

CHAPTER FIFTEEN

CHRISTIAN COUNTY ROAD AND ACCESS STANDARDS

Section 15-10 Road Standards – The design and construction of all roads that serve *three (3) or more parcels; or any duplex or multifamily residential use, institutional, commercial, or industrial use shall be in accordance with the County Road Standards. The minimum standards for Christian County roads and access points shall be in accordance with this Chapter and current practice as defined by the MoDOT Standard Specifications for Highway Construction. General guidelines are presented below:

When, in the opinion of the Christian County Commission, the average daily traffic count is required before a decision is made on any road, the County Commission may install traffic counters for a length of time necessary to obtain such data.

A Road Access Permit from a County Road Official authorizes only the building of the Construction roads of less the 1 (one) acre. A Division I permit is needed to disturb 1 acre to 5 acres. A Division III is needed to disturb more than 5 acres. Finished roads being constructed to minimum Christian County standards are only authorized after the applicant has received an approved Division II or Division III permit. The County Road Engineer shall provide a Road Analysis to the Planning and Zoning Commission dealing with both existing Christian County roads and proposed roads the will be affected by a Division II or Division III permit application. The Road Analysis will determine if a road is adequate in accordance with the minimum design standards for Christian County.

Any required road improvements shall be approved by the County Highway Engineer or the road commission responsible for the district in which the development is located. Inspections of roads shall be done before the roads are completed and a letter of the approved inspection shall be included in the developments file.

**Effective 12/15/2001, previously 6 or more which was originally goes back to 7/1/1997 UDC.*

Section 15-12 Submission of Engineering Plans:

Where a new roadway or modifications to existing Roadways are proposed the following shall be required:

1. All plans and reports submitted shall be prepared by, or under the direction of a professional engineer, licensed in the State of Missouri, and shall be reviewed for compliance with the minimum design requirements.
2. The original submission of engineering construction plans for streets and storm sewer and drainage structure shall be submitted the first time in three (3) sets of prints to the Christian County Planning and Zoning Department.
3. After the first submission of engineering construction plans, all future submissions for review shall consist of three (3) sets of prints to the Christian County Planning and Zoning Department. Projects involving State highways will require the approval of the Missouri Department of Transportation.

4. All engineering drawings shall be of uniform size 24 x 36 inches and shall have a standard title block on the lower right-hand corner of the sheet. Consultants shall place their own title block above or to the left. The registration seal of the responsible engineer shall be placed on a convenient place in the lower right-hand corner of each sheet of plans. The Title Sheet shall show a Location Map for the project.
5. Whenever possible, engineering plans and profiles shall be drawn to a standard scale of one inch (1") equals fifty feet (50') horizontal and one inch (1") equals five feet (5') vertical. Drainage area maps, construction details and cross section or contour maps shall be drawn to a suitable scale.
6. Elevations on profiles and sections or as indicated on plans shall be U.S.G.S. datum. At least two (2) permanent bench marks in the vicinity of each project shall be noted on the first drawing of each project and their location and elevation shall be clearly defined.
7. The top of each plan shall be either north or east, and the standard north arrow should be used. The stationing on street plans and profiles may be either from the left to right or from right to left, but on drainage plans the stationing shall always begin at the low point.
8. When more than one drawing is involved in one project, an overlap of not less than one hundred feet (100') should be provided. Each project shall show at least fifty feet (50') of topography on each side. All existing topography and any proposed changes, including utilities, telephone installations and so forth shall be shown on the plans and profile.
9. Revisions to drawings shall be indicated above the title block and shall show the nature of the revision and the date made.
10. Sheets showing typical symbols to be used in the preparation or engineering drawings shall be included. Easements shall be shown and, if known, the book and page number of the recording.
11. It shall be understood that the requirements outlined in these standards are only minimum requirements. When unusual subsoil or drainage conditions are suspected an investigation should be made and a special design prepared in line with good engineering practice.
12. Each plan should indicate owner for whom improvements are to be constructed.
13. Lot lines and dimensions shall be shown where applicable.
14. No construction or clearing of land of no more than 1 acre will begin without approval of the Engineering Plans and Division I, II, or III permit.

