



Memorandum

Date: February 6, 2020
To: Planning Commission
From: Tom Brechko, AICP, Principal Planner
Subject: **Agenda Item #29 2-A-20-OB**
Consideration of minor amendments to the Knoxville-Knox County Subdivision Regulations
CC: Gerald Green, Executive Director

STAFF RECOMMENDATION:

APPROVE the proposed amendments to the Knoxville-Knox County Subdivision Regulations.

BACKGROUND:

Staff is proposing some minor amendments to the Knoxville-Knox County Subdivision Regulations to address recent changes to the sidewalk standards for Knox County, and as a follow-up to further evaluation of the major changes that were made to the regulations over the past year.

SUMMARY of AMENDMENTS:

1. Revised Article 2 and 3 regarding street naming standards.
2. Provided clarification under Article 3 on general design standards for the approval of alternative design standards (often referred to as waivers).
3. Revised the access standards under Article 3 to allow approval of the different options by Planning staff through the Final Plat review process.
4. Revised the horizontal curve standards for Knox County under Article 3 to allow for approval by the Planning Commission of an alternative design standard instead of requiring the approval of a variance.
5. Revised the sight distance standards for intersections and lots under Article 3 to address the different standards for the City of Knoxville and Knox County.
6. Revised the sidewalk standards in Article 3 to address the recent changes for Knox County.
7. Revised the definition for Utility to remove services such as mail and garbage collection that are not utilities addressed within the Subdivision Regulations.

2-A-20-OB**KNOXVILLE-KNOX COUNTY SUBDIVISION REGULATIONS
PROPOSED AMENDMENTS****2.10 FINAL PLAT**

G. Mapping and Engineering Information. The Final Plat of the subdivision shall include sufficient data to accurately reproduce the subdivision on the ground. The following items shall be required in addition to the approved Design Plan file:

5. **Street, Easement, and Lot Lines on Tract.** For street rights-of-way, show the names, bearings, angles of intersection, and widths including the widths along the line of any obliquely intersecting street. For all arcs, show the arc lengths, radii, points of curvature and tangency, and their chord bearings and lengths. For all easements or other rights-of-way, show the location, width, and actual name and purpose (gas line easements, etc.). For all lot lines, show horizontal dimensions to hundredths of a foot and their bearings to the nearest minute or better. The Final Plat shall designate and identify each proposed street as to whether it shall be a public or private roadway. **The proposed street name shall not duplicate nor closely approximate (phonetically or in spelling) the name of any other street in Knox County or the City of Knoxville.**

I. Certifications. The following appropriate certifications with required signatures shall be affixed to all plans and Final Plats:

3. **Public Sanitary Sewerage and Water System.** The certifications for sanitary sewerage and water systems include the following:
 - a. **In unincorporated areas of Knox County where public sanitary sewers are not available, as determined by the appropriate Utility Agency, and subsurface sewage disposal will be used.**

Certification of Approval of Subsurface Sewage Disposal Systems

This is to certify that this subdivision is generally suitable for subsurface sewage disposal systems; and this is to notify that all lots are subject to Sections 68-13-401 thru 68-13-413 of the *Tennessee Code, Annotated*, and the regulations promulgated thereto.

Knox County Health Department _____

Date: _____

ARTICLE 3 GENERAL DESIGN STANDARDS AND REQUIRED IMPROVEMENTS

3.01 GENERAL PURPOSE AND CONFORMANCE TO APPLICABLE RULES AND REGULATIONS

- A. **Purpose.** The purpose of this article is to establish the minimum design and performance standards for the subdivision of land in the City of Knoxville and Knox County in order to insure sound subdivision development that is an asset to the community and in keeping with the *Knoxville-Knox County General Plan*, the *Major Road Plan for the City of Knoxville and Knox County*, the *Zoning Ordinance for Knoxville*, the *Zoning Ordinance for Knox County*, and other City and County design standards ordinances and regulations.

In the design of subdivisions, wherever possible, mature woodlands and natural vegetation buffers should be preserved. Low impact development and common open space areas are encouraged in the area of natural resources such as streams, wetlands, lakes and areas with steep slopes. The subdivision layout should create functional and attractive development with the infrastructure and lots appropriately sized and located to minimize adverse impacts.

