

CHAPTER 3. REQUIREMENTS FOR IMPROVEMENTS, RESERVATIONS, AND DESIGN

3-1 General Requirements

1. *General Requirements.* Unless otherwise specified in these regulations, all subdivisions shall comply with the requirements of Chapter 3. An applicant may opt to develop alternative subdivisions that are more rural or urban in nature. The requirements of Chapter 4. Conservation Subdivisions may be used to develop a rural subdivision and the requirements of Chapter 5. Walkable Subdivisions may be used for a more urban pattern of development. For any regulation not included in Chapters 4 or 5, the regulations of Chapter 3 shall apply.
2. *Conformance to Applicable Rules and Regulations.* In addition to the requirements established herein, divisions of land shall comply with all applicable laws, ordinances, resolutions, rules, policies or regulations, including, but not limited to the following:
 - a. All applicable provisions of Tennessee law, regulations, or policy.
 - b. The Zoning Code, Building and Housing Codes, and all other applicable Metro laws.
 - c. The adopted General Plan, including its constituent elements, and the Major Street Plan.
 - d. The rules of the Metropolitan Health Department and the Tennessee Department of Health and Environment.
 - e. The rules of the Tennessee Department of Transportation if the subdivision or any lot contained therein abuts or encompasses a state highway or proposed state route.
 - f. The standards and regulations adopted by all other boards, commissions, and agencies of the county, where applicable.
3. *Subdivision and Street Names.* The proposed name of the subdivision or streets within the subdivision shall not duplicate or too closely approximate phonetically, the name of any other subdivision or street in Metro. Proposed streets connecting, or which may eventually connect, to an existing street shall continue the existing street name, including streets that connect at an arterial or collector street.

3-2 Monument Requirements

1. *Monument Requirements.* Permanent monuments, of non-degradable material, shall be placed in all subdivisions when new streets are to be constructed.
 - a. All monuments shall be placed on property corners or referenced to property lines or road alignments.
 - b. Certification (see Appendix A) for placement of monuments, by a registered surveyor, shall be required.
 - c. Monuments shall not be required where a subdivision occurs only along existing streets.
2. *Control Monuments.* One permanent control monument, both vertical and horizontal, shall be placed within each subdivision where roads are to be constructed. Control monuments shall be located within dedicated right-of-way near the entrance to the subdivision and, if possible, in a non-fill area or be affixed to a natural rock outcrop and shall comply with the following:
 - a. Horizontal coordinates and vertical elevations shall be shown on the final subdivision plat and shall be correlated to the Tennessee State Plane Coordinate System using North American Datum 1983 and North American Vertical Datum 1929.

- b. Reference notes (field ties) defining magnetic bearings and distances to the nearest established street line or official benchmark shall be accurately described on the final subdivision plat.
 - c. A description shall be included on the final subdivision plat using words and/or symbols to make it easy to locate at the site.
 - d. Azimuth information provided to either a second monument or a substitute such as an antenna, church spire or other natural object of which disturbance is unlikely shall be included on the final subdivision plat.
3. *Internal Monuments and Lot Pins.* One monument, for each four lots or fraction thereof in the subdivision, shall be placed within sight from one to another.
 - a. The monuments shall be placed within dedicated rights-of-way, when possible, and shall be located in non-fill areas or affixed to natural rock outcrops.
 - b. In all subdivisions, lot corners and lot line breaks shall be staked with non-degradable pins.

3-3 Suitability of the Land

1. *Suitability of the Land.* Land which the Planning Commission finds to be unsuitable for subdivision or development due to flooding as shown on FEMA maps or identified in local studies confirmed by the Stormwater Division of Metro Water Services (Stormwater Division), steep slopes as shown on Metro's topographical maps, rock formations, problem soils, sinkholes, other adverse earth formations or topography, utility easements, or other features which may be harmful to the safety, health, and general welfare of inhabitants of the land and surrounding areas shall not be subdivided or developed unless adequate methods to solve the problems created by the unsuitable land conditions are formulated by the developer and approved by the Planning Commission. Land containing a designated Cedar Glade environment shall not be subdivided without demonstrated compliance with Section 17.28.060 of the Zoning Code. Additional technical evaluation, plans, and analysis of a proposed subdivision by a professional engineer specializing in geotechnical, soils, hydrology, and/or structures may be required.
2. *Critical Lots.* When a proposed lot contains natural or manmade features that affect the feasibility of construction, it shall be designated a critical lot during the concept plan, final site plan and final plat review process.
 - a. A lot shall be designated critical when the lot is created on a natural slope of 20 percent or greater or when it contains natural floodplain.
 - b. A lot may be designated critical on the basis of any other lot feature(s) that affects the feasibility of construction as listed in Section 3-3.1.
 - c. Lots on steep slopes shall be subject to the hillside development standards of Section 17.28.030 of the Zoning Code.
 - d. Lots in floodplains shall be subject to the floodplain/floodway development standards of Section 17.28.040 of the Zoning Code.
 - e. Lots with problem soils shall be subject to the development requirements of Section 17.28.050 of the Zoning Code.
 - f. A star symbol shall be used to identify critical lots on the face of the concept plan, final site plan, and final plat.
3. *New Critical Lots.* Any lot that will be created as a result of the grading process that meets the definition of a critical lot, shall also be identified as such on the final plat, and

shall be subject to the applicable development standards of Sections 17.28.030 and 17.28.040 of the Zoning Code.

4. *Prior to Concept Plan Approval.* Prior to approval of a Concept Plan for a subdivision that includes lots designated as critical, the applicant shall provide the Executive Director with a preliminary grading study and a description of the measures to be taken:
 - a. To protect the natural features of the critical lots.
 - b. To minimize changes in grade, cleared area, and volume of cut or fill, and to control adverse impacts on the critical lots during and following the period of site disturbance.
 - c. To align streets to minimize disturbance of slopes.
 - d. To identify easements along property lines to meet future drainage needs.
5. *Critical Lot Plan Required.* Prior to application for a building permit on a lot designated as critical, a plan shall be submitted to the Executive Director for approval as described in Appendix B. The Executive Director may direct a critical lot plan to the Planning Commission for decision.
6. *Grade Changing.* If grade changing is required in any subdivision, contour grading techniques shall be used, where practicable, to provide a natural-appearing transition between grades. The angle of any graded slope shall be gradually transitioned to the angle of the natural terrain. Slopes of 33 percent or less may contain turf but, wherever practicable, vegetation other than turf that increases the natural appearance shall be used. All vegetated embankments shall have a check swale at the top. No reinforced embankment shall exceed 66 percent.
7. *Grade Changing Devices.* Where development of the land requires grade-changing devices such as retaining walls, they shall be designated on the preliminary grading study and a description, including illustrations, of each device shall be included. For interlocking walls, vines and groundcover to provide a more natural finish to coarse walls is encouraged. Grade changing devices shall:
 - a. Avoid obstructing driveway connections between building lots for non-residential development.
 - b. Avoid creating precipitous grade changes, including through the use of retaining walls, that could result in safety hazard(s) to occupants of the development or to the general public.
 - c. Generally limit the height retaining walls in or abutting residential development. Excessive grade changes shall be managed with terraces formed by a series of low retaining walls or by a combination of contoured slopes and low retaining wall(s).