15. After approval of the engineering drawings, one (1) set of signed plans will be retained by the contractor on the job site and one (1) set to be provided for the Christian County Planning and Zoning Department.

TABLE 15-1
MINIMUM DESIGN STANDARDS

		Commercial/Industrial 4 Lanes	Urban Residential Commercial/Industrial 2 Lanes	Rural Residential Medium Density Up to 4 Units / Acre	Rural Residential County Roads 1 Unit / 3 Acres +
1.	Right of Way	90'	60'	50'	50'
2.	Cartway Width	58'	44'	30'	20' with 2' Shoulders
3.	Number of Lanes	4	2	2	2
4.	Lane Width	12'	12	10'	10'
5.	Parking Lanes	No	10' Both Sides	10' One Side	No
6.	Turn Lane	10'	No	No	No
7.	Surface Type	7" B & C *	5" B & C *	4" B & C *	C & S **
8.	Road Base***	2"	2"	2"	2"
	Road SubBase****	4"	4"	4"	4"
9.	Maximum Grade	8%	8 10%	12%	15%
10	Curve Radius	400'	400'	300'	175'
11	Inter. Offset	660'	660'	330'	125'
12	Inter. Sight Dist.	900'	700'	425'	225'
13	Cut Slopes	3:1	3:1	2:1	2:1
14	Fill Slopes	3:1	3:1	2:1	2:1
15	Back Slopes	4:1	4:1	3:1	3:1
Typical Cross Sections are available in the Planning & Zoning Department * B & C = Bituminous Base & Asphaltic Concrete ** C & S = Double Chip & Seal *** Compacted Base Rock **** Compacted 3/4" Crushed Aggregate					

All development roads must be a minimum of chip and seal. ** Double chip and seal may be substituted with 4" B&C. Cold Mix overlay must be at least 5" with a 6" compacted base.

Section 15-15 Variance from Standards – If, in the opinion of the County Commission, any of the Christian County road standards places an undue hardship on any person, then the County Commission may grant a variance from these standards, provided the variance does not constitute a hazard to the public's health, safety and welfare. Where column 4 of Table 15-1 joins to a chip and seal road, the developer may substitute double chip and seal for 4" B&C.

Section 15-17 Widths of Rights-of-Way – Streets shall have the following minimum rights-of-way and shall be constructed along the centerline of the right-of-way. The Right-of-Way can not contain any obstructions (trees, etc.)

Table 15-2
Right of Way Widths

<u>Street Type and Purpose</u>	<u>Right of Way Minimum Width</u>
Land access, commercial (4 lane)	90 feet
Land access, commercial (2 lane)	60 feet
Land access, residential (Private and Public)	50 feet
County Roads and Other Streets	50 feet
Cul-de-sacs	**55 foot radius
Ingress Egress Easements & Alleys	***25 feet

**Originally 50', effective 2/15/2004 which goes back to

***Originally 20' effective 2/15/2004 which goes back to

Section 15-20 Streets

- A. **Relation to Adjoining Streets** – The arrangement of rights-of-way in a subdivision shall provide for the continuation of the existing streets or rights-of-way in adjoining areas, unless the Commission deems such continuation undesirable for reasons of topography or design. Where subdivision streets or rights-of-way, the width thereof, where practical, shall be at the same or greater width or width sufficient to adequately serve the subdivision of the existing street or right-of-way, except that in no case shall the street or right-of-way in the subdivision be of less width than hereinafter provided.

- B. **Additional Right-of-Way on Existing Streets** – The Commission will require that additional Right-of-Way along streets which abut the subdivision be in accordance with the Street Type or proposed use. This Right-of-Way width will be measured from the center of the existing roadway. The Right-of-Way shall be cleared from all trees, brush, fences and utilities shall be relocated as necessary for all Division II and Division III developments. A Division I permit application does not require the clearing of the right-of-way.

