Ordinance #___-____

AN ORDINANCE OF THE CITY OF HENDERSONVILLE CITY COUNCIL TO AMEND THE CITY OF HENDERSONVILLE SUBDIVISION ORDINANCE, SECTION 4.03. STREETS BY REVISING SUBSECTION C. STREET CONFIGURATION TO AMEND THE PUBLIC STREET DESIGN STANDARDS FOR SUBDIVISIONS IN THE CITY OF HENDERSONVILLE.

WHEREAS, the City of Hendersonville's Planning Board has reviewed and recommended/not recommended for adoption a subdivision text amendment to the public street design standards for subdivisions within the City of Hendersonville's jurisdiction; and

WHEREAS, the proposed amendment is intended to create compatible street design standards that reflects existing conditions while maintaining a safe and effective street system; and

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Hendersonville, North Carolina that Section 4.03. Streets and subsection C. Street configuration of the Subdivision Ordinance of the City of Hendersonville be amended as follows:

Sec. 4.03. Streets.

C. **Street configuration.**

1. **Street rights-of-way.**

a. All new streets established in the city's jurisdiction after March 5, 2020 shall include a minimum street right-of-way configured in accordance with Table 4.03.C.1: Minimum Street Right-of-Way Requirements.

TABLE 4.03.C.1: MINIMUM STREET RIGHT-OF-WAY REQUIREMENTS		
TYPE OF STREET	**CONFIGURATION**	**MINIMUM RIGHT-OF-WAY (FEET) [1] [2]**
Expressway	8 lanes, raised median	160
	4 lanes, grass median	150
	6 lanes, raised median	150
	4 lanes, grass median	120
	4 lanes, raised median	110
Boulevard	8 lanes, raised median	160
	6 lanes, raised median	150
	4 lanes, grass median	120
	4 lanes, raised median	110
Major Thoroughfare	7 lanes	120
	5 lanes	100
	4 lanes	90
	3 lanes	80
Minor Thoroughfare	2 lanes, parking on each side	80
	2 lanes, parking on one side	70

	2 lanes, paved shoulder	70
Local	45	
Cul-de-Sac	45 [3]	
Alley	20	
NOTES:		
[1] The street right-of-way shall include curb and gutter, sidewalks, multi-use paths, bicycle lanes (where indicated), and associated utility strips.		
[2] Minimum rights-of-way may need to be wider to accommodate all forms of planned infrastructure in accordance with the city's adopted policy guidance.		
[3] Radius will be wider.		

b. In cases where an existing street is depicted on the city's adopted policy guidance, but is not configured to the required width or cross section, the roadway shall be improved in accordance with the city's adopted policy guidance as part of the development.

2. **Street intersections.** Street intersections shall be configured in accordance with the following standards:

a. Not more than two streets shall intersect at any one point unless the city or NCDOT certifies that such an intersection can be constructed with no extraordinary danger to public safety.

b. Streets shall intersect at right angles to the maximum extent practicable, and no two streets shall intersect at less than 60 degrees.

c. Whenever possible, proposed intersections along one side of a street shall coincide with existing or proposed intersections on the opposite side of the street.

d. Where a street center line offset (jog) occurs at an intersection, the distance between centerlines of the intersecting streets shall be not less than 125 feet.

e. Except when no other alternative is practicable or legally possible, no two streets may intersect with any other street on the same side at a distance of less than 200 feet measured from centerline to centerline of the intersecting street. When the intersected street is an expressway or boulevard, the distance between intersecting streets shall be at least 1,000 feet, unless no other alternative is practicable.

f. Property lines at street intersections shall be shown as a chord connecting points not less than 15 feet back from the street intersection along each street right-of-way line. Longer setbacks for chord connections for property lines may be required by the DRC as needed for public safety.

g. In commercial developments the city may assign traffic control to thru traffic within 500 feet of the point of access to the public right-of-way.

h. All internal intersections shall have minimum 30’ radii. Radii less than 30’ must be approved by the Public Works Director.

