Clemson Bikeways Master Plan, as amended.
20. All proposed residential streets shall be designed and constructed to comply with the grade requirements contained in the following table:

Table IV.6.3 Grade Requirements for Street Classifications			
Street Classification	Minimum Grade	Maximum Grade	Maximum Grade within 50' of Intersection
Alley	0.5%	15%	5%
Cul-de-sac	0.5%	10%	5%
Residential Local Street	0.5%	10%	5%
Residential Sub-collector	0.5%	10%	5%
Residential Collector	0.5%	8%	3%

21. All costs and liabilities associated with the design, layout, and installation of all drainage facilities, improvements or upgrades to streets identified on the approved plat or otherwise required by the City of Clemson for new development, shall be the responsibility of the developer. Work performed under the requirements of this section

shall be in accordance with the standards established by the City Stormwater Manual, as amended, and all applicable local, state, or federal requirements.

22. The clearing and maintenance of all street and alley rights-of-way shall be in accordance with a Right-of-Way Clearing and Maintenance Plan approved by the City Engineer.
23. **Straight street segments greater than one thousand (1,000) feet in length shall be avoided whenever possible.**

7. Curb and Gutter

Unless specifically waived by the City Engineer due to unusual site conditions, concrete curb and gutter shall be installed in a manner wholly consistent with City specifications and standards on all proposed roadways.

8. Drainage Ditches

All proposed drainage ditches shall be designed in conformance with standard engineering practices, and shall have sloped sidewalls with a slope no greater than two to one (2:1). All shoulders and sidewalls shall, unless otherwise approved by the City Engineer, be seeded. All ditches used as collectors for street run-off must be piped to the point that said run-off is discharged directly into a drainage canal. No drainage ditch will be maintained by the City unless it is situated in a duly dedicated drainage easement.

9. Sidewalks

All proposed streets, with the exception of alleys; and, all new commercial, subdivision, multifamily and tract projects shall include sidewalks designed appropriately for the type and scale of the development to be served. Additionally, all proposed new single-family residential projects situated on lots fronting streets with no existing sidewalk shall include the design and installation of a section of sidewalk located along the length of street frontage abutting the lot. All sidewalk design and installation shall be subject to the approval of the City Engineer, who may, in the event said installation is deemed to be impractical, unnecessary, or otherwise problematic, grant a waiver to this requirement, or permit the payment of a fee (based on a scale to be updated annually) equal to the cost of designing and installing the required sidewalk. Any monies collected by the City from this requirement shall only be utilized for the installation and maintenance of sidewalks.

- A. With the exception of details shown on specific street section designs contained in these standards, all proposed sidewalks shall meet the following minimum standards:
 1. Any development plans submitted for review shall include detailed drawings and notes indicating compliance with all of the requirements of this section.
 2. Sidewalks shall typically be installed level with the street curb, and shall lie adjacent to, and parallel to the course of, the street. Reasonable deviations in elevation and course may be permitted to accommodate unusual site conditions. Sidewalks shall typically be installed on both sides of all proposed roads; the Director may, however, if no significant safety concerns are identified, approve the installation of a sidewalk on only one side of the road in areas of residential districts with a low development density. Notwithstanding this or any other standard in these regulations, sidewalks installed adjacent to a street for which a specific section design has been approved shall conform to said detailed section design.
 3. All sidewalks shall conform to the Americans with Disabilities Act (ADA), as amended, and meet the minimum finished width established for the appropriate street classification in the following table:

Table IV.9.1 Typical Sidewalk Widths	
Street Classification	Typical Minimum Finished Sidewalk Width
Local Residential	54 "
Collector	72"
Arterial	72"

In the event a proposed sidewalk is anticipated to negatively impact a sensitive natural, historic, or otherwise special feature, the Director may grant a waiver that reduces the standard by no more than twelve (12) inches, provided said reduction does not increase any non-conformities with ADA requirements.

4. The minimum depth of sidewalks shall be four (4) inches. The City Engineer may require additional depth in portions of sidewalks to accommodate unusual site conditions.
 5. Sidewalks shall typically be constructed of impervious concrete with a bearing capacity of no less than three thousand (3,000) pounds per square inch (p.s.i.). The City Engineer may approve the use of pervious concrete, provided the burden of maintenance of any sidewalk so constructed is specified in an approved development plan.
 6. The cross slope of sidewalks shall conform to ADA standards, as amended.
 7. Unless specifically waived by the City Engineer to accommodate a special finish, feature or treatment, all sidewalks shall be broom-finished across the width, with troweled edges and control joints at intervals of ten (10) feet; expansion joints must be installed at intervals of no more than one hundred (100) feet.
- B. Notwithstanding these or any other regulations adopted by the City of Clemson, widths and other dimensional requirements, placement instructions, and other requirements indicated on specific street section designs adopted for any street shall govern the design for all proposed sidewalks on said street.

10. Vegetated Areas Associated with Streets

The following standards shall apply to all areas of vegetated medians, planting strips or other landscaped features, and other pervious and natural areas installed and maintained within a street right-of-way:

- A. All plant materials shall be native, non-invasive species compatible with the use, and this region's climate and environmental conditions.
- B. All areas shall be maintained in a safe and attractive manner consistent with the surrounding environment through an ongoing program that includes periodic landscaping maintenance; any litter, damaged or dead vegetation, or any other unsightly items or conditions, shall be mitigated as soon as is practical. The design of any landscaped areas in or abutting a public right-of-way shall be subject to the approval of the Director.
- C. The City Horticulturalist may require the implementation of a program appropriate for the maintenance and sustainability of any landscaped area in a public right-of-way.
- D. The installation of approved Green Infrastructure and/or Low Impact Development components to manage stormwater in vegetated areas associated with streets is encouraged.
- E. Unless otherwise specified by City zoning standards, all proposed developments that include a new street, or which front on an existing street, shall include street trees

planted in or along the public rights-of-way, with the species, number, and location of said trees conforming to a landscaping plan designed by an appropriately licensed design professional, and approved by the City Horticulturist, reflecting an overall equivalent of one (1) street tree per each fifty (50) feet of road frontage.

- F. The City reserves the right to effect the immediate mitigation, through any means deemed necessary, of any unsafe, or potentially unsafe, condition associated with any vegetated area associated with a public or private street.

