

CHAPTER 7: DEVELOPMENT STANDARDS

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7.01 Site Development

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7.01.01 Purpose and Applicability

Purpose. The purpose of Section 7.01 Site Development is to:

- Provide clarity and consistency in the application of site development requirements; and
- Ensure the Zoning Ordinance implements the General Plan Place Types.
 - A. **Applicability.** The requirements of Section 7.01 apply to new development in addition to all other applicable requirements of the Zoning Ordinance unless otherwise specified.
 - B. **Conditions.** In addition to the requirements of Section 7.01, site development must conform to all:
 1. Accepted proffers pursuant to Section 10.10.03; and
 2. Conditions imposed pursuant to:
 - a. Variance, see Section 10.08;
 - b. Special Exception, see Section 10.11;
 - c. Zoning Modification, see Section 10.10.04.C.; or
 - d. Historic Overlay District (HOD) Review, see Section 10.12.

7.01.02 Density Requirements

- A. **Density.** Density is expressed in terms of:
1. Dwelling units (du) per acre (ac) for residential uses with dwelling units; and
 2. Floor Area Ratio (FAR) for all other uses.
- B. **Calculations.**
1. Residential density is calculated by dividing the total number of dwelling units on a lot, not including accessory dwellings, by the lot area of such lot.
 2. FAR is calculated by dividing the gross floor area of all buildings on a lot by the lot area of such lot.
- C. **Density Credit for Public Uses.** Density credit for public uses may be granted pursuant to Section [10.15](#).

Sample Residential Density Calculation

Dwelling Units (du) on site: 1 du

Lot Area: 12,000 square feet (sf) = 12,000 sf ÷ 43,560 ac/sf ≈ 0.2755 acres (ac)

Density: 1 du ÷ 0.2755 ac ≈ 3.630 du/ac

Sample Calculation of Maximum Dwelling Units on a Lot

Lot Area: 25 acres (ac)

Permitted Density: 6 du/ac

Dwelling Units (du) on site: 25 ac x 6 du/ac = 150 du

Sample FAR Calculation with 3-Story Building

Gross Floor Area: 22,200 sf (1st) + 15,200 sf (2nd) + 10,100 sf (3rd) = 47,500 sf

Lot Area: 1 ac = 43,560 sf

FAR: 47,500 sf ÷ 43,560 sf ≈ 1.090

7.01.03 Lot Requirements

Purpose. The purpose of lot requirements is to provide a mixture of lot sizes and dimensions to allow for a variety of housing opportunities and avoid monotonous streetscapes.

- A. **Mix of Single-Family Residential Lots by Area.** Developments in the SN, SCN, TSN, TCN, TR, and JLMA Zoning Districts must provide a variety of lots for single-family attached (SFA) and single-family detached (SFD) dwelling units by area as provided below.
1. All developments containing 10 or more single-family lots must include a mixture of such lots by lot area. **Exception.** No mix in lot area is required for townhouse building lots.

2. No more than 60% of all SFD and no more than 60% of all SFA duplex, triplex, and quadruplex building lots, are permitted to be similar in total lot area.
 - a. For purposes of the SN, SCN, TSN, and TCN Zoning Districts, as used in Section 7.01.03.A.2. "similar in total lot area" is defined as being within 500 square feet of each other.
 - b. For purposes of the TR-10, TR-3, TR-1, JLMA-1, JLMA-2, and JLMA-3 Zoning Districts, as used in Section 7.01.03.A.2. "similar in total lot area" is defined as within 1,000 square feet of each other.
 - c. **Exception.** Up to 80% of the lots may be similar in total lot area, provided at least 25% of such lots:
 1. Have alternate shape and orientation, such as pipestem or alley lots; or
 2. Are either less than 67% or more than 150% the average of other lots similar in total lot area by:
 - a. Lot width;
 - b. Front yard or minimum distance from dwelling to street; or
 - c. Maximum building height at construction.
3. **Dispersion of Lots.** Lots that are similar in total lot area for the same dwelling unit type must be distributed throughout a subdivision rather than grouped in one area.
 - a. The mix of lots by area and configurations must be available on each block, except when the Zoning Administrator determines pursuant to Section 10.02 that an appropriate dispersion of lot sizes and configurations is provided on adjoining blocks in accordance with the purpose of Section 7.01.03.
 - b. **Exception.** Smaller lots may be located adjacent to parks and open spaces.
4. The requirements of Section 7.01.03.A. may be modified in accordance with the provisions of Section 10.10.04.C.

B. Lot Lines.

1. **Front Lot Line.** For the purposes of determining lot width every lot has only 1 front that must be shown on the subdivision plat or Site Plan.
 - a. Where a lot is located along only 1 road, the front lot line is the lot line that abuts or is within the road.
 - b. Where a lot has 2 or more lot lines that abut or are within a road, the front lot line is located along the road with the shortest frontage that:
 1. Is less than 80% the length of the larger frontage;
 2. Meets the minimum lot width; and
 3. Can provide access.
 - c. If Section 7.01.03.B.1.b. does not result in 1 front, the front lot line is the same as the front of the prevailing building pattern or the same as the lot pattern if no building pattern is established.
2. **Rear Lot Line.**
 - a. There is only 1 rear lot line.
 - b. The rear lot line is opposite the front lot line.
3. **Side Lot Lines.** All other lot lines are side lot lines.

C. Lot Width.

1. Lot width of a regular lot is measured at the front lot line pursuant to Section 7.01.03.B.1., along the rear of the associated front yard.
2. Lot width is measured along the arc of the curve for curvilinear yards and frontage.
 - a. The distance, as measured along a lot's frontage, between the points where a lot's side lot lines intersect with the boundary of the road must not be less than 80% of required lot width.

- b. **Exception.** The distance, as measured along a lot's frontage, between the points where a lot's side lot lines intersect with the boundary or the road may be reduced to 60% of required lot width if such frontage is along a curved or circular (cul-de-sac) road with a radius that does not exceed 90 feet.

3. **Irregular Lots.** Irregular lots are not subject to lot width requirements, provided:

- a. Yards are not less than those that would be required for a regular lot in the same Zoning District that meets minimum lot width and area requirements; and
- b. Buildable area is sufficient for all permitted and Special Exception uses in the Zoning District.

D. **Lot Depth.**

1. **Regular Lots.** Lot depth of a regular lot is measured along a straight, perpendicular line between the front and rear lot lines, or the extension of such lot lines.
2. **Irregular Lots.** For irregular lots, lot depth is the average of at least 3 representative measurements as provided in Section 7.01.03.D.1. with 1 of the measurements at the center of the lot and the other 2 at least 20 feet from either side of the center.

- E. **Lot Depth to Width Ratio.** Maximum lot depth to width ratio is expressed as a ratio where lot width is 1. The greater the lot depth or lesser the lot width the higher the ratio.

Sample Lot Depth to Width Ratio Calculation

Lot Depth: 200 feet

Lot Width: 80 feet

Lot Depth to Width Ratio: $200 \text{ feet} \div 80 \text{ feet} : 80 \text{ feet} \div 80 \text{ feet} = 2.5:1$

7.01.04 Buffers, Setbacks, and Yards

A. **Requirements.**

1. Buffers, setbacks, and yards are regulated separately under Chapter 2, Chapter 4, and Chapter 7 of the Zoning Ordinance.
2. Unless otherwise specified, buffer, setback, and yard measurements are provided concurrently, not cumulatively.
 - a. Only the largest measurement is required.
 - b. Any approved Zoning Modification, Variance, or Administrative Waiver and Modification is applied to all buffer, setback, and yard measurements.
3. All measurements are in horizontal linear feet.

B. **Permitted Structures and Uses in Setbacks and Yards.**

1. **All Setbacks and Yards.** The following structures are permitted in all setbacks and yards, provided applicable sight distances are met and maintained:
 - a. Fences and walls, including retaining walls, provided that no such structure in a residential front yard exceeds 3 1/2 feet in height;
 - b. Ground level structures not over 30 inches high, including but not limited to terraces, patios, or decks;

- c. Awnings or canopies provided they do not project more than 4 feet from the existing building façade;
 - d. Bay windows and overhanging floors, eaves, and gutters projecting no more than 30 inches into the yard;
 - e. Architectural features, chimneys, or the like, projecting no more than 24 inches into a side or rear yard or no more than 3 feet into a front yard provided that such projection is no closer than 3 feet from a lot line;
 - f. Porches, enclosed or unenclosed, may project a maximum of 3 feet into a setback or yard provided that such projection is no closer than 3 feet from a lot line except as otherwise permitted under Section 7.01.04.B.3.;
 - g. Arbors and trellises;
 - h. Flag poles;
 - i. Recreational equipment;
 - j. Signs, pursuant to Chapter 8;
 - k. Bus shelters; and
 - l. Entry stairs or ramps including rails.
2. **All Setbacks and Yards, Except Front Yards.** The following structures are permitted in all setbacks and yards, except front yards, provided applicable sight distances are met and maintained:
- a. Clotheslines;
 - b. Fences and walls, including retaining walls, provided that no such structure may exceed 8 feet in height in residential areas;
 - c. Balconies may project a maximum of 4 feet provided such projection does not extend closer than 3 feet to a lot line;
 - d. Air conditioner condensers rated at 5 tons or less provided they are more than 4 feet from any property line;
 - e. Air conditioner condensers rated at over 5 tons provided they are more than 12 feet from any property line;
 - f. In conjunction with accessory dwellings only, refer to Section 4.02.01.G;
 - g. In conjunction with single family dwellings only, any non-habitable, accessory structure not exceeding 12 feet in height that is more than 5 feet from a rear or side property line or a common wall in portions of required yards that are located as follows:
 - 1. On regular lots, at least 60 feet from roads at the front of the lot, and at least 25 feet from any other road abutting the lot;
 - 2. On irregular lots, at least 40 feet behind the front line of any building adjacent to the lot line, and at least 25 feet from any private road;
 - h. In conjunction with single family detached (SFD) dwellings only, an attached garage that is more than 5 feet from a rear or side property line, subject to the following:
 - 1. In no case can the distance between the attached garage and structures on the adjacent property be less than 16 feet, excluding detached, non-habitable structures;
 - 2. No windows or doors are permitted on the side of the attached garage that is located within required yards;
 - 3. No portion of the principal structure other than the attached garage is permitted within required yards;

4. The attached garage is not permitted to be converted into habitable space; and
 5. No second story addition over the attached garage is permitted that extends into minimum required yards for the district, except as provided herein; and
 - i. A detached garage located at the rear of a lot that has been developed following lot requirements that allowed it to be attached to a similar garage on a contiguous lot may be located within the side yard and no closer than 2 feet to the rear property line. No rear setback is required for garages that are accessed from the front of the lot on such lots;
 - j. In conjunction with Section 3.04.B.1., temporary structures for the storage of construction materials, subject to the following standards:
 1. The height of a temporary structure must not exceed 9 feet from average finished grade to the peak of the roof;
 2. The temporary structure must be setback from any property line a minimum distance equal to its height;
 3. Except for the temporary structure, no outdoor storage of construction related materials is permitted to be located anywhere within a required yard; and
 4. The Zoning Administrator may impose conditions with the Zoning Permit to mitigate any adverse impact on abutting properties to include fencing and screening requirements; and
 - k. For single family detached (SFD) dwellings, decks exceeding 30 inches in height may not extend closer than 5 feet to a rear or side lot line; and
 - l. For single family attached (SFA) dwellings, decks exceeding 30 inches in height may extend to the interior side lot line and no closer than 5 feet to any other lot line.
 3. **Rear Yards.** The following structures are permitted in rear yards, provided applicable sight distances are met and maintained.
 - a. **Single Family Detached (SFD).** Unenclosed porches must not extend closer than:
 1. 10 feet to the rear lot line; or
 2. 5 feet to the rear lot line if a rear lot line abuts land that is common open space or land that is subject to a permanent open space easement that is at least 10 feet in width.
 - b. **Single Family Attached (SFA).** Unenclosed porches must not extend closer than 5 feet to the rear lot line.
 4. **Permitted Accessory Structures in Mountainside Resource Protection Setbacks.** All structures listed in Sections 7.01.04.B.1. and B.2. are permitted in Mountainside Resource Protection Setbacks except for the following:
 - a. Bus Shelters;
 - b. Temporary structures for the storage of construction materials; and
 - c. Non-habitable, accessory structures.
 5. **Structure Location Errors.**
 - a. Any existing or partially completed structure that does not comply with applicable buffer, setback, or yard requirements may be approved in accordance with Section 10.03.
 - b. Structure location errors that are not eligible under Section 10.03 are subject to Section 10.11.04.
 6. **Uses.** Except as permitted in Section 7.01.04.B., no portion of any use is permitted within any setback or yard.
- C. **Measurements from Roads.** Road Corridor Setbacks, other setbacks from roads, and front yards are measured as provided.

1. Public Roads.

- a. From the wider of:
 1. The existing dedicated right-of-way;
 2. The ultimate right-of-way specified in the Countywide Transportation Plan; or
 3. The minimum dedicated right-of-way permitted for VDOT acceptance of the right-of-way for maintenance.
- b. For measurement purposes, the right-of-way is assumed to be centered on the existing travelway whenever:
 1. No dedicated right-of-way exists;
 2. Less than the minimum right-of-way exists; or
 3. There are no approved construction plans for the road.

2. Private Roads. For private roads from the outer edge of the associated access easement.

7.01.05 Yard Requirements

A. Required Yards.

1. All yards must be provided with the minimum depth required for the Zoning District under Chapter 2 or by the Use-Specific Standards under Chapter 4, whichever is greater.
2. All yards must be provided across the full length of the lot line from which such yards are measured, except where side yards intersect with front or rear yards.
3. All yards are measured perpendicular to, and run the entire distance along, the lot line such yards are measured from.
4. Yards are not determined by building orientation.

B. Front Yard.

1. Front yards are required along all roads. The depth of a front yard for a lot located along a private road is measured from the edge the private road, including any portion of the private road that extends into the lot.
2. Each lot must have at least one front yard.
3. In addition to the minimum depth required for the Zoning District under Chapter 2 or as required by the Use-Specific Standards under Chapter 4, front yards at intersections must be sufficiently large to comply with VDOT sight distance requirements or Section 7.07.04 Visibility at Intersections, whichever is greater.

C. Side Yard.

1. Side yards are required along all lot lines where neither front yards nor rear yards are required.
2. If 2 different side yard depths are required by the Zoning District for a lot and the lot does not have a rear yard, the larger depth is required for all side yards.

D. Rear Yard.

1. Rear yards are required along lot lines approximately opposite the front yard when there is only 1 front yard.
2. When more than 1 front yard is required, there will be no rear yard except as provided in Section 7.01.05.D.3.
3. Rear yards are required along alleys.

7.01.06 Building Requirements

A. Lot Coverage.

1. Lot coverage is expressed as a percentage of the lot area covered by structures.
2. Lot coverage is calculated by dividing the total of all eligible structure footprints by the lot area.

Sample Lot Coverage Calculation

<i>Structure footprint:</i>	<i>29,770 sf</i>
<i>Lot Area:</i>	<i>1.22 ac = 1.22 ac x 43,560 sf/ac = 53,143.2 sf</i>
<i>Lot Coverage:</i>	<i>29,770 sf ÷ 53,143.2 sf ≈ 0.560 x 100% ≈ 56.018%</i>

B. Building Height. Building height is measured in accordance with the following standards.

1. **Ground Level.** Building height is measured from the average finished grade:
 - a. where the ground surface meets the front wall of the building; or
 - b. Of the curb line for buildings within 10 feet of the front lot line.
2. **Top of the Building.**
 - a. Building height is measured to:
 1. The average height between eaves and the highest point of the roof; or
 2. The highest point of a flat roof.
 - b. In cases where a building's roof is not flat and the front façade of the building contains a parapet wall or other design feature that does not align with the roof of the building, building height is measured as if the parapet wall or design feature were an element of the roof.
3. **Exemptions.** The building height limitations specified under the Zoning District regulations do not apply to:
 - a. Towers, gables, penthouses, scenery lofts, cupolas, barns, silos, farm buildings, residential chimneys, spires, flag poles, monuments, utility lines and utility poles, telecommunications facilities, radio and/or television antennas, or other similar structures and necessary associated mechanical appurtenances; or
 - b. Any smokestack, water tank, radio, radar and/or television tower, provided:
 1. The height of such structure does not exceed the distance of the structure to the nearest lot line; and
 2. Such structure is located within an existing public utility easement.

7.01.07 Transitions

Purpose. *The purpose of Transitions is to:*

- *Ensure a harmonious relationship between uses in adjoining but different Zoning Districts along Zoning District boundaries except Urban Zoning Districts; and*
- *Provide additional protections in and adjacent to Transition Zoning Districts:*
 - *Maintain substantial open space and setbacks along roadways and adjacent development;*
 - *Shield views of new development;*
 - *Provide extensive buffers around communities;*
 - *Create visual transition between the Suburban Policy Area and the Rural Policy Area; and*

- *Protect the long-term viability of Industrial and Mineral Extractive uses, particularly when adjacent to residential neighborhoods.*

A. Building Height.

1. Maximum building height is reduced when:
 - a. Building construction is proposed after [Zoning Ordinance Adoption Date]; and
 - b. The site is located within 200 feet of a Zoning District with a lower maximum building height, provided:
 1. The Zoning District is not an Urban Zoning District; and
 2. The difference between maximum building heights is greater than 15 feet.
2. Maximum building height is reduced as follows:
 - a. Within 100 feet of the Zoning District boundary: 15 feet taller than the adjacent Zoning District's maximum building height; and
 - b. Between 100 and 200 feet of the Zoning District boundary: 45 feet taller than the adjacent Zoning District's maximum building height.
3. The decrease in building height may be achieved by stepping down the height of a single building or stepping down the height across multiple buildings.
4. For the purposes of Section 7.01.07.A.:
 - a. The distance to a Zoning District with a lower maximum building height includes the width of any adjacent road. Distances to Zoning District boundaries within roads are continued to the far side of the road; and
 - b. Maximum building height in a Zoning District with variable building heights is as follows:
 1. Existing development or approved Concept Development Plan, Special Exception, or Site Plan: applicable building height; and
 2. Vacant site without Concept Development Plan, Special Exception, or Site Plan approval: Tallest possible building height without Special Exception approval.

B. Perimeter Setback.

1. New development in the following Zoning Districts must provide Perimeter Setbacks:
 - a. TR, TSN, TCN, and TCC; and
 - b. OP, IP, GI, or MR-HI if adjacent to a TR, TSN, TCN, or TCC Zoning District.
2. The Perimeter Setback must be provided along the following boundaries:
 - a. Subdivision, Site Plan, Concept Development Plan, Zoning District, or other development boundaries.
Exception. Perimeter setbacks are not required between separate phases of the same development; and
 - b. Public Roads identified by the Countywide Transportation Plan that form the boundary of or that traverse a development within the TR, TSN, TCN, or TCC Zoning Districts.
3. The Perimeter Setback must be provided as follows:
 - a. With a minimum width of 100 feet;
 - b. As open space pursuant to Section 7.02; and
 - c. Existing native vegetation must be augmented with additional plantings to meet the requirements of Section 7.04 and to obstruct views of the new residential or nonresidential development from surrounding roads and other developments.

4. Buildings and parking are not permitted within the Perimeter Setback. **Exception.** Agricultural structures may be located within the Perimeter Setback, provided such structures do not convert, in whole or in part, to a non-agricultural use.
5. Perimeter Setback requirements may be modified in accordance with the provisions of Section 10.10.04.C.

7.02 Open Space

Purpose. The purpose of the Open Space is to:

- Promote the public health, safety, and welfare;
- Provide consistent open space standards;
- Implement the General Plan's open space goals;
- Provide the open space appropriate to each Zoning District;
- Ensure light, air, and space in all new development;
- Preserve and restore the County's natural, environmental, and heritage resources (NEHR);
- Ensure the availability of open space for active and passive recreation; and
- Provide open space and amenities in proximity to users, which promotes compact development patterns and reduces the consumption of resources and capital costs.

A. Applicability.

1. Compliance with Section 7.02 is required prior to approval of any Site Plan or Subdivision.
2. Any application pursuant to 10.10 or 10.11 must demonstrate consistency or the ability to comply with the requirements of Section 7.02.

B. Amount.

Required minimum amounts of open space for each Zoning District are provided in Table 7.02-1.

1. Additional open space may be required pursuant to Chapter 2, Chapter 4, and Section 7.10.
2. Open space provided to meet the required minimum amount of Table 7.02-1 cannot be used to meet the following requirements:
 - a. Section 2.01.01.E. Transit Related Center (TRC) Mix of Uses;
 - b. Section 2.02.01.D. Suburban Neighborhood (SN) Mix of Uses;
 - c. Section 2.02.03.D. Town Center (TC) Mix of Uses;
 - d. Section 2.03.01.D. Transitional Residential (TR) Mix of Uses;
 - e. Section 2.03.02.D. Transition Small Lot Neighborhood (TSN) Mix of Uses;
 - f. Section 2.03.03.D. Transition Compact Neighborhood (TCN) Mix of Uses; and
 - g. Section 2.03.04.D. Transition Community Center (TCC) Mix of Uses.
3. Minimum required amounts of open space are calculated as a percent of the gross area of the project site.

Table 7.02-1. Open Space Requirements by Zoning District

	Zoning District	Minimum Amount
Urban Zoning Districts		
1	TRC	10%
2	UE	10%
Suburban Zoning Districts		
3	SN-4, SN-6	30%
4	SCN-8, SCN-16, SCN-24	15%

Table 7.02-1. Open Space Requirements by Zoning District

	Zoning District	Minimum Amount			
5	TC	10%			
6	CC-NC, CC-CC, CC-SC	10%			
		Suburban Design	Traditional Design	Cluster	Compact Cluster
7	R-1	not required	N/A	to maintain density ³	to maintain density ³
8	R-2	not required	to maintain density ³	to maintain density ³	to maintain density ³
9	R-3	not required	to maintain density ³	to maintain density ³	to maintain density ³
10	R-4	not required	to maintain density ³	to maintain density ³	to maintain density ³
11	R-8	not required	to maintain density ³	N/A	N/A
12	R-16	to meet Active Recreation Open Space requirement (see Section 7.02.C.6.)			
13	R-24	to meet Active Recreation Open Space requirement (see Section 7.02.C.6.)			
14	PD-H	30% (excluding land designated for road rights-of way, commercial, and industrial uses)			
15	PD-CC(RC)	20%			
16	PD-RDP	20%			
17	PD-SA	20%			
18	PD-AAAR	50%			
19	PD-MUB	15% (10% prior to establishment of bus service)			
20	GB	not required			
21	CLI	10%			
Transition Zoning Districts					
22	TR-10	70%			
23	TR-3LBR	70%			
24	TR-3UBF/LF	50%			
25	TR-1	50%			
26	TSN	50%			
27	TSN	50%			
28	TCN	50%			
29	TCC	50%			
30	TR-2	50%			
Rural Zoning Districts					
		Standard	Base Density Division Option	Principal/Subordinate Subdivision Option	Cluster Subdivision Option
31	AR-1	not required	not required	not required	70% ¹
32	AR-2	not required	not required	not required	70% ¹
33	A-10	not required ²	N/A	N/A	to maintain density ³
34	CR-1	N/A	not required	to maintain density ³	to maintain density ³
35	CR-2	N/A	not required	to maintain density ³	to maintain density ³
36	CR-3	N/A	not required	to maintain density ³	to maintain density ³
37	CR-4	N/A	not required	not required	not required
38	A-3	not required ²			
39	RC	not required			
40	PD-RV	80%			
Joint Land Management Area Zoning Districts					
41	JLMA-1, JLMA-2	30%			
42	JLMA-3	50%			
43	JLMA-20	no minimum			

Table 7.02-1. Open Space Requirements by Zoning District

	Zoning District	Minimum Amount
Office and Industrial Zoning Districts		
44	OP, IP, GI	20%
45	MR-HI	no minimum
46	PUD	<i>To be determined at establishment of a PUD consistent with the Place Type</i>

TABLE NOTES:

¹Less any area for rural economy lots.

²Except as necessary to meet Hamlet development option pursuant to Section 7.10.

³Refer to individual Zoning District Density Requirements in Chapter 2: Zoning Districts.

Sample Minimum Required Open Space Calculation

Property Area:	10.6 acre (ac)
Zoning District:	SN-4
Required Open Space:	30% x (10.6 ac) = 3.18 ac open space

C. Calculating Open Space Area Provided.

- Open space previously provided on subdivision, construction plans and profiles, and Site Plan applications approved prior to **Zoning Ordinance Adoption Date** is exempt from, and may not be calculated or recalculated pursuant to, Section 7.02.C.
- The aggregate calculation of the various provided Open Space types is used to satisfy the minimum Open Space requirement.
 - Generally, open spaces related to conservation and preservation are given a higher factor (150%); traditional open spaces (Setbacks, Yards, Parks, Active Recreation, and Passive Recreation) are factored at 100%; and marginal or off-site open spaces are factored at 50%.
 - The full listing of open space types and qualifying characteristics is provided in Table 7.02-2.
 - The area of open space provided is then calculated by multiplying the area of land that meets all the type's qualifying characteristics by the factor for such type (see Sample Open Space Factor Calculations, below).
- Areas of land that do not meet all qualifying characteristics for a type listed in Table 7.02-2 cannot be provided as open space.
- The sum of all areas of land for each type listed in Table 7.02-2 that may be provided as open space must be equal or greater than the minimum amount of required open space under Section 7.02.B.
- Areas that meet the qualifying characteristics of more than 1 type can be used only once. The highest factor governs, except for off-site type in accordance with Section 7.02.D.3. and under overhead utility easement types.

Table 7.02-2. Open Space Eligibility

	Type	Qualifying Characteristics	Factor ¹
1	Archeological and Historic Resources	Preservation, conservation, or restoration of historic structures or archaeological sites of national, state, or local importance. Must be identified by Phase I archaeological survey pursuant to Facilities Standards Manual (FSM) regulations.	150%
2	Dedicated for Parks	Land to be dedicated to, and accepted by, the County for a public park.	
3	Linear Parks and Trails	Linear parks and trail corridors identified by the County for non-motorized circulation. Does not include either sidewalks or shared use paths that are required along road rights-of-way.	
4	Tree Conservation	Areas of existing tree canopy and vegetation that an applicant has agreed to conserve or preserve as part of a	

Table 7.02-2. Open Space Eligibility

Type		Qualifying Characteristics	Factor ¹
	Area	proffer or condition of approval in accordance with the Facilities Standards Manual (FSM).	
5	Virginia Natural Heritage Resources	Conservation or restoration of Virginia Natural Heritage Resources. Must be identified on the site and any proposed Covered Activities must demonstrate no disturbance or impact to any Natural Heritage Resources as verified by the Virginia Department of Conservation and Recreation.	
6	Wildlife Habitat	Protection or restoration of wildlife habitat listed in the Northern Virginia Planning Region of the Virginia Wildlife Action Plan (such as wetlands). Must be identified on the site and any proposed Covered Activities must demonstrate no disturbance or impact to any wildlife or habitats or are appropriate and measurable for restoration of wildlife species and habitats, as verified by the Virginia Department of Wildlife Resources.	
7	Active Recreation	Located within the development, on flat and well-drained land, and accessible to all residents of the development by means of internal pedestrian and bicycle network.	100%
8	Agricultural	Area must be subject to protective covenant allowing for continued agricultural use.	
9	Buffers, Screening ²	Buffers or screening required pursuant to Section 7.04 at least 20 feet wide. Cannot be located on lots for single family dwellings (except as provided in Section 7.02.D.1.b.).	
10	Community Open Space	Located within the development, on flat and well-drained land, accessible to all residents of the development by means of internal pedestrian and bicycle network, and with minimum measurements of 20 feet (length and width) inclusive of adjacent open space.	
11	Landscaping	Landscaped areas that do not qualify as another open space type. Must have minimum measurements of 20 feet (length and width) inclusive of adjacent open space. May include above ground stormwater management improvements, except bioretention, wet ponds, or extended detention ponds. Cannot be located on lots for single family dwellings (except as provided in Section 7.02.D.1.b.).	
12	Overhead Utility Easement ²	Nonresidential land located within a utility easement for overhead utility transmission lines that otherwise is usable for active recreation or passive recreation open space.	
13	Passive Recreation	Vegetated areas with minimum measurements of 50 feet (length and width) inclusive of adjacent open space but not within 20 feet of roads other than local roads and private roads.	
14	Setbacks, Yards ²	Setbacks or yards required under the applicable Zoning District that are landscaped and at least 20 feet in width. Cannot be located on lots for single family dwellings (except as provided in Section 7.02.D.1.b.).	
15	Level 2 Bioretention, Wet and Dry Ponds ²	Stormwater management improvements consisting of bioretention facilities, wet ponds, or extended detention ponds that: 1) implement Level 2 designs consistent with the Virginia Stormwater Best Management Practices Clearinghouse; and 2) in conjunction with other onsite stormwater management improvements, achieve a Total Phosphorus Load Reduction that exceeds the Reduction Required value as calculated in accordance with the FSM by at least 20% or 1 pound, whichever is greater.	50%
16	Trail Corridor	Land that connects to adjacent open space by way of public trails within a public access easement and constructed to County standards. Except in the Office and Industrial Zoning Districts, does not include either sidewalks or shared use paths that are required along road rights-of-way.	
17	Dedicated for Public Use ²	Land dedicated to the County for public use, excluding land dedicated for public parks and roads.	
18	Off-site ²	Off-site open space approved by Special Exception in accordance with Section 7.02.D.3.	
19	Overhead Utility Easement ²	Residential land located within a utility easement for overhead utility transmission lines that otherwise is usable for active recreation or passive recreation open space.	
20	Parking	Parking required for active recreation, passive recreation, or community open space. Does not include other parking (except bicycles) or interior parking lot landscaping.	
21	Bioretention, Wet and Dry Ponds ²	Stormwater management improvements consisting of bioretention facilities, wet ponds, or extended detention ponds.	

