

ARTICLE VI
DESIGN STANDARDS FOR THE LAYOUT OF SUBDIVISIONS

SECTION 6.0 STREETS

- A. Conformity to comprehensive plan and/or official map: whenever a tract of land to be subdivided or resubdivided includes any part of, or is adjacent to, a proposed arterial or collector street as designated on the comprehensive plan and/or the official map, the subdivider shall meet with the planning commission's duly authorized representative to determine its compliance (e.g., right-of-way width for future widening and pavement widths) and resulting design requirements, of such locations, otherwise such street right-of-way shall be platted by the subdivider in the exact location so designated and at the width indicated in these regulations.
- B. Street Extension:
1. Existing Streets: the arrangement of streets in new subdivisions shall make provision for the proper continuation of existing streets in adjoining areas, unless determined otherwise by the planning commission, or its duly authorized representative.
 2. Adjacent Property: where adjoining areas are not subdivided and are appropriate for future development, arrangement of streets in new subdivisions shall make provision for the proper projection of streets to those adjoining areas in a manner which shall provide for the practical development of the adjacent property.
 3. Half Streets: dedication of one-half (1/2) of the rights-of-way (half streets) for streets proposed along the boundaries of land to be subdivided, shall be prohibited.
- C. Street Classification and Function:
1. Arterial Streets: Arterial streets should be planned so as to provide for the smooth flow of traffic between points of heavy traffic generation and from one section of the community or communities to another. Such arterial streets should not traverse the entire community or communities. Arterial streets should not bisect neighborhoods but should act as boundaries between such neighborhoods. Direct access onto the roadway from abutting properties shall be discouraged.
 2. Collector Streets: Collector streets should be designed to provide a traffic route from subcollector streets to arterial streets. These streets should be designed to carry traffic which has an origin or destination within the

neighborhood and between arterial streets. Said streets shall be designed in such a manner to discourage "short cuts" through the neighborhood. Direct access to abutting property should be discouraged whenever possible.

3. Subcollector Streets: Subcollector streets shall be designed to provide a traffic route from local streets to collector streets. Said streets will serve equally both traffic movement and abutting properties.
4. Local Streets, including Cul-de-sacs and courts: Local streets shall provide direct and full access to each lot and direct traffic movement to another local street or to a subcollector street. Said streets shall be laid out so that their use by through traffic will be discouraged. Local street intersections with arterial streets shall be discouraged, wherever practical.
5. Frontage Roads: Frontage roads may be required along an existing or proposed arterial street to provide access to lots along such streets.
6. Alleys: Where alleys are to be provided (e.g., in the case of certain commercial development), they shall be designed to provide only secondary access.

D. Street Rights-of-Way:

1. Widths and grades of new streets: Street right-of-way widths and grades shall conform to the following minimum requirements:

TABLE 1 - STREET RIGHTS-OF-WAY WIDTH AND GRADE REQUIREMENTS

TYPE OF STREET	MINIMUM RIGHT-OF-WAY WIDTH (IN FEET) ***	GRADES BY PERCENT (%)	
		MAX.	MIN.
ARTERIAL	*	*	*
COLLECTOR	60	10	0.5
SUBCOLLECTOR	50	12	0.8
LOCAL (INCLUDING CUL-DE-SACS)****			
Residential	50	12	0.8
Commercial and Industrial Areas	60	10	0.8
COURTS	40	12	0.8
FRONTAGE ROAD	**	**	**
ALLEYS	20	10	0.5

- * Arterial streets shall be based on current design standards and other pertinent requirements of the Kentucky Department of Transportation and the official Comprehensive Plan, but shall not contain a right-of-way width less than 30 feet.
- ** Requirements will vary for a frontage road depending on whether the street would serve as a Local, Subcollector or Collector type street and as such would be designed in accordance with the respective requirements of said streets.
- *** Except as may be permitted in Table 3 of these regulations.
- **** Descending centerline grades approaching the terminus of a cul-de-sac shall be reduced within a vertical curve to a maximum of four (4) percent unless determination is made by the planning commissions duly authorized representative that a steeper grade will provide adequate clearance for vehicles entering ascending driveways.