11. Bikeways and Bicycle Facilities

- A. The planning, design, and implementation of the bikeway system shall be in conformance with the City of Clemson Bikeways Master Plan (Bikeways Plan), with all proposed deviations subject to review and approval by the Planning Commission. Notwithstanding any other requirement set forth in these standards, any portion of a bikeway or bicycle facility identified as a component of the Green Crescent Trail, or any other duly adopted or officially endorsed City bicycle route or trail system, shall be constructed and maintained in conformance with the rules for established for said route or trail.
- B. All bikeways situated within the City of Clemson shall be classified in terms of use and level of segregation from motorized traffic, and shall be identified as one (1) of the following:
1. Class I Bikeways – Travel lanes intended for bicycle traffic and other non-motorized travel modes, segregated from all motorized traffic by a planting strip or other device that provides physical separation.
 2. Class II Bikeways – Bicycle travel lanes, typically identified by painted striping or curbing, that adjoin those designated for motorized traffic, that may also be used in certain locations by motor vehicles and pedestrians to access off-street driveways and parking facilities.
 3. Class III Bikeways – Typically found only on streets with a low volume of traffic, travel lanes shared by bicycle traffic, motor vehicles, and pedestrians, with notice of such provided only through signage.
- C. All bikeways shall conform to the following dimensional standards. The City Engineer may, in the event unusual site conditions prohibit conformity with dimensional requirements, approve an alternate design, provided the resulting bikeway provides safe and equitable service to all users. All signage, striping, and other informational devices shall conform the Manual on Uniform Traffic Control Devices (MUTCD).
1. Class I Bikeways - Bikeways designed to accommodate two-way traffic shall be a minimum of eight (8) feet in width from edge of pavement to edge of pavement, and a one-way bikeway system shall typically be four (4) feet in width from edge of pavement to edge of pavement. All Class I Bikeways shall have a shoulder no less than one (1) foot in width on each side. The right-of-way width shall be ten (10) feet for two-way bikeway systems, and six (6) feet for one-way bikeway systems.
 2. Class II Bikeways – Bicycle travel lanes shall be typically either be separated from motorized travel lanes by a curb or other barrier, or identified by a three (3) to six (6) inch highly-visible painted line on the pavement. The required minimum pavement width shall be eight (8) feet for a two-way system, and four (4) feet for a one-way system. This class of bikeways may be situated within the

street right-of-way.

3. Class III Bikeways – Bicycle travel lanes shall be located only on residential access streets or other roadways with similar traffic levels, and shall be well signed in accordance with the MUTCD.
- D. All proposed commercial, subdivision, multifamily, tract, or new single-family developments proposed to be located adjacent to any roadway identified by the Bikeways Plan as being one of the preferred or critical road segments for the installation of a Class I Bikeway, or any portion of the Green Crescent Trail, shall, in the event such a bikeway does not exist at the time of development, duly dedicate to the City, in addition to any other required dedication of rights-of-way or facility, the width of bikeway right-of-way needed for the installation of that segment along the property frontage. Additionally, the developer shall design and install said segment of bikeway in a manner approved by the City Engineer, who may, in the event said installation is deemed impractical or otherwise problematic, approve the payment of a fee equal to the projected cost of design and installation (based on a scale updated annually). All areas of such developments shall be designed to provide connectivity for all modes of users to the bikeway.
- E. All proposed streets designed to provide access to, and/or through, new residential developments located in the City of Clemson shall include the installation of bikeways consistent with those recommended by the Bikeway Plan for the nature of the development. All bikeway signage shall be purchased, installed, and maintained by the developer.
- F. All bikeways shall be signed in a manner wholly consistent with the Bikeway Plan and the guidelines set forth in the MUTCD.

12. Easements

- A. Unless otherwise specified by applicable zoning regulations, an easement for public utilities and drainage, of a width established for the use by policy of the City, may be required by the City Engineer or Utilities Director to provide for both current and anticipated future utility needs on any lot, along any frontage, side or rear lot line, as appropriate.
- B. In the event a proposed development is traversed by a water course, drainage way, channel, or stream, a storm water easement conforming substantially to the lines of said water course, and of sufficient width to carry off storm water in such a manner as is required by City Storm Water Manual and/or applicable storm water management regulations, shall be established.
- C. The City shall only be responsible for the maintenance of those easements inspected and approved as adequate for the purpose, and duly accepted by the governing body.
- D. Notwithstanding any permit, approval, or authorization issued by any department of the City, or any other government or utility, all trees, plants or vegetative materials, landscaping, or any other items or structures situated within the bounds of a duly recorded easement to which the City has right of access and/or use, for any reason, may be cleared or otherwise removed as required to permit access, installation, maintenance, or other activity deemed by the City to be appropriate or necessary. The City shall not be held responsible, beyond returning disturbed areas to an appropriate grade and reseeding with grass (or installing other appropriate soil stabilization measures), for the restoration or replanting of landscaping, or other

items, within an easement area. As such, any financial loss stemming from the removal or damage of any trees, plants, structures, or other items located within the bounds of an easement area to which the City has the right to lawfully perform work or conduct other activities, shall not be the responsibility of the City.

- E. No tree removed from a utility or drainage easement shall be replanted in said easement unless approved by the Utilities Director.

13. Utilities

All distribution systems for utilities installed by developers for new development, or redevelopment, shall be installed underground. In the event such a system passes through or otherwise penetrates the boundaries of a landscape buffer, unless otherwise approved by waiver granted by the Director, the course of the installation shall be perpendicular to the length of the buffer frontage. Upon completion of the installation, all disturbed areas shall be replanted and repaired as necessary to restore the buffer to its condition prior to said disturbance; however, no tree shall be planted within ten (10) feet of any utility line.

- A. Every lot, and every proposed structure intended to be served with water, in any development, shall be provided with an approved water supply. The developer shall be responsible for installing all components of an approved water supply system, in a manner consistent with all City specifications and requirements, prior to the completion of the development.
- B. Fire hydrant locations shall be approved by the City Fire Marshall and Utilities Director, and shall be installed in accordance with city specifications.
- C. Unless otherwise approved by the Utilities Director and SC DHEC, each lot in all developments shall be served by public sewerage. The design and size of all proposed sewer lines shall be approved by the City Engineer. Regardless of type of system utilized, all sanitary sewer systems shall comply with all City and SC DHEC specifications and standards.
- D. All development shall be served by a storm drainage system designed and installed in accordance with the City of Clemson Storm Water Management Plan (SWMP). Said systems shall be adequate to accommodate all storm water in its drainage area, and shall function in concert with storm drainage systems on adjacent properties. Unless otherwise approved by the City Engineer, all storm drainage systems shall connect to a public storm sewer system.
- E. All proposed stormwater retention and/or detention systems shall adhere to the SWMP, and shall be required to be duly approved by the City Engineer and all other appropriate regulatory authorities prior to issuance of final plat approval. The use of Green Infrastructure and/or Low Impact Development (LID) techniques is encouraged, and may, in the event such methods are deemed to be feasible and can be demonstrated to provide significant benefits to the City over traditional methods, be required.
- F. In the event the installation of underground electrical, telephone, and other similar utility service is deemed by the Planning Commission to be impractical, overhead service may be installed in a utility easement located along the rear property line.
- G. For all proposed developments, a plan showing the location of all existing and proposed landscaping and utilities shall be approved by the Utilities Director prior to any land disturbance.