3-4 Lot Requirements

1. *Lot Arrangement.* The lot arrangement shall be such that there shall be no foreseeable difficulties, for reasons of topography, flood hazards, or other conditions in providing a building site and yard area. Lots proposed for creation on steep slopes, or with limited acceptable soil for private sewage disposal system (if applicable), shall be designated on the face of the plat as critical lots in accordance with the provisions of Section 3-3.2 - 3-3.5.
2. *Lot Dimensions.* Lot area shall comply with the minimum standards of the Zoning Code.

- a. *Lot Lines.* Residential side lot lines shall be at right angles to street lines (or radial to curving street lines) unless a variation from this rule will give a better street or lot plan.
- b. *Frontage for Attached and Detached Single-Family Lots.* Each lot shall have frontage onto a public street or, where permitted, onto a private street, or onto a common open space. Lots that front onto a common open space shall have a pedestrian connection from the front of each residential unit to the sidewalk and shall have vehicular access from an abutting public or private alley, or a shared driveway easement.
 - 1. Vehicular access for dwelling units fronting onto a common open space set back no more than 150 feet from a street.
 - a. The right-of-way of the alley shall be a minimum width of 23 feet and shall be in blocks of no greater than 400 feet in length.
 - b. Alleys shall be approved by the Public Works Department.
 - c. Alleys shall extend from street to street.
 - 2. Vehicular access for all lots fronting onto a common open space where the distance from the dwelling unit to the street may be greater than 150 feet:
 - a. The vehicular access shall serve as a fire lane as well as providing access to dwelling units and shall be in blocks of no greater than 400 feet in length.
 - b. A public alley shall be approved by the Public Works Department.
 - c. Alleys shall extend from street to street.
- c. *Frontage for all Other Lots.* Each lot shall have frontage onto a public street or, where approved by the Planning Commission, on to a private street, or be accessed from the street via an access easement across an adjacent lot where a joint access provides better access management.
- d. *Flag Lots.* Residential flag lots shall not be permitted. The Planning Commission may grant an exception if all of the following conditions are met:
 - 1. There is limited area for access on a street due to severe topography, floodplain or other unique site conditions.
 - 2. The proposed lots fit into the character of the area and are consistent with the general plan.
 - 3. All minimum standards of the Zoning Code are met.
 - 4. No more than three lots are proposed.
 - 5. The primary lot adjacent to the street must be compatible with the General Plan, as outlined in Section 3-5. The residential unit on the primary lot adjacent to the street shall face the street.
 - 6. The flag lot private drive and/or access easement shall connect to a public street.
 - 7. The flag lot private drive and/or access easement shall be at least ~~ten~~ **fifteen** feet wide for its entire length. **[Fifteen required by Section 7-2].**
- e. *Corner Lots.* Dimensions of corner lots shall be large enough to allow for street intersection radii and for erection of buildings, as stipulated by the requirements of the Zoning Code.
- f. *Additional Yard Area.* Residential lots, including double frontage and corner lots, shall be platted so that the depth of any yard abutting an arterial or collector street, limited access highway or railroad can conform to any additional yard requirements established by the zone district requirements.
 - 1. In residential areas, a setback of at least 25 feet in depth in addition to the setback required by the Zoning Code shall be required adjacent to a railroad right-of-way or limited access highway. Alternatively, this additional 25 feet may be designated as common open space.

2. In commercial or industrial areas, the nearest street extending parallel or approximately parallel to a railroad right-of-way shall, wherever practicable, be at a sufficient distance therefrom to ensure suitable depth for commercial or industrial sites.
3. *Double Frontage Lots.* Creation of attached and detached single-family lots with double frontage shall be prohibited. Exceptions may be granted by the Planning Commission where necessary to provide access to residential development from other than arterial or collector streets, or to overcome specific disadvantages of topography and orientation.
4. *Arterial or Collector Streets.* In order to minimize curb cuts when property is divided along an existing street, the Planning Commission may require that lots not derive access from arterial or collector streets.
 - a. *Access for Attached and Detached Single Family Lots.* Where driveway access for attached and detached single family lots is permitted from arterial or collector streets, lots shall be served by combined driveways (usually one driveway entrance shared by two lots), or by a private access drive serving more than two lots (if necessary shared maintenance arrangements shall be incorporated into the subdivision deeds) in order to limit driveway entrances and potential traffic hazards. A note shall be added to the plat that the platted joint access easement(s) shall be the only locations where access shall be permitted.
 - b. *Access for All Other Land Uses.* Where driveway access is permitted for all subdivisions not addressed in 3-4.4.a access from arterial or collector streets, the Planning Commission may limit the number of access points. A note shall be added to the plat that the platted access point(s) shall be the only locations where access shall be permitted.
 - c. *Preferred Approach to for Attached and Detached Single-Family Lots Subdivisions Fronting on an Arterial or Collector.* When property is subdivided along an arterial or collector street, dwelling units shall be oriented to the arterial or collector street with vehicular access via a rear or side alley. Where no rear or side alley exists, access shall be from a shared frontage road or driveway easement to minimize curb cuts on the arterial or collector. There shall be a separation area between the arterial or collector and the edge of the frontage road or shared driveway easement. The plat shall include a note requiring dwelling units to be oriented towards the arterial or collector street.
5. *Lot Drainage.* Lots shall be arranged in a manner to permit coordination of lot drainage with the general storm drainage system for the area, including subsurface drainage.
 - a. Drainage systems shall be designed to avoid concentration of flow from each lot onto adjacent lots.
 - b. The applicant shall insure that all artesian ground waters of a permanent or temporary nature discovered during the subdivision planning, development and construction process shall be intercepted and carried away to primary drainage conduits by swale ditches or in underground pipes on property line easements. Regardless of the location of property lines, intercept shall be allowed at the point of artesian surfacing. The applicant shall be obligated to perform this work upon evidence of any artesian water discovered during the planning, development, and construction phase of the subdivision.
 - c. Any sinkhole or any natural channel serving as a means of moving ground water into the subterranean system shall be identified on the final plat and shall be protected as approved by the Stormwater Division and the Tennessee Department of Environment and Conservation. All sinkholes in residential subdivisions shall be platted as open space.

6. *Relationship to Watercourses.* Except as noted in Section 3-10.6, Conservation Easements for Greenways, if a tract being subdivided contains a water body, or portion thereof, lot lines shall be so drawn as to distribute the entire ownership of the water body among the fees of adjacent lots.
 - a. The Planning Commission may approve an alternative plan whereby the ownership of and responsibility for safe maintenance of the water body is so placed that it shall not become a public responsibility.
 - b. No more than ten percent of the minimum area of a lot required under the Zoning Code may be satisfied by land that is under water.
 - c. Where a watercourse separates a buildable area of a lot from the street by which it has access, provisions shall be made for installation of a culvert or other drainage device of a design approved by the Stormwater Division, and no building permit shall be issued for a structure on such lot until the installation is completed and approved by the Stormwater Division.