- C. **Projection of Streets** – Where, in the opinion of the Commission, it is desirable to provide future street access to adjoining areas, the streets and rights-of-way in the subdivision shall be extended by the provision of a right-of way for street purposes from the end of the pavement to the property line of the subdivision. If deemed necessary by the Commission, any such dead-end street shall be provided with a temporary turnaround. The street arrangements shall not be such as to cause hardship to owners of adjoining property in platting their own land and land-locking property, nothing therein shall be construed to require that private streets in one subdivision shall provide access to adjacent lands, if the same are not already platted as a subdivision.

- D. Curb and Gutter** – If curbs and gutters are installed, the curb shall be approximately 6” high and the gutter approximately 18” in width of concrete material. Only standard 90 degree curb may be used, except that roll-type curb shall be permitted along minor and local streets within residential subdivisions. Whenever curb and gutter construction is used on public streets, wheelchair ramps for the handicapped shall be permitted along minor and local streets within residential subdivisions. Whenever curb and gutter construction is used on public streets, wheelchair ramps for the handicapped shall be provided at intersections and other major points of pedestrian flow.
- E. Street Surface** – The street surface shall be as designated in Table 15-1 – Minimum Design Standards, unless otherwise designated by a registered professional engineer and accepted by the County Commission.
- F. Street Width** – Street pavement widths shall be as stated in Table 15-1 – Minimum Design Standards.
- G. Street Crown** – Streets shall have sufficient crown for drainage. (2% minimum) Excepted as approved prior to construction.
- H. Curves and Grade** – Changes in Streets - Horizontal
1. A tangent of at least one hundred (100) feet long shall be introduced between reversed curves on major and collector streets
 2. Where there is a deflection angle of more than one (1) degree in the alignment of a street, not including intersection with any street, a curve with a radius adequate to insure safe sight distance shall be made. The minimum radii of curves shall be as indicated in Table 15-1 – Minimum Design Standards.
- I. Street Grades, Elevations and Vertical Curves**
1. No street grade shall be in excess of: Arterial – Missouri State Highway Minimum Specifications; Collector – 12%; Minor – 15% except as otherwise approved by the County Commission because of adverse topographic conditions. (Table 15-1 – Minimum Design Standards)
 2. All curbing (or street ditching where permitted) shall be designed to provide for surface water drainage from the surrounding area, buildings and pavement. The minimum grade shall not be less than one-half (1/2) of one (1) percent.

3. Vertical curves shall be used in changes of grade exceeding two percent (2%). The length of vertical curve shall be no less than that determined by the formula:

L equals K A, where: L equals the length of vertical curve. 'A' equals algebraic difference in grades, 'K' shall be determined by the following table:

	Crest	Sag
Arterial	80	60
Collector	50	50
Land Access	28	35

- J. **Marginal Access Streets (Service Roads)** – Where the subdivision abuts on or contains an existing or proposed arterial street, the Commission may require marginal access streets to be provided to avoid lot frontage on arterial streets.
- K. **Street Jogs** – Street jogs with centerline offsets of less than one hundred twenty-five (125) feet are prohibited.
- L. **Cul-de-sacs**
 1. Cul-de-sacs, in developments with tracts with less than three (3) acres, shall be no longer than six hundred (600) feet (unless topography indicates a need for greater length), and shall terminate in a circular open space having a diameter at the outside of the pavement of at least one hundred (100) feet and a diameter at the outside of the right-of-way of at least one hundred ten (110) feet. The cross slope shall not exceed 4% in any direction.
 2. Developments with tracts of three (3) or more acres shall have no length limit, but shall have a cul-de-sac having a radius at the outside edge of pavement of at least fifty (50') feet and Right-Of-Way of 110'.
 3. All cul-de-sacs shall have a sub-base and base at a minimum of 50' radius. Construction shall be outlined in Section 15-50.
 4. Roads within a subdivision that end in a cul-de-sac shall contain a legal description of ROW for future road development on the plat and be dedicated to Christian County as "Dedicated ROW for Future Road Development" which continues from the cul-de-sac to adjoining property for future development to be determined by P&Z or the road Commissioner.
 5. When plats include a newly formed ROW, a form known as "Conveyance of ROW" shall be signed by the Owner/Developer as part of the subdivision with the legal on the conveyance and on the plat. This conveyance shall be part of a Minor or Div II or III subdivision.