14. Street Lighting

- A. Street lights shall conform to the adopted City Lighting Standards established in Section 19-10 of the Code of Ordinances, as amended, and shall be required in all proposed development that includes the construction of a new street, or fronts on an existing street, to be dedicated to the city, and along existing streets abutting proposed development. All fees, initial installation charges by utilities, materials, labor, poles, fixtures and other items associated with the purchase and installation of said street lights shall be the responsibility of the developer.
- B. All street lighting fixtures shall conform to standards for Full Cutoff Luminaires published by the Illuminating Engineering Society (IES) of North America. Street lights located in residential neighborhoods shall be appropriately shielded to limit the trespass of light into residences.
- C. No street lighting shall be installed on any public street, or in any public right-of-way, prior to the review and approval of a street lighting plan that, among other items, identifies the location and spacing of installation, areas of effective illumination and needed shielding, design of pole and fixture, and type of fixture (with detailed technical specifications).
- D. Unless otherwise approved by the Director due to traffic levels or specific site conditions, pedestrian-scale lights, with a pole height of fourteen (14) feet shall be installed on all non-arterial streets. Notwithstanding any other requirement set forth in this section, all street lighting proposed to be installed in a design review district shall, in the event of a conflict, conform to standards governing said district.
- E. Any lighting, situated on any public or private property in the City, and not subject to the locational standards of this section, may illuminate public streets only incidentally. Illumination that results in glare, potentially distracts drivers, or otherwise serves to threaten the health and safety of the general public shall be immediately removed or mitigated.
- F. Acceptance of ownership and maintenance of street lights by the City of Clemson shall be contingent upon a) the appropriate and effective illumination of public property or right-of-ways; and, b) the approval of acceptance by City Council voting in public session. The City shall not purchase, install, or maintain street lights intended to illuminate private property, privately-owned driveways, or privately-owned areas with restricted access; however, the City reserves the right to install, pay for, and/or assume financial responsibility for any street lights deemed necessary for illumination of private property that is either regularly accessible by the public, or used for a public purpose.
- G. All street lights intended to be proposed for acceptance of ownership and maintenance by the City shall be subject to the following:
 - 1. The developer shall be responsible for coordinating the selection of the proposed lighting with, and obtaining all required approvals of, appropriate utilities, prior to submission to the City for approval.
 - 2. The design and placement of all street lights shall be intended to provide illumination that enhances the safe use of streets and public areas by all lawful users. In the event site conditions limit the effectiveness of any aspect of typical design or location, the safety of pedestrians shall be prioritized in evaluating options.
 - 3. All street lights shall be designed to operate only from dusk to dawn, and shall conform to current high-efficiency energy conservation standards. The Director of Public Works may specify approved switches, bulbs, and other items typically subject to maintenance or replacement.

4. Street lights shall, to the extent possible, be utilized to improve security and safety during the construction phase of developments; to that end, light fixtures shall be installed and made operable as soon after approval of the lighting plan as is practicable.
 5. The City shall not be held responsible for any damage to street lights that may occur prior to acceptance of ownership and maintenance.
 6. All street lights proposed for acceptance of ownership and maintenance shall be inspected and approved by appropriate City staff prior to consideration of acceptance by City Council.
- H. Street lighting shall be installed in accordance with the following locational standards, with a minimum of no less than one (1) foot-candle of light illuminating all pedestrian ways.
1. Minimum average street light spacing:
 - a. Single-family residential neighborhoods comprised of detached and/or duplex homes with minimum lot width \geq one-hundred (100) feet: five-hundred (500) feet.
 - b. Single-family residential neighborhoods comprised of detached and/or duplex homes with minimum lot width $<$ one-hundred (100) feet: three-hundred (300) feet.
 - c. Multi-family uses: one-hundred (150) feet.
 - d. All other uses: three-hundred (300) feet.
 2. Preference in placement shall be given to street intersections and street curves.
 3. Alleys are excluded from the spacing and placing requirements of this chapter but are encouraged to be illuminated using private security lights, wall packs, or similar low level decorative lighting.

15. Canopy Protection and Replacement

All development proposed subsequent to the adoption of section, with the exception of those activities specifically listed herein, shall be subject to the following standards. In the event any proposed development is subject to a zoning district requirement(s) that conflicts with one or more standards contained in this section, the zoning requirement shall govern.

1. The following development and activities shall be exempt from the requirements of this section:
 - a. Removal and/or trimming of any tree not identified by these standards as a Protected Tree located on single-family dwelling lots or parcels by the owner.
 - b. Mitigation efforts associated with clean-up activities following a natural disaster or other significant Acts of God; typically, the City will issue a period of waiver of the strict application of these standards for a specified period of time.
 - c. Licensed plant and tree nurseries, and other duly permitted commercial tree growers, provided trees are planted or growing on the premises for sale to the general public in the ordinary course of business.
 - d. Tree pruning and removal by duly constituted communication, water, sewer, electrical or other utility companies; or federal, state, or local government agencies; or engineers or surveyors working under a contract with said utility companies or agencies, provided removal is limited to those areas necessary for maintenance of existing lines or facilities, or for construction of new lines

