

ARTICLE 4
SUBDIVISION DESIGN STANDARDS

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4-101 Applicability: All subdivisions of land subject to this Ordinance shall conform to the following minimum design standards. Such design criteria shall govern the approval of subdivision plats by the Planning Commission and the Governing Body. All plats shall be prepared under the direct supervision of a registered engineer or land surveyor of the State of Kansas, and all submittals shall bear the seal of said registered engineer or land surveyor.

All subdivisions shall be platted with due consideration toward sound traffic engineering principles, safe and accessible building sites, adequate methods of storm water drainage and provisions for a sanitary water supply and effective sewage disposal system. All subdivision plats shall be consistent with applicable City development plans and policies and shall be coordinated with existing, planned or committed public improvements. All subdivision plats shall comply with all local, state and federal laws and regulations.

4-102 Street Standards:

1. Comprehensive Plan Compliance: The arrangement, character, extent, and location of all streets shall conform to the Comprehensive Plan or other plans and standards as adopted.
2. External Street Considerations: The arrangement, alignment, and width of streets in new subdivisions shall be properly integrated with the existing principal street or road system and where appropriate shall provide for the continuation of existing principal streets in adjoining subdivisions or their projection where adjoining property is not platted. In no case shall the width of streets in new subdivisions be less than the minimum street widths established in this Article.
3. Internal Street Layout, General: The location, arrangement, character and type of all streets shall be designed in relation to topographical conditions, the extent and impact of storm water runoff, the safe and convenient circulation of traffic within the subdivision, and the uses of the land to be served by such streets. When possible, local streets shall be planned so as to discourage through traffic and to conveniently channel traffic onto collector and arterial streets.

4. Internal Street Layout, Residential Development: The use of curvilinear streets, cul-de-sacs, u-shaped streets, or cluster developments shall be encouraged in residential areas when appropriate. However, the excessive use of cul-de-sacs shall be discouraged. No streets shall be laid out so as to intersect with themselves, unless topographic conditions warrant.
5. Internal Street Layout, Non-Residential Development: In commercial or industrial developments, the streets and other accessways shall be planned in connection with the grouping of buildings, location of rail facilities, the provision of alleys, truck loading and maneuvering areas, walks, and parking areas to as to minimize conflict of movement between the various types of traffic, including pedestrian.
6. Street Intersections: Streets shall be designed to intersect as nearly as possible at right angles, except where topography or other natural conditions justify a variation. However, in no instances shall two streets intersect at an interior angle of less than 75 degrees without written consent of the City Engineer.
7. Multiple Intersections: Intersections involving the junction of more than two (2) streets shall be avoided whenever possible.
8. Intersection Curvature: When connecting streets deflect from each other with an interior angle of less than 75 degrees they shall be connected by a curve with a radius adequate to ensure a sight distance of not less than two hundred (200) feet for local and collector streets, and of such greater radii as the City Engineer shall determine for arterial streets.
9. Curb Radii and Vision Triangle: Street pavement at intersections shall be rounded by the following minimum radii:

<u>Street Classification</u>	<u>Intersection With</u>	<u>Minimum Curb Radii</u>
Arterial or Collector	Arterial or Collector	25 feet
Local	Arterial	25 feet
Local	Collector or Local	20 feet

The Planning Commission may set specifications for curb radii, upon advice of the City Engineer, greater than the minimum standards herein.

10. Offset Streets: Offset streets whose centerlines are separated by less than 150 feet shall be avoided, except where topography or other conditions justify a variation.
11. Reserve Strips: There shall be no reserve strips controlling access to streets. The subdividing of land shall be such as to provide each lot, by means of either a public street or way or permanent easement, with satisfactory access to an existing public highway or street.
12. Private Streets: There shall be no private streets platted in any subdivision.