- M. Sidewalk** - Sidewalks shall have a minimum width of four (4) feet in residential areas and be constructed of concrete. In commercial and industrial areas, the sidewalk shall be provided with an eight (8) foot right-of-way width; however a minimum width of four (4') feet may be constructed and shall be constructed of concrete. The permit-issuing authority may permit the installation of walkways constructed with other suitable materials when it concludes that:
1. Such walkways would serve the residents of the development as adequately as concrete sidewalks; and
 2. Such walkways would be more environmentally desirable or more in keeping with the overall design of the development.
 3. Whenever the permit-issuing authority finds that a means of pedestrian access is necessary from the subdivision to schools, parks, playgrounds, or other roads or facilities and that such access is not conveniently provided by sidewalks adjacent to the streets, the developer may be required to reserve an unobstructed easement of at least 10 feet in width to provide such access.
- N. Road Signs** – Road signs for new subdivision roads will be provided at the developer's expense.
- O. Street Names**
1. Proposed streets which are continuations of, or in alignment with, existing named streets shall bear the names of such existing streets, unless otherwise approved by the County Commission.
 2. The name of a proposed street which is not in alignment with an existing street shall not duplicate the name of any existing or platted street.
 3. All names of streets proposed by the developer shall be approved or disapproved by the County Commission in accordance with this Resolution. The developer shall submit three proposed names for each street.
- P. Alleys** – Alleys may be provided to give access to the rear of all lots used for commercial and industrial purposes. Alleys shall not be provided in residential subdivisions.
- Q. Streets in Relation to Railroads, Expressways, Freeways and Parkways** – When the area to be subdivided adjoins or contains, for a considerable distance, a railroad right-of-way, an expressway or freeway, a street shall be provided approximately parallel to the side of such right-of-way. In determining the distance of such parallel street from the right-of-way, consideration shall be given to the distance required for approach grades to future grade separations.
- R. Bridges and Culverts**
1. Bridges and Culverts shall be designed in accordance with the design standards governed by the current "Standard Specifications for Highway Bridges" published by AASHTO (American Association of State Highway and Transportation Officials).
 2. The structure shall be designed using an AASHTO HS 20 design truck.

3. The width of the structure shall match the approach roadway width.
4. Where required by the AASHTO publication, "Roadside Design Guide", a crash worth railing system is required, along with approach railing, including transition section, approach section and end terminal section. All of these elements shall meet the TL-2 requirements. For culverts when the headwalls are located outside the clear zone (as defined by the AASHTO publication "Roadside Design Guide"), no bridge railing is required. Object markers shall be required when no railing is required. When pedestrian sidewalks are incorporated with the structure, the railing system on the structure shall be located between the traffic lane and the sidewalk.

S. Off-site Improvements

Where a development will increase traffic volume, or a roadway which provides access to the development is inadequate, the developer will be required to construct the necessary off-site improvements to the roadway to provide adequate access.

Section 15-23 Private Roads – A subdivision in which the access requirement of Section

15-40 – Driveway Access Points is satisfied by a private road that does not meet the road construction standards set forth in Table 15-1 – Minimum Design Standards may be developed so long as the private road does not serve more than one (1) lot. The intent of this subsection is primarily to allow the creation of not more than one lot developed for single-family residential purposes. Therefore, the permit-issuing authority may not approve a permit application for any use that would tend to generate more traffic than that customarily generated by single-family residences, which is located in a subdivision served by a private road authorized by this section.

- A. **Right-of-Way** – Private roads must meet the minimum right of way widths set forth in Section 15-17 – Widths of Rights-of-Way.
- B. **Final Plats** – The recorded plat of any subdivision that includes a private road shall clearly state that such road is a private road. No final plat that shows lots served by private roads may be recorded unless the final plat contains the following notation:

“Further subdivision of any lot shown on this plat as served by a private road may be prohibited by the Unified Development Codes”

Section 15-24 Private Easements – Private ingress and egress easements may serve up to and including two (2) lots or parcels. Private ingress and egress easements must meet the minimum of a 25' right of way width if they serve one (1) tract and a 50' right-of-way width if they serve (2) two tracts. No lot or lot width shall be created by use of an easement on lots that abut existing roads or use road ROW for an easement.