- or facilities in furtherance of providing utility service to its customers. Additionally, all such activity must be conducted so as to avoid any unnecessary removal and, in the case of aerial electrical utility lines, shall not be greater than that specified by the National Electrical Code, or other appropriate adopted industry standard, for safe electrical clearances.
2. A Tree Removal Permit is hereby created to facilitate the documentation of the proper implementation of the standards of this section. Applicants for a Tree Removal Permit shall submit an accurate and complete application on a form provided by staff, along with any appropriate documentation and fees that may be established by City Council. The following standards shall apply to Tree Removal Permit applications:
 - a. A complete permit application for removing or relocating Protected Trees shall be submitted by the property owner or authorized agent of the owner on City approved application forms.
 - b. Each permit application shall be accompanied by a tree survey, prepared by a surveyor (or other appropriate professional), registered with and licensed by the State of South Carolina. The survey shall consist of field flagging, location and identification of all Protected Trees, and property boundaries and corners.
 - c. Application requirements may be appropriately modified to reflect specific on-site needs for information, provided any such modification is based on the type of development proposed, the trees being impacted, and the degree of impact anticipated.
 3. The Tree Permit Issuance Process shall conform to the following:
 - a. Upon application review, the City Horticulturalist shall approve, approve with conditions, or deny the permit. The applicant shall be notified of approval or denial, and, if denied, informed of the reasons for denial.
 - b. Permits may be issued conditionally, provided that any conditions are stated in writing and are appropriately referenced on the permit. Among such conditions may be stipulations that the developer of a site provide legal mechanisms which ensure the protection of Protected Trees after construction has occurred on the development. Such mechanisms may include, but not be limited to, conservation easements, common open space requirements, tree protection easements, deed restrictions and restrictions in homeowners' or condominium association documents.
 - c. A copy of the approved tree permit shall be clearly posted on the job site during all phases of clearing and construction activities.
 4. All proposed non-residential, multi-family residential, and mixed-use development, and, any single-family residential development consisting of **five (5)** or more units anticipated to have a land disturbance area greater than five thousand (5,000) square feet or to have shared parking, shall be subject to the minimum canopy coverage area requirements listed in the Minimum Canopy Coverage Requirements table below.

Table IV.15.1 Minimum Canopy Coverage Requirements	
Land Use	*Minimum Coverage (%)
*Residential Developments (Excepting Simple Lot and Minor Subdivisions)	25
Planned Developments	30
* The Planning Commission may approve a reduction of up to fifty (50) percent of the minimum required area for affordable housing developments or Low Impact Development (or other certified 'green') projects.	

5. For the purposes of this section, the canopy coverage area of a tree shall be defined as the area contained within the boundary established by a vertical projection along the outermost limit of the tree's crown at maturity. The canopy coverage area of a parcel or development site shall be defined as the total of all **non-conifer** tree canopy areas, retained and/or planted, proposed to exist post - development. The following methods may be used to determine the tree canopy area:
 - a. To Establish Existing Tree Canopy Area
For each mature tree proposed to be retained post – development, the radius (r) of the canopy area shall equal the distance from the center of the trunk to the outermost point of the tree's crown. Calculate the total canopy area (CA) with the following formula: $CA = 2\pi r$. In the event existing site conditions are accurately reflected on aerial photography, the radius (r) may be determined through scaled measurements.
 - b. To Establish Tree Canopy Area for Trees Proposed to be Planted
To determine the canopy area proposed to be planted, the radius (r) of each species of tree to be utilized, at twenty (20) years maturity, shall be determined based on accepted industry standards, and the total canopy area (CA) calculated ($CA = 2\pi r$).
 - c. Alternative Methods
The Director may approve other methods of calculation or sources of information, provided such alternatives are based on accepted industry practices, and utilize the best available information.
6. In the event the Director deems a development to be prevented by site conditions from meeting the specified minimum canopy coverage, the developer shall be assessed a mitigation fee, in an amount no less than five-hundred (500) dollars per tree, to be approved by the City Horticulturalist, equal to what would have been required to purchase and plant any additional trees needed to attain full compliance. *All funds collected in this manner shall be utilized solely to purchase, plant, and/or maintain trees in parks and other areas of the City as approved by City Council.*
7. A Tree Protection and Restoration Plan (TPRP) shall be submitted along with all other materials required at the time of application for preliminary plat review **of a Major Subdivision, Planned Development, Tract Home Development, Multi-Family Development, Townhome Development, or Duplex Development**. The TPRP shall include the following:

- a. A tree survey, performed by an engineer, certified arborist, or registered landscape architect, licensed by the State of South Carolina, identifying both the existing areas of canopy coverage, and all mature canopy trees located on the proposed development site prior to any disturbance;
- b. A graphic representation of the location of all mature canopy trees (noting the type and size) within fifty (50) feet of any area to be disturbed, indicating whether each is to be preserved or removed, and showing all protective measures such as fencing;
- c. Notes specifying that: 1) no disturbance is to occur within fifty (50) feet of mature canopy trees until all required protective measures are installed, inspected and approved; and, 2) all landscaping work occurring in the critical root zone area subsequent to the removal of protective measures is restricted to hand tools and machinery appropriately configured to limit negative impacts on existing root systems ; and,
- d. A description of the efforts proposed to be taken to offset or mitigate any impacts to the canopy, such as transplanting or planting replacement trees.

All trees and features required by an approved TPRP shall be installed prior to the issuance of a Certificate of Occupancy. The City Horticulturalist may approve a reasonable delay in installation, provided the developer provides a bond of an amount sufficient to provide for the installation of all required items.

8. The owner shall be responsible for the erection of required protection fencing, and any other specified measures, necessary to protect any existing or installed vegetation prior to the commencement of disturbance activity. At a minimum, all trees proposed to be preserved during development shall be protected with a sturdy and visible fence before clearing and grading begins. The following standards shall apply:
 - a. The location of tree protection fencing and method of construction shall be noted on the landscape plan.
 - b. Tree protection fencing shall be installed and remain in place and in good condition until all development activities are completed.
 - c. The tree protection fence shall be located one (1) foot from the tree trunk for each one (1) inch in Tree Diameter Breast Height (DBH) with a minimum distance of ten (10) feet required from the edge of the trunk
 - d. Tree protection fencing shall be constructed from any material substantial enough to prohibit and keep out vehicles, people, and all other activities associated with the development process.
 - e. No soil disturbance or compaction, stock piling of soil or other construction materials, vehicular traffic, or storage of heavy equipment is allowed in the tree and root protection area(s) of trees to be retained.
9. No person shall cut down, destroy, remove or move, or effectively damage any Protected Tree located on any public or private real property within the City, unless otherwise exempted, without prior authorization from the City. For the purposes of these regulations, a Protected Tree shall be any tree utilized in achieving and maintaining conformance with any City tree or landscaping standards.
10. No person shall cause, suffer, permit or allow the following:
 - a. The removal of a Protected Tree without first obtaining written authorization, to include all necessary permit(s), from the City to conduct the removal.

