

**COMMONWEALTH OF KENTUCKY
HARDIN COUNTY FISCAL COURT
ORDINANCE NO. 336, SERIES 2023**

**AN ORDINANCE CREATING A GUIDE FOR THE DESIGN AND CONSTRUCTION OF
COUNTY ROADWAYS**

WHEREAS, a county road is a public road that has been accepted by formal action of Hardin County Fiscal Court into the county road maintenance system;

WHEREAS, Hardin County has an interest in using limited public dollars dedicated to county roadway maintenance in the most efficient and responsible manner; and

WHEREAS, KRS 178.010 allows a county to establish its own minimum construction standards for acceptance of a roadway into the county road maintenance system.

NOW THEREFORE, BE IT ORDAINED by Hardin County Fiscal Court to adopt and set forth the following minimum requirements for construction of roadways adopted into the county road maintenance system (19 pages).

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§ 1 - INTRODUCTION

The purpose of this guide is to establish the minimum standards required for the design and construction of public roadways in Hardin County. These general provisions are intended to assist a private developer in the design and construction of subdivision roadways which will be dedicated (once properly constructed) to Hardin County Government for public use, repair, and maintenance. These provisions are to be a supplement to the Hardin County Planning Commission's "Subdivision Regulations, Design and Improvement Standards of Hardin County, Kentucky". Any inconsistencies in this guide and the Subdivision Regulations or any other prior Resolution touching upon this subject matter shall be resolved by following this guide.

§ 2 - DEFINITIONS

- (A) **Hardin County Fiscal Court:** The local Government Agency which shall be responsible for all current and future repair and maintenance of existing and newly developed county roadways.
- (B) **HCPD:** Hardin County Planning and Development. This includes the staff of Hardin County Planning & Development office and the Director of the Commission. HCPD is responsible for review and approval of subdivision plats to include the necessary preliminary plat, street design plans, drainage plans, and record plat. HCPD is also responsible for the development and enforcement of the Hardin County Comprehensive Plan, Zoning Ordinance, and Subdivision Regulations.
The HCPD office is located at the Hardin County Government Center, 150 North Provident Way, Suite 225, Elizabethtown, KY 42701. The phone number is (270) 769-5479.
- (C) **HCRD:** The Hardin County Road Department. This includes the Supervisor or other designated representative of the Hardin County Fiscal Court. The HCRD shall be responsible for construction review and inspection of any proposed public roadway.
The HCRD is located at 501 Bacon Creek Road, Elizabethtown, KY 42701. The phone number is (270) 737-6046.

- (D) **HCE:** Hardin County Engineer. This is the Engineer employed by the Hardin County Fiscal Court. The HCE shall be responsible for the design review and construction review of any public roadway owned and maintained by the Hardin County Fiscal Court. When the term "Engineer" or phrase "as approved by the Engineer" is used in the KYSS, it shall be construed to mean the HCE (authorized representative).

The HCE's office is located at the Hardin County Government Center, 150 North Provident Way, Elizabethtown, KY 42701. The phone number is (270) 765-2350.

- (E) **KYSS:** The Kentucky Standard Specifications for Road and Bridge Construction, is the standard specification book commonly used for all new, repair, and maintenance work for State Highways and bridges in Kentucky. The edition of the book to be utilized shall be that edition which is effective when the design/construction plans for a new proposed county roadway have been submitted to the HCPDC for approval. The KYSS shall be the minimum standard utilized for construction and inspection of Hardin County public roadways. Any developer who intends to utilize a different specification than the KYSS shall specifically identify the difference in the construction plans. Any inconsistencies in this guide and the KYSS shall be resolved by following this guide.

§ 3 - PROCEDURES

All developers/contractors who propose to construct a new road or extend an existing road, and of which that developer intends to dedicate ownership of that road to the Hardin County Fiscal Court once constructed, shall accomplish the following:

- a. Comply with all zoning regulations required by the Hardin County Planning and Development Commission.
- b. Comply with "Subdivision Regulations, Design and Improvement Standards of Hardin County, Kentucky" developed by the Planning Commission.
- c. Submit "Street and Drainage Plans" (after the "Preliminary Plat" submittal and approval by the Planning Commission) to HCPDC who will be the gatekeeper for all reviews, modifications, and final approvals. The plans will be forwarded to the HCE who will review along with collaboration from the HCRD. No construction of a proposed public roadway shall begin until the HCE has reviewed and approved these plans.
- d. Review the site with the HCE - Be prepared to discuss locations of borrow material, cut/fill specifications, sample locations and number of proctors (to be used for Soil densities), cross drain culverts, easements, and right of ways.
- e. Revise initial construction plans to comply with the HCE comments and concerns. Re-submit the final for final approval by the HCE.
- f. Once the construction plans have been approved by the HCE, construction may begin (provided the preliminary plat and other requirements of the Planning Commission have also been complied with).