Section 15-25 Classification of Streets – All streets shall be classified in accordance with their use and function, the standards of public safety and topographic conditions.

A. New Subdivisions – In all new subdivisions, streets that are dedicated to public use shall be classified as provided in Subsection (B).

1. The classification shall be based upon the projected volume of traffic to be carried by the street, stated in terms of the number of trips per day;
2. The number of dwelling units to be served by the street may be used as a useful indicator of the number of trips but is not conclusive;
3. Whenever a subdivision street continues an existing street that formerly terminated outside the subdivision or it is expected that a subdivision street will be continued beyond the subdivision or it is expected that a subdivision street will be continued beyond the subdivision at some future time, the classification of the street will be based upon the street in its entirety, both within and outside of the subdivision.

B. Classifications

1. **Limited Access Highway and U.S. Highways** – These streets are intended to move high volume, moderate to high speed traffic through a region. Limited access is usually provided at some grade crossings with signals or through a system of interchanges. Direct access and service to adjoining properties is limited. (Example: U.S. Highway 65, 160 and 60)
2. **Primary Arterial** – Arterials are primarily intended to provide for movement of high volume, moderate to high speed traffic through a community and to major activity nodes. For most arterials, access to abutting property is subordinate to traffic movement. Direct access to abutting property should be allowed only if the traffic-carrying capacity of the arterial is not diminished. (Example: MO Highway 14)
3. **Secondary Arterial** – A major street in the street system that serves as an avenue for the circulation of traffic onto, out or around the County and carries high volumes of traffic. Secondary arterials compliment the primary arterial system and are intended to move moderate volume, moderate speed traffic. Access to abutting properties is a secondary function and access should be partially controlled. (Example: State lettered highways)

4. **Collector** – the Street whose principal function is to carry traffic between minor, local, and subcollector streets and arterial streets but that may also provide direct access to abutting properties. It serves or is designed to serve, directly or indirectly, more than 100 dwelling units and is designed to be used or is used to carry more than 800 trips per day. Collectors provide for both traffic movement and access to abutting properties. Collectors feed traffic from local residential, commercial and industrial areas into the arterial street system and are typically designed for low to moderate volume, lower speed traffic.
5. **Sub collector** – A Street whose principal function is to provide access to abutting properties but is also designed to be used or is used to connect minor and local streets with collector or arterial streets. Including residences indirectly served through connecting streets, it serves or is designed to serve at least 26 but not more than 100 dwelling units and is expected to or does handle between 200 and 800 trips per day.
6. **Local** – A Street whose function is to provide access to abutting properties. It serves or is designed to serve at least 10 but not more than 25 dwelling units and is expected to or does handle between 75 and 200 trips per day. Local streets function primarily to provide access to abutting property. These streets are designed for low volume, low speed traffic and short trip lengths. Use of local streets by through traffic is discouraged. (Example: Subdivision roads)
7. **Minor** – A Street whose sole function is to provide access to abutting properties. It serves or is designed to serve not more than nine dwelling units and is expected to or does handle up to 75 trips per day.
8. **Marginal Access** – A street that is parallel to and adjacent to an arterial street and that is designed to provide access to abutting properties so that these properties are somewhat sheltered from the effects of the through traffic on the arterial street and so that the flow of traffic on the arterial street is not impeded by direct driveway access from a large number of abutting properties.

Section 15-35 Intersections

- A. **Grade** – Preferable grade for one hundred (100) feet before any intersection is zero to three percent (0-3%). The grade should not exceed five percent (5%).
- B. **Sight Distance** – Sight distance should not be obstructed at any intersection. Required sight distances for new intersection shall be as indicated in Table 15-1 - Minimum Design Standards.
- C. **Hazards** – Intersections should not create hazardous driving conditions. Curves in the roadway and the crests of hills should be avoided at intersection locations.

