

SECTION 1100

TOWN CENTER AND NEOTRADITIONAL DESIGN

1101.00 GENERAL POLICY

1101.01 Purpose and Intent

A. The purpose of this section is to provide design standards for the development or redevelopment of land consistent with the provisions for a town center contained in Section 32-280.30 et. seq. of the zoning ordinance. It is also intended to provide design standards and guidance for neotraditional developments.

B. A town center is defined in the zoning ordinance as a pedestrian-oriented, fully-integrated, mixed-use community where public facilities and services can be efficiently provided and where environmental characteristics are sensitively considered.

C. A neotraditional development is a pedestrian-oriented community where public facilities and services can be efficiently provided and where many, but not all of the elements found in town center development, are provided

1101.02 Applicability

The policies and standards contained in this section shall be used solely for town centers and developments incorporating neotraditional designs that meet the purpose and intent of this section.

A. Applicable sections of the Manual shall apply where no specific design standard is found in this section.

B. Information herein does not negate the adopted laws and ordinances of Prince William County or the Commonwealth of Virginia.

1101.03 Definitions

The following are terms and definitions used in this section exclusively:

Connectivity ratio - the number of street links divided by the number of nodes or ends of the links.

Link - that portion of a street that is defined by a node (i.e. intersection) at each end or at one end.

Node - refers to an intersection with another link or the terminus of a link.

1102.00 SUBMISSION REQUIREMENTS

1102.01 Conceptual Plan Required: A conceptual plan with detailed information sufficient enough to determine conformance with this section, shall be submitted to the Director of Planning for review by Development Services, Zoning Administration, Department of Public Works and Fire and Rescue Services prior to the submission of a preliminary or final site plan. The conceptual plan shall include any waivers and modifications needed to accomplish the design and meet the intent of the neo-traditional and town center concepts. This plan, once validated, shall then be used to produce final site and subdivision plans.

1102.02 Traffic Impact Analysis (TIA): A TIA is required in accordance with section 602.01 of this manual and the Zoning Ordinance.

1102.03 Street Design in General: Section 600 of this manual applies to the design of streets within a development, except as otherwise provided in this section. The following sections describe alternative transportation criteria:

A. Category One Streets – provide low-speed neighborhood access such as trails, alleys, lanes, and streets. Category One connectors function primarily to provide access to neighborhood destinations, make numerous connections within neighborhoods, and provide access, utility, and walking infrastructure.

(1) Alleys: Alleys provide access to property but are not intended to accommodate through traffic. Alleys are low-speed, ten (10) mph service easements running behind and sometimes between rows of buildings. Alleys provide utilities and trash pickup and dumpster access, access to garages, backyards, and accessory units. The lot size for end units along or served by an alley should exceed the minimum standard lot size to accommodate easements such as drainage, clear turning paths and sight distance easements. Alleys also offer second or third approaches for fire response. Alleys in a mixed use center area of a town center could be used for loading. See Section 1150, Design Detail 1150.01 AL-1.

(2) Alleys with Parking Lots: A parking lot may be accessed through an alley in a commercial area and may include sidewalk access.

(3) Lanes: Lanes are a common type of access to single-family residences with sidewalks and street trees, and allowance for parking on one or two sides. Lanes are short, two to six blocks in length and can be either one-(1) way around a park or two-(2) way. Lanes extend two (2) to six (6) blocks. A lane can be designed as a one-way street in accordance with 1150.02 of this section. A local street can be either publicly or privately maintained. See Section 1150, Design Detail 1150.02 OW-1 and Detail 1150.03 LA- 1.

(4) Local Street: Local streets provide low speed access to single-family, townhouse or multi-family residences with sidewalks and street trees, with allowance for parking on both sides. Local streets extend two (2) to six (6) blocks and can either be one-(1) way or two-(2) way around a park. A local street can be either publicly or privately maintained. See Section 1150, Design Detail 1150.04 LS-1

B. Category Two Streets - provide transitional access to neighborhood streets, i.e., main streets and avenues.

(1) Main Streets: Main streets provide low speed access to neighborhoods, neighborhood commercial and mixed-use buildings with on-street parking, wide sidewalks, and street trees (usually in tree wells), and preferably bike lanes. See Section 1150, Design Detail 1150.05 MS-1.