13. Travel Easements: The Planning Commission may recommend a Travel Easement to be substituted for a public street where it is deemed necessary or advantageous. Such easement shall include covenants, running in favor of the City related to future construction and maintenance, and shall be designed to the proper standards as set out in this Ordinance, unless otherwise allowed by the Planning Commission. Travel easements are to be for the share access (driveway) by not more than two (2) lots.
14. Half Streets: Half streets shall be prohibited, except where essential to the reasonable development of the subdivision in conformity with the other requirements of this Ordinance and where the Planning Commission finds it will be practicable to require the dedication of the other half when the adjoining property is subdivided. Whenever a half street is adjacent to a tract to be subdivided, the other half of the street shall be platted within such tract.
15. Visibility: Clear visibility, measured along the centerline of a street, shall be provided for at least two hundred (200) feet on all streets.
16. Access to Arterials:
- a. Where a proposed commercial or industrial subdivision borders on or contains an existing or proposed limited access arterial, the Planning Commission may require a street system design which affords separation of through and local traffic. This may be accomplished through reverse frontage lots with access control provisions along the rear property line, deep lots with rear service areas, or frontage roads.
 - b. Where a residential subdivision borders on or contains an existing or proposed arterial street, the Planning Commission may require that access to such streets be limited by any of the following means:
 - (1) The subdivision of lots so as to back onto the arterial street and front onto a parallel local street. No access shall be provided directly to any lot from the arterial street, and screening shall be provided by the developer in a screening easement along the rear property lines of such lots.
 - (2) A series of cul-de-sacs, u-shaped streets, or short loops entered from and designed generally at right angles to such a parallel street, with the street lines of their terminal lots backing onto the arterial street. No direct access to the arterial street shall be allowed.
 - (3) A frontage road, separated from the arterial street by a ten (10) foot wide planting or grass strip, and having access at suitable points.

17. Railroad Right-of-way: Where a subdivision borders on or contains a railroad right-of-way, the Planning Commission may require a street approximately parallel to and on each side of such right-of-way at a distance suitable for the appropriate use of the intervening land, such as for park purposes in residential districts or for commercial and industrial purposes in appropriate districts. Such distances shall also be determined with due regard for the requirements of approach grades and future grade separations.
18. Dead-End Streets and Cul-De-Sacs: Permanent dead-end streets shall be cul-de-sacs. A cul-de-sac shall be no longer than 600 feet in length, measured along the centerline of the cul-de-sac from the centerline of the intersecting street to the radius point, and shall have an adequate turnaround with a minimum 60 foot radius right-of-way at the closed end. Temporary dead-end streets longer than 100 feet intended to be continued for access to adjoining property shall have a temporary turnaround area to provide service equal to the cul-de-sac requirement stated above.
19. Right-Of-Way and Street Widths: In order to provide for streets of suitable location, width and improvements to accommodate future traffic and afford satisfactory access to emergency and service vehicles, and to coordinate streets to as to develop a convenient system that avoids undue hardships to adjoining properties, the following design standards are hereby required. Street classifications may be indicated on the Comprehensive Plan or other plans or standards as adopted, or shall be as determined by the Planning Commission.

<u>IMPROVEMENT</u>	<u>RESIDENTIAL</u>	<u>NON-RESIDENTIAL</u>	
<u>Minimum Right-of-Way (in feet)</u>			
Arterial	80	80	
Collector	60	60	
Local	50	60	
Cul-de-sac	50	60	
<u>Minimum Paved Width B/B (in feet)</u>			
	<u>(High)</u>	<u>(Low)</u>	
Arterial	40*	40*	60*
Collector	31*	31*	40*
Local	27**	24**	31***
Cul-de-sac	27**	24**	31***

*With concrete 6" Vertical Firm Curbs
 **With 2'6" Roll Type Curb & Gutter
 ***Curb design at discretion of City Engineer

20. Parking and Sidewalk Requirements: The following shall be required improvements accommodating on-street parking and sidewalks:

<u>On-Street Parking & Sidewalk Requirements</u>	<u>Parking</u>	<u>Sidewalks</u>
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Arterial	None permitted	On both sides
Collector	Case-by-case	On both sides
Local	One side only	On one side*
Cul-de-sac	One side only	On one side*

*On same side as "No Parking"

21. Street Widths: In front of areas designated and zoned for a commercial or industrial use, or where a petition for a change in zoning is contemplated for a commercial or industrial use, to permit such use, the street width shall be increased by such amount on each side deemed necessary by the Planning Commission to assure the free flow of through traffic without interference by parked or parking vehicles, and to provide safe parking space for such commercial or industrial districts.
22. Centered Improvements: The improved portion of streets shall be centered within the right-of-way, except in the cases where the Planning Commission may allow.
23. Vertical Curves: Vertical curves are required for changes in grade.
24. Reverse Curves: A tangent shall be provided between all reverse curves of a sufficient length, as related to the radius of the curves, so as to provide for a smooth flow of traffic.
25. Road Grades: No street grade shall be greater than seven percent (7%) nor less than five-tenths of one percent (0.5%).
26. Street Names: Streets which are substantially in alignment with existing streets shall, unless otherwise illogical or due to severe directional change, bear the names of the existing streets. The names of such new streets shall be approved by the Planning Commission.
27. Street Surfacing: All streets shall be constructed according to the standards and specifications of the City as established by and on file with the City Engineer.