2. Existing Streets: Existing rights - of - way (i.e., public or private) and widths shall be determined from existing deeds or lots of record and other statutes or agencies establishing such widths. Subdivisions platted along existing streets shall dedicate additional right-of-way, if necessary, to meet the minimum street width requirements set forth in Section 6.0, Subsection D (1) of these regulations. Such dedication shall be in accordance with the following:

- a. At least the minimum right-of-way width shall be dedicated where the subdivision is on both sides of an existing street.
- b. When the subdivision is located on only one side of an existing street, one-half (1/2) of the required right-of-way width, measured from the centerline of the right-of-way, shall be dedicated. However, the owner or owners of such property shall not be required to dedicate more than one-half (1/2) of the required rights-of-way width.

E. Curves and Sight Distance Criteria:

- 1. Horizontal Curve: When there is a change in the alignment of a street along the centerline, a curve with a radius adequate to insure safe sight distance shall be constructed. The minimum radii of curves shall be:

STREET TYPE	MINIMUM CURVE RADIUS
Arterial	*
Collector	400 feet
Local or Subcollector	100 feet

- 2. Sight Distance: Minimum sight distance shall be as required on Tables 2A, 2B, and 2C.

3. Reverse Curves: A tangent of at least two hundred (200) feet for collector streets, shall be provided between reverse curves. No tangent shall be required for local and subcollector streets.

PROPOSED AMENDMENTS ADDENDUM 1 AS ADOPTED

TABLE 2A

**SIGHT DISTANCE FOR VEHICLES EXITING FROM ACCESS POINTS ONTO ADJACENT ROADS
D= DISTANCE ALONG MAJOR ROAD FROM ACCESS POINT TO ALLOW VEHICLE TO ENTER (FEET) SEE
ACCOMPANYING ILLUSTRATION IN TABLE 2C**

VEHICLE TYPE	20 MPH				30 MPH				40 MPH				50 MPH				60 MPH			
	2 LANE		4 LANE		2 LANE		4 LANE		2 LANE		4 LANE		2 LANE		4 LANE		2 LANE		4 LANE	
	DL	DR																		
Passenger Car	225	195	235	205	335	290	355	310	445	385	470	415	555	480	590	515	665	575	710	620

TABLE 2B

**LEFT TURN SIGHT DISTANCE FOR VEHICLES ENTERING ACCESS POINTS
S= SIGHT DISTANCE ALONG MAJOR ROUTE FOR VEHICLE TO SAFELY TURN LEFT INTO ACCESS POINT (FEET)
SEE ACCOMPANYING ILLUSTRATION IN TABLE 2C**

VEHICLE TYPE	20 MPH			30 MPH			40 MPH			50 MPH			60 MPH		
	2 Lane	4 Lane	6 Lane	2 Lane	4 Lane	6 Lane	2 Lane	4 Lane	6 Lane	2 Lane	4 Lane	6 Lane	2 Lane	4 Lane	6 Lane
	Passenger Car	165	180	195	245	265	290	325	355	385	405	445	480	490	530