- b. Any encroachments, excavations, or change of the natural grade within the critical root zone (CRZ) of a Protected Tree unless approved by the City Horticulturalist, prior to the commencement of said activity, that the activity will not negatively impact any Protected Tree. The critical root zone area shall be defined as *the greater* of either:
 - i. The area extending from the trunk of the tree to the outer-most point of the canopy; or,
 - ii. All of the area starting at the trunk and extending to a distance of one (1) foot for each inch in diameter the trunk measures at four and one-half (4 1/2) feet above ground level.
 - c. In the event questions or disputes arise concerning the identification, size, drip line or other conditions involving Protected Trees, the City may call upon and consult with a landscape architect or other qualified professional in order to reach a decision. All appeals of staff decisions, and other forms of administrative relief sought as a result of the application of these standards, shall be the purview of the Board of Zoning Appeals.
11. No authorization for the removal of a Protected Tree shall be granted unless the applicant for removal of the tree demonstrates one or more of the following conditions:
 - a. The intended, approved proposed use of the site cannot reasonably be undertaken unless specific trees are removed or relocated, with any resulting loss in canopy area replaced in an approved location.
 - b. The tree is located in such proximity to an existing or proposed structure that the safety, utility or structural integrity of the structure is materially impaired.
 - c. The tree materially interferes with the location, servicing or functioning of existing utility lines or services.
 - d. The tree creates a substantial hazard to motor, bicycle or pedestrian traffic by virtue of physical proximity to traffic or impairment of vision.
 - e. The tree is diseased, insect ridden or weakened by age, abuse, storm or fire and is likely to cause injury or damage to any person or other property.
 - f. Any law or regulation requires the removal.
12. Developers shall avoid any activity during all phases of construction that may result in:
 - a. Mechanical injuries to roots, trunk, and branches
 - b. Injuries by chemical poisoning
 - c. Injuries by grade changes
 - d. Injuries by excavations
 - e. Injuries by paving.

Any willful action determined to be inconsistent with this standard, and which results in the injury of a Protected Tree, shall constitute a violation of these regulations.
13. Upon completion of construction, or as otherwise approved, the fencing and other measures may be removed to allow for landscaping and final site work, provided all work is either conducted with hand tools, or with machinery utilized in a manner appropriate to protect against soil compaction and other damage to root systems.
14. The following standards shall apply to all required tree replacements:
 - a. Replacement species shall be the same species as each tree removed, provided the removed tree was a native species; all other replacement

- trees must be listed on the City's approved plant list, or be approved by the City Horticulturalist.
- b. Replacement formula: one (1) square foot of replacement canopy (measured at maturity) for one (1) square foot of canopy removed.
 - c. Single trees may be replaced with two (2) or more trees provided the caliper inch requirements measured at DBH are met.
 - d. If it is determined by the City that the replacement of a removed Protected Tree is not feasible or would negatively impact surrounding properties, the party responsible for conducting the tree replacement activity shall, in lieu of actual tree replacement, be assessed a mitigation fee, in an amount no less than five-hundred (500) dollars per tree, to be approved by the City Horticulturalist, equal to what would have been required to purchase and plant any additional trees needed to attain full compliance. *All funds collected in this manner shall be utilized solely to purchase, plant, and/or maintain trees in parks and other areas of the City as approved by City Council.*
 - e. In the event the City Horticulturalist identifies a tree as a nuisance species, and no erosion or other adverse effect is anticipated to result from a proposed removal, no replacement shall be required.
15. All Protected Trees shall be maintained in conformance with the following:
- a. Required maintenance activities shall, for no less than a five (5) year period after completion of development, be set out in a plan approved by the City Horticulturalist.
 - b. During the required maintenance period, the City Horticulturalist, or designee, shall have the right to conduct periodic inspections to ensure continuing compliance with the maintenance plan, and to confirm the health and viability of all required trees and plant material. In the event an inspection reveals a Protected Tree to be missing, dead, or otherwise unhealthy and/or a threat to safety, notice of the situation, along with recommended actions for mitigation, shall be provided to the property owner, who shall either comply with the recommended actions, or, if appropriate, plant an approved replacement tree, within thirty (30) days.
16. Notwithstanding any other standard or requirement set forth in this section, owners of properties situated within the City of Clemson, to which these Canopy Protection and Replacement provisions do not apply as a result of exemptions, or for any other reason, may petition City Council to accept the dedication of a tree or trees on their property as Protected Trees, provided the following requirements are met:
- a. Petitioner has met with staff to review requirements and expectations associated with dedication of Protected Trees;
 - b. Staff has conducted a site visit to confirm suitability of proposed dedication.
 - c. The submitted petition is accompanied by a survey approved by staff and prepared by a Professional Surveyor licensed by the State of South Carolina, and duly recorded in the appropriate Office of Register of Deeds, showing the location of all trees proposed for dedication to the City;
 - d. The petition is reviewed and approved by the City Horticulturalist; and,
 - e. Appropriate documentation memorializing and approving the proposed dedication is submitted in a form reviewed and approved by the City Attorney.

Dedications of trees approved by City Council for identification as Protected Trees shall be subject to all protections and standards established under this section.

16. Open Space Management

A. Green/Open Space

All dedicated open space or green space shall conform to the following:

1. No less than three (3) percent of the total dedicated green/open space shall be Common Open Space.
2. To the degree possible, all dedicated areas shall be equally accessible by all intended users.
3. The proposed use of all dedicated green space shall be indicated on approved development plans.
4. Access points shall be configured so that potential negative impacts on adjacent properties are minimized; as such, the width of any part of an open/green space area situated between proposed or existing residences shall be no less than the average width of the surrounding lots.

B. Stream Buffers

An undisturbed vegetative buffer no less than fifty (50) feet in width, to be measured perpendicular from the top of the streambank, shall be established along all perennial streams flowing through any designated open space or greenway. In the event the establishment of the minimum required buffer width is at any point deemed impractical or impossible by the Director, the minimum width may be reduced by waiver to the greatest achievable distance. No disturbance (other than what is temporarily necessary to install and maintain approved trails, paths, and stream crossings and bridges), structures, or other use or activity shall be permitted to impact the course of any permanent or intermittent stream, or natural drainway.