(2) Avenues: Avenues are short distance medium speed divided thoroughfares connecting neighborhoods to town centers and serving as major transit routes and gateways to the development. They contain two lanes in each direction, bicycle lanes (if parking is not allowed), sidewalks, street trees, and a median. See Section 1150, Detail 1150.06 AV-1.

C. Any street carrying over 4000 VPD must be designed and constructed in accordance with Section 600.

1102.04 Street Design Requirements:

A. Street layouts shall provide for perimeter blocks that are generally in the range of two hundred (200) to four hundred (400) feet deep by four hundred (400) to eight hundred (800) feet long.

B. The street network shall achieve a connectivity ratio of not less than 1.4. The street links and nodes within the collector or arterial streets providing access shall not be factored into the connectivity ratio.

C. Streets shall intersect at ninety-(90) degree angles but not be less than eighty (80) degrees nor more than one hundred and ten (110) degrees.

D. T-type intersections shall be offset at least two hundred (200) feet.

E. Residential neighborhood streets, lanes, one-way and local streets designed to twenty (20) mph speed shall have a curb return radius of fifteen (15) feet. All other streets classified as a main street and an avenue designed to thirty (30) mph speed shall have a curb radius of thirty (30) feet. Curb radius at all alleys shall be a minimum of fifteen (15) feet. Where curb extensions are proposed to protect parallel parking areas and reduce pedestrian crossing time, the minimum curb return radius shall be thirty-five (35) feet.

F. The minimum intersection sight distances for streets based on design speeds are as follows:

<u>Design Speed (miles per hour)</u>	<u>Sight Distance (feet)</u>
<u>10</u>	<u>120</u>
<u>15</u>	<u>170</u>
<u>20</u>	<u>225</u>
<u>25</u>	<u>280</u>
<u>30</u>	<u>335</u>

G. The design speeds of all roadways shall be less than thirty (30) mph except otherwise noted in this section .

H. Permanent parking, trees, and other objects which restrict the sight distance line shall be pulled back from intersection corners at least thirty (30) feet, measured from face of curb on all sides. This however; should not preclude the application of the sight distance triangle requirements as contained in Section 600 of this manual.

I. Clear zones for sight distance shall include a minimum setback to a street tree of two (2) feet. All plantings, except ground covers reaching no more than eighteen (18) inches in height, shall be located greater than fifty (50) feet from the end of a median nose.

1102.05 Street Sections The classifications, definitions, and illustrations of the street standards are contained in section 1150. Additional innovative street types may be permitted if approved by the Director of Public Works.

1102.06 Roundabouts: This is a traffic calming device that reduces higher speed through traffic. It may be used in a mixed-use center or a residential neighborhood. The roundabout shall not be used for streets with traffic volumes exceeding 2000 VPD , unless designed in accordance with AASHTO/VDOT requirements. (Refer to Figure 13 of the Road Design Manual Appendix B Subdivision Street Design Guide).

1102.07 Sidewalks:

A Sidewalk alignments and widths shall conform to the streetscape designs shown in Section 1150 of this manual.

B. Sidewalks shall be a minimum of eight (8) feet wide in the mixed-use center area and a minimum of five (5) feet wide in the residential neighborhoods.

C. Sidewalks shall connect the residential neighborhoods to the mixed-use center and the open spaces.

1102.08 Entrance Driveways

- A. Entrance driveways for single family detached and attached development shall conform to the minimum requirements of DE-2 and DE-3 in Section 600 of this manual.
- B. Commercial entrances conforming to VDOT's minimum entrance requirements shall be required on proposed entrances of mixed-use centers and commercial uses.