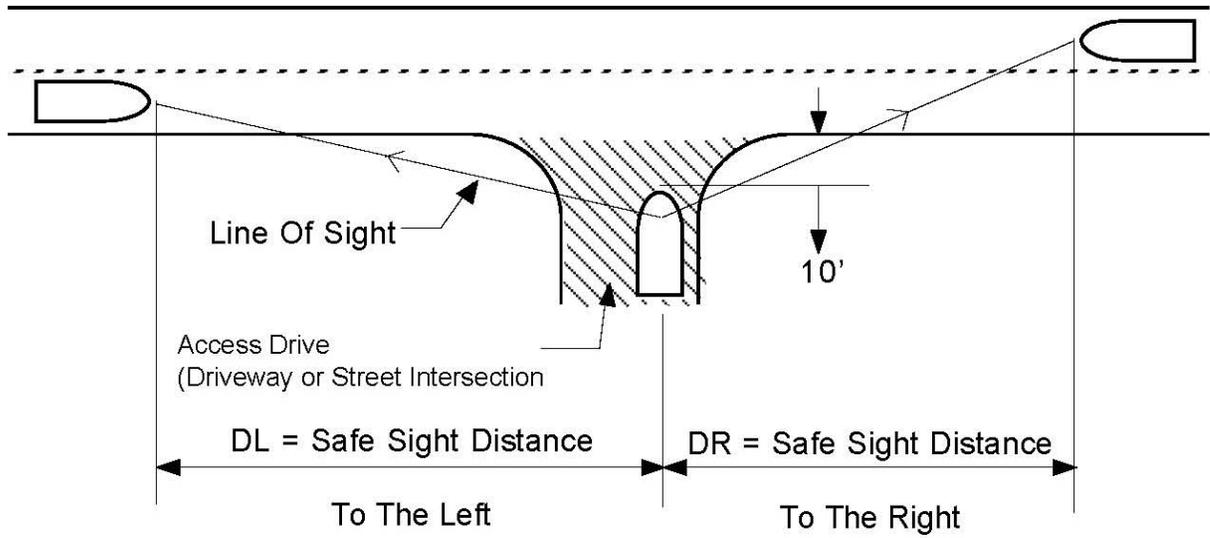
Notes: Intersection Controls shown are limited to Left and Right turns from a stop along a minor roadway; and, Left turns from a stop along a major roadway only. The Table values have been calculated and rounded for design based upon sight triangles using AASHTO - Geometric Design of Highways and Streets, Fourth Edition, 2001. AASHTO formula for Sight Distance. Left (DL) or Distance Right (DR) = 1.47 x Design or Prevailing Regulatory Speed (major road) x Time Gap. Time Gaps designated for Passenger Cars crossing lanes are as follows: 7.5 seconds - Left Turn from a Stop; and 6.5 seconds - Right Turn from Stop (Table 2A); and, 5.5 seconds - Left Turn from a Stop (Table 2B). Time Gaps are for a stopped vehicle turning left or right onto a two (2) lane roadway with no median and grades of three (3) percent or less. Table values require adjustments as follows; For left turns onto or from multiple - lane roadways with more than two (2) lanes, add 0.5 seconds for Passenger Cars for each additional lane to be crossed by the turning vehicle.

For minor roadways, if the approach grade ascends greater than three (3) percent, add 0.2 seconds for each percent grade for left turns and 0.1 seconds for right turns.