- D. Alignment** – Roadways should be within ten (10 degrees) of a perpendicular alignment for one hundred (100) feet before any intersection.
- E. Intersection offsets/spacing** – The minimum distance between intersections is shown in Table 15-1 – Minimum Design Standards.
- F. Intersections**
1. Streets shall intersect, as nearly as possible, at right angles.
 2. Street curb intersections shall be rounded by radii of at least 15 (15) feet. When the smallest angle of street intersections is less than sixty (60) degrees, the Commission shall require curb radii of greater length.

**CHRISTIAN COUNTY
DRIVEWAY ACCESS AGREEMENT**

NAME: _____

ADDRESS: _____
City Zip

LEGAL DESCRIPTION: _____ Lot No. _____

Residential ___ **Commercial** ___ **Agriculture** ___

Access off of Asphalt ___ **Chip and Seal** ___ **Gravel** ___

The above described property is subject to the following:

This property will ___ will not ___ require a culvert at point of access.

Size of culvert required _____.

Site distance required _____ Existing ___ Mitigated ___

48 inch flat or negative grade _____

Mail boxes 24" off of road surface _____

As authority for road commission for Christian County, I do hereby state that I have made a physical inspection of the above property and have stated the above requirements to be implemented.

Designated Road Official

Date

Owner or Representative

Date

Comments:

THIS ACCESS PERMIT APPLIES TO ROAD ACCESS ONLY. THIS IS NOT A PERMIT FOR BUILDING CONSTRUCTION.

WESTERN ROAD OFFICIAL
Bill Barnett, Commissioner
417/581-2112

EASTERN ROAD OFFICIAL
Tom Huff, Commissioner
417/581-2112

Brent Young/Foreman
Shop 725-1994

Allen Moss/Foreman
Shop 634-2272

Danny Garbee/Billings Special
Shop 744-4485

Bill Snook/Ozark Special
Shop 581-1632

EFFECTIVE DATE; January 15, 2009

Section 15-40 Driveway Access Agreement – Approval must be obtained for any new parcel created and any new structure. Gated Communities shall also require driveway access agreements though the road will not be a County road, it will allow for future conveyance.

A. Driveway Access Points Every lot shall have access to it that is sufficient to afford a reasonable means of ingress and egress for emergency vehicles as well as for all those likely to need or desire access to the property in its intended use

1. **Sight Distance** – For commercial, institutional, industrial, and multifamily residential complexes of ten (10) or more units, access points shall comply with sight distance standards for intersections.
2. **Spacing** – Access drives shall be spaced according to the following table:

**Table 15-3
Access Drive Spacing**

<u>Street Type</u>	<u>Minimum Spacing</u>	<u>From Intersections</u>
Local	35 feet apart	50 feet
Collector	50 feet apart	75 feet
Arterial	75 feet apart	115 feet

3. **Arterial Access** – Access points to arterial streets shall be minimized. Whenever a major subdivision that involves the creation of one or more new streets borders on or contains an existing or proposed arterial street, no direct driveway access may be provided from the lots within this subdivision onto this street. (See Section 15-20, J – Marginal Access Streets).
4. **Ditches and Culverts** – Minimum culvert sizes at intersecting roads and driveways shall be twelve (12) inches. Larger sizes may be required if drainage calculations by the Christian County Highway Engineer indicates the need. Culvert type shall be corrugated metal, concrete or staff approved material. The minimum ditch depth will be twelve (12) inches. This depth will be deeper as required to provide positive drainage and provide the necessary cover over the culverts. In ditches with steep will be at the County Engineer’s discretion.
5. **Entrances**
 - a. All driveway entrances shall have a negative grade for a minimum of 48” from the edge of the driving surface.
 - b. Driveway material may not extend onto the driving surface.
 - c. Access permits must be obtained prior to construction on any parcel.

Section 15-45 Traffic Control

The Developer will be responsible to pay the County for the material and construction of all roadway signs.

- A. **Stop Signs** – Stop signs should be placed at all intersections with arterials and may be required at intersections with collectors.
- B. **Yield Signs** – Yield signs may be required at the intersections of all collectors or of local streets with collectors as a condition of approval.