TABLE NOTES:

¹Applicable factor pursuant to Section 7.02.C.2.

²Cannot be used to satisfy more than 50% of required open space.

Sample Open Space Factor Calculations

<u>Open Space Provided (Type)</u>	<u>Actual Area</u>	x	<u>Factor</u>	=	<u>Calculated Open Space Area by Factor</u>
Active Recreation	0.32 ac	x	100%	=	0.32 ac
Wetlands (Wildlife Habitat)	0.38 ac	x	150%	=	0.57 ac
Level 2 Stormwater Management Improvement wet pond	0.16 ac	x	100%	=	0.16 ac
Central plaza (Community)	0.46 ac	x	100%	=	0.46 ac
On-site public trail (Trail Corridor)	0.62 ac	x	100%	=	0.62 ac
Off-site open space dedicated to County (Off-site)	2.1 ac	x	50%	=	1.05 ac
Total calculated open space area by factor					
$0.32\text{ ac} + 0.57\text{ ac} + 0.16\text{ ac} + 0.46\text{ ac} + 0.62\text{ ac} + 1.05\text{ ac}$					= 3.18 ac

6. **Required Active Recreation Open Space.** Development of 5 or more dwelling units must provide a portion of the required open space as active recreation open space as follows:
- A minimum of 5,000 square feet for the first 10 dwelling units plus:
 - 200 square feet for each additional SFA or MF dwelling unit; and
 - 100 square feet for each additional SFD dwelling unit; and
 - SFD dwelling units will be counted towards the 10 dwelling units before SFA or MF dwelling units; and
 - Exceptions:**
 - Attainable housing units are not included in the calculation of Section 7.02.C.6;
 - Active recreation open space may be provided but is not required within TRC, TC, PD-MUB, R-1, JLMA-1, JLMA-2, JLMA-3, and Rural Zoning Districts; and
 - In the PD-H Zoning District required active recreation open space may be located outside of residential land bays if such location creates more functional active recreation areas.

Sample Minimum Required Active Recreation Open Space Calculation

Dwelling Units: 24 SFD, 15 SFA

Active Recreation Open Space: $5,000\text{ sf} + 100\text{ sf} \times (24\text{ SFD} - \text{first } 10\text{ SFD}) + 200\text{ sf} \times 15\text{ SFA}$
 $= 5,000\text{ sf} + 1,400\text{ sf} + 3,000\text{ sf}$
 $= 9,400\text{ sf required active recreation open space}$

D. Ownership and Location.

1. Owners Association.

- Where any development of multiple lots provides open space to satisfy the requirements of Section 7.02, such required open space must be owned and managed by an Owners Association pursuant to Section 7.09 and maintained in accordance with Section 7.02.G., below.
- Exceptions.** Required open space for residential development of 4 or fewer lots in the TR Zoning District may be provided on the individual lots.

2. **Connected.**

- a. Areas of required open space must be adjacent to other areas of required open space or be connected by a pedestrian and bicycle network.
- b. **Exception.** Agricultural open space is not required to be connected or adjacent to areas of non-agricultural open space.

3. **Off-Site.**

- a. Required open space may be provided off-site only by Special Exception approval pursuant to Section [10.11.01](#).
- b. Such off-site open space must meet all of the following:
 1. Be offered to the County in fee simple;
 2. Be provided as commonly owned open space if not accepted by the County;
 3. Be subject to a permanent open space easement acceptable to the Board of Supervisors;
 4. Create a more environmentally significant open space;
 5. Be located in the same planning subarea as identified in the latest Capital Needs Assessment;
 6. Be in conformance with a type, and meet all associated qualifying characteristics, listed under Table [7.02-2](#) with a factor of 100% or 150% or the Dedicated for Public Use type;
 7. Cannot be used to meet active recreation open space requirements under Section [7.02.C.6.](#); and
 8. Cannot be used where open space is required in Table [7.02-1](#) to maintain density.

E. **Permanent Open Space Easement.** Open space must be subject to a permanent open space easement acceptable to the Board of Supervisors, as follows:

1. In Rural and Transition Zoning Districts. **Exception.** No permanent open space easement is required for development in the Transition Community Center (TCC) Zoning District;
2. Open space type identified in Table [7.02-2](#) with a factor equal to 150%; or
3. Off-site open space pursuant to Section [7.02.D.3](#).

F. **Development Schedule.**

1. When a development shown on a Concept Development Plan is to be constructed in phases, the timing of the provision of required open space must be specifically addressed in a development schedule.
2. Unless an alternate timing is specified by approved proffers, required open space must be constructed and available for use at an equivalent or greater rate than the construction of adjacent lots and uses.

G. **Maintenance.**

1. Maintenance of required open space is the responsibility of the owner of the parcel upon which such open space is located, to the extent such open space maintenance is not the responsibility of an Owners Association.
2. In order to be considered as continuing to meet the open space requirements, land provided as open space must be maintained in accordance with the following and any applicable proffers or conditions of approval:
 - a. For all required open space, the following must be performed regularly:
 1. Removal of diseased, invasive, and noxious plants; and
 2. Removal of trash, debris, and graffiti; and
 - b. For areas designated as active recreation, passive recreation, and community open space the following must be performed regularly:
 1. Maintenance, repair, and replacement of structures, facilities, and equipment installed within such open space areas;

2. Maintenance of all prepared surfaces, such as but not limited to:
 - a. Shared use paths and trails;
 - b. Hardscape; and
 - c. Sports courts and ballfields; and
3. Lawn care and maintenance;
4. Installation of replacement annual and biennial plant materials;
5. Removal and replacement of dead or dying vegetation installed to meet landscaping, buffer, and screening requirements under Section 7.04; and
6. Snow removal from shared use paths and trails.

H. Use.

1. Use of required open space is in accordance with the applicable type listed under Table 7.02-2.
2. Additional uses permitted in required open space are provided in the Use Tables of Section 3.02.

7.03 Tree Planting, Replacement, and Preservation

Purpose. *The purpose of the Tree Planting, Replacement, and Preservation is to:*

- *Provide regulations for the planting and replacement of trees destroyed or damaged during the development or redevelopment process, pursuant to Code of Virginia § 15.2-961;*
- *Encourage the preservation of existing trees to meet canopy requirements;*
- *Promote tree planting and preservation to reduce the heat island effect, manage stormwater run-off, and improve and protect water quality, air quality, and wildlife habitat;*
- *Prioritize the planting of native vegetation, specifically along those wildlife corridors that provide connections to other natural, environmental, and heritage resources; and*
- *Ensure that new development, redevelopment, and infill development incorporates existing native vegetation and plantings of native vegetation into the landscape design to the extent feasible.*

A. General Standards. The following general standards apply to the Tree Planting, Replacement, and Preservation requirement:

1. All trees to be planted must meet the specifications of AmericanHort;
2. The planting of trees must be done in accordance with either the standardized landscape specifications jointly adopted by the Virginia Nursery and Landscape Association, the Virginia Society of Landscape Designers and the Virginia Chapter of the American Society of Landscape Architects, or the road and bridge specifications of the Virginia Department of Transportation;
3. Minimum plant sizes must be provided in accordance with Section 7.04.07.D.; and
4. All existing and new vegetative material required to meet the tree canopy requirements must meet the standards of the Facilities Standards Manual (FSM).

B. Canopy Requirements.

1. **Site Plan/Construction Plans and Profiles.** A Site Plan, or Construction Plans and Profiles for single family attached (SFA) units in those districts where applicable, required under Section 10.06, must include the planting and replacement of trees on site to the extent that, at maturity of 20 years, minimum tree canopy must be provided in accordance with Table 7.03-1. For purposes of Section 7.03, "on site" means on individual sites subject to a Site Plan or Construction Plans and Profiles.

Table 7.03-1. Canopy Requirements

	Development Type	Percentage
1	Sites zoned business, commercial, or industrial in the TRC, UE, TC, CC, PD-CC, OP, PD-RDP, IP, GI, MR-HI, TCC, RC, PD-H, PD-MUB, PD-SA, GB, and CLI Zoning Districts	10%
2	Residential sites zoned SCN-24, PD-H, and R-24 with densities of 20 or more units per acre	10%
3	Residential sites zoned SCN-16, PD-H, and R-16 for multifamily and SFA units with densities of 11 to 19 units per acre	15%
4	Residential sites zoned SCN-8, SN-6, SN-4, PD-H, R-4, and R-3 for multifamily and SFA units with densities of 3 to 10 units per acre	20%
5	Cemetery as defined in Code of Virginia § 54.1-2310, regardless of the Zoning District in which it is located	10%

2. **Landscape Plan.** All plats and plans for single-family detached (SFD) and/or SFA duplex dwelling units for property that is zoned for densities of less than 10 dwelling units per acre must include a landscape plan that provides for the planting or replacement of trees on the site to the extent that, at maturity of 20 years, minimum tree canopies will be provided as follows:

- a. Street trees are required pursuant to Section 7.04.02.E.;
- b. Every platted lot must have a minimum tree canopy coverage of 2.5%, or 3,000 square feet, whichever is less, calculated at 20 years maturity:
 1. Such trees are counted toward the minimum tree canopy requirements in (a) and (b) above; and
 2. Lots for which no permits for new structures will be sought and the residual parcel are exempt from this requirement; and
- c. If the site has a tree canopy coverage of less than 20% prior to development, the landscape plan must provide for the preservation or planting and replacement of an equivalent percentage of tree canopy coverage as existed prior to development, calculated at 20 years maturity; and
- d. If the site has a tree canopy coverage of 20% or more prior to development, the landscape plan must provide for the preservation, or planting and replacement of trees on site resulting in a tree canopy of at least 20%, calculated at 20 years maturity.

C. **Tree Canopy Coverage Exclusion Areas.** To determine tree canopy coverage requirements, the following areas are excluded from calculating the area of a site:

1. Properties reserved or dedicated for future street construction or other public improvements and utilities;
2. Water bodies and unwooded wetlands;
3. Properties reserved or dedicated for school sites, playing fields, and other non-wooded recreation areas; and
4. Portions of a site that contain existing structures that are not the subject of a pending application

D. **Tree Cover Credit.** Tree cover credit in consideration of the preservation of existing tree cover or for preservation of trees of outstanding age, size, or physical characteristics may be permitted in conformance with FSM process for determining existing cover or trees for preservation and tree cover credit.

E. **Deviations.** The Zoning Administrator may approve a deviation to the requirements in Section 7.03 upon a determination, pursuant to Section 10.02, that such deviation is:

1. To allow for the reasonable development of farmland or other areas devoid of healthy or suitable woody materials;
2. For the preservation of wetlands; or
3. When the strict application of the requirements would result in unnecessary or otherwise unreasonable hardship to the developer.

7.04 Landscaping, Buffers, and Screening

Contents:

- 7.04.01 Purpose, Applicability, and Exceptions
- 7.04.02 Road Corridor Buffers and Setbacks, Street Trees
- 7.04.03 Buffer Types
- 7.04.04 Cemetery, Burial Ground, and Grave Buffer
- 7.04.05 Screening of Certain On-site Components
- 7.04.06 Parking Area Landscaping and Screening Requirements
- 7.04.07 General Landscape Provisions
- 7.04.08 Buffer Adjustments and Modifications

7.04.01 Purpose, Applicability, and Exceptions

Purpose. The purpose of the Landscaping, Buffer, and Screening is to:

- Foster attractive and harmonious development through the use of landscaping;
- Minimize the harmful impacts of noise, dust, and other debris;
- Minimize motor vehicle headlight glare and other artificial light intrusion;
- Certain roads within Loudoun County because of their function, location and capacity require that uses be set back a certain minimum distance from them;
- Protect property values by reducing visual impacts and land use conflicts;
- Provide shade and reduce the heat island effects;
- Enhance natural drainage systems and manage stormwater runoff;
- Contribute to ecosystem benefits and improve water quality, air quality, and wildlife habitat;
- Ensure that new development, redevelopment, and infill development incorporates existing native vegetation, plantings of native vegetation, and removal of invasive species into the landscape design; and
- Preserve and promote the health, safety, and general welfare of the public.

A. **Applicability.** Section 7.04 applies to all land development requiring a Site Plan, construction plans and profiles, Subdivision, and/or a Zoning Permit application.

B. **Exceptions.**

1. Road Corridor Buffers required by Section 7.04.02 and Buffers required by Section 7.04.03 are not required as follows:
 - a. For Zoning Permit applications for single-family detached dwelling units and residential accessory uses and structures;
 - b. At the time of subdivision application in the AR-1, AR-2, A-3, A-10, JLMA-20, and JLMA-3 Zoning Districts;
 - c. At the time of boundary line adjustment, family subdivision, single lot subdivision waiver, low density development waiver, or dedication plat application; and
 - d. To any use subject to Section 7.04.03.A.7.
2. Road Corridor Buffers required by Section 7.04.02 will:

- a. Apply along roads adjacent to the boundary of the TRC, UE, TC, SC, TCC, and PD-RV Zoning Districts. All other roads within these Zoning Districts are subject to the street tree requirement in Section 7.04.02.E.; and
- b. Not apply to roads that abut Agriculture, Horticulture, or Animal Husbandry uses, or to Category B and Category C roadways as provided by the Facilities Standards Manual (FSM).
3. Buffers required by Section 7.04.03 do not apply within the TRC, UE, TC, CC, TCC, PD-CC, and PD-MUB Zoning Districts. Buffers within these Zoning Districts must be provided in accordance with the regulations for such Zoning Districts.
4. These exceptions under Section 7.04.01.B. do not apply to the structure and parking setbacks of Section 7.04.02 or the Cemetery, Burial Ground, and Grave Buffer of Section 7.04.04.
- C. Section 7.04 is intended to complement Section 7.03 of this Zoning Ordinance. Trees planted to fulfill the canopy requirements of Section 7.03 also may fulfill the requirements of Section 7.04.
- D. All vegetative material required to be planted to meet the requirements of Section 7.04 must be in accordance with the FSM.
- E. Existing vegetation that is suitable for use in compliance with the requirements of Section 7.04 may be used as required planting when supplemented by new vegetation, if needed, so as to provide buffering and screening in accordance with the purpose and intent of Section 7.04.
 1. Such existing vegetation must be shown on a Tree Conservation Plan prepared in accordance with the FSM.
 2. Invasive species are not suitable for use in compliance with the requirements and must be removed from an area of existing vegetation proposed to meet the requirements of Section 7.04. Removal of invasive species from such an area must be permanently maintained after establishment of the buffer.
- F. Where any provision of Section 7.04 imposes restrictions or standards different from those of Section 7.03 or any other County ordinance or regulation or other provision of law, whichever provisions are more restrictive or impose higher standards will control, unless the intent is clearly otherwise.

7.04.02 Road Corridor Buffers and Setbacks, Street Trees

A. General Provisions.

1. Road Corridor Buffers and Setbacks must be provided in accordance with:
 - a. Table 7.04.02-1, Road Corridor Buffer and Setbacks Matrix;
 - b. Section 7.01.04.C, and extend across the length of the proposed development site; and
 - c. **Exception.** When street trees are required under Section 7.03.B.2., the street tree requirement applies to roads in or adjacent to a development that are not arterial roads, collector roads, or ramps at grade separated interchanges. The Road Corridor Buffer and Setbacks of Table 7.04.02-1 apply to arterial roads, collector roads, and ramps at grade separated interchanges in the development.
2. The required width of the Road Corridor Buffer may vary by up to 50% from the minimum width required at any point along the required length, provided:
 - a. The width is not reduced to less than 10 feet; and
 - b. The total area of the length of Road Corridor Buffer with varied width is not reduced below the minimum area that would have been required.
3. Road Corridor Buffers may be set back from the right-of-way line or private road easement line where easements, covenants, or natural features would prevent the required Road Corridor Buffer from abutting the public road or private road, in which case the required Road Corridor Buffer must be provided in addition to such easements, covenants, or natural features.

4. For subdivisions that require open space, Road Corridor Buffers are not permitted to be located on individual residential lots of 20,000 square feet or less.
5. When a Road Corridor Buffer is located on an individual residential lot the Road Corridor Buffer must be located within an easement dedicated to the County of Loudoun. Street trees required pursuant to Section 7.04.02.E. are not permitted on individual residential lots.
6. The Road Corridor Setback applies to certain roads within Loudoun County because their function, location and capacity require that uses be set back a certain minimum distance from them.
7. **Exemptions.** The following are exempt from the Road Corridor Setbacks in Table 7.04.02-1 :
 - a. All agricultural structures located along all roads and used only for agriculture;
 - b. All structures along all roads, except arterial roads, located within the Village Conservation Overlay District and Joint Land Management Area Districts, see Sections 5.07 and 2.05;
 - c. All structures and parking along all roads, except arterial roads, in the Urban Zoning Districts, see Sections 2.01 and 2.02; and
 - d. Dwellings, and their accessory structures and accessory uses, built before June 16, 1993, pursuant to Section 1.03.03.E.
8. For lots as they existed on June 16, 1993, the structure setback from a road in Table 7.04.02-1 may be reduced on shallow lots to allow a building area of up to 85 feet in depth, measured forward from any required rear buffer, yard, or setback, whichever is more restrictive. In addition:
 - a. In no case will the modified structure setback from the road be less than the yard or setback required by the underlying Zoning District;
 - b. Parking setbacks must be coterminous with structure setbacks; and
 - c. No lot may be altered or reconfigured to increase the degree of its shallowness.

Table 7.04.02.-1. Road Corridor Buffer and Setbacks Matrix¹

	Route Number or Road Type ²	Structure Setback ³	Parking Setback ³	Buffer Type
Arterial Roads				
1	Route 7: Fairfax County line west to Broad Run	100 ft	75 ft	3
2	Route 7: Broad Run west to east corporate limit of Leesburg	200 ft ⁴	125 ft ⁴	Gateway
3	Route 7: Bypass from the west corporate limit of Leesburg west to Clarke County line	200 ft	100 ft	3
4	Route 267	150 ft	100 ft	3
5	Route 50: Fairfax County line east to Northstar Boulevard	100 ft ⁴	100 ft ⁴	Gateway
6	Route 50: Northstar Boulevard west to Fauquier County line	100 ft for all districts, except TCC, TCC: 50 ft	75 ft for all districts, except TCC, TCC: 50 ft	3
7	Route 15	100 ft	75 ft	3
8	Route 28	100 ft	75 ft	3
9	Route 9	100 ft	75 ft	3
10	Route 606	100 ft	75 ft	3
11	Other Arterial Roads	100 ft for all districts, except TC, SCN, SC, TCC, TC, SCN, SC, TCC: 50 ft	75 ft. for all districts, except TC, SCN, SC, TCC, TC, SCN, SC, TCC: 50 ft	3
Collector Roads				
12	Route 287	100 ft	75 ft	3
13	Other Major Collector Roads	75 ft., except TC, SCN, SC, TCC, TC, SCN, SC, TCC: 35 ft	35 ft	2

Table 7.04.02.-1. Road Corridor Buffer and Setbacks Matrix¹

14	Minor Collector Roads	See applicable district regulations	See applicable district regulations	2
Other				
15	All other roads in Nonresidential Districts	See applicable district regulations	25 ft ⁵	1
16	All roads in A-3, A-10, AR-1, AR-1, Transition, JLMA Districts	See applicable district regulations	See applicable district regulations	1
17	All roads in SN, SCN, TC, TRC, UE, CC, PD-AAAR, R (including PD-H administered as R) Districts	See applicable district regulations	See applicable district regulations	Street Trees pursuant to Section 7.04.02.E
18	Private road serving as an alley ⁶ or serving commercial loading area	N/A	N/A	N/A
19	Ramps at grade separated interchanges associated with the roads listed above	75 ft	35 ft	3
20	W&OD Trail	25 ft	See applicable district regulations	2

TABLE KEY:

ft = feet

TABLE NOTES:

¹Unless exempt pursuant to Section 7.04.02.A.7.

²The road type is determined by the Countywide Transportation Plan.

³The setback must be provided in accordance with the Structure Setback or Parking Setback or the setback provided in an approved corridor study whichever setback is greater.

⁴May be reduced in accordance with Section 7.04.02.C.5.

⁵Unless otherwise specified in applicable district regulations.

⁶As defined in the Zoning Ordinance.

B. Road Corridor Buffer Types. The intent of the Road Corridor Buffer Types referenced in Table 7.04.02-2 are described below.

1. Road Corridor Buffer Type 1. This buffer is intended to function as an intermittent visual obstruction.
2. Road Corridor Buffer Type 2. This buffer is intended to function as a semi-opaque screen.
3. Road Corridor Buffer Type 3. This buffer is intended to provide a strong impression of total separation between the road and the parcel.
4. Gateway Corridor Buffer. This buffer is intended to provide a boulevard environment creating a sense of enclosure and transition to mark County gateways.

C. Road Corridor Buffer Width and Plant Requirements. Road Corridor Buffer widths and plant units must be provided in accordance with Table 7.04.02-2.

Table 7.04.02-2. Road Corridor Buffer Width and Plant Requirements

Road Corridor Buffer Type	Width	Number of Plant Units ¹ Per 100 feet of Right-of-Way or Easement ²
1	10 ft	20
2	15 ft	60
3	20 ft	95
Gateway	100 ft	*

TABLE KEY:

ft = feet

TABLE NOTES:

¹See Table 7.04.07-1 for Plant Unit equivalents.

²Vehicle entrances, bridges, and/or pedestrian tunnels may be excluded from length of public road or private road frontage calculation. The buffer length is measured from where the buffer intersects the entrance travelway.

*The Gateway Corridor Buffer is subject to the requirements specified in Section 7.04.02.D.

D. Specific Requirements for Gateway Corridor Buffer.

1. In accordance with Table 7.04.02-3 and as follows.

Table 7.04.02-3. Gateway Corridor Buffer Plant Requirements		
Plant Material	Minimum Size (at time of planting)	Number of Plants per 100 feet of R/W or Easement Line
Large Deciduous Trees	2-inch caliper	4
Small Deciduous Trees	2-inch caliper	2
Evergreen Trees	8-foot height	2
Shrubs	24-inch height	50

2. **Route 50 Gateway Corridor Buffer.** The Route 50 Gateway Corridor Buffer must provide the following Design Elements:

- a. **Plant Location.** The plants required in Table 7.04.02-3 must be installed on the parcel as follows:
 1. The plants must be located within the first 50 feet of the required 100-foot buffer immediately adjacent to the right-of-way of Route 50;
 2. Each 100-foot segment of frontage must contain the plants required per 100 linear feet;
 3. The plants must be located in front of the linear element required in Section 7.04.02.D.2.b; and
 4. The plants and the linear element must be configured to align with the plants and the linear element on adjacent parcels, where feasible, to create a uniformly landscaped frontage along the right-of-way; and
- b. **Linear Element.** A linear element must be provided within the Gateway Corridor Buffer for at least 40% of a parcel's frontage adjacent to Route 50 and must consist of a stone-faced feature. The linear element may also include a fence and/or hedgerow:
 1. The stone-faced feature (i.e., wall, pillar, sign, and the like) must be:
 - a. Faced with materials having characteristics similar to native stone;
 - b. A minimum of 3 feet in height notwithstanding the Section 7.01.04.B.1. height limitation for fences in front yards; and
 - c. Have a minimum length equal to 10% of a parcel's frontage if combined with a fence or hedgerow; and
 2. If a fence is provided, it must be:
 - a. A maximum height of 4.5 feet notwithstanding the height limitation of Section 7.01.04.B.1. for fences in front yards, as measured from the ground to its highest point, to include posts or other supporting structures;
 - b. Constructed of wood or a wood-like polymer in a rail, paddock, or horizontal board design; and
 - c. Have a minimum opacity of 50%; and
 3. If a hedgerow is provided, it must consist of a minimum of 10 shrubs planted in a continuous row that must:
 - a. Be planted at 36 inches on center;
 - b. Have a minimum height of 24 inches; and
 - c. Not count towards fulfilling the required plants in Table 7.04.02-3; and

4. The linear element is not required to be a continuous element. However, if any portions of the linear elements overlap, then for the length of the overlapping elements only one element can be counted towards satisfying the required length;
 5. Areas of existing vegetation used to meet the Gateway Corridor Buffer plant requirements are excluded for the purposes of calculating the frontage length for determining the required minimum length of the linear element;
 6. The linear element does not have to be located parallel to the road; and
 7. The linear element can be used towards fulfilling the Peripheral Parking Lot Landscaping requirements under Section 7.04.06.B.
 3. **Route 7 Gateway Corridor Buffer. Plant Location.** The plants required in Table 7.04.02-3 must be installed on the parcel as follows:
 - a. The total plants required for each 100-foot segment of frontage must contain the plants required per 100 linear feet, except that plants may be relocated within the buffer where existing environmental constraints or public utility easements prevent planting within a particular segment.
 - b. The plants may be located within the full 100-foot width of the required buffer immediately adjacent to the right of way of Route 7; and
 4. **Uses in the Gateway Corridor Buffer.** In addition to the uses specified in Section 7.04.07, the following uses are permitted in the Gateway Corridor Buffer:
 - a. Storm water management and best management practice (BMP) facilities. Such facilities may not be located within the first 50 feet adjacent to the right-of-way, unless the facility is designed as follows:
 1. As a water feature in accordance with Section 7.04.02.D.4.b. below; or
 2. A bio-retention facility that includes plantings required in the corridor buffer; and
 - b. A water feature, defined as a permanent aqueous element to include a fountain, stream, waterfall, and/or cascade; a wet pond that includes a fountain, waterfall, and/or cascade; or a bioretention facility and/or wetland. In the case where a water feature is incorporated in the design of the Gateway Corridor Buffer and located within the first 50 feet immediately adjacent to the right-of-way, the following variations are permitted:
 1. The number of shrubs required by Table 7.04.02-3 may be reduced by 50% for the total amount of linear feet of frontage that is occupied by the water feature; and
 2. Notwithstanding Sections 7.04.02.D.2.a. and 7.04.02.D.3.a., regarding required plant locations, for the frontage occupied by the water feature, the required large deciduous trees are to be located between the right-of-way and the water feature and the required small deciduous trees, evergreen trees, and shrubs may be located around and behind the water feature; and
 5. **Reduction.** The required width of the Gateway Corridor Buffer may be reduced to 50 feet pursuant to Section 7.04.08; and
 6. **Other Landscaping and Screening.** Where the Zoning Ordinance requires the screening of parking, service and loading areas, and utility equipment from roads, such screening as may be necessary must be in addition to the Gateway Corridor Buffer plantings and must be provided within the Gateway Corridor Buffer, but outside of the first 50 feet of the required 100-foot width as measured from the right-of-way.

E. **Specific Requirements for Street Trees.** When street trees are required, they must be provided as follows:

 1. Planted at a rate of 20 plant units per 100 linear feet along each side of all public roads or private roads. The planting rate applies individually to each side of the road:
 - a. Only small deciduous trees and large deciduous trees are permitted to meet the plant unit requirement for street trees; and

- b. Trees are not permitted to be planted closer than 3 feet to any curb, sidewalk, or paved area unless planted within approved manufactured stormwater management improvements; and
2. Street trees must be regularly spaced.

7.04.03 Buffer Types

A. General Provisions.

1. Buffers must be provided at the sides and rear of the developing lot in accordance with Table 7.04.03-1, the Use Buffer Matrix, and in accordance with the provisions of Section 7.04.
2. Buffer Types are determined by the proposed use group of the developing lot and the existing use group of the adjacent lot, in accordance with Table 7.04.03-1.
3. In those instances where a proposed use and/or an existing use on a lot is not identifiable under the use groups in Table 7.04.03-1, the Zoning Administrator, using Table 7.04.03-1 as a guide, will determine the appropriate Buffer Type for the developing lot.
4. Where a structure is proposed to contain more than 1 use group under Table 7.04.03-1 the more stringent requirements of Table 7.04.03-1 will apply.
5. Where a developing lot and/or adjacent lot contain multiple use groups, the Buffer Type required by Table 7.04.03-1 may vary on the developing lot to correspond to the location of each use group on the adjacent lot.
6. When the adjacent parcel is used for a wayside stand or temporary use, the adjacent parcel will be considered vacant when determining the Buffer Type.
7. Specific Uses under Chapter 4 that reference Section 7.04 for Landscaping, Buffering, and Screening requirements must provide the following between the Specific Use and any existing adjacent lot 4 acres or less in size or any existing adjacent lot that contains a dwelling unit within 300 feet of the lot containing the Specific Use:
 - a. A minimum 50-foot setback measured from the lot line;
 - b. A Road Corridor Buffer Type 2 for front yards; and
 - c. A 6-foot-high fence, wall, or berm providing a minimum opacity of 95%, or equivalent natural topography, and/or a Buffer Type B for the sides and rear of the lot.
 1. The required fence, wall, or berm for the sides or rear of the lot may be configured to surround the Specific Use.
 2. The Buffer Type B along the sides or rear of the lot may be configured to surround the Specific Use provided the intent of the Buffer Type B is met as described in Section 7.04.03.B.
8. Existing vegetation, and trees may be used to meet the requirements of Section 7.04.03 in accordance with Section 7.04.01.E.
9. When a required buffer is a different width than a required yard, both the required buffer width and the required yard width must be accommodated.
10. All vegetative material within the Buffer Types A, B, and C must meet the specifications of the Facilities Standards Manual.