3-5 Infill Subdivisions

1. *Infill Subdivisions.* In areas previously subdivided and predominantly developed, residential lots resulting from a proposed subdivision within the R and RS zoning districts on an existing street shall be compatible with the General Plan as outlined in Sections 3-5.2 through 3-5.6.
2. *Criteria for Determining Compatibility for policy areas designated in the General Plan as Neighborhood Maintenance, Residential Low, Residential Low Medium and Residential Medium policies, except where a Special Policy and/or a Designated Historic District exists.* The following criteria shall be met to determine compatibility of proposed infill lots to surrounding parcels. For the purposes of this section, "surrounding parcels" is defined as the five R or RS parcels oriented to the same block face on either side of the parcel proposed for subdivision, or to the end of the same blockface, whichever is less. Parcels may be excluded if used for a non-residential purpose, including but not limited to a school, park or church. Where surrounding parcels do not exist, the Planning Commission may grant an exception to the compatibility criteria by considering a larger area to evaluate general compatibility. An exception to the compatibility criteria may be granted by the Planning Commission for a SP, UDO, PUD or cluster lot subdivision by approval of the rezoning or concept plan.
 - a. All minimum standards of the zoning code are met.
 - b. Each lot has street frontage or meets the requirements of Section 3-4.2.b for fronting onto an open space or meets the requirements of Sections 4-6.3 or 5-3.1 fronting onto an open space.
 - c. The resulting density of lots does not exceed the prescribed densities of the policies for the area. To calculate density, the lot(s) proposed to be subdivided and the surrounding parcels shall be used. For a corner lot, both block faces shall be used.
 - d. The proposed lots are consistent with the community character of surrounding parcels as determined below:
 1. Lot frontage is either equal to or greater than 70% of the average frontage of surrounding parcels or equal to or greater than the surrounding lot with the least amount of frontage, whichever is greater. For a corner lot, only the block face to which the proposed lots are to be oriented shall be used; and
 2. Lot size is either equal to or greater than 70% of the lot size of the average size of surrounding parcels or equal to or larger than smallest surrounding lot, whichever is greater. For a corner lot, only the block face to which the proposed lots are to be oriented shall be used; and

3. Where the minimum required street setback is less than the average of the street setback of the two parcels abutting either side of the lot proposed to be subdivided, a minimum building setback line shall be included on the proposed lots at the average setback. When one of the abutting parcels is vacant, the next developed parcel shall be used. For a corner lot, both block faces shall be used; and
 4. Orientation of proposed lots shall be consistent with the surrounding parcels. For a corner lot, both block faces shall be evaluated.
 - e. The current standards of all reviewing agencies are met.
 - f. If the proposed subdivision meets subsections a, b, c and e of this section but fails to meet subsection d, the Planning Commission, following a public hearing in accordance with the Planning Commission Rules and Procedures, may consider whether the subdivision can provide for the harmonious development of the community by otherwise meeting the provisions of TCA 13-4-303(a). In considering whether the proposed subdivision meets this threshold, the Commission shall specifically consider the development pattern of the area, any unique geographic, topographic and environmental factors, and other relevant information. The Commission may place reasonable conditions, as outlined in Section 3-5.6, necessary to ensure that the development of the subdivision addresses any particular issues present in an infill subdivision and necessary to achieve the objectives as stated in TCA 13-4-303(a).
3. *Criteria for Determining Compatibility for policy areas designated in the General Plan as Neighborhood Evolving, Neighborhood General and/or Special Policies, except within Designated Historic Districts:*
 - a. All minimum standards of the zoning code are met.
 - b. Each lot has street frontage or meets the requirements of Section 3-4.2.b for fronting onto an open space or meets the requirements of Sections 4-6.3 or 5-3.1 fronting onto an open space.
 - c. The current standards of all reviewing agencies are met.
 - d. The proposed lots comply with any applicable special policy.
 4. *Criteria for Determining Compatibility for Designated Historic Districts.*
 - a. As defined in Chapter 7, Designated Historic Districts shall include all Historic Overlay Districts adopted in accordance with Chapter 17 of the Metropolitan Zoning Code and any National Historic Register districts officially listed on the National Register of Historic Places as designated by the National Park Service.
 - b. All minimum standards of the zoning code are met.
 - c. The proposed lots are consistent with the design character of the district. To assist the Commission with this determination, the Metropolitan Historical Commission or its designee shall provide a recommendation for the consideration of the Commission as to whether or not the proposed subdivision is consistent with the historical development pattern of the district and compatible with the character of the district in terms of lot size, lot frontage and lot orientation.
 - d. The current standards of all reviewing agencies are met.
 5. *Infill Subdivision Frontage.* Infill lots shall have rear or side access via an existing improved alley. For infill lots with a street frontage of less than 50 feet in width and where no improved alley exists, these lots shall be accessed via a shared drive. For infill lots less than 35 feet in width at the terminus of a permanent dead-end street where no improved alley exists, a shared drive shall be required. Where there is an odd number of lots, one lot

may have its own access. The Planning Commission may grant an exception if existing conditions prevent alley access or shared drive access.

6. *Reasonable Conditions.* The Commission may place reasonable conditions necessary to ensure that the development of the infill subdivision addresses any particular issues present and may be necessary to achieve the objectives as stated in TCA 13-4-303(a). Such conditions may include, but are not limited to, setback or build-to designation, identification of a specific building envelope location, building and garage orientation access and easement locations and maximum building height.

3-6 Blocks

1. *Block Widths.* Blocks shall have sufficient width to provide for two tiers of lots of appropriate depths. Exceptions to this prescribed block width may be granted by the Planning Commission in blocks adjacent to major streets, railroads, waterways, or for non-residential double frontage lots along collector or arterial streets.
2. *Block Lengths.* Block Lengths in residential areas shall not exceed 1,200 feet nor be less than 200 feet or four lot widths whichever is greater, except as the Planning Commission deems necessary to secure efficient use of land or desired features of the street pattern. Wherever practicable, blocks along arterial streets shall not be less than 1,000 feet in length and blocks along collector streets should not be less than 1,000 feet in length.
3. *Considerations for Block Length, Width, and Shape.* The lengths, widths, and shapes of blocks shall be determined with due regard to:
 - a. Zoning requirements as to lot sizes;
 - b. Needs for convenient access, circulation, control, and safety of vehicular and pedestrian traffic; and
 - c. Limitations and opportunities of topography.
4. *Easements Through Blocks.* The Planning Commission may require the dedication of an easement through blocks to accommodate utilities, drainage facilities, or pedestrian traffic.

3-7 Improvements

1. *Authorization to Construct Improvements.* The approval of the concept plan and the final site plan by the Planning Commission and the approval by the applicable departments or agencies of construction plans shall be authorization to proceed with construction of improvements within a subdivision.
2. *Construction of Improvements.* Construction shall be completed to the approved construction plans, construction specifications, and construction inspection requirements of the applicable department and agencies. Inspections during the construction process shall meet the requirements of Section 3-11. If construction has not started within a phase within two years within approval of construction plans, construction plans shall be resubmitted to the applicable departments or agencies for re-approval.