4-103 Alleys:

1. Alleys Required, When: Alleys shall be provided in commercial and industrial districts, except that the Planning Commission may waive this requirement where other definite and assured provision is made for service access, such as off-street loading, unloading, and parking consistent with and adequate for the uses proposed. Alleys shall be discouraged in residential areas.
2. Width: The minimum width of an alley shall be twenty (20) feet.
3. Grade: All alleys shall be graded to slope to the center line.
4. Dead-End Alleys: Dead-end alleys are prohibited.

4-104 Block Standards:

1. Lengths: Blocks shall be delineated by intersecting streets at such intervals as to sufficiently provide for cross traffic and to furnish access to existing streets adjoining the new subdivision. In residential districts, no block shall be longer than 900 feet between centerlines of streets, except variations may be allowed in instances where topography or other conditions prohibit compliance.
2. Design: The configuration of blocks shall be determined with regard given to:
 - a. Zoning requirements as to lot sizes and dimensions.
 - b. Provision of adequate building sites suitable to the particular needs of the type of use intended.
 - c. Topography as it affects storm water drainage and erosion.
 - d. Need for convenient circulation, access, safety and control of vehicular and pedestrian traffic.
3. Walkways: Pedestrian walkways may be required where deemed necessary by the Planning Commission to provide convenient access to schools, parks, playgrounds or other public or private community facilities. Pedestrian crosswalks, not less than (10) feet in width, shall be required where deemed essential by the Planning Commission to provide circulation or access to schools, parks, playgrounds, shopping centers, transportation and other facilities.
4. Pedestrian Easements: Pedestrian easements not less than ten (10) feet in width shall be dedicated to the public through blocks where deemed essential by the Planning Commission to provide pedestrian access to schools or other community facilities. These easements shall be provided with walkways and said walkways shall be constructed in a manner approved by the City Engineer.

4-105 Lots:

1. Frontage Requirements: Every lot shall have frontage on a street at least equal to the requirements of the zoning district in which it is located; except those lots fronting on the end of a cul-de-sac, which shall meet the frontage requirements as measured on a radius at the front yard setback line, and except those lots served by an approved travel easement.
2. Size: The size, width, depth, shape and orientation of lots and any minimum building setback lines shall be appropriate to provide safe and adequate building sites based upon the location of the subdivision and for the type of development and use intended. At a minimum, lots shall have dimensions and sizes and provide for space requirements no less than as required by the Zoning Ordinance.

3. Side Lot Lines: All side lot lines shall be at right angles to straight street lines and radial to curved street lines where practicable.
4. Commercial/Industrial Lots: Lots reserved or laid out for commercial and/or industrial purposes shall be of adequate size to provide for the off-street service and parking facilities required by the type of use, zoning district and development contemplated.
5. Double Frontage: Double frontage lots shall be avoided for single-family residential dwellings except where the lots abut upon a limited access highway or arterial street, or where the topography of the land prevents reasonable subdivision into additional lots. Double frontage lots shall not have vehicular access between such lots and an abutting limited access highway or arterial street.
6. Major Streets: When possible, lots intended for residential use facing on major streets shall be avoided. It is preferable that the sides or backs of such lots adjoin major streets with the vehicular egress from such lots being oriented to a minor street.
7. Corner Lots: Corner lots intended for residential use shall have additional width to allow appropriate building setback and orientation to both streets and to provide adequate corner visibility.
8. Addressing of Lots: House numbers shall be assigned to each lot by the Zoning Administrator and shall be displayed and legible in accordance with City standards.

4-106 Easements:

1. Utility: Permanent easements shall be provided where necessary for the location and servicing of utility poles, wires, conduits, storm and sanitary sewers, water and gas mains and other public utilities. Utility easements located along rear lot lines shall measure at least 20 feet wide and be centered on such rear lot line. Utility easements located along side lot lines shall measure at least 15 feet wide and shall be centered on such side lot lines; provided, whenever utility easements are located around the perimeter of the area to be subdivided, they shall be contained wholly within such area. Utility easements located along front lot lines shall measure at least 10 feet wide. No utilities shall be buried within the driving surface of the street.
2. Drainage: A drainage easement may be required for a proposed subdivision which is traversed by a watercourse, drainage way or drainage channel. Such easement shall conform substantially to the lines of such watercourse and shall be of such width as may be necessary to provide adequate storm water drainage and access for maintenance.
3. Travel Easements: Travel easements may be allowed in accordance with the provisions of this Article.
4. Pedestrian Easements: Pedestrian easements may be required in accordance with the provisions of this Article.