NOTE: Any construction activities which begin prior to construction plan review and approval shall be at the owner's own risk.

§ 4 - ROADWAY DESIGN, DEVELOPMENT AND CONSTRUCTION

A. Construction Plans

All newly developed roadways, either in subdivisions or extensions of existing roads which are intended to be dedicated to the county later, shall be required to have construction plans. These construction plans shall be submitted to, reviewed by, and approved by the HCPDC, HCRD, and HCE prior to construction.

These plans shall include the following detail to properly inform the HCE and HCRD of all fills, cuts, ditches, culverts, bridges, preliminary lot layout, and any other information necessary which may be required for a county-maintained roadway:

1. Roads shall be designed and constructed in accordance with this document and the "Subdivision Regulations, Design and Improvement Standards."
2. The minimum requirements for construction plans shall be:
 - a. Plan, profile, curve data, etc. of the roadway showing roadway cuts, fills, alignment, and road grades
 - b. Existing contour lines at minimum of two feet. Contour lines shall be of sufficient detail to depict all hills, creeks, sink holes, ponds, and other features which might impact roadway construction
 - c. Typical roadway cross-section showing pavement structure, width, and side drainage ditches
 - d. Roadway location with respect to subdivision lot layouts, adjacent property owners, connecting roads (names), next phases (proposed), etc.
 - e. Cross drain culverts - including size, lengths and location, and material (including head walls). Culverts shall be sized for a 10-year storm event and certified by a Professional Engineer. The 100-year storm event shall not overtop the county road and designed to be 1'-0" below the roadway elevation. Show all retention/detention structures if required.

- f. Roadway side ditches and proposed driveway culverts
- g. Roadway "right of way" to be dedicated to the county
- h. Drainage and utility easement-20' dedicated easement to be located outside the right-of-way on private property.
- i. Construction or maintenance easements if needed
- j. All plans shall be prepared, sealed, and signed by a Licensed Professional Engineer of Kentucky who routinely prepares such design, assuring that all features such as culverts, bridges, and any other structures are properly designed to carry intended loads.
- k. All waivers to the above requirements shall be specifically noted or requested.

B. Specifications

All materials and procedures utilized in the design and construction of a new county roadway shall comply with the appropriate section in the KYSS such as concrete, asphalt, dense graded aggregate, pipe materials, etc. This includes the submittal of Asphalt Mix Designs, Asphalt Test Results, and other Material Specification Data Sheets as required by the HCE. Typical details such as culvert headwalls, shall be as specified in the Standard Drawings Manual developed by the Kentucky Department of Highways. Reference to this manual shall be made when designing such structures. Any waivers to this manual shall be noted.

C. Roadway Construction (to subgrade)

All roadway fills and cuts shall be shown on the plans. In areas that require embankments to be constructed, the developer shall understand they will be required to

comply with SECTION 206 - Embankment of the KYSS. Soil Proctors (target densities) shall be required as determined in the construction plan review. The number of proctors shall be one proctor per soil type within the roadway obtained at the proposed development site. Proctors will involve soil samples to be collected and sent off to an acceptable laboratory to determine the target densities and acceptable moisture contents for the soil to be used in the embankment construction. Field densities shall be obtained at 100-foot centers checked by using Nuclear Density Meters operated by an approved third-party inspection company. These field densities shall be the responsibility of the developer/contractor when required by the HCE.

Density reports shall be routinely provided to the HCE during construction.

Material which fails the field density check will be required to be excavated, refilled, and compacted with suitable material in accordance with the KYSS.

The minimum in place dry density of subgrade soils utilized for subgrade construction shall be as described in Section 20 of the KYSS. Specifically, all subgrade construction shall obtain 95% of the maximum density (based on the proctor) or 98 pounds per cubic foot (whichever is greater).

A proof-roll shall be conducted of the subgrade prior to placement of DGA. The proof-roll shall be conducted by the contractor who shall provide a fully loaded dump truck. This process will be monitored by the HDRD and HCE. If unstable areas are discovered during the proof-roll test, then stabilize the area by removing 4 to 8 inches of the unstable material and replacing it with No. 2 stone. No. 2 stone shall be separated from the subgrade by filter fabric. Stabilization is required when the soil subgrade pumps during the proof roll

test. A CBR less than 4 does not automatically mean the subgrade is unstable.