Table 7.04.03-1. Use Buffer Matrix¹

	Adjacent Use												
	Single Family Detached	Single Family Attached	Multi-family	Group Living	Agriculture / Horticulture / Animal Husbandry and Passive Uses	Community and Active Recreation Uses ²	Institutional / Civic	Office and Conference / Training Centers	Commercial / Retail	Flex-Industrial Uses and Utilities	Heavy Industrial and Aviation	Vacant Land in a Residential District or Land Bay Approved for Residential Use	Vacant Land in all Other Districts or Land Bays
Proposed Use	1	2	3	4	5	6	7	8	9	10	11	12	13
Single- Family Detached	1 N/A	A	A	A	A	A	A	A	A	B	B	N/A	A
Single- Family Attached	2 B	N/A	A	A	B	A	A	A	A	B	B	A	A
Multifamily	3 B	A	N/A	A	B	A	A	A	A	B	B	B	A
Group Living	4 B	A	A	N/A	B	A	A	A	A	B	B	B	A
Agriculture/Horticulture/Animal Husbandry and Passive Uses	5 N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Community and Active Recreation Uses ²	6 B	A	A	A	N/A	N/A	A	A	A	B	B	B	A
Institutional/Civic	7 B	B	B	A	N/A	B	N/A	A	A	B	B	B	A
Office and Conference/Training Centers	8 B	B	B	B	N/A	B	B	N/A	A	A	B	B	A
Commercial/Retail	9 B	B	B	B	N/A	B	A	A	N/A	A	B	B	A
Light Industrial and Flex-Industrial Uses and Utilities	10 C	C	C	C	N/A	C	C	B	B	N/A	B	C	C
Heavy Industrial and Aviation	11 C	C	C	C	N/A	C	C	C	C	C	N/A	C	C
Vacant Land ³ in a Residential District or Land Bay Approved for Residential Use	12 N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vacant Land ³ in all Other Districts or Land Bays	13 N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE NOTES:

¹Buffer Types A, B, and C are described in greater detail in Section 7.04.03.B.

²Buffers are not required between playgrounds or passive recreational uses when located internal to a residential neighborhood.

³Includes land designated as Open Space, but no use is specified.

B. Buffer Types. The intent of Buffer Types A, B, and C listed in Table 7.04.03-2 are as follows:

1. Buffer Type A: Aesthetic. This Buffer Type is intended to function as an intermittent visual obstruction and create the impression of spatial separation without eliminating visual contact between uses;
2. Buffer Type B: Semi-opaque. This Buffer Type is intended to function as a semi-opaque screen between uses; and
3. Buffer Type C: Opaque. This Buffer Type is intended to provide the greatest degree of screening feasible and minimize visual contact between uses, creating a strong impression of total separation.

C. Buffer Widths and Plant Requirements. Buffer Types A, B, and C must be provided in accordance with Table 7.04.03-2.

Table 7.04.03-2. Buffer Width and Plant Requirements

Buffer Type	Width	Number of Plant Units ¹ per 100 Linear feet of Required Buffer
A	10 ft	30
B	20 ft	80
C	25 ft	120 ²

TABLE KEY:

ft = feet

TABLE NOTES:

¹See Table 7.04.07-1. for Plant Unit equivalents.

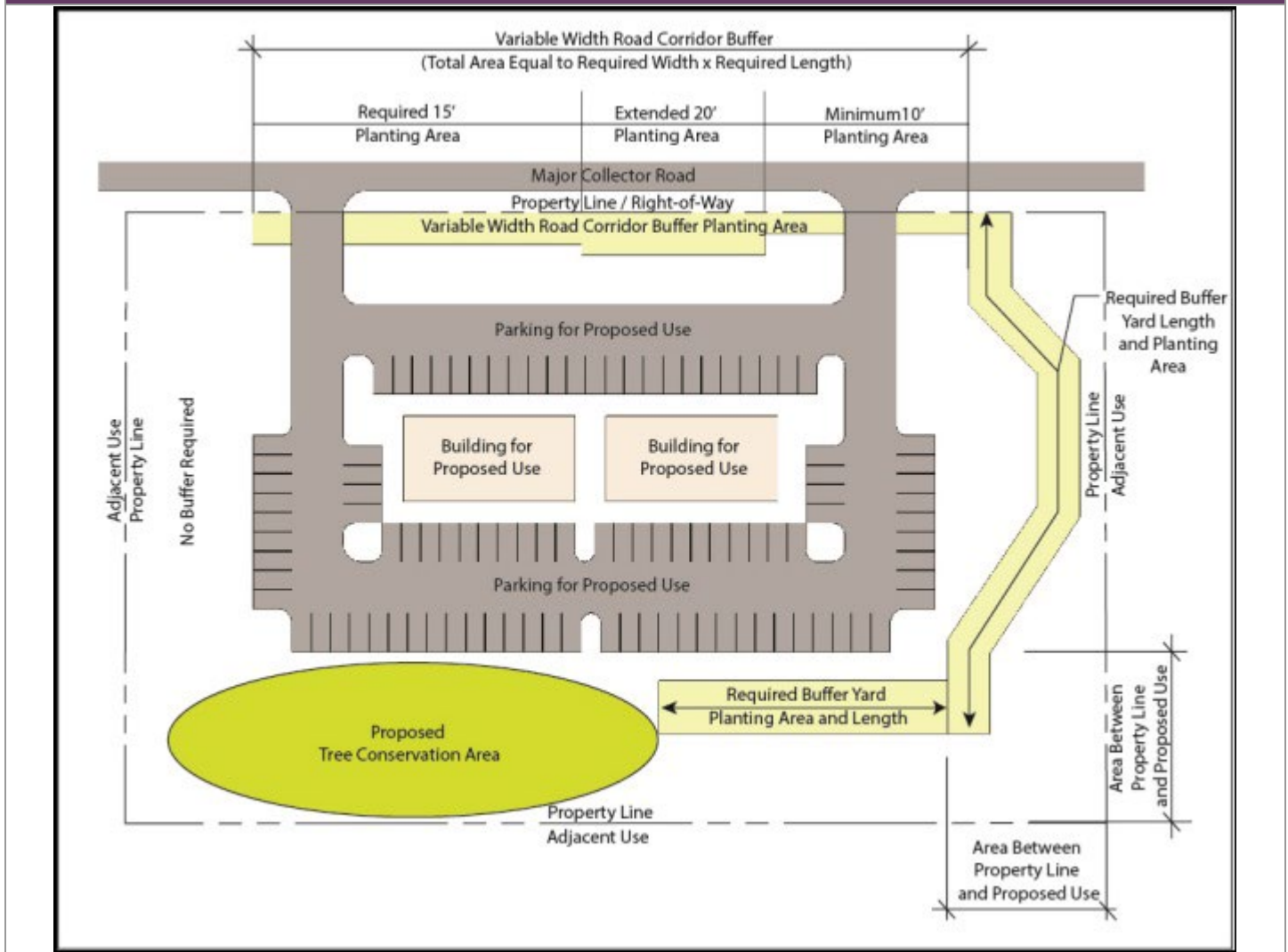
²A 6-foot-high fence, wall, and/or berm, providing a minimum opacity of 95% is required to run the length of the required Buffer between the proposed use and the required plant units. Required plant units may be planted on a berm.

D. Buffer Location.

1. Required buffers must be provided between the lot line and the proposed use and may be configured to surround the proposed use provided the intent of the required Buffer Type under Section 7.04.03.B. is met.
2. The location of required buffers may vary between the lot line and the proposed use provided the required plant units are planted within the required width throughout the full length of the buffer.

Draft 7/6/23

Figure 7.04.03-1. Buffer Location Example



7.04.04 Cemetery, Burial Ground, and Grave Buffer

A. General Provisions.

1. A Cemetery, Burial Ground, or Grave Buffer must be provided for all existing cemeteries, burial grounds, and graves except for the following:
 - a. A cemetery, or an existing cemetery's expansion, legally established after January 7, 2003;
 - b. A cemetery, burial ground, or grave for animal remains;
 - c. A cemetery, burial ground, or grave accessory to and located on a parcel owned by and operated as an active religious assembly use. This exception does not apply to adjoining parcels that are not owned by and/or operated as the active religious assembly use; and
 - d. A cemetery, burial ground, or grave from which all human remains have been removed in accordance with the Code of Virginia.
2. The Cemetery, Burial Ground, and Grave Buffer comprises 3 components: a perimeter boundary, a protection buffer, and a preservation buffer.
 - a. The perimeter boundary demarcates the delineated perimeter of the existing burials.

- b. The protection buffer protects the physical integrity of existing burials and preserves the natural and cultural features associated with the cultural landscape.
- c. The preservation buffer creates separation from adjacent land uses to preserve the historic context of the existing cemetery, burial ground, or grave. Historic context includes physical characteristics such as, without limitation, vegetation, topography, water courses, monuments, enclosures, and other cultural features associated with the cemetery, burial ground, or grave.

B. Perimeter Boundary.

1. If archaeological delineation of the perimeter boundary of a cemetery, burial ground, or grave is required by the Facilities Standards Manual (FSM), then the delineated perimeter boundary must be physically demarcated with a fence between a minimum of 3 feet and a maximum of 4 feet in height, or other perimeter demarcation as approved by the Zoning Administrator.
2. No land disturbing activity is permitted within the delineated perimeter boundary of the cemetery, burial ground, or grave except for the following:
 - a. Construction of the perimeter demarcation;
 - b. Clearing of invasive vegetation on the surface, excluding any species that were planted in association with burials;
 - c. Land disturbing activity associated with the excavation and filling of grave shafts for new burials; and
 - d. Removal and reinternment of burials in accordance with the Code of Virginia.

C. Protection Buffer. If archaeological delineation of the perimeter boundary of a cemetery, burial ground, or grave is required by the Facilities Standards Manual (FSM), then the following requirements apply:

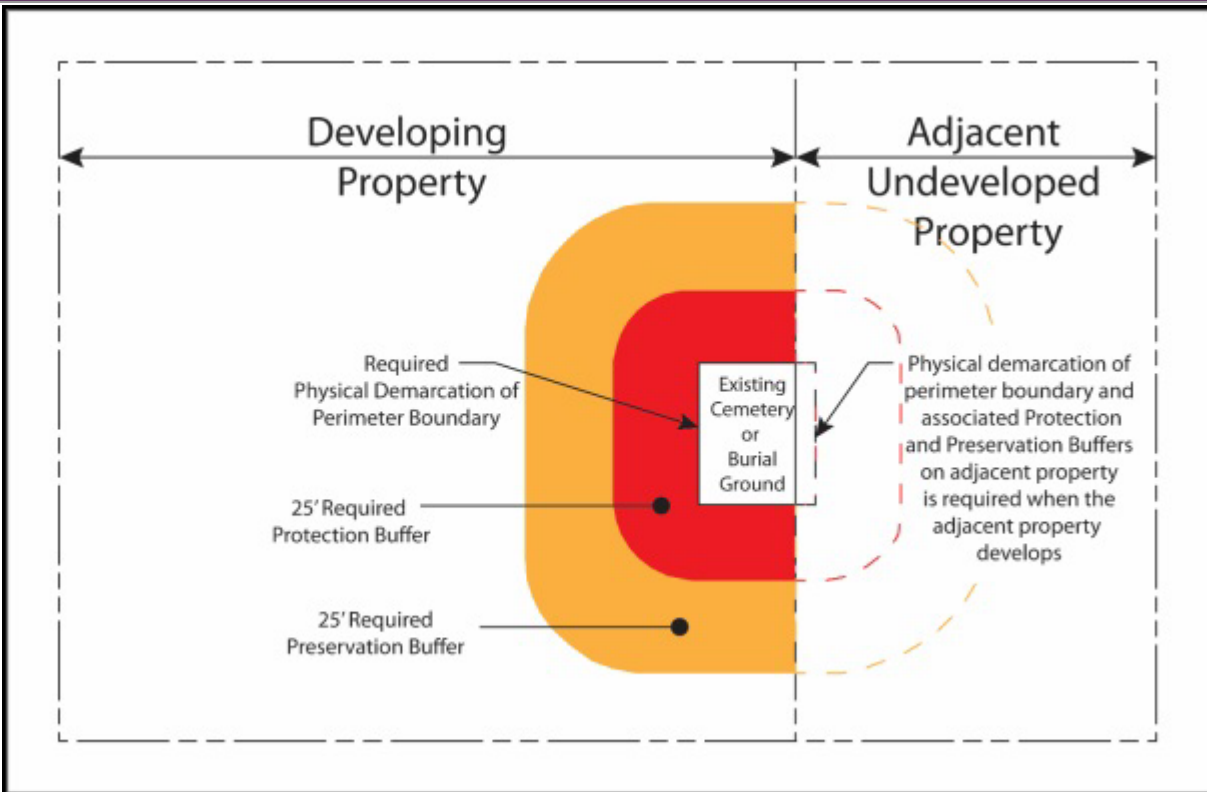
1. For a cemetery, burial ground, or grave on the developing property, a 25-foot protection buffer must be established outside of and abutting the delineated perimeter boundary;
2. For a developing property located adjacent to a parcel containing an existing cemetery, burial ground, or grave for which the perimeter boundary has not been delineated, the protection buffer must be provided in accordance with Section 7.04.04.E.; and
3. No land disturbing activity is permitted within the protection buffer except for the following:
 - a. Land disturbing activity associated with construction of the perimeter demarcation required by Section 7.04.04.B.;
 - b. Construction associated with pedestrian access; and
 - c. Clearing of invasive vegetation on the surface, excluding any species that were planted in association with burials; and
4. The protection buffer may be modified only by Minor Special Exception in accordance with the provisions of Section 10.11.02.

D. Preservation Buffer. If archaeological delineation of the perimeter boundary of a cemetery, burial ground, or grave is required by the Facilities Standards Manual (FSM), then the following requirements apply:

1. For a cemetery, burial ground, or grave on the developing property, a 25-foot preservation buffer must be established outside of and abutting the protection buffer required under Section 7.04.04.C; and
2. For developing property located adjacent to a parcel containing an existing cemetery, burial ground, or grave for which the perimeter boundary has not been delineated, the preservation buffer must be provided in accordance with Section 7.04.04.E.; and
3. No land disturbing activity is permitted within the preservation buffer except for the following:
 - a. Land disturbing activity associated with construction of the perimeter demarcation required by Section 7.04.04.B.;
 - b. Construction associated with pedestrian access; and

- c. Clearing of invasive vegetation on the surface; and
- 4. The Zoning Administrator may approve a request to adjust or waive the preservation buffer in accordance with the requirements of Section 7.04.08 or in conjunction with a Minor Special Exception request pursuant to Section 7.04.04.C.4.

Figure 7.04.04-1. Cemetery, Burial Ground, and Grave Buffer Example

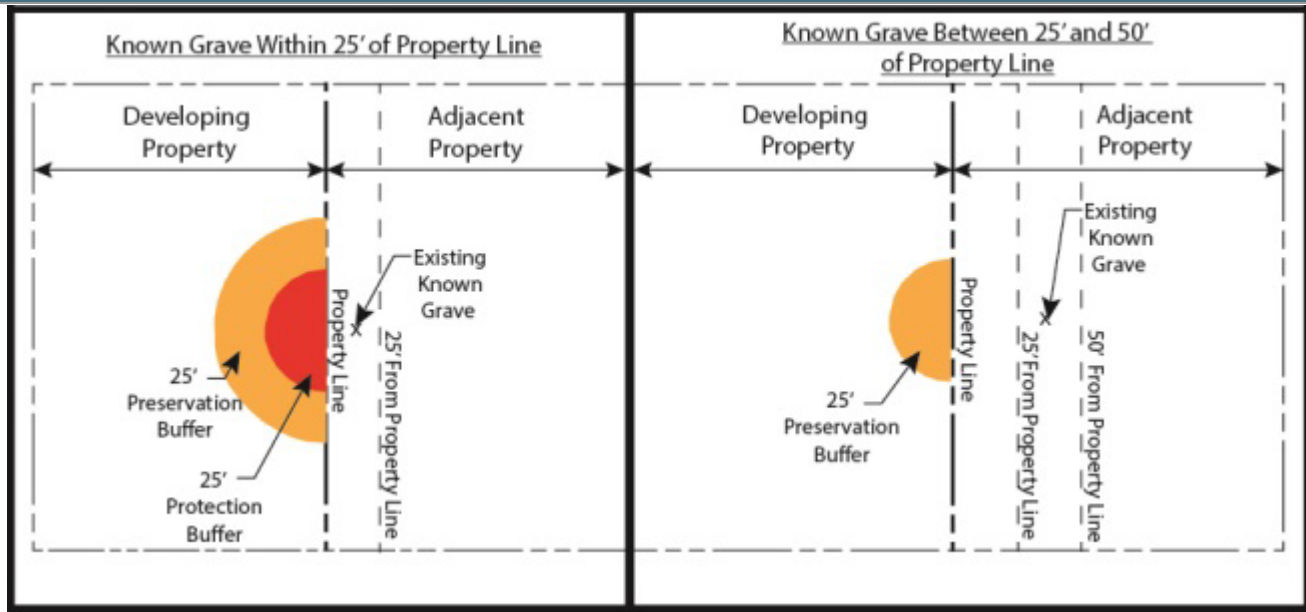


- E. Off-site Cemetery, Burial Ground, or Grave Buffer.** When a developing parcel requires an archaeological survey pursuant to the Facilities Standards Manual (FSM) and is located adjacent to a parcel containing an existing cemetery, burial ground, or grave for which the perimeter boundary has not been delineated, the location of the protection buffer and preservation buffer must be determined as follows:
1. If a known grave on the adjacent parcel is located less than 25 feet from the parcel line, and no evidence of a grave is found on the developing parcel, then the developing parcel must provide a Protection Buffer measured from the parcel line that is equal in length to the extent of any known graves, and a Preservation Buffer;
 2. If a known grave on the adjacent parcel is located 25 feet or greater, but less than 50 feet from the parcel line, and no evidence of a grave is found on the developing parcel, then the developing parcel must provide a Preservation Buffer measured from the parcel line that is equal in length to the extent of any known graves;
 3. If the closest known grave on the adjacent parcel is located 50 feet or greater from the parcel line, and no evidence of a grave is found on the developing parcel, then no Cemetery, Burial Ground, or Grave Buffer is required on the developing parcel.

4. The protection buffer and preservation buffer are not permitted to be located on an individual residential or nonresidential lot; and
5. The buffer required by Section 7.04.04.E applies regardless of whether a variation of archaeological survey requirements under the Facilities Standards Manual (FSM) is approved for the developing parcel.

Figure 7.04.04-2. Off-site Cemetery, Burial Ground, and Grave Buffer Example

Single Grave Scenarios



7.04.05 Screening of Certain On-site Components

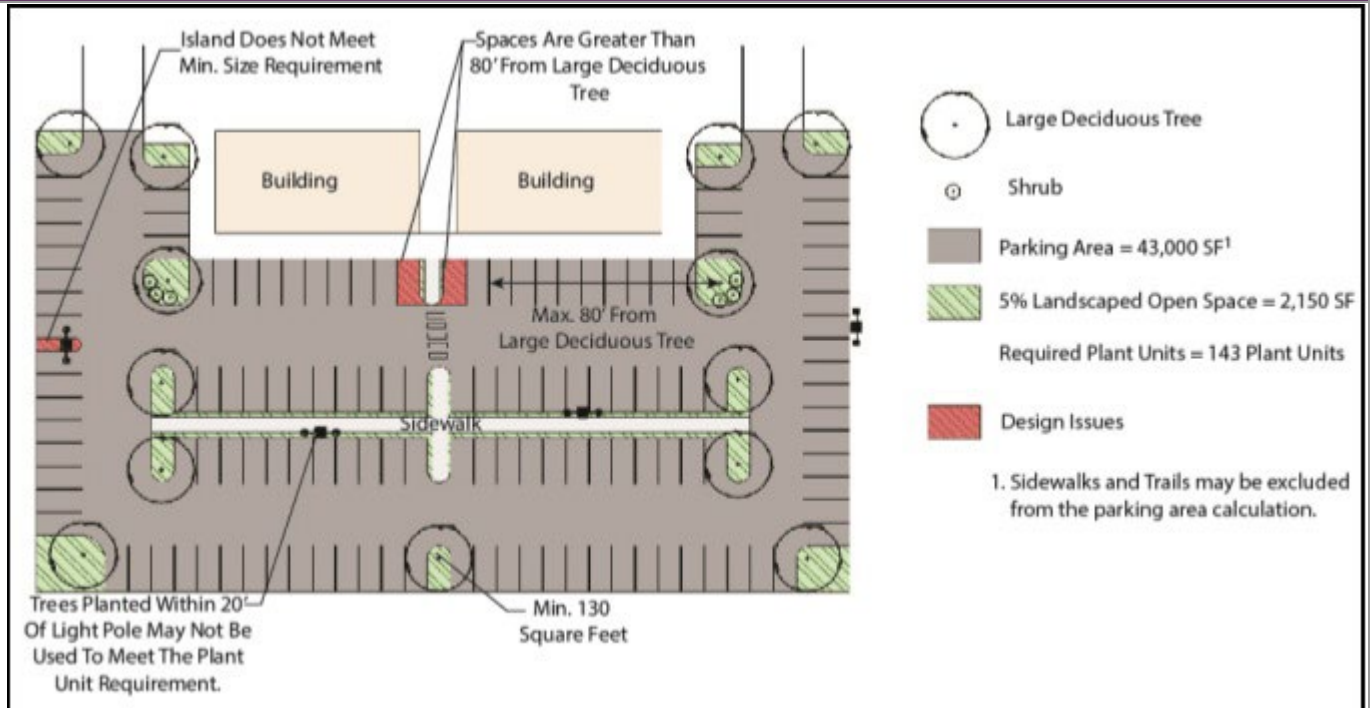
- A. On-site components must be screened from view at the ground level from all public roads and adjoining parcels using at least one of the following screening options:
 1. An opaque fence or wall that is a minimum of 6 feet in height, the height of the fence or wall is not permitted to be lower than the component/items being screened. Gates must be aesthetically compatible if provided;
 2. A berm that is a minimum of 3 feet in height with evergreen plantings that are a minimum of 6 feet in height at time of planting;
 3. For mechanical and similar equipment, any architectural element compatible with the building that screens the view of the equipment:
 - a. All building-mounted mechanical equipment must incorporate Section 7.04.05.A.3. into the required screening; and
 - b. In cases where parapets are used to screen rooftop equipment, the maximum height of the parapet must be equal to the top of the highest mechanical unit but must not exceed the maximum height allowed in the district by more than 3 feet; and
 4. This requirement does not apply to Residential uses, except multifamily attached structures, or Agricultural uses.
- B. Onsite components referenced in Section 7.04.05.A. include:
 1. Accessory structures;

2. Parking and Loading;
3. Dumpsters and areas for the collection or storage of refuse;
4. Outdoor storage or display of stock in trade by retail establishments accessible by customers;
5. Maintenance areas;
6. Ground or structure mounted mechanical equipment;
7. Utility equipment; and
8. Any other on-site components of the use.

7.04.06 Parking Area Landscaping and Screening Requirements

- A. **Interior Parking Area Landscaping.** Any property, use, or parking area that contains 20 or more parking spaces, except areas used for accessory storage of vehicles, must include interior parking area landscaping provided as landscaped open space.
1. At least 5% of the gross area of the parking area must be landscaped open space.
 - a. The gross area of the parking area:
 1. Includes all parking spaces, vehicular travelways, and designated crosswalks within the parking area; and
 2. Does not include pedestrian facilities other than designated crosswalks within the parking area.
 - b. Landscaped open space must be:
 1. No less than 130 square feet in size for any individual area;
 2. Located at each end of every row of parking spaces, and equal in length to the adjoining parking space. Where fewer than 8 parking spaces are proposed in a single row, landscaped open space is required at only 1 end of the row;
 3. Planted with a minimum of 10 plant units per 150 square feet; and
 4. Designed in such a way that no parking space is more than 80 feet from a large deciduous tree.
 - c. Plant units in landscaped open space must be provided as follows:
 1. A minimum of 75% of the total plant units required for landscaped open space must consist of large deciduous trees;
 2. A minimum of 15% of the total plant units required for landscaped open space must consist of small deciduous trees;
 3. Perennials are allowed only where taller vegetation would conflict with County and VDOT sight distance standards; and
 4. Evergreen trees are not permitted to be used to meet the minimum interior parking area landscaping plant unit requirement.
 2. Trees or shrubs are not permitted to be planted closer than 3 feet to any curb or paved area unless planted within approved manufactured stormwater management improvements.
 3. Light poles may be placed within landscape islands. Large or small deciduous trees planted within 20 feet of a light pole are not permitted to be used to meet the minimum interior parking area landscaping plant unit requirement.

Figure 7.04.06-1. Interior Parking Area Landscaping Example



B. Peripheral Parking Area Landscaping. Except where a parking area adjoins a Buffer Type B or C, a Road Corridor Buffer Type 2 or 3, or a Gateway Corridor Buffer, any property, use, or parking area that contains 20 or more parking spaces must include peripheral parking area landscaping as follows:

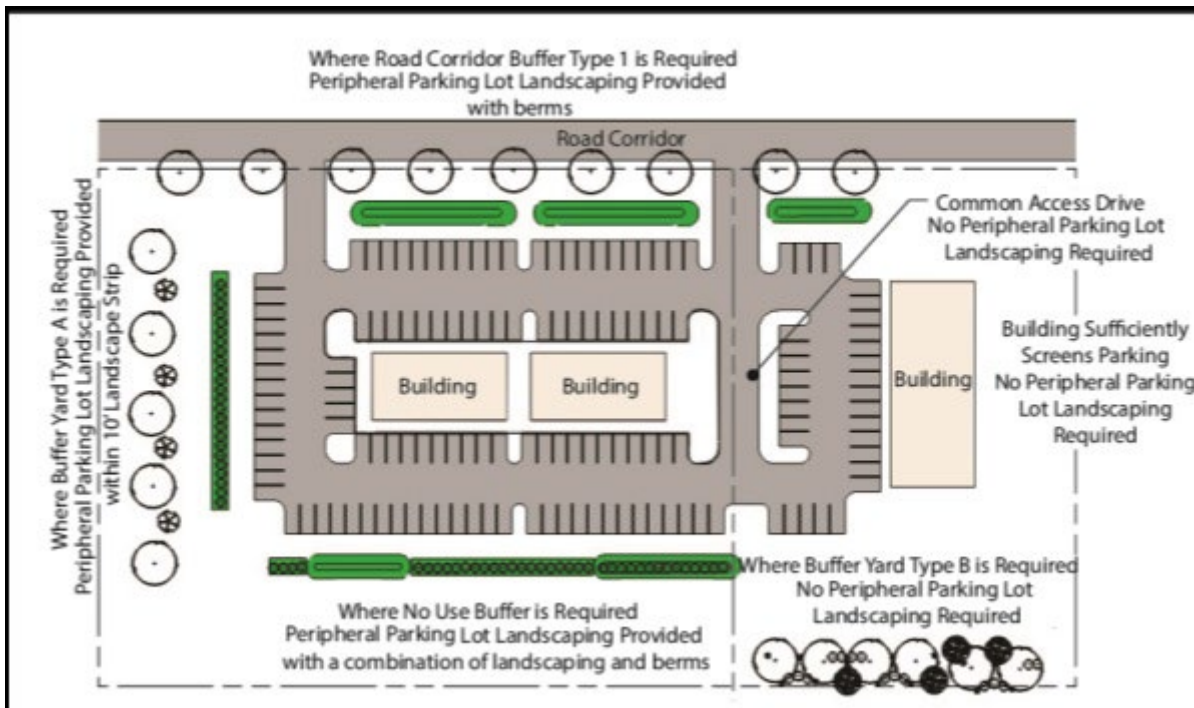
1. Parking areas and parking area travelways that are not screened by structures must be screened with either berms or landscaping, or a combination of both; and
2. Such berms and/or landscaping must:
 - a. Have a minimum height of 30 inches;
 - b. Be located between the parking area and the lot line or right-of-way. Where the boundary between abutting lots is located within a parking area travelway, no screening is required;
 - c. Where a berm is proposed, the grade is not permitted to be steeper than 2:1; and
 - d. Where landscaping is proposed, it must consist of:
 1. A minimum of 75% of the total plant units required must be evergreen shrubs. A minimum of 50 plant units per 100 linear feet within a continuous 10-foot-wide landscape strip; and
 2. Trees or shrubs are not permitted to be planted closer than 3 feet to any curb or paved area, unless planted within approved manufactured stormwater management improvements.

C. Peripheral Parking Area Landscaping for Compact/Walkable/Urban (CWU) Off-Street Parking. Any property, use, or parking area providing off-street parking pursuant to Section 7.06.10.D. or in the Legacy Rural Rural Commercial (RC) Zoning District pursuant to Section 2.04.03.04, must include peripheral parking area landscaping as follows:

1. Parking areas and parking area travelways that are not screened by structures must be screened with landscaping; and
2. Such landscaping must:

- Have a minimum height of 30 inches;
- Be located between the parking area and the lot line or right-of-way. Where the boundary between abutting lots is located within a parking area travelway, no screening is required;
- Be a minimum of 75% of the total plant units required must be evergreen shrubs. A minimum of 50 plant units per 100 linear feet within a continuous 10-foot-wide landscape strip; and
- Not be planted closer than 3 feet to any curb or paved area unless planted within approved manufactured stormwater management improvements.