5. Aviation Easements and Other Restrictions: Land located within the vicinity of established flight paths and noise impact areas of public-owned or controlled airports, as determined by the Planning Commission, shall be required to grant a permanent aviation easement to the public. All aviation easements shall allow aircraft to operate within the "navigable airspace" as defined by the Federal Aviation Act of 1958, as amended. Consistent with FAA Regulations, the Planning Commission may disapprove a plat, or portion thereof, which could create a hazardous situation for air traffic and the general public resulting from development and construction of a project.

4-107 Drainage:

1. Drainage Plans: The developer shall include a drainage plan, as required by Section 2-103(2)(b)(4), and shall design storm water facilities according to the Storm Drainage Master Plan for the City.
 - Drainage plans shall include, but are not limited to:
 - a. A complete drainage-area map showing the natural drainage area boundaries, direction of surface flow, any large impervious areas, existing and proposed streets, man-made or natural obstructions to be avoided for storm drainage locations, runoff calculations for existing and for developed conditions, and proposed inlet locations.
 - b. A grading design so that drainage from each lot should flow directly to a channel or detention area without crossing more than four (4) adjacent lots or four hundred (400) feet, whichever is less.
2. Detention Facilities: The developer shall install detention facilities when the Planning Commission determines that a subdivision provides enough area for runoff control and determines that detention facilities are necessary, and will not adversely affect downstream conditions. Examples of instances when detention facilities are required are:
 - a. If the runoff coefficient is greater than point five (.5), any subdivision request of five (5) acres or more must provide detention facilities.
3. Storm Sewers: The dedicated non-pavement street right-of-way may be utilized for storm sewer facilities.

4-108 Water and Sewer Facilities:

1. Water and Sewer:
 - a. All subdivisions located either within the City limits or in areas to be annexed by the City shall have water and sanitary sewer systems designed to the standards of the City Engineering Department.
 - b. All other subdivisions within the jurisdiction of this Ordinance shall design the water and sanitary sewer systems in accordance with the standards of the Jefferson County Sanitation Code.

2. Fire Hydrants: Fire hydrants shall be located on all City streets at least every four hundred (400) feet when the development is being or is proposed to be served by City water. The Planning Commission may require the location of hydrants closer than four hundred (400) feet based on the recommendation of the Fire Chief.

3. Location: Water and sanitary sewer systems may be located within the dedicated non-pavement street right-of-way.

4-109 Large Lot Subdivisions: When a proposed subdivision involves lots of one (1) acre or more in area, consideration shall be given to the design and layout of the subdivision to any re-subdividing that might take place in the future, with proper provision being made for such street extensions and utility improvements as may be necessary.

4-110 Public Sites and Open Spaces: Where deemed necessary by the Planning Commission, upon consideration of the particular type of development proposed in the subdivision, the Planning Commission may require the dedication or reservation of such other areas or sites of a character, extent, and location suitable to the needs created by such development for schools, parks, and other public or open spaces. The requirement of the dedication of such public sites and open spaces by the Planning Commission shall not constitute an acceptance of the dedication by the City.

4-111 Bench Marks, Corner Monuments, and Other Markers:

1. Bench Marks:

- a. All elevations shown on plats shall be based on city datum.
- b. The permanent bench mark location and description that is used to extend datum to the project shall be noted on the Preliminary Plat and Final Plat.

2. Monuments:

- a. Monuments at the main controlling corners of each unit of a subdivision shall consist of one-half (1/2) inch iron bar, three (3) feet long, and be encased in concrete. Variations to the three (3) foot length may be allowed based on subsurface conditions.
- b. All lot corners and control points for horizontal curves within the subdivision shall be marked with a one-half (1/2) inch iron bar at least two (2) feet long.

3. U.S. Government Corners: Whenever a survey originates from a United States public land survey corner or any related accessory, the land surveyor shall file a copy of the completed survey and references to the corner or accessory with the Department of Archives, Kansas State Historical Society and with the County Surveyor. Such survey shall be filed within thirty (30) days of the date the references are made.

- a. Any altered, removed, damaged or destroyed corner shall be restored.

b. Whenever such a corner or any related accessory is restored, re-established or replaced due to construction activities, a restoration report shall be filed with the Department of Archives, Kansas State Historical Society as specified in K.S.A. 21-3724, as amended.

4. Existing Markers: At any time during construction of the subdivision, if a stone marker should be found, the developer shall place an iron disc next to the stone to facilitate the location of the stone in the future.

4-112 Community Assets: In all subdivisions, due regard shall be given to the preservation of any historical sites, drainage courses, areas of particular aesthetic value, or large and/or valuable trees.