3-8 Requirements for Sidewalks and Related Pedestrian and Bicycle Facilities

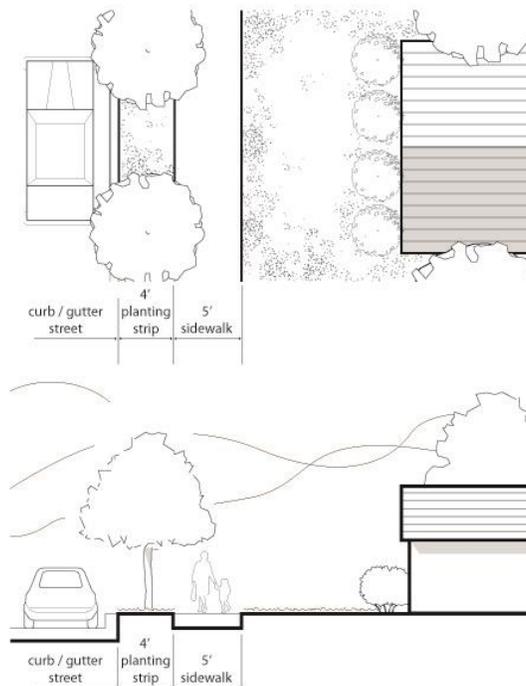
1. *Requirements for Sidewalks on New Subdivision Streets.* Sidewalks shall be located within the right-of-way on both sides of new public and private streets, including new extensions of existing streets. All sidewalks and pedestrian ways constructed upon public rights-of-way shall be in accordance with the adopted construction standards of the Public Works Department. Sidewalks shall not be required:

- a. On new subdivision streets in industrial zoning districts.
 - b. On new streets in residential subdivisions where the base zoning district requires a minimum lot area of at least 20,000 square feet and the area of each lot to be platted remains 20,000 square feet or greater.
 - c. Along the dead-end street(s) of an *infill development*, as defined in Section 7-2, where interior lots are accessed from permanently dead-ended street(s) of no more than 750 feet in length.
 - d. Where development complies with an Urban Design Overlay, or other district governed by urban design standards, that sets out special design intentions that exclude sidewalk on a street at the neighborhood edge, if approved by the respective decision-making body, either the Metropolitan Council or the Planning Commission.
2. *Requirements for Sidewalks on Existing Streets Abutting the Property Subdivided.*
- a. *Applicability.*
 1. Sidewalks are required on all existing streets abutting proposed subdivisions in the following locations:
 - a. within the Urban Services District,
 - b. within the General Services District where the Sidewalk Priority Index (SPI) score is 20 or greater, as established in the Strategic Plan for Sidewalks and Bikeways,
 - c. wherever the adopted community plan recommends sidewalks along specific street(s) abutting the proposed subdivision, and/or
 - d. wherever the adopted community plan recommends sidewalks within a general area that includes the proposed subdivision.
 2. *Applications Exempted from Sidewalk Requirements.* Sidewalks shall not be required on applications to combine two or more lots pursuant to Section 2-9.2 or on applications for shifting lots lines pursuant to Section 2-9.3.
 3. The requirements and procedures of the Zoning Ordinance shall apply for construction of sidewalks along existing streets in association with non-residential or multi-family developments. The requirements and procedures of the Subdivision Regulations apply for all other development conditions.
 - b. *Construction of sidewalks required where there is an existing sidewalk network.* New sidewalks shall comply with the adopted standards of Metro and shall be consistent with existing sidewalk conditions along the block face. Where existing conditions do not meet an adopted standard, a design compatible with existing conditions may be considered and approved by the Planning Commission, upon the advice of the appropriate Metro agencies. Sidewalk construction is required in the following locations:
 1. *Existing sidewalk repair or replacement.* Sidewalks on street(s) abutting the property, that do not comply with a standard of the Public Works Department and are not consistent with existing sidewalk development on the block face, shall be repaired or replaced as part of a new development.
 2. *New sidewalk to extend the existing network.* New sidewalk shall be constructed on all streets abutting the property wherever installation would extend an existing sidewalk across a public right-of-way.
 3. *Existing sidewalk present on the same block face.* New sidewalk shall be constructed on all streets abutting the property wherever sidewalk(s) already exists on any block face that includes the proposed subdivision.
 - c. *Alternatives to sidewalk construction.*
 1. *Contribution to the Pedestrian Network.* When the conditions of Section 3-8.2.b do not apply and the development is required under Section 3-8.2.a, the developer remains responsible for sidewalk(s) along street(s) abutting the property frontage

being subdivided. However, the developer may either construct a sidewalk in accordance with Section 3-8.2.b, or make a financial contribution to the pedestrian network, as defined in Chapter 7-2, or an equal length of sidewalk may be constructed within the same Pedestrian Benefit Zone, as defined in Chapter 7-2, in a location to be determined in consultation with the Public Works Department. Prior to the recording of a final plat for the applicable phase(s) of any subdivision, the applicant shall pay all in-lieu fees with a cashier's check.

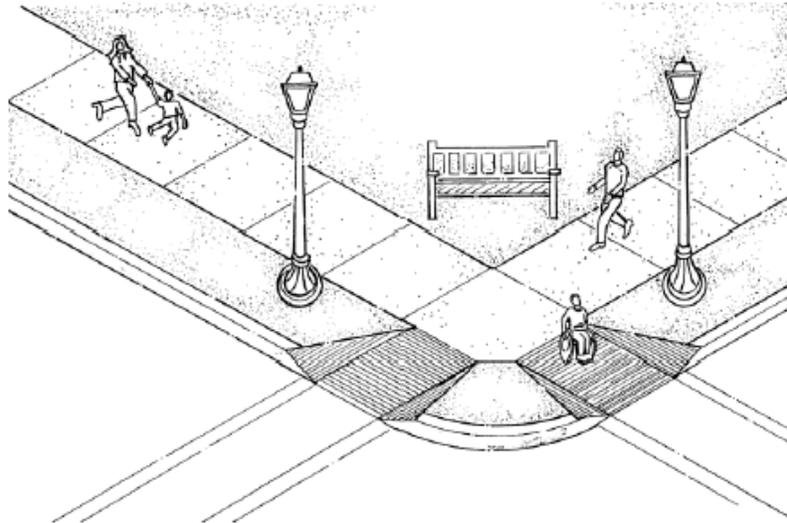
2. *Alternative Pedestrian Trail.* When an alternative pedestrian trail or greenway trail meeting Metro Greenways' design standards is proposed to be constructed by the developer, and the trail substantially serves the same purpose as a sidewalk along an existing street required by this Section, then the applicant may construct the trail as a substitute for that sidewalk section.
 - d. *Sidewalks in Infill Subdivisions.* When sidewalks are required by Section 3-8.2.a-c on an infill subdivision on a corner lot, sidewalks shall be required on all streets abutting the property frontage. The Planning Commission may only require the sidewalk on the side of the property abutting the street as an alternative to the frontage when that location is a more appropriate contribution to the sidewalk network.
3. *Requirements for Non-Street Pedestrian and Bicycle Access Easements and Facilities.*
 - a. *Applicability.* To improve non-vehicular connectivity and facilitate access from streets to pedestrian or bicycle destinations, non-street pedestrian and bicycle access easements and facilities shall be required in proposed subdivisions in the following locations:
 1. Any location specifically recommended in the adopted Strategic Plan for Sidewalks and Bikeways,
 2. Any location recommended in an adopted community plan,
 3. Any location where the SPI score is 20 or greater, and/or
 4. Any location that would reduce walking or biking distance by at least 50 percent over other available pedestrian/bicycle connections and the reduced distance is greater than 400 feet.
 - b. *Implementation and Maintenance.*
 1. Non-street pedestrian and bicycle facilities shall be built in accordance with the adopted standards of Metro and shall be included within right-of-way or dedicated public access easements.
 2. Assurance for the completion of facilities required in this section shall be in accordance with the provision in Chapter 6 of these regulations.
 3. For any facilities not within the right-of-way, a Homeowners' Association or Property Owners' Association shall be established to maintain the facilities.
 4. *Sidewalk Dimensions.* The minimum width of public sidewalks shall be five feet in residential districts and the minimum width of public sidewalks shall be consistent with the Public Works Department in all other districts, including mixed-use districts. Where concrete curbs are required or constructed, grass or landscaped areas or strips with a minimum width of four feet shall separate all sidewalks from the adjacent street, except within ten feet of a street intersection. (see figure 3-1)