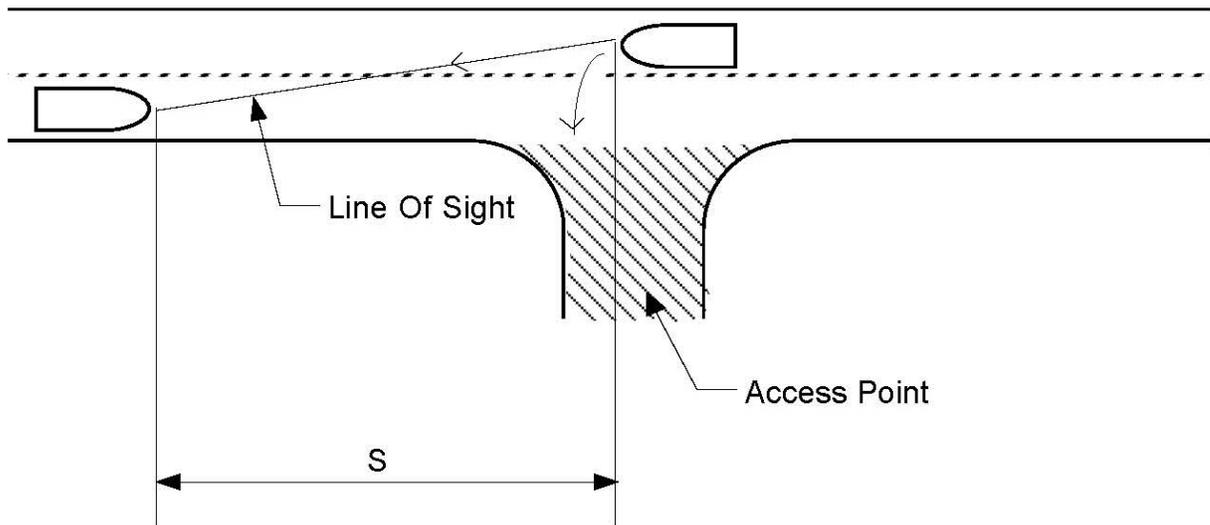
In applying the Table, calculated values are for Passenger Cars. Where substantial volumes of heavy vehicles enter these roadways, the use of other Time Gap Values for single - unit and combination trucks must be considered. These values are published in the AASHTO Design Standards.

TABLE 2C

SIGHT DISTANCE FOR VEHICLES EXITING FROM ACCESS POINTS
(refer to Table 2A)



LEFT TURN SIGHT DISTANCE FOR VEHICLES ENTERING ACCESS POINTS
(refer to Table 2B)



4. Vertical Curves: The minimum vertical curve length required shall be calculated by multiplying the algebraic difference in grades times a "K" factor. Rounded "K" factors for local and subcollector and collector streets are as follows:*

Local	--	K=15 for crest curves
and		
Subcollector	--	K=15 for sag curves
Collector	--	K=30 for crest curves
		K=35 for sag curves

* Design of arterial streets shall be based on current standards of the Kentucky Department of Transportation.

- F. Cul-De-Sac and Dead-End Streets: Cul-de-sacs and dead-end streets designed to be dead-end permanently, shall not be longer than 1,200 feet, unless local topographic or other physical conditions are such as to render these provisions impracticable.

G. Street Names and Addressing:

1. Duplication: The name of a new street shall not duplicate existing or platted street names within the county, or approximate such names in spelling, sound or pronunciation. The use of existing street names differentiated by alternate prefixes (i.e. "North", "South", etc.), or suffixes (i.e. "Lane", "Way", etc.) is prohibited. Street names shall not be objectionable or offensive. Street names shall be limited to no more than three (3) words including the suffix and contain no more than 20 characters including spaces. Punctuation, such as apostrophes or hyphens, etc., or numerals including fractions shall not be used as a part of any street name.
2. Continuation of Streets: New street names shall bear the same name of any continuation of, or when in alignment with, an existing or platted street, wherever practicable.
3. Street Names: All street names shall be approved and/or reserved by the planning commission's duly authorized representative, prior to approval of Improvement Drawings and Specifications.
4. Addressing: Where new streets are proposed, addressing for building development shall conform to a uniform county system and be assigned by the planning commission's duly authorized representative prior to approval of the Final Plat. Where improvements are not proposed or required, such addressing shall be assigned prior to approval of a final plat or identification plat. All addressing including numbers and street names

shall be shown for each lot or unit on Final Plats and Identification Plats for public record and distribution.

H. Alleys:

1. Alleys shall be prohibited in residential zoning districts, unless otherwise approved by the planning commission, or its duly authorized representative.
2. In commercial and industrial areas, adequate alleys shall be provided where the design requires. Alleys shall not serve as part of the required off-street parking, loading and/or unloading space required by the applicable zoning ordinance.

I. Private Streets:

1. Private streets or alleys shall not be created or extended, except as approved by the planning commission, and existing ones shall, whenever practicable, be dedicated to the public. Private streets, when approved, shall be designed, constructed and inspected in accord with same minimum specific standards for public streets, per Section 7.3 and other applicable sections of these regulations.