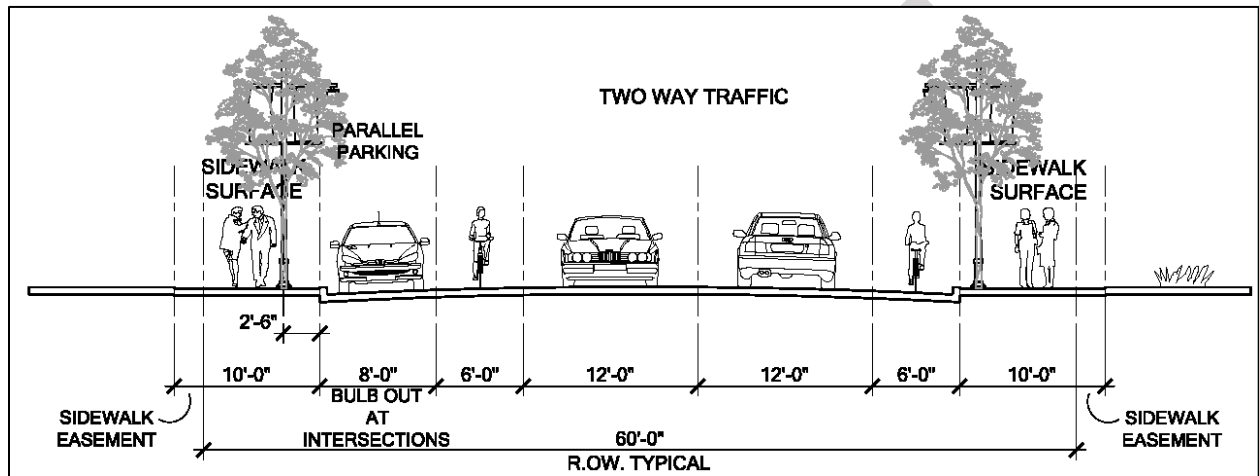
C. Paths and Trails

All trails intended solely for walking and hiking shall typically be no less than three (3) feet in width, and shall be surfaced with gravel, asphalt, mulch, or other material appropriate for the use. All multi-use trails intended to be shared by pedestrians, bicyclists, and other non-motorized users shall be no less than ten (10) feet in width, and be constructed of materials, and in such a manner, as is necessary to facilitate safe and equitable access for all modes of travel. Portions of trails or paths located in areas subject to flooding shall be designed to withstand inundation without obstructing flow during storm events. To ensure compliance with these standards, the Director may periodically inspect any trail or walking path available for use by the public.

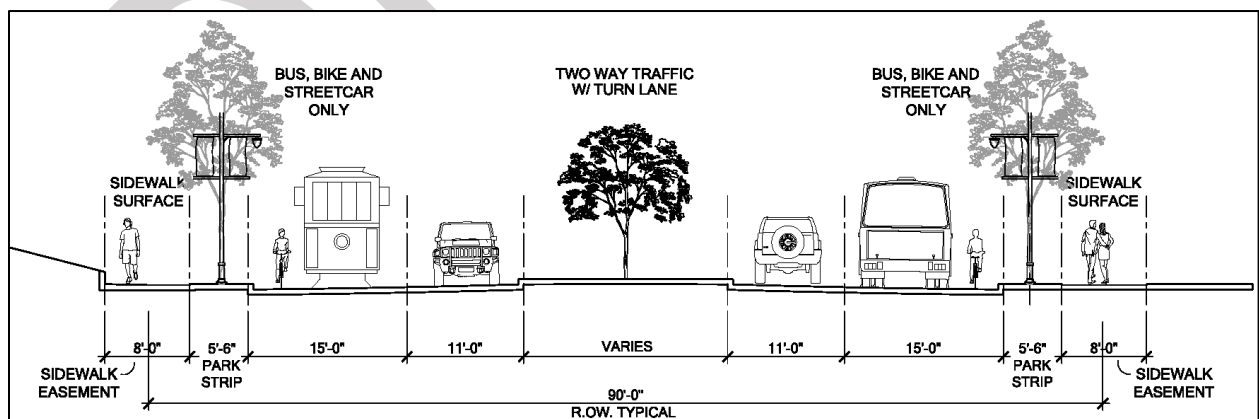
Appendix A Street Sections

The street sections contained in this appendix represent the design features and dimensional standards approved for the road categories identified.