Figure 3-1: Sidewalk Dimensions



5. *Sidewalk Encroachments/Obstructions.* Encroachments including, but not limited to utility poles, fire hydrants, parking meters, mailboxes, sign standards, and street furniture shall not be located within the concrete portion of the sidewalk area, unless determined to be compliant by the Public Works Department. However, tree grates, utility grates, and manholes may be permitted within a sidewalk provided five feet of unobstructed clearance is provided on one side, unless less clearance is determined to be compliant by the Public Works Department. (see figure 3-2)

Figure 3-2: Sidewalk Encroachments/Obstructions



6. *Sidewalk Tree Preservation.* When specimen quality trees or other natural features exist, that are desired to be preserved or protected, in the path of a sidewalk, the sidewalk may be located so as to preserve those features. Under such conditions, the sidewalk may be located within a pedestrian easement outside of the dedicated public right-of-way. Exceptions to allow a non-contiguous pedestrian easement may be considered by the Planning Commission, after obtaining a recommendation from the appropriate Metro agencies.

3-9 Requirements for Streets

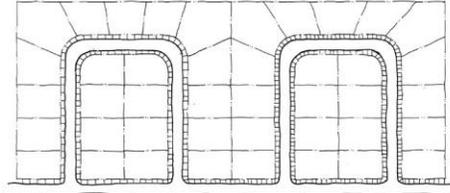
1. *General Requirements.* All plans for street improvements require the approval of the Public Works Department.
2. *Street Design Standards.*
 - a. *Sight Distance.* Sight distance along streets and at intersections shall be not less than the minimum horizontal and vertical distances as specified in the AASHTO Manual, current edition, for the class of street under consideration.
 - b. *Grades and Cross-slopes.* Maximum grades shall be approved by the Public Works Department.
 - c. *Vertical Design.* Vertical design shall be in accordance with the current edition of the AASHTO Manual. The vertical design speed of a street shall be equal to or greater than the horizontal design speed of that street. The maximum grades shall not exceed those included in the Public Works Department's Standard Specification and Details. The developer shall show on the plans the "K" value and the design speed of each vertical curve, and the design speed of each horizontal curve.
 - d. *Steeper Grades Permitted.* Steeper grades than those specified in Section 3-9.2.c may be permitted for a Minor Local Street and for a Residential Local Street when such is necessary to lessen environmental impacts resulting from designs to meet lesser grades, provided all other design criteria are satisfied. Minimum grades on all roads shall be one percent.
 - e. *Right-of-Way and Pavement Width.* Minimum street right-of-way width and pavement width shall be a minimum of 46 feet or otherwise approved by the Planning Commission.

1. Whenever possible, four moving lanes should be avoided in residential areas except for required arterial or collector streets. Four lanes may be warranted for short distances at entrances to larger developments.
 2. One-way streets may be permitted and, in some cases, may be desirable for loop streets or where there is a need to separate the directional lanes to preserve natural features or to avoid excessive grading for street construction on slopes.
- f. *Non-Curb Street Design Permitted.* When it is found to be in the public's interest, a non-curb street design cross section in accordance with Public Works Department's Subdivision Construction Specification may be permitted in low-density residential zoning.
- g. *Horizontal Radius of Curved Streets.* The minimum centerline radius of curved segments shall be in accordance with the AASHTO Manual, current edition. In cases where design speeds are less than 30 mph, the tangents connecting the curves shall not exceed the length of the centerline radius. Generally, subdivision streets shall not be superelevated.
- h. *Tangents between Reverse Curves.* The minimum length of tangents between reverse curves for non-superelevated streets shall be in accordance with the Public Works Department's Standard Specification and Details.
- i. *Turnarounds.* The type of turnaround required shall be determined by the Planning Commission as advised by the Public Works Department.
1. Turnarounds shall be designed to accommodate emergency and service vehicles as well as passenger cars. Exceptions to the turnaround requirements may be made for short streets, up to 150 feet long, where emergency and service vehicles are able to back out with relative ease.
 2. The maximum lengths of dead end streets with turnarounds shall be 750 feet.
 3. All circular turnarounds of 50 feet or greater radius on permanent dead-end streets shall be hollow-core turnarounds.
 4. The design of turnarounds shall be approved by the Public Works Department.
- j. *Intersection Design Standards for Minor Local, Local, and Collector Streets.*
1. Intersecting streets shall meet at a 90-degree angle wherever possible. Where natural or manmade obstacles prevent a standard intersection, intersecting streets may have a centerline angle of not less than 75 degrees.
 2. The centerline-to-centerline distance between offset T-type intersections shall be at least 200 feet along local streets and 300 feet when such T-type intersections occur along a collector street.
 3. The minimum radius of corner lines (returns) connecting lines of intersecting streets shall be approved by the Public Works Department.
 4. Where a street approach to an intersection is curved, there shall be a 100-foot minimum curve tangent as measured from the ultimate edge of pavement. For the purposes of this requirement, the ultimate edge of pavement is that point to which the pavement will extend when the street is built to its full dimension conforming to the standards for its assigned classification on the Major Street Plan and Collector Plan.
 5. At street intersections, a vertical slope not greater than three percent for 50 feet or greater shall be provided on all stopped streets except on minor local streets an approach slope of 35 feet or greater at a maximum four percent grade may be permitted as measured from the ultimate edge of pavement as defined by the Major Street Plan or Collector Plan.
- k. *Number of Intersecting Streets.* Not more than two streets shall intersect in any one location unless otherwise specifically approved by the Planning Commission.