- B. **Conformance to Applicable Rules and Regulations.** In addition to the requirements established herein, subdivisions within the City of Knoxville and Knox County are also subject to the design standards for stormwater management, street design and other related improvements as established through other City and County ordinances and regulations.

- a. You can contact the City of Knoxville Department of Engineering staff regarding specific requirements within the City or go to the City of Knoxville's website at www.cityofknoxville.org/.
- b. You can contact the Knox County Department of Engineering and Public Works staff regarding specific requirements within Knox County or go to Knox County's website at www.knoxcounty.org/.

- C. **American Association of State Highway and Transportation Officials (AASHTO) Highway and Street Design Standards.** This Article includes reference to the American Association of State Highway and Transportation Officials (AASHTO) highway and street design standards. The AASHTO book, "A Policy on Geometric Design of Highways and Streets", commonly referred to as the "Green Book", is a source utilized by City of Knoxville Department of Engineering and Knox County Department of Engineering and Public Works staff in addressing street design issues.

- D. **Application of Alternative Design Standards.** These minimum design and performance standards shall apply to all subdivisions unless ~~alternative standards are required or~~ **an alternative standard is permitted within this Article as identified below, or as** permitted through Article 4 Alternative Design Standards and Required Improvements.

1. **Alternative Design Standards Requiring Planning Commission Approval.** **Alternative design standards in this Article that may be approved by the Planning Commission are located in the following sections:**

- a. **Section 3.03.B.1 - Street frontage.**
- b. **Section 3.03.D.1.e – Maximum grade.**
- c. **Section 3.03.D.3.a – Right-of-way and pavement width reduction.**

- d. Section 3.04.H.2 – Maximum grade.
 - e. Section 3.04.I.1.b.1 – Horizontal curves.
2. Alternative Design Standards that are Approved by the City of Knoxville or Knox County. Alternative design standards in this Article that may be approved by the Knoxville Department of Engineering or the Knox County Department of Engineering and Public Works are located in the following sections:
- a. Section 3.04.A.3.c – Right-of-way dedication.
 - b. Section 3.04.F.1 – Right-of-way reduction.
 - c. Section 3.04.G.1 – Pavement width reduction.
 - d. Section 3.04.H.3 – Intersection grade.
 - e. Section 3.04.J.3 – Corner radius reduction
 - f. Section 3.11.A.2 – Standard utility and drainage easement.
- E. **Conflicting Design Standards.** Wherever there appears to be a conflict between the general design standards of this Article and design standards established through the City of Knoxville and Knox County ordinances and regulations, the City and County regulations shall prevail.

3.03 ACCESS STANDARDS

- A. **General:** All lots shall have either frontage of not less than twenty-five (25) feet in width on a public street, unless otherwise noted below, or approved access to a public street by one of the following:
- 1. Access to a public street by an approved exclusive permanent access easement;
 - 2. Access to a public street by an approved private right-of-way;
 - 3. Access to a public street by a previously approved joint permanent easement;
 - 4. Access to a public street by an approved permanent cross access easement;
 - 5. Access provided to a public street through some other legally binding document approved by the Planning Commission.
- Such access shall provide a readily apparent physical means of traversable pedestrian and vehicular access from the lot(s) onto the street and shall meet the standards identified below in Sections B-G.
- B. **Street Frontage:** The following standards shall apply to lots that have legal access to a public street based on street frontage:
- 1. Residential lots shall have a minimum street frontage of 25 feet. The Planning Commission may approve a reduction of the lot frontage for attached dwelling units that are on individual lots subject to the following requirements:
 - a. All lots shall have a minimum front yard setback of 20’.
 - b. Guest parking shall be provided throughout the development as determined by the Planning Commission.
 - c. ~~Sidewalks shall be provided on both sides of the public streets serving the attached units in order to provide pedestrian access to the parking lots and other amenities within the development.~~