Figure 7.04.06-2. Peripheral Parking Area Landscaping Example



7.04.07 General Landscape Provisions

- Landscape Plan.** A landscape plan in accordance with the Facilities Standards Manual (FSM) must be submitted as part of every Site Plan and construction plans and profiles.
 - All landscaping and screening required by Section 7.04 must be depicted on such landscape plan, which must be designed by a licensed landscape architect or other licensed or certified professional in accordance with the FSM.
 - All landscaping and screening depicted on such landscape plan must be installed or bonded in accordance with current County requirements prior to issuance of any Certificate of Occupancy.
- Plant Unit Requirements.** The plant types used to meet the Plant Unit requirements for each Buffer or Road Corridor Buffer must meet the following:
 - The number of Plant Units that a plant type is considered to be equivalent to is determined in accordance with Table 7.04.07-1, Plant Unit Equivalents;

Table 7.04.07-1. Plant Unit Equivalents

Plant Type	Plant Units per 1 Plant Type
Large Deciduous Tree	10
Evergreen Tree	6
Small Deciduous Tree	5
Shrub	2
Grass, Sedge, or Rush	1
Herbaceous Perennial, Fern, or Vine	0.25

2. Plant Unit Composition Requirements. Provided Plant Units must meet the following percentages:

- No more than 50% of the required plant units are permitted to be large deciduous trees. **Exception.** The Road Corridor Buffer Type 1 may be planted with 100% large deciduous trees;
- No more than 50% of the required plant units are permitted to be evergreen trees. A minimum of 10% of the required plant units for a Type C Buffer must be evergreen trees;
- No more than 60% of the required plant units are permitted to be small deciduous trees;
- No more than 30% of the required plant units are permitted to be shrubs. When shrubs are used, a minimum of 30% must be evergreen;
- The use of ornamental grasses and/or perennials is encouraged and may constitute a maximum of 25% of the required plant units;
- Native Plant and Pollinator Habitat Requirements.** To support native plant and pollinator habitats, Plant units must be provided as follows:
 - Native Plant Requirement.** A minimum of 80% of plant units must consist of Native Plant species; and
 - Pollinator Habitat Requirement.** A minimum of 75% of the small deciduous trees and shrubs provided must produce conspicuous flowers at some point during their growing season; and
- Maximum percentages apply solely in determining the quantity of a given plant type that can be counted towards meeting a Plant Unit requirement, and do not preclude the installation of additional plant material from that plant type; and

3. Walls, fences, and/or berms are not counted toward required plant units.

C. Use of Buffers. The following uses are permitted in Buffer and Road Corridor Buffers:

- Passive recreation and pedestrian, bicycle, or equestrian trails provided that Plant Unit requirements are met;
- Utility lines and associated easements provided that Plant Unit requirements are met with plant types that are compatible with the utility line and easement;
- When necessary for site access, driveway entrances and entrances connecting adjacent parking lots or developments traversing the buffer generally perpendicular to the direction the length of the Buffer or Road Corridor Buffer is measured;
- Signs, pursuant to Chapter 8; and
- Vegetative stormwater management improvements such as bioretention, dry swales, or sheet flow vegetated buffer provided that Plant Unit requirements are met.

D. Landscape Installation. The installation of all required plant material must be in accordance with the FSM.

- At the time of planting, all trees and shrubs must meet the requirements of the American National Standards Institute, American Standard for Nursery Stock, ANSI Z60.1-2014.
- The minimum sizes required for each plant type are provided in Table 7.04.07-2.

Table 7.04.07-2. Required Minimum Sizes for Plant Types

Plant Type	Minimum Size
Large Deciduous Tree	Minimum caliper of 1 inch
Small Deciduous Tree	Minimum caliper of 1 inch
Evergreen Tree	Minimum of 6 feet in height
Shrub	Minimum height of 18 inches
Grass, Sedge, or Rush	Minimum 1 gallon container
Herbaceous Perennial, Fern, or Vine	Minimum 1 gallon container

- E. **Maintenance.** The owner, or the owner's agent, is responsible for the maintenance, repair and replacement of all plant material required by Section 7.04.
1. All plant material must be tended and maintained in a healthy growing condition, replaced when necessary, and kept free of refuse and debris.
 2. Fences and walls must be maintained in good repair.
 3. Openings within fences and walls may be required by the Zoning Administrator for accessibility to an area for necessary maintenance.

7.04.08 Buffer Adjustments and Modifications

- A. **Administrative Buffer Adjustments and Waivers.** Unless otherwise specified, the Zoning Administrator may adjust or waive Road Corridor Buffer and Buffer Type requirements of Section 7.04 as part of the Site Plan, Subdivision, and/or Zoning Permit process upon a determination pursuant to Section 10.02 that site conditions make a specific requirement either impracticable or ineffective relative to accomplishing the impact mitigation and site design objectives of Section 7.04.08.
1. **Justification.** Site conditions that may justify the approval of a buffer adjustment or waiver include, but are not limited to, the following:
 - a. Topography, soil, vegetation, or other existing environmental features are such that full compliance is impossible or impracticable;
 - b. Improved environmental quality would result from implementation of modified requirements;
 - c. Space limitations, unusually shaped lots, and/or existing utility easements;
 - d. Change of use on a developed site increases the required buffer to more than what is feasible to provide;
 - e. Safety or security conditions make modified requirements necessary;
 - f. A modified buffer would be consistent with the applicable Place Type of the General Plan based on the surrounding property's existing development pattern and design characteristics; or
 - g. The site is developing consistent with the applicable nonresidential Place Type of the General Plan and the adjoining vacant lot or land bay is designated as the same Place Type, or in the same Zoning District if located in the Suburban Mixed Use Place Type.
 2. **Conditions.** Zoning Administrator approval of any buffer adjustment or waiver may be subject to conditions that ensure the purpose and intent of Section 7.04 continue to be met.
 3. **Application.** Each request for a buffer adjustment or waiver must include the following components:
 - a. **Written Narrative.** The written narrative must include:
 1. The specific requirement of Section 7.04 subject to the adjustment or waiver request and how the Section is proposed to be modified;
 2. A justification for the request based on Section 7.04.08.A.1.;

3. A description of the site conditions that necessitate the adjustment or waiver request;
4. An explanation of how the approval of the adjustment or waiver will provide equal or enhanced mitigation of impacts between uses and/or site design than what otherwise would have been required by Section 7.04; and
5. The written narrative for a request to adjust or waive the cemetery, burial ground, and grave preservation buffer required by Section 7.04.04.D., must:
 - a. Describe how the adjusted buffer will achieve the purpose and intent of the required preservation buffer; and
 - b. Address how the historic context of the cemetery, burial ground, or grave will be preserved through the proposed alternative mitigation techniques; and
- b. **Design Exhibit.** The design exhibit must clearly depict and tabulate the quantity, type, location, and size of all proposed plant units and any other proposed design elements:
 1. Additional site elevations, plan views, perspectives, and/or pictures may be required by the Zoning Administrator;
 2. When the reduction of a Gateway Corridor Buffer width is requested pursuant to Section 7.04.02.D.5., the design elements specified by Section 7.04.02.D.2. or Section 7.04.02.D.3., as applicable, also must be depicted; and
 3. When an adjustment or waiver is requested to the cemetery, burial ground, and grave preservation buffer required by Section 7.04.04.D., a Cemetery, Burial Ground, and Grave Treatment Plan is also required in accordance with the Facilities Standards Manual (FSM). The Cemetery, Burial Ground, and Grave Treatment Plan must:
 - a. Indicate how the adjusted buffer will achieve the purpose and intent of the required preservation buffer; and
 - b. Address how the historic context of the cemetery, burial ground, or grave is being preserved through alternative mitigation techniques.

B. Legislative Modifications.

1. **Buffer Types.** The Board of Supervisors or the Board of Zoning Appeals may modify the Buffer Type requirements of Section 7.04.03 as part of an approval action of a Special Exception, Variance, or Concept Development Plan. The request for such modification of Buffer Type requirements is subject to Sections 7.04.08.A.1. and A.3.
2. **Road Corridor Setbacks.** The Board of Supervisors may modify the Road Corridor Parking and/or Structure Setbacks of Table 7.04.02-1.
 - a. The Road Corridor Parking and/or Structure Setbacks may be modified by Minor Special Exception approval in accordance with Section 10.11.02.
 1. The Board of Supervisors must find that such modification is necessary to maintain consistency with the streetscape established by existing development on adjacent properties within 100 feet of and on the same side of the road as the property subject to the request.
 2. The application for such modification must include the materials that demonstrate the following:
 - a. The location of structures used to justify the proposed setback will maintain consistency with the streetscape established by existing development and
 - b. The proposed new Road Corridor Parking and/or Building Setback.
 - b. Requests to modify Road Corridor Setbacks as part of a Planned Unit Development District pursuant to Section 2.07 are not subject to the criteria of Section 7.04.08.B.2.a.

7.05 Light, Noise, and Vibration

Contents:

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7.05.03 Noise

7.05.04 Vibration

7.05.01 Purpose and Applicability

Purpose. *The purpose of these noise, light, and vibrations standards is to promote the public health, safety, and welfare by ensuring land and structures will be occupied by uses that comply with reasonable standards to protect the community from dangerous, injurious, or noxious activity or conditions such as:*

- *Fire, explosion, radioactivity or other hazardous condition;*
- *Noise or vibration;*
- *Smoke, dust, odor or other forms of air pollution;*
- *Electrical or other atmospheric disturbance;*
- *Glare or heat; and*
- *Liquid or solid refuse or waste conditions or other dangerous or objectionable elements or conditions in a manner or amount as to adversely affect the surrounding area or be detrimental to mental and physical health and peaceful enjoyment of property.*

A. Applicability.

1. All permitted and Special Exception uses as set forth in Section 3.02, whether such uses are permitted as a principle use or an accessory use, must operate in conformance with the standards set forth in Section 7.05.
2. **Existing Uses.**
 - a. Any legally established nonconforming use that did not comply with these standards is permitted to continue so long as the degree of nonconformity is not increased.
 - b. Any application for the expansion or change of use of a nonconforming use will require the subsequent expansion or change to comply with the requirements of Section 7.05.
3. **Agricultural Exemption.** The standards contained in Section 7.05 do not apply to any legally established agricultural operation. For the purposes of Section 7.05 agricultural operation is defined by Code of Virginia § 3.2-300, and includes the following uses:
 - a. Agricultural Processing;
 - b. Agriculture;
 - c. Animal Husbandry; and
 - d. Horticulture.

- B. **Enforcement.** The enforcement of the standards set forth in Section 7.05 will be in conformance with the requirements of Section 10.13.E.

7.05.02 Light and Glare

Purpose. *The purpose of the Light and Glare is to provide a regulatory strategy for outdoor lighting that will:*

- *Permit reasonable uses of outdoor lighting for nighttime safety, utility, security, productivity, enjoyment, convenience, and commerce while minimizing light pollution;*
- *Promote a glare-free environment while improving visibility and enhancing safety;*
- *Minimize glare, obtrusive light, and artificial skyglow by limiting outdoor lighting that is misdirected, excessive, or unnecessary;*
- *Minimize the adverse effects of light trespass to adjacent properties, roadways, the natural environment, and view of the night sky;*
- *Conserve energy and resources; and*
- *Implement General Plan action to promote the International Dark-Sky Association's Dark Sky standards to prevent light pollution.*

A. **Applicability.** Exterior lighting is an inherent component of many use types, even if lighting is not specifically listed in Chapter 12 definitions for such use types.

1. **Required.**

- a. Except as provided below, all outdoor lighting must comply with Section 7.05.02.
- b. Regulated lighting includes, but is not limited to, new lighting, replacement lighting fixtures, or any other lighting regardless of what it is attached to, its location, or who installed it.
- c. Existing, nonconforming lighting affected by the approval of revisions to an approved Site Plan or a change of use requiring a Zoning Permit must comply with the lighting standards contained in Section 7.05.02.

2. **Exempt.** The following are exempt from compliance with the requirements of Section 7.05.02:

- a. Exterior lights mounted on residential structures at entry and exit doorways that are neither located nor emit light above the eave;
- b. Street lighting located along public or private roads in accordance with the Facilities Standards Manual (FSM), for the purpose of illuminating the roads and not areas outside of such roads;
- c. Temporary seasonal or holiday lighting;
- d. Temporary lighting for theatrical, television or performance areas and construction sites when the lighting is turned off at least 1 hour after the site is closed, event concludes, or workday ends;
- e. Underwater lighting in swimming pools and other water features;
- f. Lighting that is only used under emergency conditions; and
- g. Motion sensing lights that:
 1. Are directed down and away from adjacent properties; and
 2. Automatically turn off after a predetermined interval of time, not to exceed 5 minutes.

3. **Exceptions.** The following light sources may be subject to alternate regulations, which will take precedence:

- a. Lighting identified below in Section 7.05.02.C.;
- b. Lighting required by federal, state, county, or municipal laws or regulations;
- c. Lighting approved by Special Exception pursuant to Section 7.05.02.E.; and
- d. Lighting listed as requiring a Special Exception in a Zoning District.

B. **General Standards.**

1. **Lighting Fixtures.**

- a. Lighting fixtures must be full cutoff so that the emitted light is not projected above the horizontal plane of the shield, or bulb enclosure, and the bulb is recessed or level with the lowest portion of the lighting shield. Verification of this standard for each lighting fixture is required by:

1. Manufacturer certification; or
 2. The International Dark Sky Association Fixture Seal of Approval.
- b. Side shielding, which extends below the bulb so that emitted light is not projected beyond the shield, must be provided for pole-mounted lighting, except at driveways and travelway intersections.
2. **Light Direction.** Lighting fixtures must be aimed downward and inward to direct light towards the interior of the property.
3. **Maximum Illumination.** Lighting must not cause illumination in excess of 0.25 foot-candles above background light levels measured at the lot line of any adjacent lot or road right-of-way.
4. **Photometric Plan.** All applications to permit outdoor lighting must submit a photometric plan to document maximum illumination.
5. **Height Limit.**
 - a. The maximum overall height for any exterior lighting is 25 feet unless a lesser or greater maximum height is specified in:
 1. Use-Specific Standards in Chapter 4;
 2. Approved proffers; or
 3. Special Exception or Variance Condition of Approval.
 - b. Height is measured from grade to top of pole or lighting fixture, whichever is taller.
6. **Color Temperature.** To minimize negative environmental impacts of outdoor lighting, all new luminaires must be rated 3000K or less Correlated Color Temperature (CCT).
7. **Automatic Lighting Extinguishment.** All exterior lighting must be extinguished between 11:00 p.m. and 7:00 a.m. except for the following:
 - a. Single-family dwellings;
 - b. Multifamily dwellings, not including common areas;
 - c. Lighting required by the Building Code for steps, stairs, walkways, and building entrances;
 - d. Exterior lighting necessary for security purposes, as determined by the Zoning Administrator;
 - e. Pedestrian and bicycle facilities provided pursuant to Section 7.07.03; or
 - f. Businesses that operate on a 24-hour basis, or during the hours of operation permitted by:
 1. Use Specific Standards of Chapter 4;
 2. An approved Site Plan; or
 3. Approved proffers or Special Exception.

C. Alternate Standards.

1. **Recreational and Athletic Fields.** Recreational and Athletic Fields and facilities at publicly owned facilities utilized for athletic competition other than at public schools must:
 - a. Use cutoff and fully shielded lighting fixtures that are aimed downward and inward toward the athletic field or interior of the property;
 - b. Be shielded away from adjacent properties;
 - c. Not cause illumination in excess of 10 foot-candles above background light levels measured at the lot line of any adjacent lot or road right-of-way. The illumination levels must be documented on a photometric plan; and
 - d. Be turned off by 11:00 p.m.
2. **Use-Specific Standards.** The following exterior lighting standards apply to specific uses when expressly referenced by the Use-Specific Standards of Chapter 4.

- a. The maximum height of pole mounted exterior lighting must not exceed 15 feet.
 - b. Full cutoff lighting fixtures must be used in all areas. The light element (lamp or globe) of a fixture must not extend below the cutoff shield.
 - c. All exterior lighting must be turned off between 10:00 p.m. and 6:00 a.m. except for the following:
 1. During the hours of operation permitted by:
 - a. Use-Specific Standards of Chapter 4;
 - b. An approved Site Plan; or
 - c. Approved proffer or Special Exception; and
 2. Exterior lighting necessary for security purposes, as determined by the Zoning Administrator.
 - d. Signs related to the use must not be illuminated, except where allowed in the applicable Zoning District pursuant to Chapter 8.
3. **Public Monuments or Statuary.** Only the exterior lighting standards of Sections 7.05.02.B.3-6. apply to public monuments and statuary.
- D. **Method of Measurement.** Illumination levels will be measured with a photoelectric photometer having a spectral response similar to the human eye, following the standard spectral luminous efficiency curve adopted by the International Commission on Illumination.
- E. **Special Exception.** Lighting that does not meet the standards of Section 7.05.02 may be permitted by Special Exception, pursuant to Sections 10.11.01 and 10.11.09.

7.05.03 Noise

Purpose. The purpose of the noise standards is to protect citizens from excessive, unpleasant, or disturbing sound (noise) that is detrimental to the health and peaceful enjoyment of property.

A. Applicability.

1. No use is permitted to be operated in such a manner as to create noise that exceeds sound measured as A-weighted decibels or dB(A), set forth in Table 7.05.03.-1. Examples of such noise include, but are not limited to, amplified music or voice and barking dogs at kennels.
2. These standards do not apply as follows:
 - a. To extraction and mining operations uses pursuant to Section 4.06.03; and
 - b. Between multiple uses located within the same building or on the same lot, unless the receiving property is mixed-use residential.

B. Definitions.

For the purposes of Section 7.05.03 only, the following definitions apply:

1. **Mixed-Use Residential** is any dwelling unit located in the TRC, TC, PD-MUB, and PUD Zoning Districts; and
2. **Residential** is any dwelling unit that does not meet the definition of mixed-use residential.

C. Methods of Measurement.

1. Noise must be measured with an integrating sound level meter (SLM) that meets or exceeds American National Standard Institute S1.43-1997 for Type 1 SLMs.
 - a. The response of such SLM must be set to FAST, and a time period of 15 seconds must be used.
 - b. The operator may select another time period between a minimum of 10 seconds and maximum of 1 minute if a 15-second time period cannot adequately capture the A-weighted sound level.
2. Samples must be taken only when the subject sound can be clearly heard and identified by the operator without any extraneous sounds such as passing traffic or bird songs.

3. The operator must take a minimum of 3 samples that verify the repeatability and consistency of the subject sound. When possible, the operator should also take at least 1 sample when the subject sound is not heard for the purpose of comparison.
4. The arithmetic average of all samples that verify the repeatability and consistency of the subject sound must comply with the maximum A-weighted sound levels in Table 7.05.03-1.
5. For residential, rural economy, commercial, civic, institutional, and industrial uses, samples of the subject sound must be taken from the point on the receiving lot line that is located the closest to the source of the subject sound. The microphone of the SLM must be aimed toward the source of the subject sound, and a standard microphone height of 5 feet above grade must be used.
6. For mixed use residential, samples of the subject sound must be taken on the receiving property at the nearest dwelling unit at an open window, door, or other aperture that faces in the direction of the source of the subject sound.
 - a. The window, door, or other aperture that is the closest to the source of the subject sound must be used.
 - b. The microphone of the SLM must use a windscreen, must be located at the center, and must extend approximately 0.5 inches beyond the outer plane of said open window, door, or other aperture, and must be aimed towards the source of the subject sound.

D. **Maximum Sound Levels.** The maximum sound levels provided in Table 7.05.03-1 apply at all times of day and night.

Table 7.05.03-1. Maximum Sound Levels

Receiving Development	Mixed - Use Residential	Residential and Rural Economy Uses	Commercial, Civic, and Institutional Uses	Industrial Uses
Maximum dB(A)	60	55	65	70

- E. **Exemptions to Maximum Sound Levels.** The maximum A-weighted sound levels in Table 7.05.03-1 do not apply to the following:
1. All aircraft sounds;
 2. Sounds produced by activities listed in the Codified Ordinances of Loudoun County § 654.02(e), except for:
 - a. Sounds produced by outdoor public address systems at public schools are subject to Section 7.05.03.F.; and
 - b. Sounds produced by commercial indoor firearm ranges are subject to the maximum A-weighted sound levels in Table 7.05.03-1;
 3. Sounds created by the operation of power equipment, such as power lawn mowers, chain saws, and similar equipment, and construction, demolition, and/or maintenance activities;
 4. Sounds created by generators and accessory equipment operating during an emergency or at the request of a utility and the testing of said generators and associated equipment;
 5. Sounds created by air conditioner condensers for single-family attached dwellings and single-family detached dwellings; and
 6. Sounds created by utilities and public uses including, but not limited to:
 - a. Utility substations and transmission lines;
 - b. Sanitary landfills; and
 - c. Public sewer and water.

- F. **Use-Specific Noise Standards.** The following noise standards apply to all Use-Specific Standards of Chapter 4 unless the Use-Specific Standard provides otherwise.
1. **Location in Relation to Residential Use.** No loading/unloading activities or other noise-producing activities are permitted within 250 feet of an existing principal dwelling.
 2. **Maximum Noise.** The maximum allowable impulsive sound emitted from the specific use, as measured at the lot line of any adjacent lot that permits a single-family dwelling as a principal use, is 55 dB(A).
 3. **Outdoor Music.** Outdoor music is not permitted after 11:00 p.m.
- G. **Noise Study.** For Covered Activities, or as otherwise required pursuant to Chapter 4, subject to a Noise Study requirement, the following Pre-Construction and Post-Construction studies must be prepared by a Commonwealth Licensed Professional Engineer (PE) verifying the applicable maximum sound level pursuant to Table 7.05.03-1 as measured at the nearest point of each property line:
1. **Pre-Construction Study.** A noise study of existing conditions at the time of Site Plan review;
 2. **Post-Construction Study.** A noise study of existing conditions at the time of operations, at least 1 month but no more than 12 months after the issuance of the first Certificate of Occupancy; and
 3. **Noise Mitigation.** If either the Pre or Post Construction Study does not meet the applicable maximum sound level pursuant to Table 7.05.03-1, noise mitigation measures are required to verify conformance with the 55 dB(A) limit.

7.05.04 Vibration

- A. **Required Performance Level.** Any use, operation, or activity must not cause or create earthborn vibrations in excess of the peak particle velocities prescribed below.
- B. **Method of Measurement.**
1. Measurements must be made at or beyond the adjacent lot line and at the nearest Zoning District boundary that permits any residential use, noted as "residential district boundaries" in Table 7.05.04-1 and Table 7.05.04-2.
 2. Ground transmitted vibration must be measured with a seismograph or complement of instruments capable of recording vibration displacement and frequency, particle velocity, or acceleration simultaneously in 3 mutually perpendicular directions.
 3. The maximum particle velocity must be the maximum vector sum of 3 mutually perpendicular components recorded simultaneously. Particle velocity also may be expressed as 6.28 times the displacement in inches multiplied by the frequency in cycles per second.
 4. For the purpose of Section 7.05.04, steady state vibrations are vibrations that are continuous or vibrations in discrete impulses more frequent than 60 per minute. Discrete impulses that do not exceed 60 per minute must be considered impact vibrations.
- C. **Heavy Intensity Land Uses.**
1. Heavy intensity land use standards apply to the MR-HI and GI Zoning Districts.
 2. Uses subject to these standards must not cause steady state vibrations to exceed the maximum permitted particle velocities described in Table 7.05.04-1.
 - a. Where more than one set of vibration levels apply, the most restrictive governs.
 - b. Readings must be made at points of maximum vibration intensity.
 3. **Maximum Permitted Steady State Vibration Levels.** See Table 7.05.04-1.

Table 7.05.04-1. Area of Measurement

Type of vibration	At residential district boundaries	At other lot lines within district
Continuous	.003	.015
Impulsive (100 per minute or fewer)	.006	.030
Fewer than 8 pulses per 24 hours	.015	.075

D. Light Intensity Land Uses.

1. Light intensity land use standards apply to all Zoning Districts that permit:
 - a. Residential uses; and
 - b. Industrial uses, except the MR-HI and GI Zoning Districts, which are subject to Heavy Intensity Land Uses standards in Section 7.05.04.C.
2. Uses subject to these standards must not cause steady state vibrations to exceed the maximum permitted particle velocities described in Table 7.05.04-2.
 - a. Where more than one set of vibration levels apply, the most restrictive governs.
 - b. Readings must be made at points of maximum vibration intensity.
3. **Maximum Permitted Steady State Vibration Levels.** See Table 7.05.04-2.

Table 7.05.04-2. Area of Measurement

Type of vibration	At residential district boundaries	At other lot lines within district
Continuous	.003	.030
Impulsive (100 per minute or fewer)	.006	.060
Fewer than 8 pulses per 24 hours	.005	.15

- E. **Evening Reduction.** Between the hours of 8:00 p.m. and 7:00 a.m., all of the permissible vibration levels indicated in Table 7.05.04-1 and Table 7.05.04-2 above at residential district boundaries must be reduced to one-half the indicated values.

7.06 Parking

Contents:

- 7.06.01 Applicability
- 7.06.02 Parking Ratios
- 7.06.03 Bicycle Parking
- 7.06.04 Electric Vehicle Parking
- 7.06.05 Motorcycle Parking
- 7.06.06 Car Share Parking
- 7.06.07 Oversized Vehicle Parking
- 7.06.08 Parking Adjustments
- 7.06.09 Loading
- 7.06.10 Parking Location and Design
- 7.06.11 Residential Parking

7.06.01 Applicability

Purpose. *The purpose of these regulations is to establish parking, stacking, and loading regulations for new uses, structures, parking areas, and redeveloped sites in a manner that is consistent with the Comprehensive Plan. These regulations:*

- *Maximize the safety and functionality of parking areas;*
- *Minimize conflicts between pedestrians and vehicles within parking lots and surrounding land uses;*
- *Provide parking and loading facilities in a reasonable proportion to one or more use's needs;*
- *Reduce minimum parking requirements to coincide with common usage rather than peak demand and establish maximum parking requirements where appropriate;*
- *Provide tailored parking rates responsive to different development contexts;*
- *Minimize the negative environmental and urban design impacts that can result from excessive parking, driveways, and drive aisles within parking areas;*
- *Support mass transit and alternative modes of transportation; and*
- *Provide transportation demand management (TDM) strategies to reduce traffic congestion.*

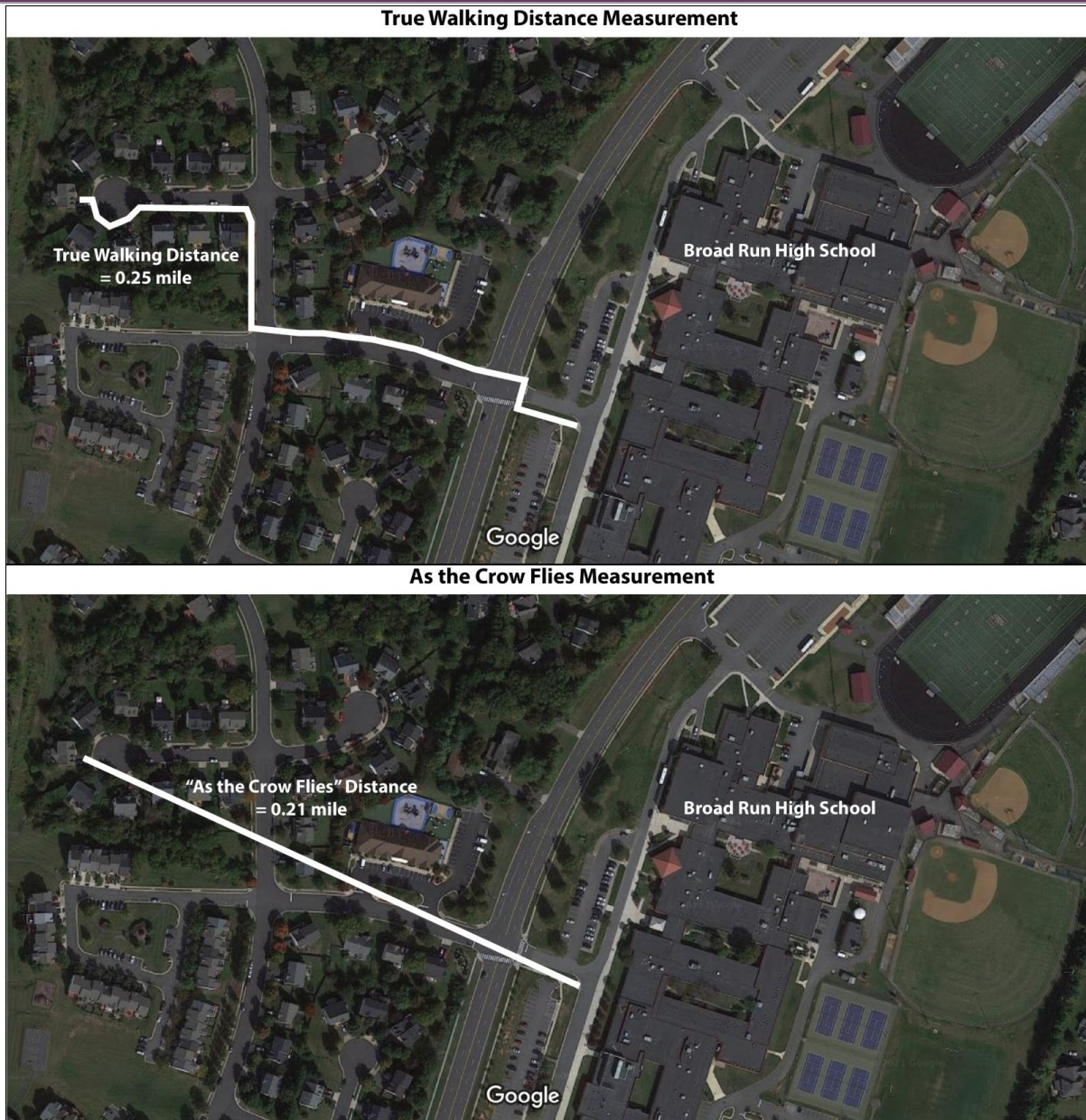
A. **Applicability.** The following are subject to the requirements of Section 7.06:

1. Any new structure or use due to development or redevelopment;
2. Any use when changed to a different use that has a higher minimum required parking ratio as provided in Table 7.06.02-1;
3. The new portion of any expanded structure or use; and
4. Existing structures and uses upon any change to required parking inconsistent with applicable zoning requirements.