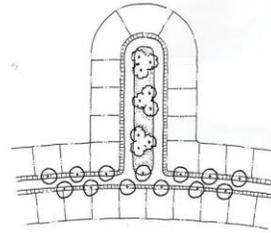
3. *Additional Regulations for Private Streets.* Private streets may be included in any subdivision in conformity to these standards so long as the subdivision is included within a PUD, a UDO, a SP, or is within eligible areas of the Natural Conservation or Rural land use policy or in Conservation, or T2 Rural Neighborhood Maintenance community character policy areas with lots five acres or greater (as defined in Section 7-2).
 - a. The private street (or road) shall be identified on the face of the plat as an easement for lot access and as a public utility easement.
 - b. Within PUDs, UDOs, and SPs, private streets shall conform to the Public Works Department's Standard Specification and Designs:
 1. All hardware such as catch basins, inlets, etc., and all drainage structures shall meet the requirements of Volume 1 of the Stormwater Management Manual.
 2. Up to eight side-by-side parking spaces may be allowed to back directly into the travelway of a loop or permanent dead-end street provided that:
 - a. Such parking is located a minimum of 25 feet from any other parking spaces backing into the travelway.
 - b. The sight distance along the travelway is adequate for the design speed of the street.
 - c. All other parking shall be provided with adequate off-street maneuvering to allow forward entry to the street.
 3. All vehicular access to the private street shall be shown on the final site plan and final subdivision plat.
 4. A bond may be posted in lieu of completion of the required improvements in accordance with the provisions of Chapter 6.
 5. The Master Deed, or declaration of covenants for the PUD, shall comply with Section 17.40.120.E of the Zoning Code. The Master Deed, or declaration of covenants, shall contain, in its description of the common element(s), a specific designation of the private street as the responsibility of the Owner's Association and not of Metro. The Master Deed, or declaration of covenants, shall also provide for a sufficient level of funding to offset the reasonable and foreseeable costs of maintaining the private street.
 6. The Master Deed(s), or declaration of covenants for a UDO or SP shall contain, in its description of the common element(s), a specific designation of the private street as the responsibility of an Owner's Association and not of Metro. The Master Deed(s), or declaration of covenants, shall also provide for a sufficient level of funding to offset the reasonable and foreseeable costs of maintaining the private street(s) in the UDO or SP.
 - c. Private streets in subdivisions within eligible areas of the Natural Conservation and Rural land use policy areas or in Conservation, or T2 Rural Neighborhood Maintenance community character policy areas (as defined in Section 7-2) shall conform to the following:
 1. No more than ten lots may be served by a private street or network of private streets.
 2. All drainage improvements required under the Stormwater Management Ordinance shall be completed and certified to be in compliance with the approved drainage plan before the Planning Commission will approve the final plat of the proposed subdivision. The Planning Commission may permit a performance bond to be posted in lieu of completion for final plat approval.
 3. When an existing parcel is being subdivided to create two lots, the permanent easement for access to and egress from the new building site shall have a minimum width of 12 feet.
 4. All private streets serving two to ten lots shall have an all-weather surface not less than the width specified by the Public Works Department.

5. If a public water supply is available, the Planning Commission may require fire hydrants to be placed to serve the development as prescribed by Metro ordinances or applicable utility district requirements.
 6. The Planning Commission shall require proof that a joint maintenance agreement mutually enforceable and running with the land has been entered into and recorded for the lots served by the private street, prior to final approval of the final plat. The joint maintenance agreement shall provide that each owner is jointly and severally liable for the maintenance of the private street and that each owner can enforce contributions to offset the cost of that maintenance, based proportionately on the units served by the private street. The joint maintenance agreement shall also provide that if any owner must pursue legal action to enforce its provisions, he shall be allowed to recover reasonable attorney's fees and associated costs.
- d. Private drives shall be approved by the Planning Commission.
4. *Street Construction and Related Requirements:*
- a. *Grading and Improvement Plan.* Street plans shall conform to the standards required by this Section and shall be approved as to design and specification by Public Works Department.
 - b. *Improvements in Floodable Areas.* The finished elevation of proposed streets shall be a minimum of one foot above the 100-year flood elevation. Location of such streets shall conform to the requirements of the Stormwater Management Regulations as administered by the Stormwater Division.
 - c. *Reserve Lots, Parcels, or Common Open Space.* The creation of reserve lots, parcels, or common open space adjacent to a proposed street in such a manner as to deny access from adjacent property to such street shall not be permitted.
 - d. *Arrangement of Streets:*
 1. All streets shall be properly integrated with the existing and proposed system of streets and dedicated rights-of-way as established in the General Plan, including its constituent elements, and the Major Street Plan and the Collector Street Plan.
 2. All streets shall be properly related to special traffic generators, such as industries, business districts, schools, churches, and shopping centers; to population densities; and to the pattern of existing and proposed land uses.
 3. Minor local streets shall be laid out to conform as much as possible to the topography, to provide for the efficient dispersal of internal traffic while discouraging high volumes of through traffic, and to permit efficient drainage and accommodate utility systems.
 4. The use of an interconnected street system shall be used to broadly disperse internal traffic and provide maximum alternatives for access to property for both public and private movement.
 5. The use of curvilinear streets shall be encouraged where conformance with existing topography shall minimize the volume of cut and fill.
 6. Street designs such as loop streets or closes shown in Figure 3-3, are preferred to the use of a cul-de-sac design. Cul-de-sacs shall be permitted where topographic features or configuration of property boundaries prevent street connections. These alternatives shall support the turning movements of emergency and service vehicles.

Figure 3-3: Alternatives to Cul-de-sacs.



- Loop Street



- Close

7. Proposed streets shall be extended to the boundary lines of the tract to be subdivided, unless prevented by topography or other physical conditions or unless, in the opinion of the Planning Commission, such extension is not necessary or desirable for the coordination of the layout of the subdivision with the layout, either in existence or proposed, of adjacent tracts. Where streets are extended to property lines, temporary turnarounds shall be installed, unless the street segment is less than 150 feet in length. In all cases, drainage and utility easements shall be extended to property boundaries.
 8. In business and industrial developments, the streets and other access routes shall be planned in connection with the grouping of buildings, location of rail facilities, and the provision of alleys, truck loading, and maneuvering areas, and location of walks and parking areas to minimize conflict of movement between the various types of traffic, including pedestrian traffic.
- e. *Dead-end Streets.*
1. *Dead-end Streets (Temporary).* The arrangement of streets shall provide for the continuation of streets between adjacent properties for convenient movement of traffic, effective fire protection, and/or efficient provision of utilities. If the adjacent property is undeveloped and the street must be a dead-end street temporarily, the right-of-way shall be extended to the property line. A temporary turnaround, approved by the Public Works Department, shall be provided on all temporary dead-end streets exceeding 150 feet in length, with a notation on the subdivision plat that land outside the normal street right-of-way shall revert to abutting property owners whenever the street is continued. The reconstruction of the temporary turnaround into the normal right-of-way shall be the responsibility of the attaching developer (see Section 3-9.4.d.7). Temporary turn-arounds shall have a minimum slope of one percent as measured from the center. Additionally, a sign shall be placed, in accordance with the requirements of Section 3-12.1, at the terminus of the temporary cul-de-sac that reads as follows: "Temporary Dead-End Street, Street to be extended by the authority of the Metro Government of Nashville and Davidson County."
 2. *Dead-end Streets (Permanent).* Where a road does not extend beyond the boundary of the subdivision and continuation is not required by the Planning Commission for access to adjoining property, the terminus shall normally not be nearer to such boundary than 20 feet. However, the Planning Commission may require the dedication of an easement extending to the property line to accommodate drainage facilities, pedestrian traffic, or utilities. A turn-around shall be provided at the end of a permanent dead-end street also referred to as a cul-de-sac, in accordance with these regulations. For greater convenience to traffic and more effective police and fire protection, permanent dead-end streets shall be limited in length in accordance with these regulations.

- f. *Alleys.* Alleys may be required where appropriate in all commercial and industrial districts. Alleys are appropriate in residential districts to improve lot access, reduce the number and frequency of driveways entering public or private streets, or reduce the need for topographic disturbance.
- g. *Construction Standards.* The construction plans of all streets shall be approved by the Public Works Department.
- h. *Railroads and Intersection Proximity.* The intersection of streets shall, to the extent practical, be at least 175 feet from the point where either street crosses a railroad track. The measurement shall be made from the midpoint of the intersection to the midpoint of the street's intersection with the nearest track.