SECTION 6.1 INTERSECTIONS:

- A. **Angle of Intersection:** The centerline of all streets shall intersect as nearly at a ninety (90) degree angle as possible, but in no case shall the angle of intersection be less than seventy-five (75) degrees or greater than one hundred five (105) degrees, unless a special modification is granted by the planning commission due to certain exceptional conditions.
- B. **Centerline Offset of Adjacent Intersections:** Where T-intersections are used, the following minimum centerline offsets of adjacent intersections shall be as follows:

TYPE OF STREET	MINIMUM CENTERLINE OFFSET OF ADJACENT INTERSECTIONS IN FEET
Local - Local	150
Local - Subcollector	150
Subcollector - Collector	150
Collector - Collector	200

- C. **Corner Radii:** Property lines at street intersections shall be provided from the same radius point necessary to establish the pavement radius. If because of certain exceptional conditions, a modification is granted permitting an angle of intersection less than seventy-five (75) degrees, or greater than one hundred five

(105) degrees, then the minimum radii shall be increased or decreased, respectively.

- D. **Centerline Grades Within Intersections:** Maximum centerline grades within street intersections shall not exceed the grade for through streets, as identified in Table 1 of these regulations, depending on the type of street. The maximum grade of the centerline of the side streets intersecting with the gutter line of the through street shall not exceed four percent for a distance of not less than 75 feet from the center-line for local and subcollector streets and 150 feet for collector streets.
- E. **Design Adjacent to Freeways, Expressways, Arterials or Collectors:** The following principles shall be used in the design of subdivisions adjacent to freeways, expressways, or arterials:
 - 1. Street Design shall have the purpose of making adjacent lots desirable by cushioning the impact of heavy traffic and of minimizing the interference with traffic on such thoroughfares.
 - 2. Collector, Subcollector, and Local streets shall not be permitted to intersect with freeways or expressways. The number of intersections with arterial streets shall be held to a minimum and no new intersection of any kind shall be spaced less than 600 feet from any other intersection of any kind along the same side of the arterial street. In the case of collector streets, no new intersection of any kind shall be spaced less than 200 feet from any other intersection of any kind along the same side of the collector street. At those access points where turning vehicles to and from the arterial and collector streets will affect the roadway capacity or safety, reserved turn lanes shall be required. Frontage or service roads shall be used when these spacing requirements cannot be met.
 - 3. Where frontage roads are not required, lots adjacent to such thoroughfares shall, when practical, be served and be accessible only by a street generally paralleling said thoroughfare or by a series of cul-de-sacs or loop streets extending towards said thoroughfare from an internal street system.

SECTION 6.2 EASEMENTS:

- A. **Utility Easements:** Public utility easements at least Fifteen (15) feet in length width may be required along the front, rear, and sides of lots where needed for the accommodation of a public utility, drainage, or sanitary structures, or any combination of the foregoing. Where deemed necessary by the planning commission's duly authorized representative, an additional easement width shall be provided.

- B. Watercourses: The subdivider shall dedicate rights-of-way or provide easements for storm drainage purposes which conform substantially with the lines of any natural watercourses, channels, streams, or creeks which traverse the subdivision or for any new channel which is established to substitute for a natural watercourse, channel, stream, or creek. Such rights-of-way or easements shall be of a width which will provide for the maintenance needs of the channel as determined by the planning commission's duly authorized representative.

SECTION 6.3 PHYSICAL CONSIDERATIONS:

- A. Natural Land Use: Wherever practical, subdivisions shall be planned to take advantage of the natural topography of the land, to economize in the construction of drainage facilities, to reduce the amount of danger, to minimize destruction of trees and topsoil, and to preserve such natural features as watercourses, unusual rock formations, large trees, sites for historical significance, and other assets which, if preserved, will add attractiveness and value to the subdivision and the community.