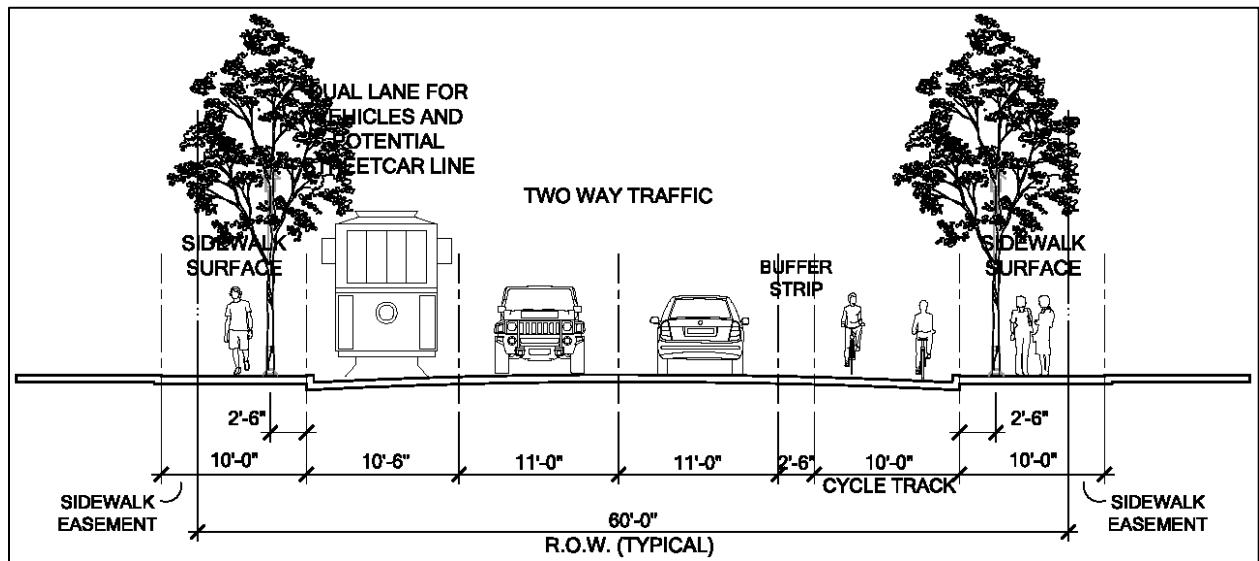
Downtown Business Core Street



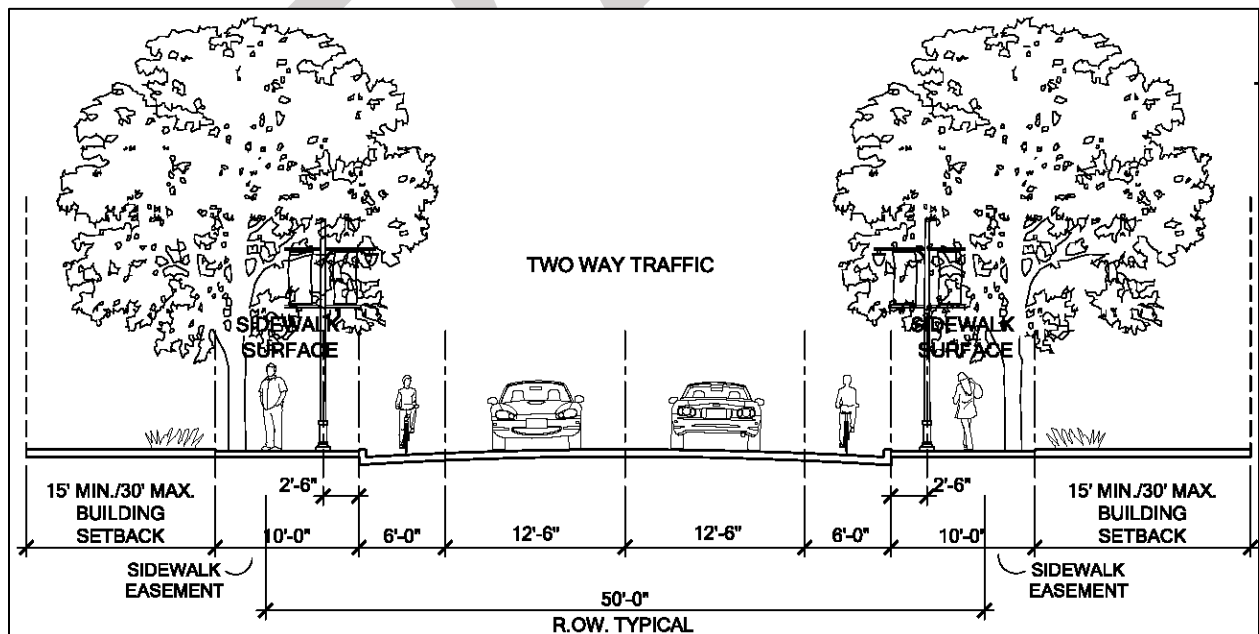
Arterial Street



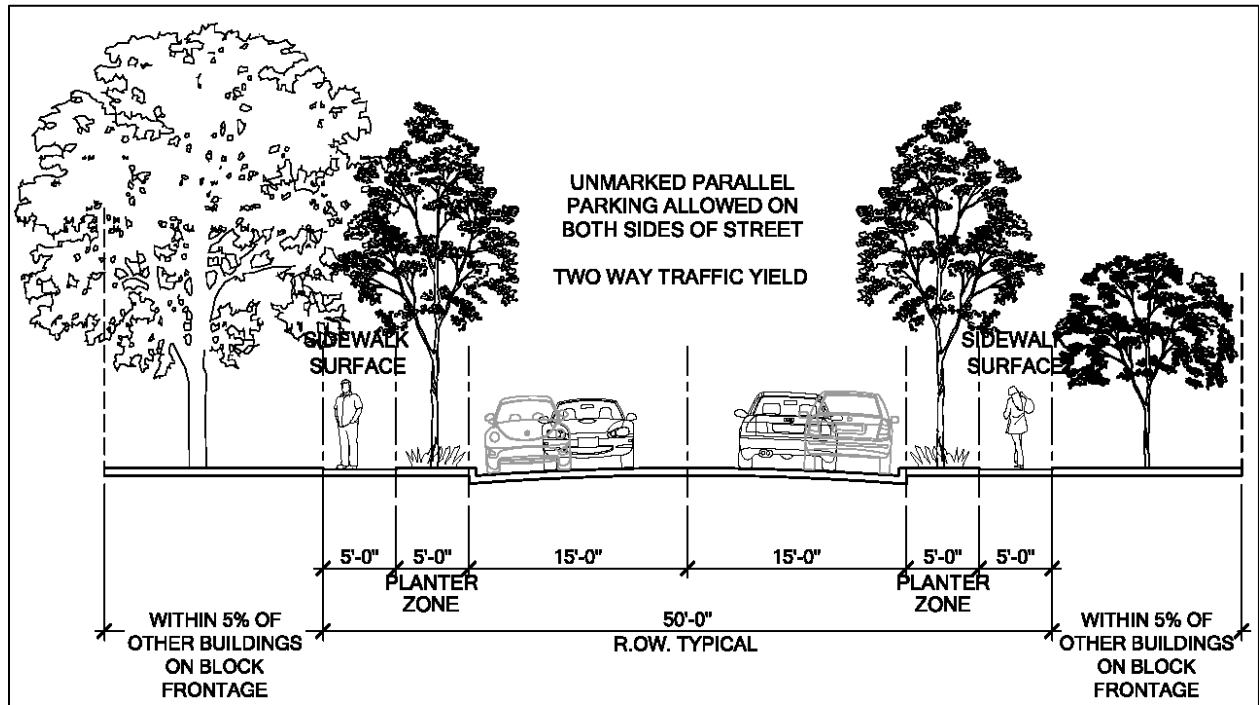
Major Collector Street



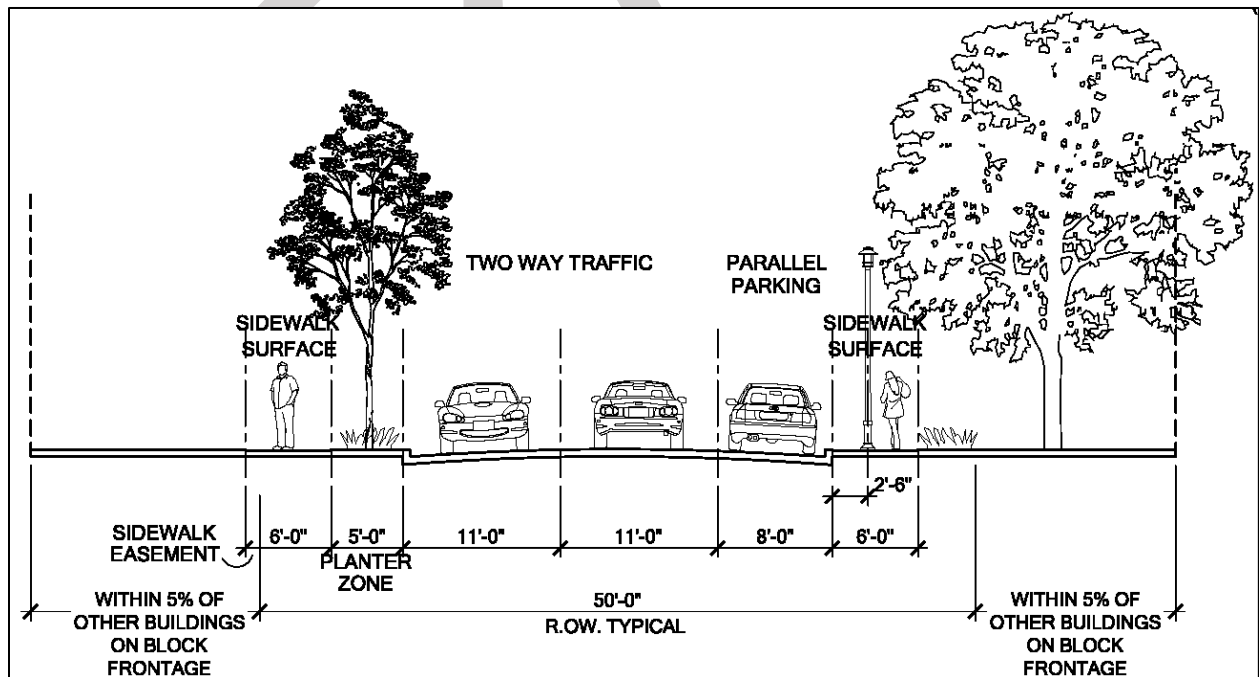
Sub-Collector Street