2. The area of the access strip in the case of a flag lot, shall not be included in computing the lot area. The plat shall identify both the total area of the lot and the area excluding the access strip for the flag lot.
 3. The driveway width and surface material are regulated by other City of Knoxville and Knox County regulations.
 4. If a lot meets the minimum frontage requirement but access to the property is restricted and cannot occur at the street frontage, legal access shall be provided by one of the alternative access options identified below in Sections C-G.
- C. **Exclusive Permanent Access Easement:** An exclusive permanent access easement shall only serve one (1) lot, shall have access to a public street and shall not be less than twenty-five (25) feet in width. A lot shall be considered to be served by an exclusive permanent easement if the lot has no other legal means of access as required by Section 3.03. The area of the access easement shall not be included in computing the lot area of the lot or lots that the easement crosses. The plat shall identify both the total area of the lot and the area excluding the access easement. The driveway width and surface material are regulated by other City of Knoxville and Knox County regulations.
- D. **Private Right-of-Way:** ~~The Planning Commission may approve a~~ A private right-of-way to may serve two (2) or more lots that do not have direct frontage on a public street. A private right-of-way is a privately owned access strip that is separate from the lots that it serves. The private right-of-way was previously identified as a joint permanent easement under these regulations. A private right-of-way shall meet the following standards:
1. **General Standards:**
 - a. A lot shall be considered to be served by a private right-of-way if the lot abuts and has legal traversable access to the private right-of-way.
 - b. Subdivisions with a private right-of-way shall conform to the general purpose of these regulations. More specifically, the subdivision shall be considered in the context and pattern of neighboring developments and shall not create double frontage lots except as directed in Section 3.02.A.4. A private right-of-way shall not be approved if it will create a connection between two (2) public streets.
 - c. All lots fronting on the private right-of-way shall meet the sight distance requirements for public streets as specified in Section 3.04.J.6.
 - d. A private right-of-way shall not be less than forty (40) feet in width. A private right-of-way shall be designated on the final plat as a private right-of-way. The area of the right-of-way shall be designated and shall not be included as a part of the lots and lot area calculations.
 - e. The maximum grade on a private right-of-way shall not exceed twelve (12) percent. However, when special topographical or other conditions justify, the Planning Commission, on the recommendation of the City of Knoxville Department of Engineering or the Knox County Department of Engineering and Public Works may increase the maximum allowable grade on a local street up to fifteen (15) percent.
 - f. A dead end private right-of-way shall be provided with a suitable turnaround meeting American Association of State Highway and Transportation Officials (AASHTO)

guidelines and the requirements of the Knoxville or Knox County Fire Marshal's Office.

- g. A homeowners association or other legal entity shall be established that addresses maintenance of the right-of-way. The applicant must demonstrate ~~to the reasonable satisfaction of the Planning Commission~~ that the right-of-way will be properly maintained.
 - h. A note shall be placed on the final plat that the private right-of-way is not a public street and will not be maintained by the City of Knoxville or Knox County. A private right-of-way shall also function as a utility easement and a note shall be placed on the final plat specifying such use.
 - i. A private right-of-way that serves nonresidential lots, or lots that are to be used for duplex or multi-dwelling structures or development, shall be subject to the requirements of Section 3.03.D.3.
- 2. **A private right-of-way serving less than six (6) lots shall meet the following additional standards:**
 - a. Roadway construction standards shall be approved by the City of Knoxville Department of Engineering or the Knox County Department of Engineering and Public Works. A minimum twenty-foot (20') wide, unobstructed driving surface shall be required, capable of supporting the imposed loads of emergency apparatus under all weather conditions. In the city, the driving surface must be paved. In the county, a gravel surface may be permitted, although paving may be required, particularly for erosion control when the road grade exceeds eight (8) percent.
 - b. A road profile may be required to determine whether a proposed private right-of-way will be traversable.
 - c. Any subdivision of land that creates additional lots that will be served by an existing private right-of-way or extend the private right-of-way, shall be subject to the requirements of Section 3.03.D.1, and as applicable, Sections 3.03.D.2 or 3.03.D.3. A note shall be placed on the final plat to that effect.
- 3. **A private right-of-way serving six (6) or more lots.** A private right-of-way serving six (6) or more lots or a system of private rights-of-way, where the total number of lots is six (6) or more, shall meet the following standards:
 - a. A private right-of-way serving six (6) or more lots, shall meet the same design and construction standards as a public street. The Planning Commission may reduce the required width of the right-of-way from fifty (50) feet to forty (40) feet, unless otherwise recommended by the City of Knoxville Department of Engineering or the Knox County Department of Engineering and Public Works based on the grading, drainage and traffic characteristics of the subdivision. The Planning Commission may reduce the required pavement width to twenty (20) feet, unless otherwise recommended by the City of Knoxville Department of Engineering or the Knox County Department of Engineering and Public Works, if an appropriate amount of guest parking is provided.