3-10 Requirements for Dedication, Reservations, or Improvements

1. *Application.* Where a proposed subdivision adjoins or encompasses either a Greenway Corridor shown on the Countywide Greenways Plan or Countywide Parks Master Plan, a substandard street, or a route depicted upon the Major Street Plan or Collector Plan to be opened, widened, or realigned, or generates a need for increased recreational opportunities, then requirements of Section 3-10 shall apply.
2. *Undeveloped Property.*
 - a. *Substandard Streets.* Substandard streets encompassed by or adjacent to the proposed subdivision shall be improved by the developer. Construction plans shall be approved by the Public Works Department for that street portion located within the boundaries of the subdivision or the abutting street.
 - b. *Infill Development on Non-Standard Street(s).* Infill development, located on streets within the urban zoning overlay district that are predominantly developed, provide access to primarily residential uses, and are established with a non-standard right-of-way and/or pavement width, generally shall not be required to provide right-of-way or pavement width in excess of the existing street dimensions.
 - c. *Planned Routing.* When applicable, the layout of a street(s) within a subdivision shall conform to the routing depicted upon the Major Street Plan or Collector Plan. The amount of right-of-way for the type of street required shall be dedicated up to a maximum of 60 feet in width. Where any street so depicted requires a right-of-way greater than 60 feet then the developer shall show on the face of the plat an additional area "reserved for future right-of-way" and any required yard area shall be measured from the reservation line.
3. *Developed Property.* When property containing existing structures is being divided simply to place each structure on a separate lot and the future right-of-way will fall within the existing structure footprint, then the applicant shall be required to note on the face of the plat any additional area necessary for compliance with the Major Street Plan "reserved for future right-of-way." The plat shall also contain a note stating, "When any existing structure is demolished, the setback requirements for any new structure shall be measured from the reservation line."
4. *Required Improvements or Dedications.* In addition to the above requirements, a traffic impact study may be required in accordance with the Traffic Impact Study Guidelines. Any required on- or off-site street improvements shall be made by the developer upon property that the developer controls and/or upon public property.

5. *Relationship to Scenic Routes.* A subdivision fronting or encompassing a street designated on the Major Street Plan as a scenic arterial shall be platted in accordance the requirements of Section 17.24.070 of the Zoning Code and with the following:
 - a. Right-of-way shall be platted as noted in Section 3-10.2.c and the lot area located within 75 feet of the centerline of the existing right-of-way shall be designated on the face of the plat as a "Scenic Easement."
 - b. A building setback line shall be located on the face of the plat. The line shall be established by measuring the applicable zone district required yard from the scenic landscape easement line.
 - c. A note shall be placed on the face of the plat that states, "except as authorized by approved construction plans, no grading, cutting of trees, or disturbance of natural features shall be performed within this easement except driveway crossings which shall be located to provide minimal disturbance." The note shall be referenced by arrow or number to the scenic easement location.

6. *Conservation Easements for Greenways.* Publicly accessible Greenway conservation easements shall be required in subdivisions along blue line streams identified in Community Plans and/or contiguous to greenways as indicated in the General Plan, including the Metropolitan Parks and Greenways Master Plan.
 - a. The location and size of the easement shall be recommended by the Metropolitan Greenways Commission.
 1. In areas where the primary function of the greenway is as an urban or neighborhood transportation connector and the waterway is not a regulated floodway, the greenway conservation easement shall include the streambed plus a corridor at least 25 feet in width, measured from top of bank, outward.
 2. In areas where the greenway is intended to protect the natural environment of and public access to the major waterways in Davidson County, and serve the multifunctional roles of recreation, transportation, and habitat protection, the greenway conservation easement shall include the floodway plus a corridor at least 75 feet in width, measured from the outer edge of the floodway. In cases where the maximum cross-slope of the land included in the easement is greater than 15 percent, the greenway conservation easement width shall be extended to include an area at least 25 feet in width where a cross-slope of 15 percent or less exists, to enable an ADA accessible trail acceptable to the Greenways Commission Director to be constructed.
 3. In cases, such as those where the entire site has steep slopes, and the Planning Commission determines that this proves a hardship to the property owner, alternative routes may be considered.
 - b. Signs indicating the presence of a future public greenway shall be located every 100 feet along the property at the edge of the greenway conservation easement prior to issuance of the first building permit. Signs shall be posted with the text facing inward on the building lot(s). The developer shall be responsible for the maintenance of all signs until all lots within the subdivision have been sold to the ultimate home purchaser.
 - c. Paths, when constructed, shall be built to meet the specifications of the Metropolitan Greenways Commission and the Metropolitan Greenways Design Standards for Nashville and Davidson County.

7. *Park Dedications.* If the proposed subdivision generates a need for additional recreational opportunities, the applicant may be required to offer a dedication of land for park purposes.

3-11 Inspections During Construction

1. *Inspections During Construction.* All infrastructure construction is to be completed as described in the approved construction plans, construction specifications, and construction inspection requirements of the applicable departments and agencies. It shall be the applicant's responsibility to contact the departments and agencies for requirements.
2. *Pre-construction Conference Required.* A pre-construction conference will be held, with the appropriate agency, prior to the start of construction on each project. At the pre-construction conference, the contractor and owner shall sign documentation acknowledging construction and inspection requirements.
3. *Outline for Construction Process.* Construction shall follow the general outline contained in Appendix C.
4. *Inspection Schedule.* The contractor shall give 24 hours notification to the applicable departments or agencies prior to beginning work on each phase of construction as listed in Section 3-11.3. All completed work shall be inspected and approved. Failure to obtain the required inspections and approvals may require work to be removed, certifications and testing by a licensed geotechnical engineering firm to be provided or any future acceptance by the applicable department or agency to be jeopardized.

3-12 Street Name, Regulatory and Warning Signs for Public Streets

1. *Signage Requirements.* All signage shall conform to the requirements of the Public Works Department's standards. Temporary signs may be installed and maintained in lieu of permanent signs until curbs are installed and backfilled. Such signs shall meet the same standards for mounting height, size, and legibility as permanent signs but may be mounted on temporary structures. The installation of temporary street name signs, including the signs required by Section 3-9.4.e.1 for temporary dead-end streets and Section 3-10.6.b for greenway easement signs, in accordance with these standards shall be verified by written developer/contractor certification to the Public Works Department before authorization for building permits may be granted.
2. *Street Name Signs*
 - a. *Installation Requirements.* The developer shall purchase and install appropriate signs. Written confirmation of this placement shall be required from the Public Works Department prior to the recording of a final plat.
 - b. *Bond.* The developer may post a performance bond in lieu of the improvements prior to the recording of the final plat. Street sign bonds may be a part of the original bond covering streets, drainage, water, sewer, etc.
 - c. *Notes.* All subdivision plats that require street name signs, temporary dead-end street signs as described in Section 3-9.4.e.1, and/or greenway easement signs as described in Section 3-10.6.b shall require a note stating: "No building permit may be issued on any lot until street name signs, temporary dead-end street signs, or greenway easement signs are installed and verified by the Public Works Department on all streets on which the lot depends for access."
 - d. *Planned Unit Developments.* Within Planned Unit Developments that require street name signs, but do not require the recording of a final plat, the signing requirements shall be specified in the conditions of approval.
3. *Regulatory and Warning Signs*

- a. *Installation Requirements.* The developer shall purchase and install appropriate signs. Written confirmation of this placement shall be required from the Public Works Department prior to the recording of a final plat.
- b. *Bond.* The developer may post a performance bond in lieu of the improvements prior to the recording of the final plat. Street sign bonds may be a part of the original bond covering streets, drainage, water, sewer, etc.
- c. *Notes.* No special note shall be required on the subdivision plat.