3. **Development entry points**

a. Unless exempted in accordance with subsection (d) below, all subdivisions shall provide streets from the development to the street system outside the development in accordance with Table 4.03.C.3, Required Points of Access:

TABLE 4.03.C.3: REQUIRED POINTS OF ACCESS [1]		
TYPE OF DEVELOPMENT	**DEVELOPMENT SIZE**	**MINIMUM NUMBER OF VEHICULAR ACCESS POINTS [2]**
Residential and Mixed-Use Development [3]	30 or fewer lots	1
	31 or more	2
Non-residential Development, other than Industrial [4]	Less than 5 acres or fewer than 10 lots	1
	More than 5 acres	2
NOTES:		
[1] Points of access shall refer to streets, not driveways.		
[2] Additional vehicular access points may be required where determined necessary by the city.		
[3] Multi-family or mixed-use developments of 100 dwelling units or more shall provide at least two points of access regardless of the number of lots.		
[4] The Fire Code may require a minimum of two points of access.		

b. Nothing in this section shall limit the total number of streets providing access to the street system outside a development, or exempt a development from meeting all applicable street connectivity standards.

c. Street stubs shall be credited as an access point when all ingress or egress to a development is only available from a single expressway, boulevard, or thoroughfare street.

d. Development shall be exempted from these standards if it is demonstrated the following conditions apply:

i. A transportation impact analysis allows a deviation;

ii. No other street access points can be located due to existing lot configurations, absence of connecting streets, environmental, or topographic constraints;

iii. NCDOT will not authorize the required number of entrances; or

iv. Alternative access can be provided in a manner acceptable to the city that is supported by a transportation impact analysis.

4. **Turn lanes.** Turn lanes for either or both left and right turns into a commercial or residential subdivision driveway may be necessary for safety when there are high roadway and/or turning volumes or traffic, when the roadway speeds are moderate or high, or where needed due to limited sight distance. When provided, turn lanes shall be configured in accordance with the following:

a. The final determination for the need, location, and design of a turn lane is the responsibility of the NCDOT, or the city, as appropriate.

b. Left and right turn lanes shall be constructed in accordance with NCDOT standards and specifications.

c. Right-turn lanes shall be constructed entirely within the frontage of the property being served, since an adjacent development might subsequently require an entrance that would otherwise encroach into the turn lane.

d. The NCDOT may require a undivided street to be widened when the median has an inadequate width for a left turn lane.

5. **Deceleration lanes.**

a. Any use capable of generating more than 60 trips per peak hour, as estimated by using NCDOT guidelines or the Institute of Traffic Engineers Trip Generation Manual, shall provide at least one deceleration lane per street front in accordance with NCDOT standards when the use is located along an expressway or boulevard street.

b. Deviations from these requirements may only be authorized when the NCDOT indicates that a particular development design or technique can still achieve a satisfactory level of access control consistent with the objectives of this section.

6. **Cul-de-sac and dead-end streets.**

a. No permanently designed cul-de-sac or other dead-end street shall be longer than 800 linear feet, except where land cannot otherwise be subdivided practicably in the opinion of the city manager.

b. In cases where one cul-de-sac is accessed from another cul-de-sac, the maximum length for all cul-de-sacs accessed from one another shall be 500 linear feet.

c. All permanent cul-de-sacs or other dead-end streets shall be provided at the closed end with a turn-around configured in accordance with the city's minimum requirements.

d. Dead-end streets intended to be continued at a later time shall be provided with a turn-around as required for a dead-end street when required by the city manager.

e. Only that portion to be required as right-of-way when the street is continued shall be dedicated and made a public street.

7. **Street grade.** Street grades shall comply with the following standards:

a. Streets and their associated gutters shall maintain grade levels in accordance with Table 4.03.C.7, Maximum and Minimum Street Grade.