- b. A street profile and pavement cross-section shall be required. A private right-of-way serving six (6) or more lots that does not conform to the public street standards of Section 3.04 must obtain a variance approval by the Planning Commission as outlined in Section 1.05.
 - c. All private rights-of-way that serve six (6) or more dwelling units or buildings in non-residential developments shall be named in conformance with applicable street naming ordinances.
- E. **Previously Approved Joint Permanent Easement:** ~~The Planning Commission may consider a subdivision~~ **A subdivision may be considered** that would create additional lots on a previously approved joint permanent easement, or create additional lots that would require the extension of a previously approved joint permanent easement. Such subdivision of land shall be subject to the applicable requirements of Section 3.03.D, ~~as determined by the Planning Commission.~~
- F. **Permanent Cross Access Easement:** ~~The Planning Commission may consider a subdivision of property~~ **A subdivision may be considered** within a nonresidential zoning district where a permanent cross access easement, with access to a public street, serves as the legal access for the lots.
- G. **Alternative Access Standards:** The Planning Commission may consider a subdivision of property with alternative access standards that would address unique conditions of a development allowed under the requirements of the Knoxville or Knox County Zoning Ordinances. The applicant will be required to provide legally binding documents that would provide permanent pedestrian and vehicular access to lots, and address property ownership and maintenance responsibilities.
- H. **Legal Documentation:** Where access to a lot is to be provided by an easement, private right-of-way or other approved means of access in lieu of direct frontage on a public street, such approved access shall be shown on the subdivision plat along with all engineering data, or reference to recorded documents, necessary to locate the approved access on the ground. The deed or other legal document establishing the easement, private right-of-way, or other approved means of access, must be approved by the appropriate law department, city or county, as to legality and permanence of access rights, and a written statement of the law department's approval must be submitted prior to certification for recording. The document must also address property ownership and maintenance responsibilities for the approved access. Reference to such deed or other legal document shall also be shown on the plat.
- I. **Use of Alley for Vehicular Access:** The Planning Commission may approve the use of alleys as the sole means of vehicular access to lots, ~~located within a Traditional Neighborhood Development District, Historic Overlay District, Neighborhood Conservation Overlay District, Town Center District, or other adopted zoning districts that may allow this provision,~~ subject to **meeting any** applicable zoning ordinance requirements. The alley shall be designed and improved to a design standard approved by the City of Knoxville Department of Engineering or the Knox County Department of Engineering and Public Works. Such lots shall ~~also have a minimum frontage of not less than twenty five (25) feet in width on a public street~~ **meet the minimum lot frontage requirements of Section 3.03.B of these regulations.**

3.04 STREETS

H. Grades of Streets and Alleys. Grades of streets and alleys shall be as follows:

1. **Minimum Grade.** The minimum grade of any street shall be not less than ~~two (2)~~ percent. ~~The minimum grade may be reduced to one (1) percent, if approved by the City of Knoxville Department of Engineering or the Knox County Department of Engineering and Public Works.~~
2. **Maximum Grade.** The maximum grade on a street shall not exceed twelve (12) percent. However, when special topographical or other conditions justify, the Planning Commission, on the recommendation of the City of Knoxville Department of Engineering or the Knox County Department of Engineering and Public Works may increase the maximum allowable grade on a street up to fifteen (15) percent.
3. **Grades at Intersections.** The maximum grade of any street at the approach to an intersection shall be one (1) percent. A grade of up to three (3) percent may be approved by the City of Knoxville Department of Engineering or the Knox County Department of Engineering and Public Works. ~~The maximum grade shall not be increased above one (1) percent when a pedestrian crossing for a sidewalk will cross that street approach.~~ **The maximum grade shall not exceed the cross-slope requirements of the Public Rights-of-Way Accessibility Guidelines (PROWAG) or 2010 ADA Standards as appropriate when a pedestrian crossing is proposed.**