1102.09 Pedestrian Trails/Multi Purpose Trails: Pedestrian trails shall be designed to provide convenient routes for pedestrians and connect to other paths or walkways. Pedestrian trails should always be designed to maximize visibility and security. The design should conform to Detail 650.31 (BT-2) and Sections 602.18-602.24 of this manual.

1102.10 Emergency Access Criteria

A. All developments shall provide emergency access as required by the Department of Fire and Rescue. Fire apparatus access shall be in accordance with the Uniform Fire Code, as adopted by the County. Such standards include the following:

(1) The unobstructed width of a fire apparatus access road shall not be less than twenty (20) feet.

(2) Fire apparatus access drives or roads shall have an unobstructed vertical clearance of fourteen (14) feet six (6) inches.

(3) The turning radius of fire apparatus roads shall be forty five (45) feet outside radius and twenty-two (22) feet inside radius.

(4) Fire apparatus drives or roads shall be asphalt or concrete and/or other material, and shall be designed to support the imposed loads of a seventy thousand (70,000) pound vehicle. Curb cuts and/or driveway approaches are required for all fire access roadways.

(5) In accordance with Public Works standards, all dead end fire apparatus access drives and/or fire lanes, public or private, in excess of three hundred (300) feet in length shall be provided with a turnaround area.

(6) Two remote means of fire apparatus access may be required when the Department of Fire and Rescue determines that a single access could be impaired.

(7) The location of emergency access gates shall be subject to the approval of the Department of Fire and Rescue. Emergency gates shall be designed in accordance with the County's adopted emergency access gate design.

(8) An emergency access circulation plan shall be prepared by the engineer and approved by the Department of Fire and Rescue prior to approval of the plans.

1102.11 Parking:

A. Parking shall be provided on-street, in parking lots, in parking structures or a combination of the three. Parking lots fronting a street shall have a three-(3) foot tall wall or hedge behind the sidewalk within the required 10-foot landscaping strip.

B. Parking credit allowance per Section 610.03 of this manual is appropriate in a town center development and will be considered favorably in the review of site development plans. Adjacent on street parking may apply toward the minimum parking requirement.

1102.12 Street Lights:

A. Street lights shall be provided on all streets in non-residential landbays and at intersections in the residential neighborhoods.

B. Light poles that are lower in height and intensity may be modified from typical VDOT standards may be approved if consistent with the Zoning Ordinance if they are to be maintained by a business and/or homeowner association.

1102.13 Drainage Criteria:

A. One of the goals of storm drain design is to limit the amount of water flowing on the travelway, or water ponding at sag points in the roadway grade to reduce interference with traffic for the required design frequency storm. This is accomplished by the following basic design:

(1) Placing inlets at such points and at such intervals to intercept flows and minimize spread:

(2) Providing an adequately sized storm drainage system to convey flow from the inlets to a suitable outfall location:

(3) Providing outfall conditions that do not cause backwater conditions in the drainage system and;

(4) Using low impact development measures.

B. Depths of an inlet are subject to a six (6) inch maximum depth for a 2 year storm.

C. A minimum cross-slope of two (2) percent shall be maintained for all road sections.

D. In an alley, inlet shall be sized to restrict the flow and not convey carry over flow to the subsequent downstream inlet. The designer shall look into the feasibility of minimizing storm sewers in alleys.

1102.14 Landscaping in General:

A. Throughout the development, provision of tree canopy, most basic landscaping (specifically: interior and perimeter parking lot landscaping, residential landscaping, streetscaping, and storm water management facility landscaping), and tree canopy coverage submission requirements and specifications shall comply with the requirements of Section 800 of this manual, except as specifically provisioned in this section.

B. Landscape strips along a right-of-way, as found in Section 800 of this manual, shall be provided along roads peripheral to the development, rather to those internal, where a streetscape shall apply.

C. Buffering residential development from major roadways, as found in Section 800 of this manual, shall be provided for residences where the rear or side yard abuts a Comprehensive Plan road that is located on the perimeter of the development.