TABLE 4.03.C.7: MAXIMUM AND MINIMUM STREET GRADE		
STREET TYPE	MAXIMUM GRADE	MINIMUM GRADE
Expressways and Boulevards	6%	Not less than 1%
Major and Minor Thoroughfares	~~8%~~ 9%	Not less than 1%
Local Streets	~~10%~~ 12%	

b. Street and intersection approaches shall not have grades in excess of ~~three~~ five percent for a distance of 100 feet from the intersection of center lines in all directions for all streets.

c. All changes in grades for local streets and thoroughfares shall be connected by a vertical curve of a minimum length of ~~40~~ 20 times the algebraic difference in the percents of

grade ("K" value). Stop conditions shall have a minimum "K" value of ~~14~~ 9 times the algebraic difference of the percents of grade. "K" values for arterials shall be per the AASHTO Geometric Design of Highways and Streets based on design speed.

d. The city manager may consider deviations from these standards based on topographic conditions or public safety concerns~~.~~ for Local Streets when natural site slope exceeds 15%. Vertical curves with 10 times the algebraic difference in the percents of grade ("K" value) and stop conditions with 5 times the algebraic difference in the percents of grade ("K" value) may be permitted under this condition.

8. **Street curves.** Street curves shall maintain the minimum radii established in Table 4.03.C.8: Minimum Curve Radii and Tangents:

TABLE 4.03.C.8: MINIMUM CURVE RADII AND TANGENTS		
STREET TYPE	**MINIMUM RADII (FEET)**	**MINIMUM TANGENT DISTANCE BETWEEN REVERSE CURVES ON THE SAME STREET (FEET)**
Expressways and Boulevards	600	150
Major and Minor Thoroughfares	~~400~~ 230	100
Local Streets	~~150~~ 90	0

9. **Street drainage.**

a. All required drainage facilities associated with a street right-of-way shall be constructed prior to consideration of a final plat.

b. Storm sewers, drains, and structures installed by the subdivider shall be installed of a size, type, and in locations as approved by the city manager, or NCDOT, as appropriate.

c. Street drainage facilities located outside the street right-of-way shall be maintained by the developer, the landowner, or an owners' association, and maintenance responsibility shall be noted on the final plat.

d. The city shall not be responsible for any private or commonly-held subdivision drainage infrastructure connected to publically-maintained drainage facilities, streams, or other outlets having constant flow.

10. **Sight distance triangles.**

a. **Sight distance triangles established.**

i. Corner lots and lots with driveways, alleys, or other methods of ingress/egress to a street shall include sight distance triangles to ensure visibility for drivers and pedestrians moving through or in an intersection.

ii. Required sight distance triangles shall be configured in accordance with Table 4.03.C.10: Sight Distance Triangle Requirements.

iii. Land within a required sight distance triangle shall comply with the standards in Section 4.03.C.10.c, limitations on obstructions within required sight distance triangles.

TABLE 4.03.C.10: SIGHT DISTANCE TRIANGLE REQUIREMENTS		
TYPE OF STREET, INTERSECTION, OR DRIVEWAY		**MINIMUM REQUIRED SIGHT DISTANCE TRIANGLE [1] [2] [3]**
Intersections of Streets [4]		10/70
Driveways Serving Parking Lots		10/70
Driveways Serving Land Uses Without Parking Lots	Residential	None
	All Other Uses of Land	10/70 wherever possible
NOTES:		
[1] See Figure 4.03.C.10, Sight Distance Triangles, for the 10/70 configuration.		
[2] The NCDOT may require an alternate configuration.		
[3] AASHTO requirements shall be applied to streets with curves.		
[4] Includes all streets, including public streets.		

b. **Measurement of sight distance triangle.** Sight distance triangles shall be an area between a point at the edge of a street right-of-way located 70 linear feet from the intersection and a second point at the edge of the opposing street right-of-way located ten feet from the intersection (see Figure 4.03.C.10, Sight Distance Triangles).

Adopted by the City Council of the City of Hendersonville, North Carolina on this 2nd day of November 2023.

Attest: _____
Barbara G. Volk, Mayor, City of Hendersonville

_____
_____
Jill Murray, City Clerk

Approved as to form:

_____
Angela S. Beeker, City Attorney