B. **General Requirements.** The following are applicable to all parking requirements of Section 7.06:

1. **Parking Multiple Principal Uses.** Where multiple principal uses are permitted to be located on a property, the minimum required parking spaces for such uses is calculated cumulatively for each principal use;
2. **Surface or Garage Parking.** Parking spaces may be provided in a garage or on surfaces in accordance with Facilities Standards Manual (FSM) regulations;
3. **Application to Add or Change Use:**
 - a. When a change in intensity of use of any structure would increase the required parking by 10 or more spaces or 10%, whichever is greater, cumulatively from the effective date of this Zoning Ordinance, through an addition or change in the number of dwelling units, gross floor area, or other specified units of measurements, the increment of additional required parking must comply with Section 7.06 unless an adjustment is permitted pursuant to Section 7.06.08; and
 - b. If fewer than ten 10 spaces or 10%, whichever is greater, are required by a change or series of changes in use, the Zoning Administrator may waive up to the incremental required number of parking spaces, after determining that the waiver is not detrimental to the public welfare;
4. **Compliance Required.** The Zoning Administrator will require compliance to Section 7.06 prior to approval of any subdivision, Site Plan, Zoning Permit, or Certificate of Occupancy;
5. **Parking Adjustments.** Parking and loading requirements may be adjusted as specified in Section 7.06.08; and
6. **Measuring Distance.** All distances must be measured by a true walking distance—where there are sidewalks and walking paths that create a walking route—and not by “as the crow flies”.

Figure 7.06.01-1. Measuring Distance



C. **Metrics and Interpretations for Computation.** The following is for use with all parking, loading, and bicycle tables in Section 7.06.

1. **Fraction of a Space.** When the calculation of the number of required parking and loading spaces results in a fractional space:
 - a. A minimum of 1 parking or loading space must be provided; and
 - b. Fractions up to and including 0.5 are disregarded, and fractions of over 0.5 must be interpreted as 1 whole parking or loading space.
2. **Minimum.** The number of parking spaces a site must provide.
3. **Maximum.** The number of parking spaces a site must not exceed.
4. **Parking Specific Metrics.**

- a. **Dwelling Unit (DU).**
 - 1. Example: 1/DU.
 - 2. Interpretation: 1 space for each dwelling unit.
- b. **Bedroom.**
 - 1. Example: 1 + 0.75/bedroom.
 - 2. Interpretation: 1 space plus 0.75 space for each bedroom.
- c. **Square Feet (sf).**
 - 1. Example: 1/1000 sf.
 - 2. Interpretation: 1 space for every 1000 square feet of gross floor area.
 - 3. See also Section 3.03.I.3. for outdoor sales.
 - 4. Restaurant outdoor seating area must be included in the parking calculation for the use, as if the seating area consisted of gross floor area.
 - 5. Vehicle display area must be included in the parking calculation for the use, as if the display area consisted of gross floor area.
- d. **Guest Room.**
 - 1. Example: 0.5 + 0.5/guest room.
 - 2. Interpretation: 0.5 space plus 0.5 space for each guest room.
- e. **Camp Site.**
 - 1. Example: 0.5/camp site.
 - 2. Interpretation: 0.5 space for each camp site.
- f. **Lodging Unit.**
 - 1. Example: 1.25/lodging unit.
 - 2. Interpretation: 1.25 space for each lodging unit.
- g. **Child.**
 - 1. Example: 0.19/child.
 - 2. Interpretation: 0.19 spaces per maximum licensed number of non-resident child.
- h. **Acres.**
 - 1. Example: 10/5 acres.
 - 2. Interpretation: 10 spaces for every 5 acres.
- i. **Stall.**
 - 1. Example: 1/stall.
 - 2. Interpretation: 1 space for each stall.
- j. **Fuel Pump.**
 - 1. Example: 1/2 fuel pumps.
 - 2. Interpretation: 1 space for every 2 fuel pumps.
- k. **Cemetery.**
 - 1. Example: 5/cemetery.
 - 2. Interpretation: 5 spaces for each cemetery.
- l. **Employee.**
 - 1. Example: 1/employee.

2. Interpretation: 1 space for every employee working on site.
- m. **Maximum Occupancy.**
 1. Example: $0.33/\text{maximum occupancy} + 1/\text{employee}$.
 2. Interpretation: 0.33 spaces per person in maximum permitted occupancy of the building plus 1 space for every employee working on site.
- n. **Garden.**
 1. Example: $2/\text{garden}$.
 2. Interpretation: 2 spaces for each garden.
- o. **Operator.**
 1. Example: $1/\text{operator}$.
 2. Interpretation: 1 space for each operator.
- p. **Co-Op.**
 1. Example: $2/\text{co-op}$.
 2. Interpretation: 2 spaces for each co-op.
- q. **Hub.**
 1. Example: $2/\text{hub}$.
 2. Interpretation: 2 spaces for each hub.
- r. **Stand.**
 1. Example: $3/\text{stand}$.
 2. Interpretation: 3 spaces for each stand.
5. **Bicycle Specific Metrics.**
 - a. **Dwelling Unit.**
 1. Example: $1/40 \text{ DU}$.
 2. Interpretation: 1 space for every 40 dwelling units.
 - b. **Guest Room.**
 1. Example: $1/25 \text{ guest rooms}$.
 2. Interpretation: 1 bicycle space for every 25 guest rooms.
 - c. **Square Feet (sf).**
 1. Example: $1/1000 \text{ sf}$.
 2. Interpretation: 1 bicycle space per every 1000 square feet of gross floor area.
 - d. **Parking Spaces.**
 1. Example: $1/10 \text{ spaces}$.
 2. Interpretation: 1 bicycle space per 10 provided parking spaces.
6. **Use Groups.** To calculate vehicle and bicycle parking requirements, uses are grouped as:
 - a. **Residential Uses.**
 1. Household Living.
 2. Group Living.
 - b. **Lodging Uses.**
 - c. **Commercial/Mixed Uses.**
 1. Animal Services.

2. Day Care.
3. Financial Services.
4. Food and Beverage Sales/Service.
5. Office, Business and Professional.
6. Personal/Business Services.
7. Retail.
8. Automotive.

d. Public/Civic/Institutional Uses.

1. Assembly.
2. Death Care Services.
3. Government/Non-Profit.
4. Education.
5. Medical.
6. Arts, Entertainment, and Recreation.

e. Industrial/Production Uses.

1. Manufacturing and Employment.
2. Warehousing, Storage, and Distribution.

f. Infrastructure Uses.

1. Transportation/Parking.
2. Utilities.
3. Communications Facilities.
4. Waste-related.

g. Agriculture Uses.

h. Miscellaneous Uses.

D. Vehicle Storage or Display.

1. Vehicle storage and display is not included in the parking requirements of Section 7.06.
2. Vehicles that are either stored or displayed are not permitted in parking required by Section 7.06.
3. Vehicles that are accepted for repair must be placed in vehicle storage as soon as practicable.
4. All vehicle storage and vehicle display areas must be shown on the Site Plan or Zoning Permit.

E. Inoperable Vehicles.

1. No repair, maintenance, or restoration of motor vehicles is permitted on any residential lot or common area serving such lot located within any residential Zoning District, as defined in Chapter 2, unless the vehicle is owned by and registered in the name of an occupant of the dwelling constituting the principal use for such lot.
2. Any vehicle not displaying current license plates and inspection validation certificates as required by Virginia law will be construed as an inoperable vehicle.
3. Inoperable vehicles are not permitted within required rear and side yards.
4. No inoperable vehicle is allowed to be parked or stored outside a building for more than 1 week on a lot of less than 10 acres in any residential Zoning District.
5. Not more than 1 inoperable item of major recreational equipment is allowed to be parked outdoors on any lot of less than 10 acres in area in any residential Zoning District.

6. Not more than 1 inoperable vehicle may be parked outdoors at a time on any lot 10 acres or larger in any residential district.
7. Inoperable vehicles on lots 10 acres or larger may be parked or stored in an open or enclosed space to the rear of the property.

7.06.02 Parking Ratios

A. **Parking Requirements by Use and Zoning District Category.** Ratios for the calculation of off-street parking for each permitted use by Zoning District are provided in Table 7.06.02-1. See Section 7.06.01 for additional information about using this table.

1. These parking ratios may be reduced pursuant to Section 7.06.02.C.
2. These parking ratios are subject to adjustment in accordance with Section 7.06.08.
3. Residential parking ratios are subject to Section 7.06.11.

Table 7.06.02-1 Parking Ratios by Land Use and Zoning District Category										
Zoning District Category		Urban		Suburban and Office and Industrial		Transition		Rural	Joint Land Management Area	
		Min	Max	Min	Max	Min	Max	Min	Min	Max
Residential										
Household Living										
1	Caretaker or Guard Residence	1/DU	NR	1/DU	NR	1/DU	NR	NR	NR	NR
2	Dwelling, Accessory	1/DU	NR	1/DU	NR	1/DU	NR	1/DU	1/DU	NR
3	Dwelling, Live/Work	4.02.03.F.						NR	NR	NR
4	Dwelling, Single-Family Attached 1-2 bedrooms ¹	1.5/DU	NR	2/DU	NR	2/DU	NR	2/DU	2/DU	NR
5	Dwelling, Single-Family Attached 3+ bedrooms ¹	2.5/DU	NR	3.5/DU	NR	3.5/DU	NR	3/DU	3.5/DU	NR
6	Dwelling, Single-Family Attached 1-car garage ¹	2.5/DU	NR	2.5/DU	NR	2.5/DU	NR	2.5/DU	2.5/DU	NR
7	Dwelling, Single-Family Attached 2-car garage ¹	2.5/DU	NR	3.5/DU	NR	3.5/DU	NR	3/DU	3.5/DU	NR
8	Dwelling, Multifamily Stacked 1-2 bedrooms ¹	1.5/DU	NR	2/DU	NR	2/DU	NR	2/DU	2/DU	NR
9	Dwelling, Multifamily Stacked 3+ bedrooms ¹	2.5/DU	NR	2.5/DU	NR	2.5/DU	NR	2.5/DU	2.5/DU	NR
10	Dwelling, Multifamily Attached 1 bedroom/studio ¹	1/DU	NR	1.5/DU	NR	1.5/DU	NR	1.5/DU	1.5/DU	NR
11	Dwelling, Multifamily Attached 2 bedrooms ¹	1.5/DU	NR	2/DU	NR	2/DU	NR	2/DU	2/DU	NR
12	Dwelling, Multifamily Attached	2/DU	NR	2.5/DU	NR	2.5/DU	NR	2.5/DU	2.5/DU	NR

Table 7.06.02-1
Parking Ratios by Land Use and Zoning District Category

Zoning District Category		Urban		Suburban and Office and Industrial		Transition		Rural	Joint Land Management Area	
		Min	Max	Min	Max	Min	Max	Min	Min	Max
	3+ bedrooms ¹									
13	Dwelling, Single-Family Detached on lots 5,000 SF or less and lot widths of 50 ft or less 1-2 bedrooms ¹	1.5/DU	NR	2/DU	NR	2/DU	NR	2/DU	2/DU	NR
14	Dwelling, Single-Family Detached on lots 5,000 sf or less and lot widths of 50 ft or less 3+ bedrooms ¹	2.5/DU	NR	3.5/DU	NR	3.5/DU	NR	3.5/DU	3.5/DU	NR
15	Dwelling, Single-Family Detached on lots greater than 5,000 SF or greater than 50 ft wide ¹	2/DU	NR	3/DU	NR	3/DU	NR	2/DU	3/DU	NR
16	Dwelling, Tenant	NR	NR	NR	NR	1/DU	NR	1/DU	1/DU	NR
17	Dormitory, Seasonal Labor	NR	NR	NR	NR	NR	NR	NR	NR	NR
18	Manufactured Home	NR	NR	NR	NR	NR	NR	NR	NR	NR
Group Living										
1	Rooming and Boarding	1+ 0.25/bedroom	1+ 0.75/bedroom	1 + 0.25/bedroom	NR	NR	NR	1+ 0.75/bedroom	NR	NR
2	Congregate housing	1+ 0.25/bedroom	1+ 0.75/bedroom	1 + 0.25/bedroom	NR	1+ 0.25/bedroom	1+ 1.00/bedroom	1+ 0.75/bedroom	1+ 0.75/bedroom	NR
3	Continuing Care Facility	0.75/1000 sf	2/1000 sf	0.75/1000 sf	NR	0.75/1000 sf	2/1000 sf	2/1000 sf	2/1000 sf	NR
4	Religious Housing	1/DU	NR	1/DU	NR	1/DU	NR	NR	1/DU	NR
Lodging										
1	Bed and Breakfast Homestay	NR	NR	NR	NR	0.5 + 0.25/guest room	NR	1 + 0.5/guest room	1+0.5/guest room	NR
2	Bed and Breakfast Inn	NR	NR	NR	NR	0.5 + 0.25/bedroom	NR	1 + 0.5/bedroom	1+0.5/bedroom	NR
3	Camp, Day and Boarding	NR	NR	NR	NR	1/lodging unit	NR	NR	1/lodging unit	NR
4	Campground	NR	NR	NR	NR	0.5/camp site	NR	NR	0.5/camp site	NR
5	Country Inn	NR	NR	NR	NR	1 + 0.25/guest room	NR	1 + 0.5/guest room	1+0.5/guest room	NR
6	Hotel /Motel	0.5/lodging unit	0.75/lodging unit	0.5/lodging unit	1.25/lodging unit	NR	NR	1/lodging unit	1/lodging unit	1.25/lodging unit
7	Rural Resort	NR	NR	NR	NR	0.5/guest room	NR	1 + 0.5/guest room	0.5/guest room	1.25/guest room
8	Short-Term Rental, Commercial Whole	NR	NR	4.03.05.B.6.						

Table 7.06.02-1
Parking Ratios by Land Use and Zoning District Category

Zoning District Category		Urban		Suburban and Office and Industrial		Transition		Rural	Joint Land Management Area	
		Min	Max	Min	Max	Min	Max	Min	Min	Max
House										
Commercial										
Animal Services										
1	Animal Care Business	NR	NR	NR	NR	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
2	Animal Hospital	1/1000 sf	1/1000 sf	2/1000 sf	4/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
3	Companion Animal, Pet Grooming	1/1000 sf	1/1000 sf	1/1000 sf	1/1000 sf	1/1000 sf	1/1000 sf	1/1000 sf	1/1000 sf	1/1000 sf
4	Kennel	NR	NR	2/1000 sf	4/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
5	Kennel, Indoor	NR	NR	2/1000 sf	4/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
6	Veterinary Service	NR	NR	2/1000 sf	4/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
Day Care										
1	Adult Day Care	1.5/1000 sf	2.5/1000 sf	2/1000 sf	4/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
2	Child Day Center	1.5/1000 sf	2.5/1000 sf	2/1000 sf	4/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
3	Child Day Home	0.19/child	NR	0.19/child	NR	0.19/child	NR	0.19/child	0.19/child	NR
Financial Services										
1	Bank or Financial Institution	1/1000 sf	2/1000 sf	2/1000 sf	2.5/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
Food and Beverage Sales / Service										
1	Banquet/Event Facility	5/1000 sf	8/1000 sf	5/1000 sf	8/1000 sf	5/1000 sf	NR	5/1000 sf	NR	NR
2	Craft Beverage Manufacturing	1/1000 sf	2.5/1000 sf	1/1000 sf	4/1000 sf	4/1000 sf	NR	NR	8/1000 sf	NR
3	Farmers Market	NR	NR	10/5 acres	NR	10/5 acres	NR	10/5 acres	10/5 acres	NR
4	Farmers Market (Off-Site Production)	1/5 acres	10/5 acres	10/5 acres	NR	10/5 acres	NR	10/5 acres	10/5 acres	NR
5	Food Preparation	0.5/1000 sf	2/1000 sf	2/1000 sf	4/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
6	Mobile Vendor	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	Restaurant, 1000 sf of seating area or less	2/1000 sf	6/1000 sf	3/1000 sf	8/1000 sf	8/1000 sf	NR	8/1000 sf	8/1000 sf	NR
8	Restaurant, greater than 1,000 sf of seating area	4/1000 sf	8/1000 sf	8/1000 sf	15/1000 sf	8/1000 sf	NR	8/1000 sf	8/1000 sf	NR
9	Restaurant, with Drive-Through Facility	NR	NR	6/1000 sf	20/1000 sf	NR	NR	NR	NR	NR
10	Restaurant, Rural	NR	NR	NR	NR	NR	NR	8/1000 sf	NR	NR
Office, Business, and Professional										
1	Office, Professional	0.5/1000 sf	2/1000 sf	2/1000 sf	4/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR

Table 7.06.02-1
Parking Ratios by Land Use and Zoning District Category

Zoning District Category		Urban		Suburban and Office and Industrial		Transition		Rural	Joint Land Management Area	
		Min	Max	Min	Max	Min	Max	Min	Min	Max
2	Small Business, Agricultural and Rural	NR	NR	2/1000 sf	4/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
Personal/Business Services										
1	Business Support Services	0.5/1000 sf	2/1000 sf	2/1000 sf	3.5/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
2	Dry Cleaning Plant	NR	NR	2/1000 sf	3.5/1000 sf	2/1000 sf	NR	NR	2/1000 sf	NR
3	Farm Machinery Sales and Services	NR	NR	2/1000 sf	3.5/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
4	Maintenance and Repair Services	NR	NR	2/1000 sf	3.5/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
5	Personal Services	0.5/1000 sf	2/1000 sf	2/1000 sf	3.5/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
6	Postal Services	0.5/1000 sf	3/1000 sf	3/1000 sf	4/1000 sf	2/1000 sf	NR	3/1000 sf	2/1000 sf	NR
Retail										
1	Antiques, Art, and Crafts Shop	0.5/1000 sf	2/1000 sf	2/1000 sf	4/1000 sf	2/1000 sf	4/1000 sf	2/1000 sf	NR	NR
2	Auction	0.5/1000 sf	2/1000 sf	2/1000 sf	3.5/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
3	Convenience Store	1/1000 sf	3/1000 sf	3/1000 sf	4/1000 sf	4/1000 sf	NR	4/1000 sf	4/1000 sf	NR
4	Convenience Store (with Gasoline Sales)	1/1000 sf	3/1000 sf	3/1000 sf	4/1000 sf	4/1000 sf	NR	4/1000 sf	4/1000 sf	NR
5	Feed and Farm Supply Center	NR	NR	2/1000 sf	3.5/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
6	Machinery and Equipment Sales and Services	NR	NR	2/1000 sf	3.5/1000 sf	2/1000 sf	NR	NR	2/1000 sf	NR
7	Nursery, Commercial	NR	NR	2/1000 sf	3.5/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
8	Retail, General	0.5/1000 sf	2/1000 sf	2/1000 sf	4/1000 sf	2/1000 sf	4/1000 sf	2/1000 sf	2/1000 sf	NR
9	Shopping Center, up to 200,000 sf	2/1000 sf	4/1000 sf	4/1000 sf	8/1000 sf	4/1000 sf	8/1000 sf	4/1000 sf	4/1000 sf	8/1000 sf
10	Shopping Center, over 200,000 sf	1/1000 sf	4/1000 sf	3/1000 sf	6/1000 sf	NR	NR	NR	NR	NR
Automotive										
1	Car Share	1/shared vehicle	1/shared vehicle	1/shared vehicle	1/shared vehicle	NR	NR	NR	NR	NR
2	Car Wash	NR	NR	NR	1/stall	1/stall	NR	1/stall	1/stall	NR
3	Vehicle Repair, Heavy	NR	NR	2/1000 sf	3.5/1000 sf	2/1000 sf	NR	NR	2/1000 sf	NR
4	Vehicle Repair, Light	NR	NR	2/1000 sf	3.5/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
5	Vehicle Sales	2/1000 sf	3.5/1000 sf	2/1000 sf	3.5/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
6	Vehicle Service	1/2 fuel	NR	1/2 fuel	1.5/2 fuel	1/2 fuel	NR	1/2 fuel	1/2 fuel	NR

Table 7.06.02-1
Parking Ratios by Land Use and Zoning District Category

Zoning District Category		Urban		Suburban and Office and Industrial		Transition		Rural	Joint Land Management Area	
		Min	Max	Min	Max	Min	Max	Min	Min	Max
	Station	pumps		pumps	pumps	pumps		pumps	pumps	
7	Vehicle Wholesale Auction	NR	NR	2/1000 sf	4/1000 sf	2/1000 sf	NR	NR	2/1000 sf	NR
Public/Civic/Institutional										
Assembly										
1	Civic, Social, and Fraternal Meeting Place	0.5/1000 sf	2/1000 sf	2/1000 sf	8/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
2	Community Center	2/1000 sf	6/1000 sf	6/1000 sf	8/1000 sf	6/1000 sf	NR	6/1000 sf	8/1000 sf	NR
3	Convention or Exhibition Facility	2/1000 sf	4/1000 sf	4/1000 sf	8/1000 sf	NR	NR	NR	4/1000 sf	NR
4	Religious Assembly	2/1000 sf	4/1000 sf	4/1000 sf	8/1000 sf	NR	NR	4/1000 sf	4/1000 sf	NR
Death Care Services										
1	Cemetery	NR	NR	5/cemetery	NR	5/cemetery	NR	5/cemetery	5/cemetery	NR
2	Crematorium	0.5/1000 sf	2/1000 sf	2/1000 sf	3.5/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
3	Funeral Home	0.5/1000 sf	2/1000 sf	2/1000 sf	3.5/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
Government										
1	Government (General) (not otherwise listed)	0.5/1000 sf	2/1000 sf	2/1000 sf	4/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
2	Public Safety	1/1000 sf	2/1000 sf	2/1000 sf	3.5/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
Education										
1	Agricultural Education or Research	NR	NR	3/1000 sf	4/1000 sf	3/1000 sf	NR	3/1000 sf	3/1000 sf	NR
2	School, Trade	1/1000 sf	3/1000 sf	3/1000 sf	4/1000 sf	3/1000 sf	NR	NR	3/1000 sf	NR
3	College or University	1/1000 sf	3/1000 sf	3/1000 sf	4/1000 sf	3/1000 sf	NR	NR	3/1000 sf	NR
4	Conference and Training Facility	1/1000 sf	3/1000 sf	4/1000 sf	5/1000 sf	4/1000 sf	NR	4/1000 sf	4/1000 sf	NR
5	Library	1/1000 sf	2.5/1000 sf	2.5/1000 sf	4/1000 sf	2.5/1000 sf	NR	2.5/1000 sf	2.5/1000 sf	NR
6	Personal Instructional Services	1/1000 sf	3/1000 sf	3/1000 sf	4/1000 sf	3/1000 sf	NR	3/1000 sf	3/1000 sf	NR
7	Rural Retreat	NR	NR	2.5/1000 sf	4/1000 sf	2.5/1000 sf	NR	2.5/1000 sf	2.5/1000 sf	NR
8	School, Elementary (Public or Private)	1/1000 sf	3/1000 sf	1/1000 sf	4/1000 sf	1/1000 sf	NR	1/1000 sf	1/1000 sf	NR
9	School,	1.25/1000	3/1000	1.25/1000	4/1000 sf	1.25/1000	NR	1.25/1000 sf	1.25/1000	NR

Table 7.06.02-1
Parking Ratios by Land Use and Zoning District Category

Zoning District Category		Urban		Suburban and Office and Industrial		Transition		Rural	Joint Land Management Area	
		Min	Max	Min	Max	Min	Max	Min	Min	Max
	Middle (Public or Private)	sf	sf	sf		sf			sf	
10	School, High (Public or Private)	2.5/1000 sf	3/1000 sf	2.5/1000 sf	4/1000 sf	2.5/1000 sf	NR	2.5/1000 sf	2.5/1000 sf	NR
Medical										
1	Hospital	7.06.08.A.1.c.								
2	Medical Care Facility	1.5/1000 sf	3/1000 sf	2/1000 sf	4/1000 sf	3/1000 sf	NR	3/1000 sf	3/1000 sf	NR
3	Office, Medical	1.5/1000 sf	3/1000 sf	2/1000 sf	4/1000 sf	2/1000 sf	NR	2/1000 sf	2/1000 sf	NR
Arts, Entertainment, and Recreation										
1	Agricultural Cultural Center	NR	NR	NR	NR	3/1000 sf	NR	3/1000 sf	8/1000 sf	NR
2	Agritainment	NR	NR	NR	NR	3/1000 sf	NR	3/1000 sf	8/1000 sf	NR
3	Amphitheater	4/1000 sf	8/1000 sf	4/1000 sf	8/1000 sf	8/1000 sf	10/1000 sf	8/1000 sf	8/1000 sf	NR
4	Art Studio	0.5/1000 sf	1/1000 sf	1/1000 sf	2.5/1000 sf	2.5/1000 sf	NR	2.5/1000 sf	2.5/1000 sf	NR
5	Cultural Facility	1/1000 sf	2.5/1000 sf	2.5/1000 sf	4/1000 sf	5/1000 sf	NR	2.5/1000 sf	2.5/1000 sf	NR
6	Cultural Tourism	NR	NR	NR	NR	NR	NR	2.5/1000 sf	2.5/1000 sf	NR
7	Dinner Theater	2.5/1000 sf	5/1000 sf	5/1000 sf	8/1000 sf	5/1000 sf	NR	NR	5/1000 sf	NR
8	Dog Park	7.06.08.A.1.c.								
9	Entertainment Facility	NR	NR	5/1000 sf	8/1000 sf	5/1000 sf	NR	NR	NR	NR
10	Equestrian Event Facility	NR	NR	0.33 maximum occupancy + 1/employee	NR	0.33 maximum occupancy + 1/employee	NR	0.33 maximum occupancy + 1/employee	0.33 maximum occupancy + 1/employee	NR
11	Health and Fitness Center	1.5/1000 sf	4/1000 sf	4/1000 sf	5.5/1000 sf	4/1000 sf	NR	NR	4/1000 sf	NR
12	Park, Community, Passive, or Regional	7.06.08.A.1.c.								
13	Recreation, Indoor	3/1000 sf	5/1000 sf	3/1000 sf	8/1000 sf	3/1000 sf	NR	3/1000 sf	3/1000 sf	NR
14	Recreation, Outdoor or Major	4/1000 sf	8/1000 sf	8/1000 sf	10/1000 sf	8/1000 sf	NR	8/1000 sf	8/1000 sf	NR
15	Shooting Range, Indoor	NR	NR	2/1000 sf	4/1000 sf	2/1000 sf	NR	NR	2/1000 sf	NR
16	Theater	3/1000 sf	5/1000 sf	5/1000 sf	8/1000 sf	5/1000 sf	NR	5/1000 sf	5/1000 sf	NR
17	Trailhead	7	NR	7	NR	7	NR	7	7	NR
18	Zoo	7.06.08.A.1.c.		NR	NR	NR	NR	NR	NR	NR
Industrial/Production										

Table 7.06.02-1
Parking Ratios by Land Use and Zoning District Category

Zoning District Category		Urban		Suburban and Office and Industrial		Transition		Rural	Joint Land Management Area	
		Min	Max	Min	Max	Min	Max	Min	Min	Max
Manufacturing and Employment										
1	Contractor	NR	NR	1/1000 sf	2/1000 sf	1/1000 sf	NR	1/1000 sf	1/1000 sf	NR
2	Data Center	NR	2.5/1000 sf	NR	2.5/1000 sf	NR	NR	NR	NR	NR
3	Extractive Industries	NR	NR	1/1000 sf	2/1000 sf	1/1000 sf	NR	1/1000 sf	1/1000 sf	NR
4	Flex Building	0.5/1000 sf	1/1000 sf	2/1000 sf	NR	1/1000 sf	NR	NR	1/1000 sf	NR
5	Manufacturing, General	NR	NR	1/1000 sf	2/1000 sf	1/1000 sf	NR	NR	1/1000 sf	NR
6	Manufacturing, Intensive	NR	NR	1/1000 sf	2/1000 sf	1/1000 sf	NR	NR	1/1000 sf	NR
7	Research and Development	1/1000 sf	2.5/1000 sf	2/1000 sf	3.5/1000 sf	2/1000 sf	NR	NR	1/1000 sf	NR
8	Sawmill	NR	NR	1/1000 sf	2/1000 sf	1/1000 sf	NR	1/1000 sf	1/1000 sf	NR
9	Slaughterhouse	NR	NR	7.06.08.A.1.c.		NR	NR	7.06.08.A.1.c.	NR	NR
10	Wood, Metal and Stone Crafts	NR	NR	1/1000 sf	2/1000 sf	1/1000 sf	NR	NR	NR	NR
Warehousing, Storage and Distribution										
1	Building and Landscaping Materials Supplier	NR	NR	0.5/1000 sf	2/1000 sf	1/1000 sf	NR	NR	1/1000 sf	NR
2	Freight	NR	NR	0.5/1000 sf	2/1000 sf	NR	NR	NR	NR	NR
3	Industrial Storage	NR	NR	0.5/1000 sf	2/1000 sf	0.5/1000 sf	NR	NR	0.5/1000 sf	NR
4	Mini-Warehouse	0.25/1000 sf	1/1000 sf	0.5/1000 sf	2/1000 sf	0.5/1000 sf	NR	NR	0.5/1000 sf	NR
5	Outdoor Storage	NR	NR	NR	NR	NR	NR	NR	NR	NR
6	Outdoor Storage, Vehicles	NR	NR	0.5/1000 sf	2/1000 sf	0.5/1000 sf	NR	NR	0.5/1000 sf	NR
7	Vehicle Storage and Impoundment	NR	NR	NR	NR	NR	NR	NR	NR	NR
8	Wholesale Distribution, Warehousing and Storage	NR	NR	0.5/1000 sf	2/1000 sf	0.5/1000 sf	NR	NR	0.5/1000 sf	NR
Infrastructure										
Transportation/Parking										
1	Airport/Landing Strip	NR	NR	7.06.08.A.1.c.						
2	Ground Passenger Transportation (e.g. Taxi, Charter Bus)	1/1000 sf	4/1000 sf	1/1000 sf	4/1000 sf	1/1000 sf	NR	NR	1/1000 sf	NR
3	Heliport or Helistop	7.06.08.A.1.c.								
4	Marina	7.06.08.A.1.c.								
5	Parking Facility	7.06.08.A.1.c.								
6	Transit Facility	NR	NR	NR	NR	NR	NR	NR	NR	NR
Utilities										