I. Horizontal and Vertical Curves and Tangents. For safety of travel, curves and tangents shall be as follows:

1. **Horizontal Curves.** Where a deflection angle of more than ten (10) degrees in the alignment of a street occurs, radii shall be introduced according to the following standards:
 - a. For subdivisions within the City of Knoxville horizontal curves for local streets shall be based on the design speed for the street, following AASHTO street design standards.
 - b. For subdivisions within Knox County's jurisdiction, horizontal curves for local streets shall meet the following standards:
 1. On local streets greater than one thousand (1000) feet in length, the minimum allowable horizontal radius of curvature at the centerline of the proposed road right-of-way shall be not less than two hundred fifty (250) feet. **The Planning Commission on the recommendation of the Knox County Department of Engineering and Public Works, may reduce the horizontal curve below two hundred fifty (250) feet.**
 2. On local streets less than one thousand feet in length, the minimum allowable horizontal radius of curvature at the centerline of the proposed road right-of-way shall be not less than one hundred (100) feet.

J. Intersections Standards. Requirements for intersections shall be as follows:

- ~~5. **Intersection Sight Distance.** The minimum sight distance at the intersection of any two (2) streets regardless of classification shall be measured from a point on the minor road at least fifteen (15) feet from the edge of the major road pavement and measured from the pavement surface to a height of eye at three and one-half (3.50) feet on the minor road to a height of object at three and one-half (3.50) feet above the pavement surface on the major road. The minimum sight distance at an intersection (in both directions along the major street) shall be ten (10) times the posted speed limit, but in no case shall it be less than 250 feet.~~
- ~~6. **Sight Distance for New Lots.** Any proposed new lot shall have adequate sight distance meeting the standards identified in Section 3.04.J.5 above. If a specific driveway location is needed to meet the minimum sight distance requirement, the driveway location shall be identified on the final plat and the driveway restriction shall be clearly noted.~~
5. **Intersection Sight Distance.** The minimum sight distance for new intersections shall meet the following standards:

- a. **Within the City of Knoxville, the minimum sight distance at the intersection of any two (2) streets regardless of classifications shall be measured from a point on the minor road at least fifteen (15) feet from the edge of the major road travel way and measured from the pavement surface to a height of eye at three and one-half (3.5) feet on the minor road to a height of object at three and one-half (3.5) feet above the pavement surface on the major road. The minimum sight distance at an intersection (in both directions along the major street) shall be measured using intersection sight distance identified in AASHTO Geometric Design of Highways and Streets.**

Design speed may be considered in situations where sight distance is limited. Design speed must be supported by engineering documentation. Engineering documentation must include information such as geometric conditions or modifications, traffic calming, or other measures utilized to support the design speed and must be approved by the reviewing agencies.

- b. **Within Knox County, the minimum sight distance at the intersection of any two (2) streets regardless of classifications shall be measured from a point on the minor road at least fifteen (15) feet from the edge of the major road travel way and measured from the pavement surface to a height of eye at three and one-half (3.5) feet on the minor road to a height of object at three and one-half (3.5) feet above the pavement surface on the major road. The minimum sight distance at an intersection (in both directions along the major street) shall be ten (10) times the posted speed limit, but in no case shall it be less than 250 feet.**

6. **Sight Distance for New Lots.** The minimum sight distance for new lots shall meet the following standards:

- a. **Within the City of Knoxville, any proposed new lot shall have adequate sight distance meeting or exceeding the minimum standards for stopping sight distance identified in AASHTO Geometric Design of Highways and Streets (using two (2) feet for the object height, three and one-half (3.5) feet for the driver eye height). For residential subdivisions, stopping sight distance is measured from the vehicle to the centerline of the driveway at the edge of the roadway. If a specific driveway location is needed to meet the minimum sight distance requirement, the driveway location shall be identified on the final plat and the driveway restriction shall be clearly noted.**
- b. **Within Knox County, any proposed new lot with access to an existing public street shall have adequate sight distance meeting the standards identified in Section 3.04.J.5 above. If a specific driveway location is needed to meet the minimum sight distance requirement, the driveway location shall be identified on the final plat and the driveway restriction shall be clearly noted.**