SECTION 6.4 FLOOD HAZARDS:

- A. Prohibition of Development in Areas Susceptible to Flooding: Land subject to flooding or otherwise uninhabitable shall not be platted for residential, commercial, or industrial uses or for any other use which may increase the danger of health, life, property, or aggravate erosion or flood hazards. Such land within the subdivision shall be set aside on the plat for such uses as will not be endangered by periodic or occasional inundation or will not result in conditions contrary to the public welfare (e.g., use as open space, extensive recreation use, conservation purposes).
- B. Areas of land adjacent to streams, rivers, or bodies of water which have a high degree of susceptibility to flooding shall be limited to development according to the following regulations, notwithstanding any other section of the zoning ordinance or any other ordinance adopted by the county.
 - 1. The limits of the floodplain (areas subject to flooding during the occurrence of a 100 - year flood) and floodway are identified as Flood Protection Control Areas on the Official Zoning Map, pursuant to the Flood Insurance Study prepared by the Federal Emergency Management Agency. This study, along with any accompanying maps and other supporting data, and any revisions thereto are adopted by reference and declared to be a part of the zoning ordinance and these regulations.
 - 2. Areas designated as susceptible to flooding during the occurrence of a 100 - year flood are further regulated by Article VII of these regulations.

Flood data pursuant to the Flood Insurance Study identify the elevation of the 100 - year flood level and the width of the floodway. Reference to mapping and other supporting data is necessary.

In the case of proposed subdivisions located along other tributaries or bodies of water not covered in this study, stormwater drainage systems are further regulated by Article VII of these regulations.

3. No person, city, county, or other political subdivision of the state shall commence filling of any area with earth, debris, or any other material, or raise the level of any area in any manner, or place a building, barrier, or obstruction of any sort on any area including making any alteration or relocation of a waterway located within the floodway which would result in any increase in flood levels during the occurrence of a 100 - year flood discharge. In those cases where a watercourse is to be altered or relocated, the flood carrying capacity of said portion of the waterway affected must be maintained. Plans and specifications for such work shall be submitted to the planning commission's duly authorized representative for review to determine if such encroachment will meet the requirements of these regulations. Said plans shall also be submitted to the Kentucky Department of Natural Resources & Environmental Protection, Division of Water Resources, and other applicable agencies, for their review and approval, where required.
4. All land outside the floodway of the bodies of water identified in Subsection B.2. above but located within the floodplain, may be used, provided that:
 - a. Any new residential construction, including any expansion or substantial improvements of existing residential structures as herein defined, within said floodplain shall have the lowest floor elevated to or above the level of the 100 - year flood. Electrical, heating, ventilation, plumbing, and air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding. For all new construction and substantial improvements, fully enclosed areas below the lowest floor that are usable for parking of vehicles, building access, or storage in an area other than a basement, and which are subject to flooding, shall be designed to automatically equalize hydrostatic exit of floodwaters. Designs for meeting this requirement must be certified by a professional engineer or architect.
 - b. Any new non - residential structures including any expansion or substantial improvements of non - residential structures within said floodplain, shall have the lowest floor elevated to or above the level of the 100 - year flood or together with attendant mechanical, utility and sanitary facilities shall be designed and floodproofed so that below the 100 - year

flood level the structure is water tight with walls impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydro - dynamic loads and effects of frequency certified by a professional engineer or architect. For all new construction and substantial improvement and elevated non - residential structures fully enclosed below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must be certified by a professional engineer or architect.