Table 7.06.02-1
Parking Ratios by Land Use and Zoning District Category

Zoning District Category		Urban		Suburban and Office and Industrial		Transition		Rural	Joint Land Management Area	
		Min	Max	Min	Max	Min	Max	Min	Min	Max
1	Energy Storage, Utility Scale	NR	NR	0.5/1000 sf	2/1000 SF	NR	NR	NR	NR	NR
2	Electric Generating Plant	NR		7.06.08.A.1.c.						
3	Public Service Center, with or without outdoor storage	NR	NR	2/1000	3.5/1000 sf	2/1000	NR	2/1000	2/1000	NR
4	Solar Facility, Site-Specific	NR	NR	NR	NR	NR	NR	NR	NR	NR
5	Solar Facility, Utility-Scale	NR	NR	NR	NR	NR	NR	NR	NR	NR
6	Utility, Major	NR	NR	1/1000 sf	NR	1/1000 sf	NR	1/1000 sf	1/1000 sf	NR
7	Utility, Minor	NR	1/1000 sf	1/1000 sf	NR	1/1000 sf	NR	1/1000 sf	1/1000 sf	NR
Communications Facilities										
1	Recording Studio	1/employee	NR	1/employee	NR	1/employee	NR	1/employee	1/employee	NR
2	Telecommunications Facility	1/employee	NR	1/employee	NR	1/employee	NR	1/employee	1/employee	NR
Waste-Related										
1	Composting Facility	NR	NR	NR	NR	0.5/1000 sf	NR	0.5/1000 sf	0.5/1000 sf	NR
2	Material Recovery Facility	NR	NR	0.5/1000 sf	NR	0.5/1000 sf	NR	0.5/1000 SF	0.5/1000 sf	NR
3	Junkyard	NR	NR	0.5/1000 sf	NR	0.5/1000 sf	NR	NR	0.5/1000 sf	NR
4	Recycling Collection Center	1/1000 sf	NR	1/1000 sf	NR	1/1000 sf	NR	1/1000 sf	0.5/1000 sf	NR
5	Solid Waste Facility	NR	NR	0.5/1000 sf	NR	0.5/1000 sf	NR	NR	0.5/1000 sf	NR
6	Stockpiling	NR	NR	NR	NR	0.5/1000 sf	NR	NR	0.5/1000 sf	NR
7	Vegetative Waste Management Facility	NR	NR	0.5/1000 sf	NR	0.5/1000 sf	NR	0.5/1000 sf	0.5/1000 sf	NR
Agriculture										
1	Agricultural Processing	NR	NR	NR	NR	1/1000 sf	NR	1/1000 sf	1/1000 sf	NR
2	Agriculture	NR	NR	NR	NR	NR	NR	NR	NR	NR
3	Animal Husbandry	NR	NR	NR	NR	NR	NR	NR	NR	NR
4	Auction Facility, Livestock	NR	NR	NR	NR	NR	NR	2/1000 sf	2/1000 sf	NR
5	Brewery, Limited	NR	NR	NR	NR	NR	NR	8/1000 sf	NR	NR
6	Community Garden	2/garden	NR	2/garden	NR	2/garden	NR	2/garden	2/garden	NR
7	Farm Co-Op	2/co-op	NR	2/co-op	NR	2/co-op	NR	2/co-op	2/co-op	NR
8	Farm Distribution Hub	2/hub	NR	2/hub	NR	NR	NR	2/hub	NR	NR
9	Feedlot	NR	NR	NR	NR	NR	NR	NR	NR	NR
10	Horticulture	NR	NR	NR	NR	NR	NR	NR	NR	NR
11	Mill, Feed and Grain	NR	NR	1/employee	NR	NR	NR	NR	NR	NR

Table 7.06.02-1 Parking Ratios by Land Use and Zoning District Category										
Zoning District Category		Urban		Suburban and Office and Industrial		Transition		Rural	Joint Land Management Area	
		Min	Max	Min	Max	Min	Max	Min	Min	Max
12	Nursery, Production	NR	NR	NR	NR	1/employee	NR	1/employee	1/employee	NR
13	Pet Farm	NR	NR	NR	NR	3/1000 sf	NR	3/1000 sf	8/1000 sf	NR
14	Stable, Livery	NR	NR	NR	NR	1/8 stalls	NR	1/8 stalls	1/8 stalls	NR
15	Stable, Private	NR	NR	NR	NR	1/8 stalls	NR	1/8 stalls	1/8 stalls	NR
16	Wayside Stand	NR	NR	NR	NR	3/stand	NR	3/stand	3/stand	NR
17	Winery, Commercial	NR	NR	NR	NR	NR	NR	8/1000 sf	NR	NR
18	Winery, Virginia Farm	NR	NR	NR	NR	8/1000 sf	NR	8/1000 sf	8/1000 sf	NR
Miscellaneous										
1	Adaptive Reuse	Table 4.09-2.								
2	Use, Temporary	7.06.08.A.1.c.								
TABLE KEY: NR = not regulated (because it is not permitted or there is no regulation) ft = feet sf = square feet TABLE NOTES: ¹ Residential garage spaces are calculated as 0.5 spaces.										

B. Additional Rules for Computing Parking Requirements.

- Uses not Listed.** The Zoning Administrator will determine in writing the required parking and loading facilities for uses not specifically listed in Table 7.06.02-1 above pursuant to Section 7.06.08 and Section 10.16. Such determinations by the Zoning Administrator are appealable to the Board of Zoning Appeals.
- Expansions and Changes in Use.** For expansions or changes in use, prior to the issuance of a Zoning Permit or Certificate of Occupancy, the Zoning Administrator will determine in writing, based on information submitted by the applicant, the impact of the proposed change on the parking requirement for the building, and the adequacy of the parking provided.
- Business Vehicles.** In addition to the requirements in Table 7.06.02-1 above, 1 off-street parking space is required for each business vehicle that is directly associated with permitted and Special Exception uses and is parked on the premises during normal business hours. Required loading spaces may be credited as part of the total space needed for business vehicles.

C. Reduced Parking Ratios. In accordance with Section 7.06.02.C., the parking ratios provided in Table 7.06.02-1 may be reduced. The reductions of Section 7.06.02.C. are not subject to Section 7.06.08, except to exceed the specified limits or to exceed a cumulative reduction of 35%. The reduction of Section 7.06.02.C.1. is not subject to this cumulative limitation. Additional parking reductions may be provided pursuant to Section 7.06.08.

- Attainable Housing.** Parking ratios for dwelling units provided pursuant to Chapter 9: Attainable Housing are reduced when in conformance with Section 7.06.02.C.1. These reductions apply to all of the dwelling units provided pursuant to Chapter 9 or meeting the definitions of Affordable Dwelling Unit (ADU), Unmet Housing Needs Unit (UHNU), and Affordable Housing Unit (AHU).
 - Reductions are determined by units at varying Area Median Income (AMI) levels.
 - Parking may be reduced at 10%, 30%, or 50% depending on dwelling unit income restrictions.
 - 10% Reduction: Dwelling units affordable at or below 60% AMI.
 - 30% Reduction: Dwelling units affordable at or below 50% AMI.

3. **50% Reduction:** Dwelling units affordable at or below 30% AMI.
- c. The Site Plan must show the number of attainable dwelling units with AMI levels.
- d. Parking for attainable rental units must be included in the rental price.
2. **Structured Parking.** Parking requirements are reduced for providing parking in an above-grade or below-grade parking structure.
 - a. **Above-grade.** For every 100 spaces placed in an above-grade parking structure, a 5% reduction in required parking spaces is applied.
 - b. **Below-grade.** For every 100 spaces placed in a below-grade parking structure a 10% reduction in required parking spaces is applied.
3. **Age-Restricted Housing.** Developments providing age-restricted dwelling units in accordance with Code of Virginia § 36-96.7 will receive a 5% parking reduction for each 50 required parking spaces.
4. **Alternative Transportation.** Required parking may be reduced by up to 35% through any combination of the following:
 - a. **Transit.** Parking will be reduced based on proximity to transit in accordance with Table 7.06.02-2.

Table 7.06.02-2 Reduced Parking for Proximity to Transit

Distance	Bus Stop ¹	Metrorail Station ²
1/2 mile	5% reduction	10% reduction
1/4 mile	10% reduction	20% reduction
1/8 mile	20% reduction	25% reduction

TABLE NOTES:

¹Must be a regularly scheduled Loudoun County bus stop. Not applicable to single family dwellings.

²Distance is measured from the outer edge of the Metrorail station, including associated parking areas.

- b. **Carpooling/Vanpooling.** A reduction of up to 20% of required parking is granted for any building or group of buildings with a single use or mix of uses exceeding 50,000 square feet gross floor area that institutes and maintains a carpool or vanpool program.
- c. **Shuttle Service.** A reduction of up to 10% of required parking is granted for any use that provides and maintains a regular shuttle service.
- d. **Long Term Bicycle Parking.** A reduction of 1 parking space per 2 long-term bicycle parking spaces is granted for any use that provides and maintains long-term bicycle parking pursuant to Section 7.06.03.
- e. **Car-Share Parking.** Reduced parking is granted for any use that provides car-share parking, pursuant to Section 7.06.06, as follows:
 1. **Nonresidential.** A reduction of 3 parking spaces per 1 car-share space for nonresidential uses.
 2. **Residential.** A reduction of 2 parking spaces per 1 car-share space for residential uses.

7.06.03 Bicycle Parking

Purpose. To encourage the use of bicycles by people of all ages and abilities in Urban and Suburban Zoning Districts by providing adequate, secure, and convenient bicycle parking.

A. Applicability.

1. Section 7.06.03 applies to new or expanded development in Urban, Suburban, and Office and Industrial Zoning Districts.
2. Bicycle parking is not required in Rural, Transition, and Joint Land Management Area Zoning Districts.

B. Bicycle Parking Ratios.

1. **Measurements.** Bicycle spaces are measured as the ability for a facility to store 1 bicycle. One bicycle space equals 1 stored bicycle.
2. **Bicycle Parking by Use.** Short- and long-term bicycle parking ratios for each use category are shown in Table 7.06.03-1.
 - a. **Required Short-Term.** Short-term bicycle parking ratios are minimum requirements for bicycle parking. No bicycle parking is required for uses not listed.
 - b. **Optional Long-Term.** Minimum long-term bicycle parking spaces must be provided to be eligible for alternate parking pursuant to Section 7.06.08.

Table 7.06.03-1 Bicycle Parking Ratios					
		Urban Zoning Districts		Suburban and Office and Industrial Zoning Districts	
		Short-Term	Long-Term	Short-Term	Long-Term
Residential					
Household Living					
1	Dwelling, Single-Family Attached	NR	NR	1/20 DU	1/40 DU
2	Dwelling, Multifamily	1/15 DU	1/35 DU	1/20 DU	1/40 DU
Lodging					
3	Hotel/Motel	1/25 guest rooms	1/50 guest rooms	NR	NR
Commercial					
Animal Services					
4	Animal Hospital	1/1000 sf	NR	1/1000 sf	NR
5	Kennel	NR	NR	1/1000 sf	NR
Day Care					
6	Adult Day Care	2/1000 sf	NR	1/1000 sf	NR
7	Child Day Center	2/1000 sf	NR	1/1000 sf	NR
Financial Services					
8	Bank or Financial Institution	2/1000 sf	NR	1/1000 sf	NR
Food and Beverage Sales / Service					
9	Banquet/Event Facility	NR	NR	2/1000 sf	NR
10	Craft Beverage Manufacturing	2/1000 sf	NR	1/1000 sf	NR
11	Restaurant, without drive-through facility	2/1000 sf	NR	1/1000 sf	NR
12	Restaurant, with drive-through facility	NR	NR	1/1000 sf	NR
Office, Business and Professional					
13	Office, Professional	2/1000 sf	0.25/1000 sf	1/1000 sf	NR
Personal / Business services					
14	Business Support Services	1/1000 sf	NR	NR	NR
15	Personal Services	2/1000 sf	NR	1/1000 sf	NR
16	Postal Services	2/1000 sf	NR	1/1000 sf	NR
Retail					
17	Convenience Store	2/1000 sf	0.25/1000 sf	1/1000 sf	0.25/1000 sf
18	Convenience Store (with Gasoline Sales)	2/1000 sf	0.25/1000 sf	1/1000 sf	0.25/1000 sf
19	Retail, General	2/1000 sf	0.25/1000 sf	1/1000 sf	NR

Table 7.06.03-1 Bicycle Parking Ratios					
		Urban Zoning Districts		Suburban and Office and Industrial Zoning Districts	
		Short-Term	Long-Term	Short-Term	Long-Term
Public/Civic/Institutional					
Assembly					
20	Civic, Social, and Fraternal Meeting Place	2/1000 sf	0.25/1000 sf	1/1000 sf	0.5/1000 sf
21	Community Center	4/1000 sf	0.5/1000 sf	2/1000 sf	0.5/1000 sf
22	Convention or Exhibition Facility	2/1000 sf	0.25/1000 sf	2/1000 sf	NR
23	Religious Assembly	2/1000 sf	0.25/1000 sf	2/1000 sf	NR
Government / Non-Profit					
24	Government (General)	NR	0.5/1000 sf	NR	0.5/1000 sf
Education					
25	College or University	4/1000 sf	0.5/1000 sf	2/1000 sf	NR
26	Library	4/1000 sf	0.5/1000 sf	2/1000 sf	NR
27	Personal Instructional Services	2/1000 sf	NR	2/1000 sf	NR
28	School, Elementary	0.2/1000 sf	NR	0.2/1000 sf	NR
29	School, Middle	0.15/1000 sf	NR	0.15/1000 sf	NR
30	School, High	0.1/1000 sf	NR	0.1/1000 sf	NR
Medical					
31	Office, Medical	1/1000 sf	NR	1/1000 sf	NR
32	Medical Care Facility	4/1000 sf	0.5/1000 sf	1/1000 sf	0.5/1000 sf
Arts, Entertainment, and Recreation					
33	Amphitheater	4/1000 sf	NR	1/1000 sf	NR
34	Art Studio	1/1000 sf	NR	1/1000 sf	NR
35	Cultural Facility	4/1000 sf	NR	1/1000 sf	NR
36	Dinner Theater	2/1000 sf	NR	1/1000 sf	NR
37	Entertainment Facility	4/1000 sf	0.25/1000 sf	1/1000 sf	NR
38	Health and Fitness Center	4/1000 sf	0.25/1000 sf	1/1000 sf	NR
39	Recreation, Indoor	4/1000 sf	0.25/1000 sf	1/1000 sf	NR
40	Recreation, Outdoor or Major	4/1000 sf	0.25/1000 sf	1/1000 sf	NR
41	Theater	2/1000 sf	NR	1/1000 sf	NR
Infrastructure					
Transportation / Parking					
42	Parking Facility	1/20 spaces	1/10 spaces	NR	NR
43	Transit Facilities	1/20 spaces	1/10 spaces	NR	NR
TABLE KEY: NR = Not Required					

C. Short-Term Bicycle Parking. All short-term bicycle parking must:

1. Be available to the public;
2. Be located in a well-lit, weather-protected area that is clearly visible to visitors to the building and persons on the sidewalk facing the building's main entrance;
3. Not obstruct pedestrian traffic or interfere with the use of the pedestrian area; and

4. Outfitted with a securely anchored rack to which a bicycle can be locked.
- D. **Long-Term Bicycle Parking.** To be eligible for parking adjustment pursuant to Section 7.06.08.F., long-term bicycle parking must be provided within secure, weather-protected facilities. Long-term bicycle parking is intended for building and site occupants and others who need bicycle parking for several hours or longer.
 1. Each long-term bicycle parking space must be provided in one or more:
 - a. Bicycle rooms on the ground floor of a residential/commercial building;
 - b. Bicycle rooms in a covered parking garage;
 - c. Bicycle cages in a parking garage; or
 - d. Secure bicycle parking areas located near the building and the street or other bicycle right-of-way.
 2. If the bicycle storage area requires the use of doors, doors must be fully automatic or automatically open with the push of a button.
 3. If a long-term bicycle parking space is in an enclosed area, the enclosed area must not be accessible to anyone without authorized access.
 4. Long-term bicycle parking spaces in a garage must be:
 - a. In a well-lit, visible location near the main entrance or elevators;
 - b. Clearly marked as a long-term bicycle parking space;
 - c. Separated from vehicle parking by a barrier that minimizes the possibility of a parked bicycle being hit by a car; and
 - d. Outfitted with a rack to lock the bicycle.
 5. Each space must be available and accessible for all building tenants during the building's hours of operations. For residential tenants, each space must be accessible 24 hours a day, 7 days a week.
 6. When a development project includes multiple structures, the total number of long-term bicycle parking spaces will be calculated for the entire project and distributed proportionally to each structure based on its share of the total parking space requirement.
 7. When the long-term bicycle parking for multiple structures is co-located, it must be within 200 feet of an entrance to each of the participating structures.

7.06.04 Electric Vehicle Parking

- A. **Applicability.**
 1. Electric vehicle infrastructure and parking is required when:
 - a. A parking adjustment has been approved pursuant to Section 10.16, Section 10.11.01, or Section 10.11.05;
 - b. The site is located within an Urban, Suburban, or Office and Industrial Zoning District; and
 - c. The development consists of at least 10,000 square feet of additional gross floor area.
 2. If provided when not required, electric vehicle charging spaces and infrastructure are subject to Section 7.06.04.B.
- B. **General Station Requirements.**
 1. **Size.** Any electric vehicle charging station parking space must meet the size of a parking space as required by the Facilities Standards Manual (FSM).
 2. **Zoning Permit.** Electric vehicle charging spaces and infrastructure must receive Zoning Permit approval.

7.06.05 Motorcycle Parking

- A. **Applicability.** Any development with more than 50 parking spaces within Urban or Suburban Zoning Districts may provide motorcycle parking to satisfy vehicle parking required pursuant to Section 7.06.02.
- B. **Maximum.** Parking facilities may not substitute more than 8% of the number of vehicle spaces for motorcycles.

7.06.06 Car Share Parking

- A. **Car Share Parking.** Any development with more than 50 parking spaces in Urban, Suburban, or Office and Industrial Zoning Districts may provide car share parking spaces.
- B. **Minimum.** To be eligible for a parking adjustment pursuant to Section 7.06.02.C.4.e., car share spaces must be provided as follows:
 - 1. One car share parking space for parking facilities with 51 to 149 parking spaces; and
 - 2. For parking facilities with 150 or more parking spaces, 1 additional car share parking space is required for each 100 parking spaces, up to a maximum requirement of 5.
- C. **Location.** Car share spaces must be located within 100 feet of the building entrance.

7.06.07 Oversized Vehicle Parking

Purpose. Oversized vehicles can create congestion issues if they are not parked effectively. The purpose of Section 7.06.07 is to park oversized vehicles without adversely impacting residential neighborhoods.

- A. **Applicability.** Section 7.06.07 applies to oversized vehicles in Urban and Suburban Zoning Districts.
- B. **Definitions.** The following definitions apply only to Section 7.06.07:
 - 1. **Commercial Vehicle:**
 - a. Any solid waste vehicle, tractor truck or tractor truck/semitrailer or tractor truck/trailer combination, dump truck, concrete mixer truck, towing and recovery vehicle with a registered gross weight of 12,000 pounds or more, and any heavy construction equipment, even if any of the foregoing are parked on a truck, trailer, or semitrailer;
 - b. Any trailer, semitrailer, or other vehicle in which food or beverages are stored or sold;
 - c. Any trailer or semitrailer used for transporting landscaping or lawn-care equipment whether or not such trailer or semitrailer is attached to another vehicle;
 - d. Any container constructed for the transportation of cargo;
 - e. Any vehicle licensed for use as a contract carrier or limousine;
 - f. Any vehicle more than 25 feet in length or more than 8 feet in height including appurtenances attached to the vehicle or with a width of 102 inches or more or with a gross weight of 12,000 or more pounds;
 - g. Any trailer, semitrailer, or double axle utility trailer, regardless of whether a state safety inspection is required, except those designed to be used as a camper trailer or boat trailer or a single axle utility trailer, regardless of whether such trailer or semitrailer is attached to another vehicle;
 - h. Any vehicle of any size that is being used in the transportation of hazardous materials as defined in Code of Virginia § 46.2-341.4; or
 - i. Any vehicle with 3 or more axles.
 - 2. **Oversized Vehicle:** Any vehicle type mentioned in Section 7.06.07, excluding inoperable motor vehicles.
- C. **Requirements.** Oversized vehicle parking or storage in residential districts is prohibited except where specified.
 - 1. **Commercial Vehicles.**
 - a. Commercial vehicles may not be parked on any residential lot, except as provided in Section 7.06.07.C.1.b.

- b. **Exception.** Commercial vehicles or containers may be parked on residential lots when loading and unloading.
- 2. **Business Vehicles.** One business vehicle may be parked or stored on any residential lot with a principal structure, provided such vehicle is:
 - a. Parked in an enclosed garage, accessory structure, approved off-street parking area, or behind the nearest portion of buildings to streets; and
 - b. Used by a resident of the premises.
- 3. **Major Recreational Equipment.**
 - a. Major Recreational Equipment must not be parked or stored in residential districts, except as follows:
 - 1. In accordance with Codified Ordinances of Loudoun County § 480.10;
 - 2. Parked anywhere on a residential lot for a period not exceeding 48 hours; and
 - 3. Under a carport, within an enclosed building, or behind the nearest portion of a building to a road.
 - b. Major recreational equipment cannot be used for living or sleeping purposes.

7.06.08 Parking Adjustments

A. Procedure.

- 1. **Administrative Parking Adjustment.** As provided in Section 7.06.08 and pursuant to Section 10.16, the Zoning Administrator may grant the following stand-alone parking adjustments (see also Section 7.06.08.A.2.c.):
 - a. Reduce the minimum required parking spaces by no more than 35%;
 - b. Increase the maximum allowed parking spaces; or
 - c. Determine the required parking ratios for uses that do not have a specified parking ratios listed in Table 7.06.02-1.
- 2. **Special Exception.**
 - a. The following parking adjustments may only be approved by Special Exception:
 - 1. Parking reductions exceeding 35%; or
 - 2. Any parking adjustment as provided in Section 7.06.08.A.2. above.
 - b. The Board of Zoning Appeals (BZA) will review such requests as provided in Section 10.11.05.
 - c. Regardless of Sections 7.06.08.A.1. or A.2.b. above, any reduction requested as part of the following applications must be processed concurrently with such application and in accordance with Section 10.11.01:
 - 1. Commission Permit pursuant to Section 10.09;
 - 2. Special Exception pursuant to Section 10.11.01;
 - 3. Minor Special Exception pursuant to Section 10.11.02;
 - 4. Zoning Map Amendment pursuant to Section 10.10.01; or
 - 5. Zoning Concept Plan Amendment pursuant to Section 10.10.05.
- 3. **Electric Vehicle Parking and Infrastructure.** Electric vehicle infrastructure and parking pursuant to Section 7.06.04 will be required for parking adjustments approved pursuant to Section 10.16, Section 10.11.01, or Section 10.11.05.

- B. **Shared Parking and Loading Facilities.** The total minimum number of required parking spaces may be reduced when:

1. Parking is shared among two or more uses that typically experience peak parking demands at different times;
 2. The uses are located on either the same lot or separate lots within:
 - a. 1/4 mile in Urban Zoning Districts; or
 - b. 500 feet in non-Urban Zoning Districts; and
 3. The uses are located on either the same or a different Zoning District provided the uses are allowed in the Zoning District where the parking is provided. If a Special Exception is required for the use where the parking is provided, then a Special Exception is required to share parking.
- C. **Captive Market.** Parking requirements for retail and restaurant uses may be reduced where it can be determined that some portion of the patronage of these businesses comes from other uses (i.e., employees of area offices patronizing restaurants) located within the same building or a maximum walking distance of 400 feet. A parking study may be required to demonstrate the captive market.
- D. **Credit for On-Street Parking.** Parking spaces located in a public or private right-of-way may be used for required off-street parking requirements under the following circumstances:
1. **Abutting Roads.**
 - a. The parking space is in a paved public or private right-of-way abutting and providing access to the lot; and
 - b. On-street parking is not prohibited by either the Virginia Department of Transportation (VDOT) or Loudoun County Fire Marshal.
 2. **Within 400 feet.**
 - a. In coordination with the Department of Transportation and Capital Infrastructure and VDOT, the Zoning Administrator may allow credit for on-street parking spaces, located within 400 feet of the subject principal use.
 - b. This credit for on-street parking must be included on the Site Plan for the development to identify the particular development receiving credit.
- E. **Availability of Public Parking.** Parking requirements may be reduced if a property has available to it a sufficient supply of existing underutilized public parking spaces in off-street public parking lots and where the applicant adequately demonstrates that such availability will continue in the future.
- F. **Transportation Demand Management Plan (TDM) Reduction.** Any nonresidential, mixed-use, or multifamily development exceeding 10,000 square feet gross floor area may use a TDM plan (a parking study that shows parking demand to reduce single-vehicle occupancy transportation by incorporating alternative transportation modes, flex peak times, and pedestrian activity) to reduce parking rates.
1. **Requirements.** A TDM plan complies with the principles of the Countywide Transportation Plan.
 - a. A qualified professional with demonstrated experience in transportation planning, traffic engineering, or comparable field must prepare the TDM plan.
 - b. A TDM plan must determine:
 1. The anticipated travel demand for the development.
 2. How the anticipated travel demand for the development will be met on-site or off-site, including:
 - a. Number of on-street parking spaces, off-street parking spaces, or shared parking arrangements;
 - b. Number of short-term and long-term bicycle parking spaces; and
 - c. Accommodations for pedestrians, cyclists, motorists, transit riders, and the mobility impaired.

3. The strategies that will be used to reduce single-occupancy vehicle trips, reduce vehicle miles traveled by site users, and promote transportation alternatives such as walking, bicycling, ridesharing, and transit.
 4. The transportation objectives sought from TDM implementation.
2. **TDM Strategies.** TDM strategies may include, but are not limited to the following:
- a. Walking, cycling, ridesharing, and transit promotion and education;
 - b. Shared parking arrangements;
 - c. Enhanced bicycle parking and services;
 - d. Carpooling benefits;
 - e. Free or subsidized transit passes, shuttles, or enhanced transit facilities;
 - f. Provisions for alternative work schedules, including remote and telework; and
 - g. Roadway improvements adjacent to the site that will help encourage transportation alternatives.
3. **TDM Decision.** In making a final decision, the Zoning Administrator must find the following:
- a. The project includes performance objectives to minimize single-occupancy vehicle trips and maximize the utilization of transportation alternatives to the extent practicable, considering the opportunities and constraints of the site and the nature of the development; and
 - b. The project meets the anticipated transportation demand without adversely impacting public infrastructure, such as transit and on-street parking facilities, and the surrounding neighborhood.

7.06.09 Loading

A. Applicability.

1. The required number of off-street loading spaces is determined by gross floor area (GFA).
2. Outdoor storage, sales, or display areas must be added to GFA if these areas contain materials that are received or distributed by trucks.
3. If a development has 2 or more uses, the off-street loading space requirement is the highest number of spaces required of any one use.

- B. Required Loading.** Required loading spaces, pursuant to the Facilities Standards Manual, are required in accordance with Table 7.06.09-1.

Table 7.06.09-1 Loading Ratios	
Gross Floor Area	Minimum Number of Spaces
0 - 10,000 sf	0
10,001 - 75,000 sf	1
75,001 - 150,000 sf	2
150,001 - 300,000 sf	3
> 300,000 sf	1 for each 100,000 sf
TABLE KEY: sf = square feet	

C. Location Standards.

1. A loading space must be located within the same site as the structure or use served.
2. A loading space is prohibited from projecting into a sidewalk, street, or public right-of-way.
3. A loading space is prohibited from being located between the front building line and the lot line.
4. A loading space is prohibited in required buffers.