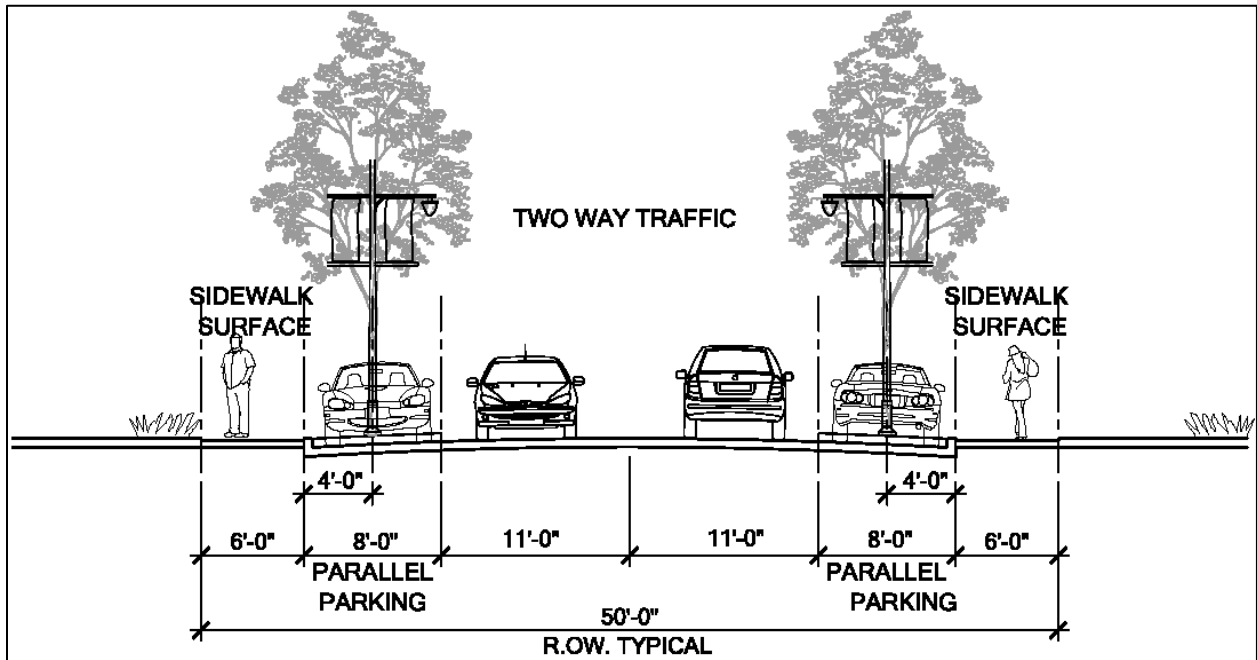
Local Street- No Alley: Option 1



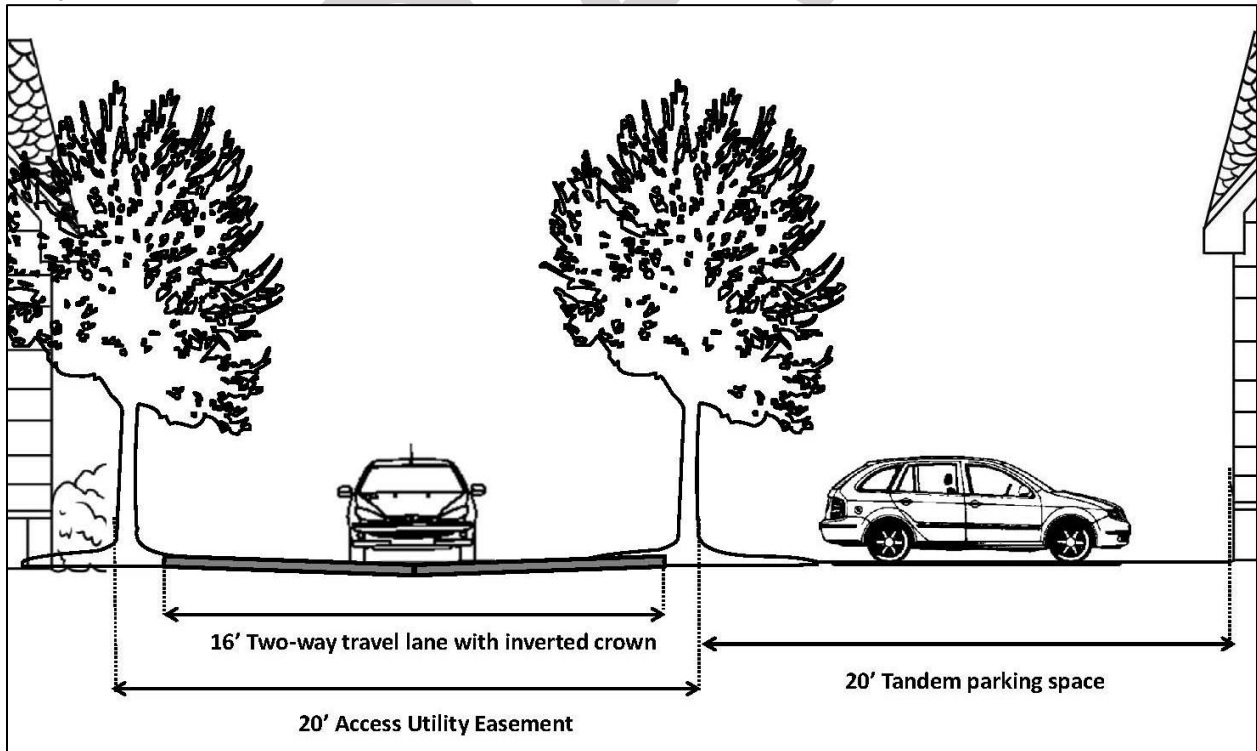
Local Street- No Alley: Option 2



Local Street- No Alley: Option 3



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