Section 15-46 Utilities

- A. No public or private utilities will be permitted on the public right-of-way, except as approved for crossings.
- B. All utility crossing shall be approved by the Commission. No open cutting of the roadway will be permitted without prior approval by the County Commission.

Section 15-50 Specifications For New Roads And Culvert Installation

- A. County officials shall be notified during road construction so there may be continuing inspections during these phases of construction:
 - 1. After removal of top soil, roots, stumps, etc. and before application of sub base
 - 2. After application of sub base and before application of base
 - 3. After application of base
 - 4. After application of double coat of chip and seal or
 - a. 3 inches of cold mix or
 - b. 2 inches of hot mix
 - c. final double coat of chip and seal
- B. All paving materials must be approved by the county.
- C. All Right of Ways must be a minimum of 50 feet in width
- D. All top soil must be removed from the future road bed a minimum of 24' wide
- E. Road bed must be the minimum of 24' in width. Ditches must be outside of this road bed where they are required.
- F. The sub-base of the road must be a minimum of 4" in depth after compaction, 24' wide with a minimal 1 inch sized crushed rock and no larger than 1 1/2" rock. (See typical section)
- G. The road base will be a minimum of 24' in width of 3/4" clean base rock, a minimum of 2" in depth after compaction. (No trap rock)
- H. Bituminous asphalt mix may be used and shall meet all requirements of the Missouri Standard Specifications for Highway Construction, Division 400, and Flexible Pavements.
- I. Alternative pavement designs will be considered when submitted and approved by the County Commission prior to construction.

- J.** Cul-de-sacs will have a ROW of 55' in radius with a sub-base and base a minimum of 50' radius. Depth of sub-base and base to be the same as road way above using the same materials. Pavement shall be 50' in radius.
- K.** If bituminous asphalt mix is used and the roadway is inspected according to the Christian County Road Agreement, the County Commission will accept the road into the County system. At that time core test may be required by the County Commission. If core test are taken, they will be at the Developer's expense (check for material and thickness)
- L.** Any work performed without proper notification for inspection may be grounds for rejection. The developer shall contact the County Engineers 24 hours prior to the request of inspections.
- M.** A road must be hard-surfaced for a minimum of one year and when 75% of the development is occupied before the county will consider taking it into the county road system. Prior to final acceptance the developer will be required to apply a double coat chip seal surface. After the final chip seal has been accepted the road will be taken into the County Road system at the developer's expense. Any damage incurred during this period must be repaired to the county's satisfaction before acceptance into the county road system. All roads to be taken into the county road system must be deeded by Warranty Deed or Conveyance of Right of Way. Recording of roads on an approved plat in the County Recorders office will not suffice.
- N.** All culverts will be a minimum of 12" or larger where required and have a minimum of 20' driving surface. Culverts at intersections and driveway entrances must have a one-to-two slope cut at both ends or as directed by the County Road District Official. For example, the ends on a fifteen (15)" culvert (sloping 1" for every 2" linear) would require thirty (30)" more in length on each end added to the required 29'. On an eighteen (18)" culvert there would be need to have 3' added on each end plus the required 24' making a total of 30'. If an approved plastic culvert is used, a sloped metal end cap must be attached to each end. Where a development (new) road connects to a county road, a culvert must be long enough to provide a 34' driving surface where it joins to the county road.
- O.** All driveways connecting with a county road must have a slope of level or negative for a minimum of 4' away from the road.
- P.** Before installing a culvert, individuals need to check with the Christian County Road District officials. Culvert installations failing to meet these requirements could result in their removal. Christian County will not be liable for replacement of removed culverts.
- Q.** There shall be no structure, including trees or landscaping, allowed within the ROW except for county signs and markers, and U.S. Postal receptacles. There shall be no part of postal receptacle (mail box) within 24" at the closest point to the edge of the road way. No part of the supporting structure shall block a ditch or culvert.
- R.** Knuckles or Dimples on a straight segment of roadway in development road systems are prohibited. Variances may be applied for through proper regulation.