1102.15 Buffers: Except as noted below, buffers are not required between dissimilar uses. Proposed uses that adjoin a property, shall provide buffering as required in Section 800 and Table 8-1 of this manual along the property line that abuts any property outside of the development.

1102.16 Streetscape Plantings: Trees shall be the primary element of all streetscapes. Complimenting street trees with shrubs, perennials, annuals, grasses, etc. is encouraged.

A. Trees shall be planted in a formal pattern along each side of all streets, public or private, except alleys. Trees shall be provided at a rate of one large or medium street tree for every forty (40) linear feet of right-of-way or one small street tree for every twenty-five (25) linear feet of right-of-way, depending upon the street category (see Table 11-1). The selection of the tree type shall be as specified in Table 11-1 of this section and “tree uses” in Table I-2 in the Tree Selection Guide.

B. The design of planting zones is essential to the long-term survival and health of trees. A planting zone is the total width, length, and depth of soil into which a tree is planted. The following criteria shall apply to the planting zone:

(1) The length, width, and depth shall meet or exceed the minimums established in Table 8-8 of this manual. The overall design, however, shall be in accordance with the details for “best” or “acceptable” planting zones and/or the “continuous trench” detail contained in Section 1104 of this manual. Planting zone design as detailed in “undesirable or difficult” may be accepted at the discretion of the Director of Public Works if all the minimum requirements of this section are met. Modifications of the “best” or “acceptable” planting zone design that improve the likelihood of long term health of trees may be allowed with approval of the Director of Public Works.

(2) The soils shall be suitable for long term growth, survival, and health of a tree. Suitable soil is topsoil (A-horizon soil), un-compacted, clean and free of concrete, debris, trash, gravel or other foreign materials, with a minimum organic content of five (5) percent, and appropriate pH for the tree species selected. In some unusual circumstances, it may be necessary to use structural or formulated soil in a portion of the planting zoning, rather than suitable soil, as defined above, throughout the full volume. In these circumstances, structural soils formulated and installed in accordance with the standards of the Urban Horticulture Institute of Cornell University shall be used.

C. Median plantings in avenues shall consist primarily of large and/or medium-size trees (as defined in the Tree Selection Guide, Table I-2). A combination of ornamental trees, evergreen trees, and/or shrubs may be incorporated into the design. Medians shall be planted at a rate of at least 50 plant units per 100 linear feet of median. Plant units shall be calculated in accordance with Table 8-3 in Section 800 of this manual. Minimum spacing of trees shall be in accordance with Table I-4 of the Tree Selection Guide. VDOT clear zone restrictions shall be followed within a median.

1102.17 Screening: Screening shall be provided as required by the Zoning Ordinance and in general accordance with Section 800 of this manual. This may be modified with the validation of the conceptual plan.

1103.18 Site Planning for Tree Preservation: Site planning for tree preservation shall be in accordance with Section 802.30 and 802.31 of this manual.

1103.00 TABLES

<u>TABLE 11 - 1</u>		
<u>MINIMUM PLANTING ZONE DIMENSIONS</u> <u>AND REQUIRED TREE TYPES BY STREET DESIGN</u>		
<u>Street Category</u>	<u>Minimum Width *</u>	<u>Tree Category Required Adjacent to R-O-W **</u>
<u>Avenue</u>	<u>6 feet</u>	<u>LS or MS</u>
<u>Main Street</u>	<u>6 feet</u>	<u>LS or MS</u>
<u>Lane/Local/One-Way</u>	<u>6 feet</u>	<u>SS ²</u>
<u>Alley</u>	<u>N/A</u>	<u>N/A</u>
<p>* <u>All measurements begin 6 inches behind the curb to allow for planting in quality soils outside of compacted subsoils. The planting area must be located outside of the curb and base area.</u></p> <p>** <u>Tree categories are those listed in the Section 800 "Tree Selection Guide", Table I-2, under the column "Trees Uses".</u></p>		