7.06.10 Parking Location and Design

- A. **All Parking Facilities.** All parking facilities must:
1. Conform to the [Facilities Standards Manual](#) (FSM);
 2. Avoid the Visibility Triangle pursuant to Section [7.07.04](#); and
 3. Be provided on the same lot or parcel of land being served, or on a separate lot or parcel of land within (500 feet of the principal entrance of the building being served.
- B. **Requirements For Multiple Property Ownership.** Wherever required off-street parking facilities are proposed to be provided other than on the lot or parcel of land on which the principal use served is located, when such facilities are collectively or jointly provided and used, and/or when the parcels or lots are owned by different parties, the facilities must be in the same possession, either by deed or long-term lease, as the property occupied by the principal use.
1. A certified true copy of the recorded deed or long-term lease must be filed with the County of Loudoun prior to Site Plan or Subdivision approval.
 2. There must further be a covenant on the separate parcel or lot guaranteeing the maintenance of the required off-street parking facilities during the existence of said principal use. Said covenant must:
 - a. Be executed by the owner of said lot or parcel of land and the parties having beneficial use thereof;
 - b. Be enforceable by either the parties having beneficial use thereof or both;
 - c. Be enforceable against the owner, the parties having beneficial use, and their heirs, successors and assigns or both; and
 - d. Be first recorded in the Office of the Clerk of the Circuit Court.
- C. **Safe Pedestrian Circulation.**
1. All off-street parking facilities must have access from alleys or from streets at locations that accommodate safe pedestrian circulation.
 2. Areas for delivery or service to customers in vehicles must not interfere with pedestrian activity or impede pedestrian or bicycle facilities.
- D. **Compact/Walkable/Urban (CWU) Parking Design Requirements.** These requirements apply to the following Zoning Districts: Transit Related Center (TRC), Urban Employment (UE), Town Center (TC), Transition Community Center (TCC), and Planned Development-Rural Village (PD-RV).
1. **General.**
 - a. All off-street parking must be located on the lot being served or on a separate lot or parcel 500 feet from the primary pedestrian entrance of the building that it serves.
 - b. Access for off-street parking must generally be achieved by means of alleys, off-street vehicular connections between adjacent parking lots, and side streets.
 - c. Parking is prohibited at the visual termination of roads and streets and must not be the principal use of corner lots.
 - d. Structured parking is required to meet 70% of the parking requirements for the construction of new buildings in the Inner Core and Outer Core Subareas of the TRC Zoning District.
 - e. Off-street surface parking lots are prohibited in the TRC Zoning District within 1/4 mile of the transit station to encourage parking structures.
 - f. All off-street surface parking lots in the TDSA Subarea of the TRC Zoning District and the TC, and TCC Zoning Districts other than short-term drop-off/delivery parking, require landscaping pursuant to Section [7.04.06](#), and must not interfere with pedestrian activity or impede pedestrian or bicycle facilities.

- g. An off-street parking facility may be shared by 2 or more uses pursuant to Section 7.06.08.

2. Off-Street Parking.

- a. **Prohibited.** Off-street parking is not permitted in the following locations:
 - 1. **Front parking.** Between the principal building and a road; and
 - 2. **Side parking:** Between the principal building and a side lot line. **Exception.** Off-street parking between the principal building and a side lot line in the TC (Fringe only), TCC, and PD-RV Zoning Districts is permitted; and
- b. **Required.** Off-street parking is to be provided between the principal building and the rear lot line; and
- c. **Modification.** CWU off-street parking requirements of Section 7.06.10.D.2. may be modified pursuant to Section 10.10.04.C.

3. On-Street Parking.

- a. On-street parking must be provided throughout CWU development contexts as practicable.
- b. Where streets and travelways have been designed pursuant to County and Virginia Department of Transportation (VDOT) standards to accommodate on-street parking, this on-street parking may be considered as part of meeting parking requirements for non-residential uses pursuant to Section 7.06.08.
- c. On-street parking must adhere to the following requirements:
 - 1. Parallel and angled on-street parking is allowed;
 - 2. On-street parking must not encompass more than 70% of the block frontage; and
 - 3. On-street parking must be inset into the block with street trees or plantings incorporated between groups of parking spaces.

E. Parking Structure Design Requirements.

- 1. A parking structure may be constructed as an above-grade or below-grade garage and may be used to meet parking requirements for any use or combination of uses.
- 2. Parking structures must comply with the design standards of Section 7.06.10.
- 3. **Above-Grade Parking Structures.** If the above-grade off-street parking structure is freestanding and not effectively shielded from the street by a building or other uses, then such above-grade facility must:
 - a. Be designed to be consistent in terms of design, architecture, details, and treatment;
 - b. Provide ground-floor windows along the street frontages to prohibit long expanses of blank walls. Any wall facing a street must contain windows, doors, or display areas equal to at least 50% of the ground floor wall area facing the street. This excludes portions of wall faces devoted to driveway entrances and exits, stairwells, elevators, escalators, and booths; and
 - c. Required windows must have a sill no more than 4 feet above grade. Where the interior floor level prohibits the required sill placement, the sill may be raised 2 feet above the finished floor wall to provide a maximum sill height of 6 feet above grade.

F. Use-Specific Parking Design Requirements. Certain uses require specific parking design requirements to provide adequate parking facilities.

1. Recreational, Health and Fitness Center, and Day Care.

- a. Recreational, health and fitness center, and day care uses must include a designated pickup and delivery zone and must follow FSM stacking requirements.

- b. This designated pickup and delivery zone must be located within 50 feet of the recreational use's primary building entrance in a way that provides safe and clearly designated access to enter or exit the facility.
 - c. **Day Care.** This designated pickup and delivery zone may be used to meet required off-street parking for Day Care uses.
- 2. **Multifamily.** No off-street parking facility for multifamily dwellings is permitted in areas between buildings and streets, unless those parking areas are sufficiently bermed and screened at a minimum height of 6 feet so that the parking areas are not visible from the street.
- 3. **Home Occupation.**
 - a. A home occupation permitting an employee to work on-site requires 1 off-street parking space in addition to the minimum off-street parking requirements for the dwelling unit prescribed in Section 7.06.02.
 - b. Any other need for parking generated by the conduct of a home occupation must be solely by off-street parking.
 - c. Off-street parking required by Section 7.06.10.F.3. must not be located in a required front yard, unless located within an existing driveway.
- 4. **Recycling Collection Center and Material Recovery Facility.**
 - a. The recycling drop-off center must be in a location so vehicular ingress and egress does not pose traffic hazards.
 - 1. This use requires on-site parking and follows the requirements in Section 7.06.02, or the anticipated peak customer load as determined by the Zoning Administrator.
 - 2. Stacking and parking spaces must not be located within the road right-of-way or setbacks.
 - b. Occupation of any parking spaces by the recycling drop-off center may not reduce required parking spaces for the principal use below the required minimum number, unless the following conditions exist:
 - 1. A parking study shows that existing parking capacity is not fully used during the hours of operation of the principal use and the recycling drop-off center; or
 - 2. Hours of normal operation of the principal use do not overlap those of the recycling drop-off center.

7.06.11 Residential Parking

- A. **Applicability.** Section 7.06.11 regulates parking for single-family detached, single-family attached, and multifamily dwellings.
- B. **Tandem Parking.** Tandem parking (1 parking space behind another in a driveway) for each dwelling unit is permissible and both parking spaces count towards the minimum required spaces for residential dwelling units.
- C. **Garage and Driveway Spaces.**
 - 1. Garage and driveway parking spaces count toward minimum required spaces for residential dwelling units, except as required in Section 7.06.11.D.
 - 2. Residential garage spaces are calculated as 0.5 spaces.
- D. **Off-Lot Parking.**
 - 1. The following dwelling units must provide at least 0.5 spaces per dwelling unit as off lot parking spaces:
 - a. Single-family detached on lots less than 5,000 square feet and lot widths of 50 feet or less;
 - b. Single-family attached; and

- c. Stacked multifamily.
- 2. Off-lot parking required pursuant to Section 7.06.11.D. are included in the minimum required spaces for residential dwelling units.
- 3. Required off-lot parking must be located within 500 feet of the principal entrance of the dwelling unit being served.
- E. **On-Street Parking.** Available on-street parking spaces along the site's frontage count towards the minimum required spaces for residential dwelling units as follows:
 - 1. On-street parking may account for up to 1 required parking spot if located within 500 feet of the principal entrance of the dwelling unit being served;
 - 2. Streets must be designed pursuant to Virginia Department of Transportation (VDOT), County, and fire apparatus access standards to accommodate on-street parking; and
 - 3. On-street parking on minor collector, major collector, minor arterial, or major arterial roads is ineligible for residential parking requirements.
- F. **On-Lot Parking.** The following requirements apply to single-family detached dwellings in Suburban Zoning Districts.
 - 1. All parking for vehicles in any lot must be on a paved parking surface. **Exception.** Temporary parking on an unpaved surface is permitted for active loading and unloading.
 - 2. The maximum amount of paved parking surface between the dwelling and any street must not exceed 30% of such area. **Exception.** The maximum amount of paved parking surface may be exceeded for a paved surface that is:
 - a. Directly abutting and providing primary access to, 2 side-by-side parking spaces as long as the dimensions of the paved surface access area are not more than 25 feet long and 18 feet wide;
 - b. Located on a lot that has its primary access from a minor collector, major collector, minor arterial, or major arterial road, and comprises 2 side-by-side parking spaces and a vehicular turn-around area, as long as the dimensions of the paved surface area are not more than 25 feet long and 18 feet wide, and the area of the turn-around does not exceed 162 square feet; or
 - c. A driveway on a pipestem lot.
 - 3. The maximum amount of paved parking surface between the dwelling and the rear lot line must not exceed 25% of such area.
 - 4. For the purposes of Section 7.06.11, "paved parking surface" means the area of a lot that is used for the parking of vehicles, inclusive of the driveway for accessing that parking, which is surfaced with asphalt, poured or precast concrete, brick, stone, gravel, grasscrete, or any other permeable or impermeable surface. A fully enclosed garage is not considered a paved parking surface.
 - 5. The Zoning Administrator may adjust the requirements of Section 7.06.11 if the Zoning Administrator determines that while meeting the amount of parking required by Section 7.06.02, the requirements of Section 7.06.11 cannot be met because of:
 - a. The exceptional size and/or shape of the lot;
 - b. Environmental or engineering constraints on the lot;
 - c. Special accessibility needs; or
 - d. Other extraordinary situations or conditions of the lot.
 - 6. The Zoning Administrator may attach conditions to any adjustment pursuant to Section 7.06.11.F.5. to ensure that the results of the adjustment comply with the purpose and intent of Section 7.06.

7.07 Transportation

Contents:

7.07.01 Road Access

7.07.02 Road Network

7.07.03 Pedestrian and Bicycle Network

7.07.04 Visibility at Intersections

7.07.01 Road Access

Purpose. *The purpose of the Road Access standards is to:*

- *Provide consistent road access standards that are appropriate for the type and location of development;*
 - *Provide consistent road access standards that are appropriate for the Place Type to implement the General Plan; and*
 - *Ensure that all new development is accessible to and from roads that are safe and serve their intended purpose.*
- A. **Applicability.** All new development must comply with the standards regarding access and frontage contained in Section 7.07.01.
- B. **Lot Access Requirements.**
1. All structures requiring a building permit must be located on a lot that has direct access onto a public road, or a private road as specified in Section 7.07.01.C., sufficient for the admission of emergency vehicles, equipment, and personnel.
 2. Alternate access may be provided as specified in the Land Subdivision and Development Ordinance (LSDO) or the Facilities Standards Manual (FSM).
 3. New access points to major arterial, minor arterial, or major collector roads are limited to locations at existing median breaks, planned median breaks, or other locations approved by Loudoun County and the Virginia Department of Transportation (VDOT).
 4. Access along private roads to the nearest public road must not exceed the allowable maximum length specified in the FSM for lengths of roads in a cul-de-sac or turn-around.
- C. **Private Roads.**
1. Required vehicular access may be provided by private roads serving lots in:
 - a. Suburban Zoning Districts with only single family attached (SFA) townhouse or multifamily dwelling units;
 - b. The PUD Zoning District where specifically authorized;
 - c. PD-RV (Village Conservancy Subdistrict only), TRC, UE, TC, PD-MUB, and TCC Zoning Districts; or
 - d. TR, TSN, TCN, JLMA-20, AR-1, and AR-2 Zoning Districts, when:
 1. Such private road serves 25 or fewer lots;
 2. There is a maximum of 1 private road per intersection with a public road; and
 3. Such private road is not contiguous and parallel to any other private road.
 2. All private roads must:
 - a. Be designed and constructed to private road standards as specified in the FSM;
 - b. Have recorded protective covenants subject to Section 7.09 or maintenance agreement as specified in the LSDO;

- c. Have an established reserve fund sufficient for maintenance and repairs of the road for 10 years as determined by the design engineer's estimate, commencing with the initial record plat or Site Plan for the property; and
 - d. Expressly state on the record plat and protective covenants for the development that the County and VDOT have no responsibility to maintain, repair, or replace private roads.
- D. District Vehicular Access Requirements.** Access to roads in the TC, CC, TCC, OP, IP, GI, MR-HI, PD-CC, and PD-AAAR Zoning Districts must be provided as follows:
- 1. Primary vehicular access must be from minor collector, major collector, or minor arterial roads; and
 - 2. Local roads internal to the district must not connect to local roads outside the district in a manner that would enable their use by either cut-through or construction traffic.
- E. Route 50 Access Limits.**
- 1. Direct access to Route 50 east of Northstar Boulevard in any zoning district is prohibited unless the subject property:
 - a. Does not have legal access to any road or access easement other than Route 50; and
 - b. Has legal access to the location of a planned Route 50 Parallel Road, as shown on the Countywide Transportation Plan.
 - 2. If direct access to Route 50 east of Northstar Boulevard is permitted:
 - a. Access is limited to right-turn-in to and right-turn-out from Route 50 only as approved by VDOT; and
 - b. Prior to approval of a Site Plan for these uses, property owners must execute and record an instrument in a form as reviewed and approved by the County that states: When alternative access to the site becomes available by public or private road adjacent to the owner's parcel or by other means, such as an available private road that provides access to any public or private road:
 - 1. The owner and successors are obligated to relinquish all direct access rights and close off all direct access to Route 50 at no cost to the County or VDOT; or
 - 2. Permit the County or VDOT to eliminate all access rights and close off all direct access to Route 50 without compensation.
- F. Use Specific Standards.** Use-Specific Standards pursuant to Chapter 4 that expressly reference road access standards must conform to Table 7.07.01-1.

Table 7.07.01-1. Road Access Standards

Maximum Vehicle Trips Per Day (VTD) ¹	Minimum Private Road Construction Standards	Public Road Access ²	
		Public Paved Road	Public Unpaved Road
1 - 20 VTD	see FSM	Permitted	Permitted
21 - 70 VTD	see FSM	Permitted	Permitted
71 - 250 VTD	see FSM	Permitted	Permitted
251 - 600 VTD	see FSM	Permitted	Special Exception (Section 10.11.01) required
More than 600 VTD	see FSM	Special Exception (Section 10.11.01) required	Special Exception (Section 10.11.01) required

TABLE NOTES:

¹VTD as determined by traffic study if required or as estimated based on proposed use and most current edition of ITE *Trip Generation Rates* or an approved substitute.

²Characteristics of the public road that provides access to the development's private road(s).

7.07.02 Road Network

Purpose. The purpose of the Road Network standards is to ensure that new development:

- Provides appropriate vehicular connections;
 - Achieves a pattern consistent with the vision for the Place Types in the General Plan; and
 - Conforms to the transportation policies of the General Plan and Countywide Transportation Plan.
- A. **Applicability.** All new development must comply with the road network standards contained in Section 7.07.02.
- B. **General Design.**
1. **Connectivity.** New development must provide for existing and future road connections to adjacent developable or re-developable parcels as required pursuant to Section 7.07.02.C. **Exception.** Road connections are not required through unavoidable steep slopes (Section 6.02), the Mountainside Overlay District (MOD) (Section 5.04), or the Floodplain Overlay District (FOD) (Section 5.03).
 2. **Avoid Features.** Developments must be designed so road connections avoid natural, environmental, and heritage resources, including those identified in Chapter 6, to the extent feasible.
- C. **Road Pattern and Distance between Intersections.** In addition to the General Design requirements of Section 7.07.02.B, within the TRC, UE, and TC Zoning Districts, road pattern and distance between intersections must meet the requirements provided in Table 7.07.02-1.

Table 7.07.02-1. Road Pattern and Distance between Intersections Requirements by Zoning District

Zoning District	Distance Between Intersections (Minimum – Maximum)	Road Pattern
TRC	within 1/4 mile of transit station: 200 ft – 400 ft outside 1/4 mile of transit station: 200 ft – 660 ft	Within 1/2 mile of transit station: Gridiron Outside 1/2 mile of transit station: Gridiron, Rectilinear
UE	300 ft – 800 ft	Gridiron, Rectilinear
TC	200 ft – 660 ft	Gridiron, Linear, Rectilinear

TABLE KEY:
ft = feet

1. Distance between intersections is measured from the edge of pavement for road or mid-block through-alley improvements.
 2. Deviations from minimum and maximum lengths between intersecting roads are permitted where necessary to comply with Section 7.07.02.B.
 3. A more linear, contour forming, or irregular road pattern may be used in the following scenarios:
 - a. To avoid and protect natural, environmental, or heritage resources that will be incorporated into the open space required for the district;
 - b. The district size or shape cannot accommodate blocks with each side achieving the required minimum and maximum block length; or
 - c. Other physical barriers, such as rivers and streams, preclude the creation of blocks.
- E. **Additional Requirements.** In addition to the General Design requirements of Section 7.07.02.B., within the SN-4, SN-6, TR, TSN, TCN, TCC, JLMA-1, JLMA-2, and JLMA-3 Zoning Districts, the following also applies:
1. A dead-end road ending in a cul-de-sac or a “P-loop” road is only permitted to avoid natural, environmental, and heritage resources. If a private road ends in a dead end, then a cul-de-sac is not permitted; and

2. Provide "T" intersections in locations where views of civic, public, or open space areas can be highlighted.

7.07.03 Pedestrian and Bicycle Network

Purpose. *The purpose of Pedestrian and Bicycle Networks standards are to:*

- *Create a continuous and accessible sidewalk network to support two-way pedestrian traffic with enough space for streetscape amenities such as street furnishings, street trees, ground cover plantings areas, street lighting, signage, and utilities;*
- *Ensure multimodal transportation network consistent with the General Plan and the Countywide Transportation Plan;*
- *Minimize long pedestrian block lengths and decrease pedestrian travel distances to improve safety and accessibility for circulation and mobility of pedestrians with various physical abilities and mobility needs; and*
- *Achieve the Countywide Transportation Plan Vision Zero policies and compliance with the American with Disabilities Act.*

A. **Applicability.** All new development in all Zoning Districts except Rural Zoning Districts must comply with the pedestrian and bicycle network regulations contained in Section 7.07.03.

B. **Pedestrian and Bicycle Network.** A Pedestrian and Bicycle Network must be provided as follows.

1. The Pedestrian and Bicycle Network associated with underpasses and tunnels must be:
 - a. Generally straight and without recesses so that the opposite end of the underpass or tunnel is visible to a pedestrian or bicyclist; and
 - b. Illuminated at night and when in excess of 15 feet in length.
2. Connect to existing and planned sidewalks, shared use paths, and trails at the property boundaries of the project.
 - a. If an existing pedestrian or bicycle facility on an adjacent or abutting community is consistent with the Countywide Transportation Plan, then the facility to be provided must be consistent with the existing facility. Pedestrian and bicycle facilities that are wider, or otherwise enhanced over the existing facility will provide necessary transitions.
 - b. If connections are planned but not constructed, then all sidewalks, shared use paths, and trails must continue to the project boundary, link with the planned network, and be stubbed.
 - c. If connections are not yet planned, then all development plans must continue sidewalks, shared use paths, and trails to adjacent undeveloped lots for future connection.
3. Provide access to public transit stops located within or immediately adjacent to the project boundary.
4. With sidewalks or shared use paths on both sides of and aligned with all public roads and private roads within the Zoning District and along the perimeter of the Zoning District.
 - a. In the TRC, UE, and TC Zoning Districts, sidewalks must be on all sides of the block adjacent to roads.
 - b. Pedestrian walkways are not required in alleys, except to meet the requirements of Section 7.07.03.C.
 - c. Shared use paths may be adjacent to roads but must provide a direct route without overly meandering deviations to allow for moderate bicycle speeds.
5. With minimum widths in accordance with Table 7.07.03-1.
6. In conformance with the Facilities Standards Manual and VDOT requirements, except where the requirements of the Zoning Ordinance are more restrictive.

Table 7.07.03-1. Minimum Widths for Pedestrian and Bicycle Facilities

Facility		Minimum Width ¹
General		
1	Shared Use Path	10 ft
2	Sidewalks along Multimodal Through Corridors, Boulevards, Major Avenues, and Avenues Identified in the Countywide Transportation Plan ^{2, 3}	8 ft
3	Sidewalk along Roads Identified in Countywide Transportation Plan or within Urban Zoning Districts ^{2, 3}	6 ft
4	Sidewalk along All Other Roads ²	5 ft
TRC Zoning District		
5	Sidewalk in the Inner Core Subarea and Outer Core Subarea of the TRC Zoning District ³	12 ft
6	Sidewalk in the TDSA of the TRC Zoning District ³	9 ft
TC Zoning District		
7	Sidewalk in the Town Center Core of the TC Zoning District ³	12 ft
8	Sidewalk in the Town Center Fringe of the TC Zoning District ³	9 ft
TABLE KEY: ft = feet TABLE NOTES: ¹ Minimum widths may be modified in accordance with the provisions of Section 10.03. ² Unless Table 7.07.03-1 requires a wider minimum width. ³ Sidewalks must have and maintain a minimum unobstructed pathway at least 5 feet wide.		

C. **Mid-Block Passageway.** In addition to the Pedestrian and Bicycle Network requirements, mid-block passageways must be provided as follows:

1. Provide a connection between 2 of any of the following features:
 - a. Components of the Pedestrian and Bicycle Network;
 - b. Roads;
 - c. Parks or open space;
 - d. Transit or parking facilities; or
 - e. Other paths or trails;
2. Designed to meet FSM requirements for shared-use trails;
3. If accessible to vehicles, then a physical separation, such as a sidewalk curb, bollards, planters, vegetation, must be provided from the vehicular travelway;
4. Be illuminated at night;
5. Be accessible for persons with disabilities;
6. Be publicly accessible at all times;
7. At least 1 mid-block passageway must be provided within the block per 200 feet of block length;
8. A mid-block passageway may be a component of an alley, linear park, or open space, etc.; and
9. In the TRC, UE, TC, and TCC Zoning Districts mid-block passageways are required for any block that is 200 feet or greater in length.

7.07.04 Visibility at Intersections

Purpose. The purpose of Visibility at Intersections standards is to:

- *Protect all users of the transportation network from traffic hazards by preventing or removing impediments to visibility;*
- *Protect all users of the transportation network, including pedestrians and cyclists;*
- *Provide standards for intersection visibility where the Virginia Department of Transportation (VDOT) does not exercise jurisdiction; and*
- *Promote the public health, safety and welfare of the traveling public.*

A. **Applicability.** Section 7.07.04 applies where VDOT jurisdiction is not applicable.

1. Public road, private road, and driveway intersections with public roads under the design, construction, or maintenance jurisdiction of VDOT are subject to VDOT standards and are not subject to Section 7.07.04.
2. Private road and driveway intersections with private roads are subject to Section 7.07.04.

B. **Standards.** No impediment to visibility is to be placed, allowed to grow, erected, or maintained within the area described below, which is known as the Visibility Triangle.

1. **At Road Intersections.** [See the illustration below.]

- a. There are 2 Visibility Triangles at the intersection, 1 to the left and 1 to the right.
- b. The apex of each Visibility Triangle is the point where the road rights-of-way intersect.
- c. The sides of each Visibility Triangle are the portions of the road right-of-way lines extending from the apex along each road right-of-way and are each 25 feet in length.
- d. The base of the Visibility Triangle runs through the lot and connects the ends of each side.
- e. Material impediment to visibility within the Visibility Triangle must not exceed 3 1/2 feet in height.

3. **At Driveway or Alley Intersections with Roads.** [See the illustration below].

- a. There will be 2 Visibility Triangles at the intersection, 1 to the left and 1 to the right.
- b. The apex of each Visibility Triangle is the point at the intersection of the road right-of-way line with the edge of the driving surface of the driveway or alley, nearest to the approaching traffic lane.
- c. The side of the Visibility Triangle along the road right-of-way line is 25 feet in length.
- d. The side of the Visibility Triangle along the driveway or alley is 20 feet in length.
- e. The base of the Visibility Triangle runs through the lot and connects the ends of each side.
- f. Material impediments to visibility must not exceed 2 feet in height.

3. **At Pedestrian/Bicycle Network Intersections with Roads.**

- a. Where a pedestrian/bicycle network trail or other shared use path provides access to public or private roads, Visibility Triangles as described in 1 and 2 above must be established.
- b. Material impediments to visibility must not exceed 2 feet in height.

4. **Exceptions.**

- a. Where terrain features present substantial obstacles to provision and maintenance of Visibility Triangles the Zoning Administrator may permit the provision and maintenance of lesser visibility clearance, and that clearance must be the maximum that is reasonably practicable to provide and maintain.
- b. The provisions of Section 7.07.04.B. do not apply in the Historic Overlay District under Section 5.08 if the Historic District Review Committee (HDRC) finds as part of a Certificate of Appropriateness pursuant to Section 10.12 that a waiver of those provisions is necessary to maintain the integrity of the historic district, and vehicular and pedestrian safety is maintained.

7.08 Utilities

Purpose. *The purpose of the Utilities Section is to:*

- *Promote the public health, safety, and welfare of the public;*
- *Provide clarity and consistency in the standards for the installation of utilities;*
- *Promote the orderly development of land;*
- *Minimize visual impacts associated with utilities; and*
- *Ensure best practices are applied and maintained for the longevity of infrastructure.*

A. Applicability.

1. **Required.** The standards within Section 7.08 apply to all utilities associated with all development. Utilities as principal uses are instead addressed in Section 4.07.04.
2. **Exempt.** The following are exempt from Section 7.08:
 - a. Pursuant to Code of Virginia § 56-46.1, electrical transmission lines of 138 kV or more, approved by the State Corporation Commission (SCC), are deemed to have satisfied the requirements of the Zoning Ordinance;
 - b. Poles, wires, cables, conduits, vaults, laterals, pipes, mains, valves, or any other similar equipment when used for the purpose of distributing service to an individual customer lot or use; and
 - c. Underground utility lines that meet Section 6.04.B.

B. General Standards for All Zoning Districts.

1. **Screened from Road.** All above ground utility boxes and other facilities must be co-located and screened from road rights-of-way.
2. **Street Trees and Landscaping.** Installation of utilities in or adjacent to the right-of-way must not restrict the installation or adequate future growth of street trees or required landscaping.
3. **Conforming to Natural Topography.** To the extent practicable as determined by the Zoning Administrator, each utility location must:
 - a. Conform to the natural topography;
 - b. Minimize disturbance of steep slopes and natural drainage areas; and
 - c. Not conflict with vehicular and pedestrian interconnections:
 1. Within the site; and
 2. To existing or future development on adjoining lands.
4. **Undergrounding.** Except as provided in Section 7.08.A.2. all utility lines installed after [Zoning Ordinance Adoption Date] must be located underground.

C. Rural Zoning Districts. In addition to the General Standards for All Zoning Districts, the following standards apply to Rural Zoning Districts:

1. **Individual Water and Sewer.** Rural Zoning Districts are not permitted to be served by public water or sewer systems, except when public water or sewer systems are:
 - a. Specifically permitted by the Zoning District standards in Section 2.04;
 - b. Required pursuant to Chapter 4: Use-Specific Standards;
 - c. Required in the Limestone Overlay District (LOD) pursuant to Section 5.05.F.;
 - d. Located within a Water or Sewer Service District, the boundaries of which are determined by the County of Loudoun;

- e. Required to address a health risk identified by the Health Department; or
- f. Serving public facilities; and

2. Maintenance of Water and Sewer Systems.

- a. **Individual Systems.** Maintenance of individual water supply and individual sewage disposal systems are the responsibility of the owner of the parcel the systems serve.
- b. **Community.** If development is served by community water supply, community wastewater, or both, such systems must be operated and maintained by Loudoun Water, in accord with all Loudoun Water adopted policies.
 - 1. An access easement to the system must be provided to Loudoun Water.
 - 2. All costs of operation and maintenance of such community systems must be borne as a common expense by the owners of the lots served.

D. Joint Land Management Area (JLMA) Zoning Districts. In addition to the General Standards for All Zoning Districts, the following standards apply to Joint Land Management Area Zoning Districts:

- 1. **Municipal Water and Sewer.** Except as provided in Section 7.08.D.2., municipal water and sewer must be provided to every development site:
 - a. If available as determined by the Zoning Administrator, in consultation with the Town and the Town permits the connection; or
 - b. For Town- and County-owned and operated public uses when:
 - 1. Existing municipal water or sewer lines are within 300 feet of the property line of the parcel being developed;
 - 2. Town permission for connection to Town water or sewer is obtained; and
 - 3. County and Town agree that no physical or geographical constraints would make the connection unreasonable; and
 - c. If municipal water or sewer is not provided pursuant to Section 7.08.D.2.a.1., such Town or County public uses may use community or individual systems; and

2. Water and Sewer Exceptions.

- a. **Individual Systems.** Development must be served by individual water supply (private well) and individual sewage disposal systems, when:
 - 1. Municipal water and sewer are not provided pursuant to Section 7.08.D.1.;
 - 2. Located in the JLMA-20 Zoning District; or
 - 3. On a lot existing prior to January 7, 2003, that does not require the approval of any type of Subdivision or Site Plan application to be developed:
 - a. Individual sewage disposal is not permitted if required to connect to a central or municipal sewer pursuant to the Codified Ordinances of Loudoun County (CO); and
 - b. Lots established by or resulting from the recordation of a boundary line adjustment (BLAD) after January 7, 2003, where all of the lots involved in the BLAD existed prior to January 7, 2003, are deemed to have existed prior to January 7, 2003, for the purposes of Section 7.08; and
- b. **Leesburg JLMA.** For Zoning Districts in the Leesburg JLMA, central water and sewer must first be provided by Loudoun Water, unless an agreement cannot be reached.