D. Roadway Construction (Pavement Structure)

The minimum pavement structure for public roadways in Hardin County shall be constructed to comply with the following minimum standards for the specified street classification. Alternate pavement designs may be submitted to the Hardin County Engineer for approval by a Kentucky Licensed Professional Engineer with an accompanying geotechnical report. Alternate designs shall be in accordance with the current edition of the KYTC's Pavement Design Guide and Standards Specifications.

Use of concrete roads or any other variance from this minimum standard shall be prepared and submitted by a Licensed Professional Engineer for approval to the HCE.

Non-residential includes both commercial and industrial applications.

Street Classification

Minimum Pavement Section (Compacted)

Residential

4" #2 stone, 5" DGA, 3" Asph Base, 1.5' Surface

Non-Residential

6" #2 stone, 6" DGA, 6" Asph Base, 1.5" Surface

1. Dense Graded Aggregate (DGA): The DGA to be used shall comply with the KYSS in that the DGA shall be run through a pugmill and water added to achieve a moisture content of plus or minus 2% of optimum. The DGA may be placed in one lift no thicker than 6 inches compacted. The DGA shall be spread with a stone spreader capable of obtaining a uniform depth. A waiver may be requested to use Global Positioning System (GPS) on a grader or dozer for placement of the initial DGA lift (no greater than 6.75 inches) if tailgated with one pass at appropriate depths in which the DGA can be graded in no more than 3

passes not to segregate the DGA. At no time shall the DGA be installed greater than 6.75 inch depth. The contractor shall be responsible for testing compaction which shall comply with the KYSS.

Subsurface drain (rock trenches) bleeders shall be constructed/cut/installed with a #57 stone at approximately 100-foot centers alternating each side (bleeder every 50 feet) along the roadway's edges to drain any subsurface water from the DGA to ditch-lines when the roadway shoulders are constructed of clay material.

A proof-roll shall be conducted of the DGA prior to placement of the asphalt to ensure proper compaction of the DGA. If there is inclement weather or excessive delay between DGA and asphalt placement, an additional proof-roll shall be required. The proof-roll shall be conducted by the contractor who shall provide a fully loaded dump truck. This operation will be monitored by the HDRD and HCE. Any areas that fail the proof-roll shall be excavated and repaired prior to placement of asphalt.

2. Asphalt Bituminous Base Course: The contractor shall submit mix designs for the appropriate mix type to the HCE for approval prior to placement. The Asphalt Base Mixture shall meet the current KYSS for gradation, asphalt content, and all other volumetric properties. The control and acceptance of asphalt mixtures during construction shall be documented on the KYTC approved Asphalt Mixtures Acceptance Workbook (AMAW) and submitted to the HCE after each Lot is completed in accordance with Section 402 of the KYSS. The Asphalt base shall be placed and compacted in accordance with Section 403 of the KYSS. The initial compaction pass shall be with a static roller and at least two more passes of a roller in the vibratory mode, or as specified by the KYSS Section 403.03.10

"Compaction". Finish rolling shall be accomplished with a static roller.

3. Asphalt Tack Coat: Asphalt tack coat shall be applied to any asphalt base course prior to surface placement. The tack coat shall comply with and be applied as specified in Section 406 of the KYSS.

4. Asphalt Bituminous Surface Course: This section includes requirements that are applicable to all types of asphalt surface, regardless of new construction or resurfacing of an existing roadway. The surface course shall be placed and compacted as required by Section 403 of the KYSS.

The contractor shall submit mix designs for the appropriate mix type to the HCE for approval prior to placement. The Asphalt Surface Mixture shall meet the current KYSS for gradation, asphalt content, and all other volumetric properties. The control and acceptance of asphalt mixtures during construction shall be documented on the KYTC approved AMAW and submitted to the HCE after each Lot is completed in accordance with Section 402 of the KYSS. The Asphalt Surface shall be placed and compacted in accordance with Section 403 of the KYSS.

Refer to the Subdivision Regulations for pavement typical sections, including right-of-way widths. No DGA shoulders will be required unless determined necessary by the HCE. Any variance to this section shall be shown on the construction plans.

5. Verification Testing: The HCE reserves the right to perform verification testing of all asphalt materials used on a project. This includes visually monitoring of the contractors testing procedures or performing side-by-side verification tests at the contractor's laboratory.

E. Slopes / Ditches / Culverts

1. Slopes: The grades of the proposed roadway shall be specifically shown on the profile sheet. Roadway side slopes (embankment fill areas, including over culverts) shall be a maximum (steepest) of a three (3) to one (1) vertical - 3:1.