K. **Other Street Design Standards.** Other street design standards shall be as follows:

1. **Street Names.** Streets which are obviously in alignment with existing streets shall generally bear the name of the existing street. **However, local streets which cross major collector or arterial streets may change names if approved after formal consideration by the Planning Commission.** New interior subdivision streets that are continuous and obviously in alignment shall bear the same name. Street names shall not duplicate or closely approximate the names of existing streets in Knoxville and Knox County. **Continuous streets that will include a directional prefix in the street name shall meet the specifications outlined in the “Uniform Street Naming and Addressing System Ordinance”.** All public streets **generally** running east and west shall be designated as “Drive” or “Avenue”. All public streets **generally** running north and south shall be designated as “Street” or “Road”. Dead-end public streets that cannot be extended shall be designated as “Lane”. The use of the designation of “Boulevard” is subject to the approval of the Planning Commission when the road is designed with a median separating the lanes of traffic or the street serves as the entrance into the subdivision and has the appearance of a boulevard street. **Streets designed to be a closed loop that begin and end at the same intersection or where the looped street closes onto itself and is not intersected by another street may be designated “Circle” upon request and approval by Planning Commission.** Private easements **rights-of-way** serving six (6) or more dwelling units **or buildings in non-residential developments** shall be designated as “Way.”
4. **Alleys.** Alleys shall be governed by the following regulations:
 - a. The Planning Commission may approve the use of alleys as the sole means of vehicular access to lots ~~located within a Traditional Neighborhood Development District, Historic Overlay District, Neighborhood Conservation Overlay District, Town Center District, or other adopted zoning districts that may allow this provision,~~ subject to **meeting any** the applicable zoning ordinance requirements.
 - b. Dead-end alleys shall be prohibited.

3.05 PEDESTRIAN CIRCULATION SYSTEM

A. **Sidewalk Improvements.** Any required sidewalks shall be provided by the developer in accordance with the design and construction standards of the City of Knoxville or Knox County.

1. Within the City of Knoxville, the developer should contact the City of Knoxville Department of Engineering regarding the applicable requirements and design standards from the City's adopted ordinances and regulations.

2. **Within Knox County, the developer should contact the Knox County Department of Engineering and Public Works regarding the applicable requirements and design standards from the County's adopted ordinances and regulations.**

~~Within Knox County, for the safety of pedestrians and children, the Planning Commission will require that sidewalks be provided for access to schools, recreational facilities, commercial establishments, or any other areas where obvious future pedestrian traffic is anticipated. Whenever sidewalks can be connected to existing sidewalks or proposed sidewalks in adjacent areas, such proposed sidewalks should be designed on that side of the street which will make this connection possible. Also that alternative pedestrian circulation systems may be considered and approved.~~

~~a. All sidewalks shall be constructed or reconstructed in accordance with the design standards and specifications set forth in the most current Tennessee Department of Transportation (TDOT) Design Standards.~~

~~b. All sidewalks built in accordance with this ordinance shall conform to the most recent published version of the Public Rights of Way Accessibility Guidelines (PROWAG) or 2010 ADA Standards as appropriate.~~

~~c. Sidewalks shall have a minimum width of five (5) feet and shall be designed to support the weight of vehicles at all driveway crossings.~~

B. **Alternative Pedestrian Circulation Systems.** Within Knox County, the Planning Commission may consider and approve an alternative plan for pedestrian traffic within a subdivision. ~~if the developer can demonstrate that sidewalks are not feasible due to site constraints, and the developer submits an alternative plan that provides a safe and convenient pedestrian network connecting all portions of the subdivision and any external pedestrian network.~~

5.02 DEFINITION OF WORDS

Utility. A service to the public, including sanitary and storm sewers, water, electric power, gas, telephone and other communication means, **facilities.** ~~police and fire protection, garbage collection, mail, street lighting, and so forth.~~