3. Individual and community systems may be located within open space.

E. Transition Zoning Districts. In addition to the General Standards for All Zoning Districts, development in Transition Zoning Districts must be served by public water and sewer systems pursuant to CO § 1066.09.

- F. **Suburban Zoning Districts.** In addition to the General Standards for All Zoning Districts, development in Suburban Zoning Districts must be served by central water and sewer systems. **Exception.** Existing, developed parcels in the GB Zoning District may be served by an alternative system or other appropriate sewage system approved by the County Health Department.
- G. **Urban Zoning Districts.** In addition to the General Standards for All Zoning Districts, development in Urban Zoning Districts must be served by central water and sewer systems.
- H. **Office and Industrial Zoning Districts.** In addition to the General Standards for All Zoning Districts, development in Office and Industrial Zoning Districts must be served by central or municipal water and sewer systems. **Exception.** Existing, developed parcels in the GI Zoning District in the vicinity of Washington Dulles International Airport may be served by an alternative system or other appropriate sewage system approved by the County Health Department.

7.09 Owners Associations

Purpose. *The purpose of Owners Association standards is to:*

- Define the need for and responsibilities of Owners Associations (i.e., home, condominium, commercial, or business);
- Provide consistent standards for the creation, operation, and management of Owners Associations; and
- Ensure the continued protection, availability, and management of common areas, elements, and open space within developments.

A. Applicability.

1. An Owners Association is required for any new development or subdivision with the following areas or improvements:
 - a. Common elements, such as common open space areas, within the development that are not part of an individual lot;
 - b. Lots and outlots owned by the Owners Association;
 - c. Private roads within or serving the development, except as provided in Section 7.09.A.2;
 - d. Community water supply and wastewater systems, unless the community water supply or wastewater system is maintained by Loudoun Water or a public water or sewer utility as defined in Code of Virginia Chapter 10.1 or Chapter 10.2 of Title 56:
 1. If community water supply or wastewater systems are to be maintained by a third party, the Owners Association must submit the maintenance contract for review by the Zoning Administrator; and
 2. The maintenance contract must be for a minimum of 2 years; and
 - e. Any storm drainage or stormwater management improvements or areas;
 - f. Fire protection ponds, dry mains, or other improvements;
 - g. Fire lane identification located along public or private roads;
 - h. Other common facilities or improvements designated in the Owners Association bylaws; and
 - i. Any other common facility or area not included in the list above that is available to all members of the Owners Association.
2. **Exception.** An Owners Association is not required when the only common element in the development is private roads with private road maintenance agreements pursuant to Land Subdivision and Development Ordinance (LSDO) Section 1245.05 with the terms thereof included on each record plat for the development.

3. For the purpose of Section 7.09, Owners Association includes any equivalent entity formed for the same purpose and charged with the same ownership, management, and maintenance responsibilities listed in Section 7.09.A.1.

B. Rights and Responsibilities.

1. Owners Associations have the rights and responsibility to maintain the areas or improvements provided in Section 7.09.A.1.
2. Owners Associations are responsible for preserving and maintaining common open space in accordance with the Zoning Ordinance, including applicable proffers, conditions of approval, and Concept Development Plan.
3. Owners Associations may have other responsibilities or activities not required or regulated by the Zoning Ordinance provided they do not conflict with the requirements of the Zoning Ordinance.

C. Establishment.

1. The Owners Association must be formally established prior to approval of the first record plat or final Site Plan in the proposed development or as required by approved proffers or conditions.
2. Documents establishing the Owners Association must be reviewed and approved by the Zoning Administrator, including:
 - a. Bylaws or other Owner Association documents, with provisions that:
 1. Membership is mandatory for all property owners, present or future, within the development;
 2. The Owners Association must manage, maintain, administer, and operate all open space and improvements and other land not publicly or privately owned; and
 3. The Owners Association must secure adequate liability insurance on the land and improvements it is responsible for; and
 - b. Documents that provide for adequate initial funding and assessments to fund the maintenance of common property and improvements;
 - c. All documents governing ownership, maintenance, and use restrictions for common areas;
 - d. Legal descriptions of common areas; and
 - e. A description of restrictions placed upon the use and enjoyment of the land.

7.10 Rural Hamlet Development Option A-3 and A-10

Purpose. *The purpose of the Rural Hamlet Development Option is to:*

- *Provide an alternative to conventional A-3 and A-10 Zoning District subdivision in rural areas;*
- *Better harmonize rural development with surrounding agricultural activities recognizing that it is the County's primary goal to preserve and enhance farming and farmland in rural Loudoun by the most feasible, effective, and equitable methods available;*
- *Conserve agricultural, forestal and open space land, historic and natural features at the time that such land realizes the development potential currently allowed in the agricultural Zoning District; and*
- *Permit the compact grouping of homes located to blend with the existing landscape, such as the rise and fall of the topography, hedgerows, and wooded areas, and to preserve to a greater extent the agricultural, forestal, and visual character of the landscape.*

- A. **Applicability.** Rural hamlets are permitted in the A-3 and A-10 Zoning Districts. The A-3 and A-10 Zoning District regulations apply to the extent not in conflict with the regulations in Section 7.10.

- B. Rural Hamlet Defined.** A rural hamlet is characterized by the configuration of all or a portion of the density permitted on a tract of land under the Zoning District regulations, into a grouping of small residential lots on a portion of the tract. More than 1 rural hamlet may be located on a tract. A rural hamlet may consist of the following categories of land:
1. **Hamlet Lots.** Smaller residential lots located in a contiguous group, with adjacent and fronting lots oriented towards each other as on a road, a green or a paved square. No fewer than 5 and no more than 25 hamlet lots may be grouped together as a rural hamlet. Hamlet lots must have a designated building area. All land not designated as building area, private road, and road rights-of-way must be placed in a permanent open space easement;
 2. **Open Space.** Residual land, excluding the building area of hamlet lots and conservancy lots and road rights-of-way, contiguous to a rural hamlet, which is subject to a permanent open space easement;
 3. **Hamlet Green/Square.** Land located in the interior of a rural hamlet, owned in common by hamlet lot owners and which is in a permanent open space easement; and
 4. **Conservancy Lots.** A lot, excluding the hamlet lots, open space and/or hamlet green/square, which will remain as large parcel(s), the bulk of which is in permanent open space easement and a portion of which is designated a building area.
- C. Uses.** The following uses are permitted within the various categories of rural hamlet land. These uses supersede the permitted, Minor Special Exception, and Special Exception uses that would otherwise apply in the underlying Zoning District regulations.
1. **Building Area of Hamlet Lots and Conservancy Lots.**
 - a. **Permitted Uses.** The following uses are permitted in the Building Area of Hamlet Lots and Conservancy Lots:
 1. Dwelling, single-family detached;
 2. Bed and Breakfast Homestay, pursuant to Section 4.03.01;
 3. Child Day Home, pursuant to Section 4.04.08;
 4. Utility, Minor;
 5. Accessory uses and structures, pursuant to Section 3.03;
 6. Accessory dwelling (accessory to single family detached dwelling), pursuant to Section 4.02.01; and
 7. Telecommunications antenna, pursuant to Section 4.07.08.
 2. **Open Space.**
 - a. **Open Space Permitted Uses.** The following uses are permitted in open space:
 1. Agriculture, pursuant to Section 4.08.02;
 2. Conservation of open land in its natural state, i.e., woodland, fallow fields, grasslands, wetlands, floodplains, and the like;
 3. Passive Recreation Open Space, including but not limited to trails, picnic areas, community gardens;
 4. Active Recreation, including golf courses;
 5. Stable, Livery, with frontage on a state-maintained road, and pursuant to Section 4.08.06;
 6. Easements and improvements for drainage, access, sewer or water lines, or other public purposes;
 7. Stormwater management improvements for the proposed development or for a larger area in compliance with a watershed stormwater management plan;

8. Utility, Minor; and
 9. Accessory uses, such as private swimming pools, private tennis or outdoor recreational courts, and other accessory uses and structures pursuant to Section 3.03.
 - b. **Commonly Owned Open Space Permitted Uses.** The following uses are permitted in commonly owned open space owned by an Owners Association:
 1. All Open Space Permitted Uses as provided in Section 7.10.C.2.a.;
 2. Nursery, Production, with frontage on a [state-maintained](#) road;
 3. Pet Farm, pursuant to Section 4.08.09;
 4. Stable, Private, pursuant to Section 4.08.03;
 5. Tenant Dwelling, pursuant to Section 4.02.09, accessory to agriculture uses; and
 6. Wayside Stand, pursuant to Section 4.08.07, accessory to agriculture.
 - c. **Open Space Special Exception Use.** The following use may be approved in open space by the Board of Supervisors, and if approved, may be subject to certain conditions pursuant to Section 10.11: telecommunications facility, pursuant to Section 4.07.08.
 - d. **Commonly Owned Open Space Special Exception Uses.** The following uses may be approved in commonly owned open space owned by an OA by the Board of Supervisors, and if approved, may be subject to certain conditions pursuant to Section 10.11:
 1. Agricultural Processing, pursuant to Section 4.08.03, accessory to agriculture uses;
 2. Cultural Facility, pursuant to Section 4.05.05;
 3. Child Day Center, pursuant to Section 4.04.08, restricted for the use of OA members;
 4. Farmers Market (on-site production), pursuant to Section 4.08.03;
 5. Nursery, Production, without frontage on a [state-maintained](#) road, pursuant to Section 4.04.09;
 6. Stable, Livery, without frontage on a [state-maintained](#) road, pursuant to Section 4.08.06; and
 7. Telecommunications facility, pursuant to Section 4.07.08.
- D. **Dimensional Standards.** Refer to Table 7.10-1 for required dimensional standards.

Table 7.10-1. Rural Hamlet Dimensional Standards

Standard		Hamlet Lot A-3 and A-10 Zoning Districts	Conservancy Lot A-3 Zoning District	Conservancy Lot A-10 Zoning District
Lot Requirements				
1	Hamlet Tract Size (min.)	40 acres		
2	Lot Size (min.)	10,000 sf	10 acres	30 acres
3	Lot Size (max.)	3 acres	n/a	n/a
4	Lot Width (min.)	64 ft	300 ft	500 ft
5	Lot Width (max.)	150 ft	n/a	n/a
6	Length/Width Ratio (max.)	6:1	5:1	5:1
Setback Requirements^{1, 2}				
7	Front Yard (min.)	6 ft	25 ft	Section 2.04.03.01
8	Front Yard (max.) ³	40 ft	n/a	n/a
9	Side Yard ⁴	8 ft	25 ft	Section 2.04.03.01
10	Rear Yard	20 ft	20 ft	Section 2.04.03.01
Building Requirements				
11	Residential Density ^{5,6}	A-3 Zoning District: 1 dwelling unit per 5 acres A-10 Zoning District: 1 dwelling unit per 10 acres		
12	Building Area (min.)	5,000 sf	7,500 sf	15,000 sf
13	Building Area (max.)	15,000 sf	n/a	n/a
14	Building Height (max.)	35 ft	35 ft	35 ft

TABLE KEY:

ft = foot

sf = square feet

min. = minimum

max. = maximum

SPEX = Special Exception

TABLE NOTES:

¹Except when the setback required by Section 7.04.02 is greater.

²Yard requirements may be modified in accordance with the provisions of Section 10.03.

³Provided that all principal buildings are located so that the maximum deviation for adjacent front facades does not exceed 15 feet, and provided further that this maximum Front Yard requirement does not apply to lots located within subdivisions approved under the Zoning Ordinance in effect prior to June 16, 1993.

⁴Dwellings, guest houses, garages and other such structures are not permitted in minimum side yards. However, detached garages located at the rear of a lot (i.e., behind the rear building line) and attached to a similar garage on a contiguous lot may be located within the side yard.

⁵The number of dwelling units permitted at a minimum lot size of 3 or 10 acres in the A-3 or A-10 Zoning Districts respectively is based on topography, floodplain, and availability of septic drainfields. Drainfields must be submitted to the Loudoun County Health Department for approval in accord with the Land Subdivision and Development Ordinance (LSDO).

⁶For each conservancy lot of 50 acres or greater in size, 1 additional dwelling unit may be included in the determination of density.

E. Open Space Requirements.

1. **Minimum Open Space.** The minimum amount of land in a Rural Hamlet devoted to open space and subject to permanent open space easements must be greater than 85% of the total land area in the Rural Hamlet. All land not designated as building areas, private roads, and road rights-of-way must be permanent open space.
2. **Minimum Open Space Widths Surrounding the Hamlet.** A minimum width of land in open space surrounding a hamlet must be provided as follows:
 - a. 200 feet width of land between the outside boundary of hamlet lot building areas and the tract boundary; and
 - b. 800 feet between the hamlet lot building area boundaries of 2 hamlets on the same tract; or
 - c. Reduction of these dimensions may be permitted by the Board of Supervisors pursuant to Section 7.10.J., upon recommendation of the Planning Commission, based upon a finding that due to the topography, forestation, or presence of prime agricultural soils or environmentally sensitive areas, such reduction will preserve rural vistas, preserve farmland, screen dwellings from existing roads or adjacent properties, or preserve environmentally sensitive areas.

F. Hamlet Building Area Depth. Hamlet building areas must meet the following:

1. The maximum outside boundaries of the building areas of hamlet lots facing one another across a road is 300 feet;
2. The maximum distance between building areas of cluster lots facing across a hamlet green/square is 350 feet; and
3. The maximum outside boundaries of the building areas of hamlet lots facing one another across a hamlet green/square is 550 feet.

G. Utilities and Public Facilities Requirements.

1. Water.

- a. Hamlet lots must be served either by:
 1. Individual wells on or off each lot;
 2. A community water supply system constructed by the developer;
 3. A municipal water supply system if located within an area designated for such connection in the General Plan; or
 4. Connection with an existing rural village, rural hamlet, or other public water system.
- b. All water supply systems must comply with applicable town, County, State, and/or Loudoun Water standards and requirements, including a Commission Permit if required by applicable law.
- c. As for Sections 7.10.G.1.a.1. and G.1.a.2. above, the Health Department approval of both a safe and adequate water supply system and designated backup well sites based on hydrogeological studies, must be a precondition to recordation of a record plat establishing a rural hamlet.

2. Wastewater.

- a. Hamlet lots must be served either by:
 1. Individual septic tank drainfields located on or off the lot;
 2. A community wastewater system constructed by the developer;
 3. A municipal wastewater system, if located within an area designated for such connection in the Comprehensive Plan; or
 4. Connection with an existing rural village, rural hamlet or other public wastewater treatment system.

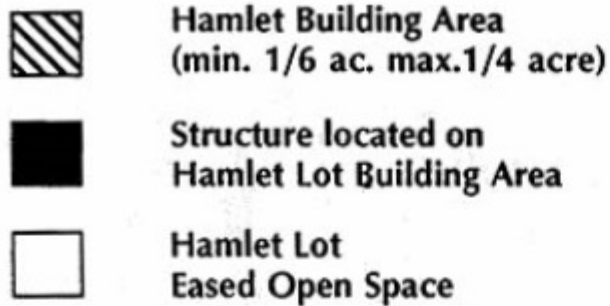
- b. All wastewater systems must comply with applicable town, County, State, and Loudoun Water standards and requirements, including a Commission Permit if required by applicable law.
3. **Fire Protection.** Every hamlet must satisfy the fire protection standards set forth in the Facilities Standards Manual (FSM), or if no such standards are in effect, must have all weather access road for a pump truck to an adequate pond with a water withdrawal main or to a water tank of sufficient capacity for fire protection.
4. **Roads.** Access to hamlet lots must be provided as follows:
 - a. 7 rural hamlet lots or less may be served by a private road;
 - b. 25 rural hamlet lots or less may be served by a VDOT fixed generation, tertiary Class II road;
 - c. All other roads must be VDOT Class II roads;
 - d. All other Rural Hamlet roads must be built to VDOT secondary road standards; and
 - e. Roads serving 2 or more hamlets, with a combined traffic loading exceeding 250 vehicles per day, must generally have 2 access points to the existing rural road network.
 1. The Planning Commission may waive the 2-access requirement upon finding special topographic or other circumstances which preclude implementation but may in this eventuality require alternative configurations of road design, such as a divided median.
 2. Further, the Planning Commission may waive the public road standards, thereby allowing up to 25 rural hamlet lots to be served by private roads, should the Planning Commission find that the waiver provisions contained in Section 7.10.G.4.e. are met.
 - a. This alternative roadway design option must be requested as part of the subdivision application and is not permitted to be granted for the sole purpose of circumventing the previously referenced public roadway design criteria.
 - b. In reviewing any proposed waiver, the Planning Commission must consider the following:
 - A. Whether granting of the proposed waiver will adequately provide for access by public safety service (police, fire and rescue services).
 - B. Whether granting of the proposed waiver will protect to the greatest extent possible topographic or physical, natural, scenic, archaeological or historical features of significant importance.
 - C. Whether the granting of the proposed waiver will be in the public's best interest, specifically with regard to future road maintenance considerations.
 - D. Whether the granting of the proposed waiver will meet engineering standards with regard to steep slopes, storm water control, drainage, soil erosion control; mitigate floodplain impacts; assure adequate dust control measures; and will minimize, to the greatest extent possible, the impact on water and air quality on adjoining properties.
 - E. Whether the granting of the proposed waiver will facilitate orderly and safe road development.
 - F. Whether the granting of the proposed waiver will minimize the impact of traffic on the existing roadway network.
 - G. Waiver requests must be considered by the Planning Commission at a public meeting held within 60 days of receipt of such request.
5. **Parking.** Every hamlet lot must include sufficient parking (which may or may not be paved) to accommodate 4 cars.
- H. **Owners Association.** In addition to Section 7.09, each rural hamlet or group of rural hamlets comprising a common development must have an incorporated OA and meet the following:

1. Easements for septic drainfields and wells located off of the lot must be established at the time of the record plat for such [lot and](#) must run to the benefit of the lot served. The responsibility for maintaining or replacing such septic fields or wells must be borne by the lot owner served by such easement; and
2. The permanent open space easement required in the rural hamlet must be enforced by the County.
 - a. Such easement must be in a form approved by the County, and must provide that, notwithstanding such easement, the eased portion of conservancy lots or hamlet lots must be maintained by the owners of such lots, and that the County should bear no responsibility or liability for such maintenance.
 - b. However, nothing contained herein must prevent such landowners from leasing such open space for agricultural or other purposes as allowed in Sections [7.10.C.2.a.](#) and [C.2.c.](#)
3. The OA documents must be submitted as part of the initial record plat application and must provide for adequate initial funding and assessments to fund the maintenance of common property and improvements.
- I. **Plat and Deed Notations.** Record plats and deeds for rural hamlet subdivisions must include a statement that agricultural operations enjoy the protection of the Right to Farm Act, Code of Virginia [§ 3.2-300](#), et seq.
- J. **Modification of Regulations.**
 1. In addition, the Board of Supervisors may allow reasonable modifications to other applicable regulations as follows:
 - a. These other regulations serve public purposes to a lesser degree than the rural hamlet;
 - b. The designs or solutions proposed by the applicant, although not literally in accord with these other regulations, satisfy public purposes to a greater degree; or
 - c. The strict implementation of these other regulations would prevent well designed rural hamlet development.
 2. Such modifications may be granted by the Board of Supervisors by Special Exception pursuant to Section [10.11.01](#). Such modifications may be sought prior to filing a preliminary plan of subdivision. The landowner must include a plan of the proposed hamlet as part of the application for modification and must demonstrate the reasons for the request.
- K. **Advisory Rural Hamlet Siting and Design Guidelines.** Loudoun County recognizes that every rural hamlet design will be a custom response to the unique assets and constraints of each tract. As a consequence, the County has only incorporated in the Rural Hamlet Ordinance those siting and design rules required to preserve open space and to allow the clustering of dwellings. However, the County does wish to encourage design consistent with Loudoun's past in rural Loudoun and appends the following general design guidelines as a suggestion to rural hamlet designers.
 1. **Siting.** Rural hamlets should be sited so as to nestle, or blend in a subordinate way, into the existing landscape. Rural hamlets should not be placed on the crest of a ridge but rather should be located in a dip or depression or on the side of a hill.
 2. **Landscaping.** Rural hamlet designs should incorporate a mix of evergreen trees, generally located to the north and west for winter wind protection, and deciduous trees, located to the west and south, for summer shade.
 - a. Given the time required for trees to attain maturity, existing stands of trees and hedgerows should be incorporated in the new hamlets whenever possible.
 - b. New plantings of evergreen and deciduous trees should be native to the northern Piedmont, such as yellow poplar, northern red and white oak, hickory, white ash, black gum, hemlock, spruce, and eastern red cedar among others.
 3. **Ground Modeling and Screening.** In those circumstances where natural contours, subsurface conditions and tract boundaries prevent discreet hamlet placement, hamlet designers should seek to reduce the

development's apparent presence by locating earth berms near adjacent roadways and/or planting screens of trees adjacent to existing roads and tract boundaries.

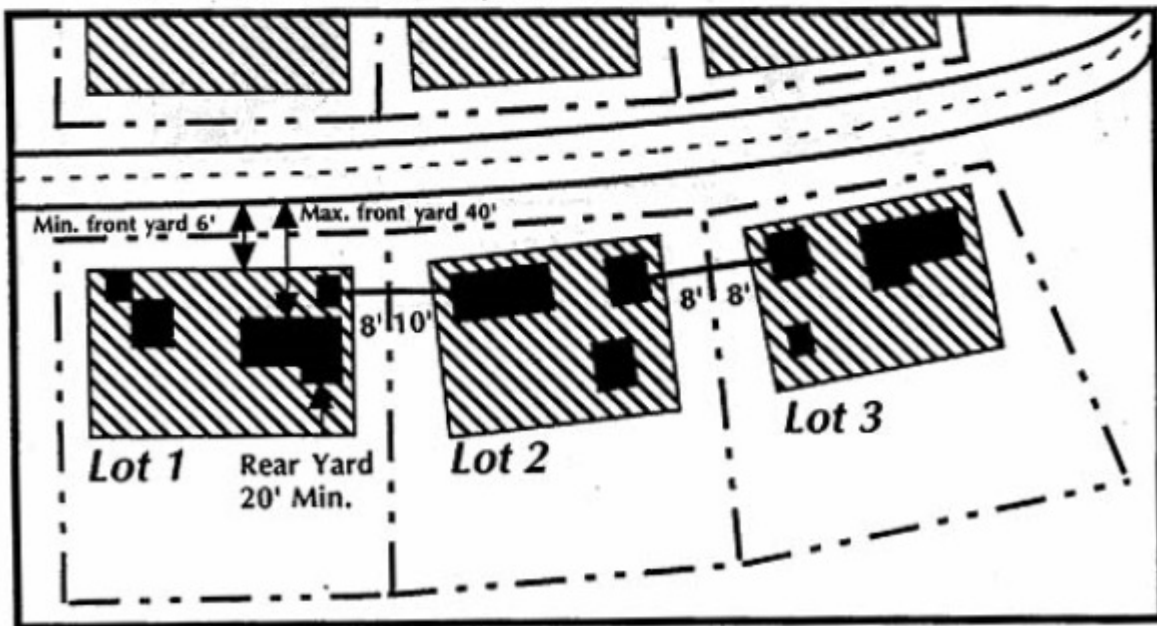
4. **Grouping of Structures.** Dwellings in rural hamlets should be placed in proximity to one another and to common wells or facilities.

Figure 7.10-1. Illustration of Hamlet Lot and Building Area



NOTE: For Illustrative Purposes only-

Refer to Ordinance Text for Requirements



Minimum lot size 10,000 sq. ft.

Figure 7.10-2. Example of Maximum Widths in Rural Hamlets

NOTE: For Illustrative Purposes only-

Refer to Ordinance Text for Requirements

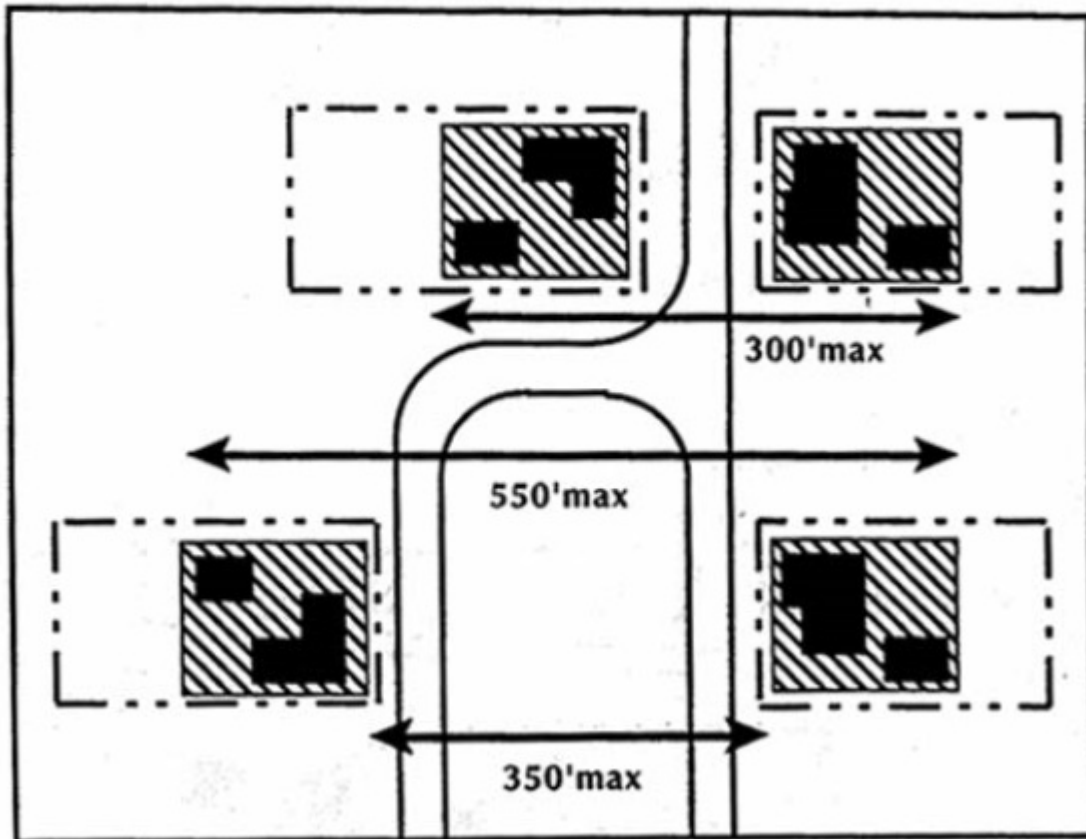


Figure 7.10-3. Example of Hamlet Calculations and Ratios

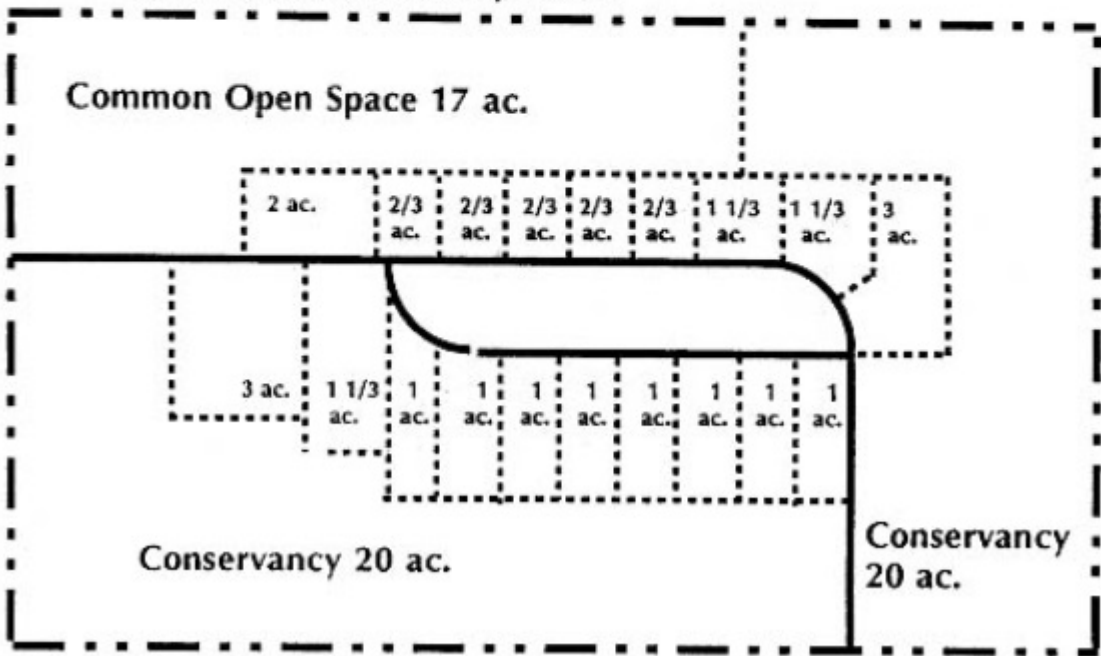
Hamlet Example Summary

88 ac. / 20 Hamlet and 2 Conservancy lots

90.34% All eased land

NOTE: For Illustrative Purposes only-

Refer to Ordinance Text for Requirements



Illustrations of Eased Land and Building Areas in Hamlet



**Eased area of Conservancy
and Hamlet Lots and Common Open Space**



Designated Building Areas

NOTE: For Illustrative Purposes only-

Refer to Ordinance Text for Requirements