3-13 Street Names, Regulatory and Warning Signs for Private Streets

1. *Installation Requirements.* The developer shall purchase and install signs as approved by the Public Works Department. Written confirmation of this placement shall be required by developer or contractor certification prior to the recording of a final plat.
2. *Notes.* All subdivision plats that require street name signs, temporary dead-end street signs as described in Section 3-9.4.e.1, and/or greenway easement signs as described in Section 3-10.6.b shall require a note stating: "No building permit may be issued on any lot until street name signs, temporary dead-end street signs, or greenway easement signs are installed and verified by developer/contractor certification on all streets on which the lot depends for access."
3. *Planned Unit Development.* In the case of developments that require the recording of a final plat, the requirements shall be specified in the conditions of Planned Unit Development approval.

3-14 Drainage and Storm Sewers

1. *General Requirements.* The storm water system within a subdivision shall be designed in accordance with the requirements of the Metropolitan Stormwater Management Regulations. All ditch channelization, culvert, storm drain, or catch basin construction shall be governed by Volume 1 of the Stormwater Management Manual. The Stormwater Management Manual is adopted herewith by reference and made a part of these regulations.
2. *Storm Water Facilities.* Drainage facilities shall be located in the road right-of-way, where feasible, or in perpetual unobstructed easements.
 - a. *Culvert or Bridges.* Cross-drain culverts of 36-inch diameter or less shall be extended 100 feet minimum on either side of a street. Headwall style shall be as directed by the Stormwater Division.
 1. Concrete headwalls shall be constructed at both ends of cross drains or driveway culverts and approved by the Stormwater Division. Masonry headwalls shall not be permitted; however, masonry veneer may be applied to headwalls on driveway culverts.
 2. Bridges and box culverts shall be constructed to the same width as the roadway where such is to be placed plus five feet on either side of the roadway upon which sidewalks shall be placed.
 - b. *Accommodation of Upstream Drainage Areas.* A culvert or other drainage facility shall in each case be large enough to accommodate potential run-off from its entire upstream drainage area, whether inside or outside the subdivision. The subdivision engineer shall determine the necessary size of the facility. The developer shall be responsible for upsizing cross-drains under existing streets due to relocation of existing drainage channels or increased run-off resulting from the subdivision.

- c. *Effect on Downstream Drainage Areas.* The effect of each subdivision on existing downstream drainage facilities outside the area of the subdivision shall be determined. Where it is anticipated that the additional run-off incident to the development of the subdivision will overload existing downstream drainage facilities provisions should be made for improvement of such drainage facilities or inclusion of detention or retention facilities within the proposed development as determined by the Stormwater Division. Generally, the developer's responsibility for downstream improvements shall not extend beyond the second downstream structure.

3. *Dedication of Drainage Easements*

- a. *General Requirements.* Where a subdivision is traversed by a drainageway, channel, or stream either natural or manmade, there shall be provided a storm water easement or drainage right-of-way conforming substantially to the lines of such watercourse and of such width and construction as shall be adequate for the purpose. Consideration shall also be given to incorporation of sewer easements parallel to or overlaying drainage easements as both generally follow the same course.
- b. *Drainage Easements.*
 1. Where topography or other conditions are such as to make impractical the inclusion of drainage facilities within a road right-of-way, perpetual unobstructed easements at least 20 feet in width for such facilities shall be provided across property outside the road right-of-way but within satisfactory access from a road. Easements shall be indicated on the concept plan, the final site plan, and the final subdivision plat. Drainage easements shall be carried from roads to natural watercourses or to other drainage facilities.
 2. When a new drainage system is to be constructed which will transport water across adjacent private land outside the subdivision, appropriate drainage easement(s) shall be secured and indicated on the plat by notes referencing the easement recording.
 3. The applicant shall dedicate, when required by the Planning Commission either in fee or by drainage or conservation easement, the land on both sides of existing watercourses to a distance to be determined by the Stormwater Division, but not less than ten feet each side.

3-15 Public Water Facilities

1. *Installation of Water Facilities.* Where a public water main is within reasonable access of the subdivision, the applicant shall install water facilities, including fire hydrants, subject to the construction and materials specifications of the Metropolitan Department of Water Services, or applicable Utility District. The location of fire hydrants shall be as specified in applicable Metro ordinances and other Metro Code. Fire flow requirements shall be as specified by the Fire Marshal. The applicant shall determine the availability of sufficient fire fighting water prior to submittal of the final site plan. Plans shall be approved by Metropolitan Department of Water Services, the Utility District, or Fire Marshal where applicable.
2. *Compliance.* All water systems shall comply with the general instructions and detailed specifications for construction of water projects of the Metropolitan Department of Water Services, or applicable utility district, which are herewith adopted by reference. All water systems constructed within Metro shall comply with all applicable regulations of the State of Tennessee.

3-16 Sewerage Facilities

1. *General Requirements.* The applicant shall design and install sanitary sewer facilities in accordance with the rules, regulations, detail specifications, and standards, where

applicable, of the Metropolitan Health Department, the State Department of Health and Environment and the Metropolitan Department of Water Services or applicable utility district. Plans shall be approved by the above agencies where applicable.

2. *Mandatory Connection to Public Sewer System or Provision for Future Connection.* Where land lies within Metro, and such land is not within eligible areas of the Natural Conservation or Rural land use policy or in Conservation, or T2 Rural Neighborhood Maintenance community character policy areas (as defined in Section 7-2), no subdivision of land shall be made unless each and every lot is provided with a connection to a public sanitary sewer system. Residential acreage tract developments consisting of lots having an area of one acre or more, exclusive of public ways, may be permitted without the provision of public sanitary sewers, if such is not reasonably accessible, provided such development occurs only along existing public streets with no provision of additional streets providing frontage or access to any lot being developed, and further provided that an alternate method of sewage disposal is approved by the Metropolitan Health Department. Commercial and industrial development sites along existing publicly maintained streets, with no provision of additional streets providing frontage or access of any site being developed may be permitted without the provision of public sanitary sewers, if not reasonably accessible, provided that the plan of subdivision indicates the proposed use of the sites being developed and that an alternate method of sewage disposal for such use is approved by the Metropolitan Health Department.
3. *Specifications.* The construction specifications of the State of Tennessee, Metropolitan Department of Water Services, and the Utility Districts serving various portions of Davidson County for sewer system construction are herewith adopted by reference.

3-17 Underground Utilities

1. *Underground Utilities.* Utilities in residential subdivisions shall be located underground whenever a new public or private street is included on the plat, or where an existing public or private stub street, is to be extended, as provided in Section 17.28.103 of the Zoning Code. Where a subdivision proposes public or private alleys, utilities may be above or below ground within the alley. An applicant may request an exemption pursuant to Section 17.28.103.E of the Zoning Code from the underground utility requirement for all or a portion of a residential subdivision. If such a request is denied by the planning commission, the applicant has the right to appeal such denial to the Board of Zoning Appeals, as set forth in the Zoning Code.

3-18 Referral to Public Body

1. *Referral to Public Body.* The Planning Commission shall refer any plat proposing public facilities such as school sites, parks, etc., to the public body concerned with acquisition or maintenance of such facilities for its consideration and report and shall allow the public body or agency 21 days for reply. The Planning Commission may propose alternate areas for such facilities.