5. All streets and utilities constructed to serve the subdivision to be located within the floodplain, but which are outside the floodway, shall be: (a) flood protected; (b) the land filled; or (c) any combination thereof, to a level of not less than the elevation of the 100-year flood level. Where the fill is partially within the floodplain, roadway access and utilities shall be provided from the "dry" side (areas located above the 100-year floodplain).
- C. Stream Easement: If a stream flows through, or is adjacent to, the proposed subdivision, the plat shall provide for a storm water easement or drainage right-of-way along the stream for a floodway of at least fifteen (15) feet. For the smaller streams, the plat shall provide for channel improvement to enable them to carry all reasonable floods within banks. The floodway easement shall be wide enough to provide for future enlargement of the stream channels as adjacent areas become more highly developed and run-off rates are increased.
- D. Streets: Approval shall not be given for streets within a subdivision which would be subject to flooding. All streets must be located at elevations above a flood of a 100-year frequency in order that no portion of the subdivision would become isolated by floods, except that where a secondary access is provided which would be above a 100-year flood frequency. However, streets may be permitted in areas subject to flooding of a 100-year frequency provided said streets provide access to activities relating to rivers, streams, and recreational activities located along said areas.

SECTION 6.5 BLOCKS:

- A. Arrangement: The arrangement of blocks shall be such as to provide for convenient access, circulation, control and safety of street traffic. Blocks intended to be used for commercial or industrial purposes shall be designed specifically for such uses with space set aside for off-street parking and loading and/or unloading facilities as required by the applicable zoning ordinance.

- B. Length: Blocks should not exceed twelve hundred (1,200) feet, except where topographical or exceptional physical conditions exist.
- C. Width: The width of blocks should ordinarily be sufficient to allow for two (2) tiers of lots except for double frontage lots, as permitted in Section 6.6 of these regulations.

SECTION 6.6 LOTS:

- A. Every proposed lot shall front at least 15 feet onto a publicly dedicated street. The planning commission may grant a waiver to the frontage requirement for lots proposed to be subdivided from a tract of land in the same ownership that existed on the effective date of these regulations provided the planning commission shall find:
 - 1) That the proposed lot(s) are large, rural estate type lots; and
 - 2) That the proposed lot(s) are consistent with the rural characteristic of the surrounding area; and
 - 3) That access to the lot(s) is provided via a vehicular passway within a legally recorded permanent ingress and egress easement that safely and effectively circulates vehicular traffic; and
 - 4) That the vehicular passway providing access to the lots is a minimum of 12 feet wide; and
 - 5) That requiring the proposed lot(s) to front onto a publicly dedicated street would create an extraordinary hardship on the applicant(s).
- B. Each lot proposed for residential building development in areas not served by a public sanitary sewerage system shall be a minimum of one (1) acre in size, contain a minimum lot width at the building setback line of 100 feet, and be capable of supporting an on site sewage disposal system approved by the Pendleton County Health Department.
- C. Lots shall not be laid out so that they have frontage onto more than one (1) street except: (a) when the lots are adjacent to the intersection of two (2) streets; or (b) when the rear of the lot faces an arterial, freeway, expressway, collector street, railroad right-of-way, etc., and the front of the lot faces onto another street.
- D. All subdivisions shall result in the creation of lots which are developable and capable of being built upon. No lots may be developed which create building sites which are impracticable to improve due to known problems related to soil conditions and geological formations and areas subject to flood prone conditions based on information prepared by the U.S. Soil Conservation Service, Geological survey maps prepared by the U.S. Geological Survey, and flood prone

information supplied by the U.S. Army Corps of Engineers and the U.S. Geological Survey.

SECTION 6.7 PEDESTRIAN WAYS: Where deemed necessary by the planning commission's duly authorized representative, pedestrian ways may be required, and if provided, they should not exceed a fifteen (15) percent grade, unless steps of an acceptable design, as determined by the planning commission's authorized representative, are to be constructed.

SECTION 6.8 PUBLIC SITES: Where a proposed park or other recreational area, school site, or other public ground identified in the adopted Pendleton County Comprehensive Plan, is located in whole or in part within the proposed subdivision, the planning commission, or its duly authorized representative may require a reservation, as a condition precedent to preliminary plat approval, not to exceed two (2) years, for the purchase of such public ground by the applicable public body.