2. Ditches: Parallel roadway ditches shall typically be a "V" type ditch with a 3:1 side slope designed to a depth to properly channel surface drainage away from the pavement structure. Typical ditches shall be shown on the plan and profile sheets.

When the roadway grade is greater than a 5 percent grade, side ditches may require rip rap, or other reinforcement mat, lined two feet up each side slope. Ditches, at minimum, shall be at a 1% slope to provide sufficient drainage. Ditches shall be minimum of six (6) inches below the bottom of the pavement stone base layer to allow the subgrade drainage system to function properly.

All other ditches shall be seeded and straw added with a seed Mixture I, of Section 212 of the KYSS. Any variance of this mixture shall be identified in the construction plans.

The rates of application shall be as detailed in Section 212.

All disturbed right of way areas shall be seeded at a rate of eighty (80) pounds per acre. Within 48 hours of seeding, the area shall be mulched with straw at rates required by the KYSS Section 212.

3. Culverts:

- a) Culverts shall be sized to carry the flow rates expected for a 10-year storm event. In the design, the HW/D ratio shall be as close to 1.0 as is practical. However it shall not exceed 1.5, or overtop the road, or cause unnecessary

ponding. A 100-year storm event should not reach an elevation of one (1) foot below the roadway surface to prevent overtopping during extreme storm events.

- b) Culvert material shall be, as a minimum, aluminized corrugated metal pipe (ACMP), 16-gauge thickness complying with ASTM A819 and AASHTO M 274 and the KYSS. Alternative pipe material may be utilized provided the Owner/Developer specifically identifies and requests a variance on the construction plans. All materials to be used shall comply with the KYSS.
- c) Cross drain round culverts twenty-four (24") inches or larger shall require concrete headwalls. All concrete box culverts require headwalls. The culvert length shall be what is necessary for the 3:1 embankment slope to toe out at the culvert flow-line. Rip Rap (shot limestone rock) shall be required at culvert inlets/outlets. The minimum size for a roadway cross drain culvert shall be eighteen (18") inches.

All culverts (box or pipe), and utility structures (pipelines) with the pavement structure area, shall be constructed and properly backfilled in accordance with Section 701 of KYSS.

Refer to the Hardin County Stormwater Manual for more detailed information regarding various drainage requirements.

4. Culverts for Entrances to Public Roadways:

Any person(s) requesting to create a new entrance or modify an existing entrance off a County Road shall obtain an "Encroachment Permit" from the HCRD in accordance

with the Hardin County Ordinance No. 317, Series 2018 (Relating to County Road Entrances and Driveway Permits in Hardin County). Sight distance, culvert pipe size/length, etc. shall be determined by the HCRD during the Encroachment Permit review/application process.

a) New Entrance:

A property owner requesting a New Entrance shall obtain an encroachment permit from the HCRD in accordance with Hardin County Fiscal Court Resolution No. 2016-133. The HCRD shall install a culvert pipe and one load of gravel for the new entrance within the County right of way. The pipe must meet the minimum requirements and be purchased by the owner. The owner may desire to obtain the permit and install the pipe and rock with their own forces. All entrances with county or property owner installed pipes will be inspected before asphalt or concrete are in place. Developers, contractors, and property owners must notify the HCRD prior to road or driveway resurfacing.

b) Existing Entrance:

Existing driveway entrance culverts and any headwalls are the complete responsibility of the property owner. If the culvert has collapsed or is structurally compromised, it is the responsibility of the property owner to repair or replace the culvert. For those property owners who experience a failure, the HCRD will replace the existing culvert at the owner's expense, excluding rock. The property owner is responsible for supplying the culvert and any final pavement surfacing. Any headwalls that are collapsed or deteriorated are the sole responsibility of the owner to repair or replace.

If the property owner fails to maintain their driveway entrance culvert after being notified that it has failed, the HCRD will make the necessary repairs or replacement of the culvert to restore proper drainage and will seek payment for ALL costs from the property owner.

Should the HCRD be involved in a project that may require the existing culvert be replaced, such as to improve flow or reduce flooding, the cost of materials will be paid by Hardin County.

When the existing driveway is paved (concrete or asphalt) and the culvert needs replacement, the County shall saw cut the existing drive and replace the culvert pipe. The County will only replace the paved portion of the drive which was removed during culvert replacement with like-kind materials. Stamping, dye, or other specialized finishes shall NOT be completed by the County.

A Property Owner requesting an existing driveway entrance be modified (widened, raised, etc.) shall pay to the HCRD the cost of all materials required to properly complete the work. The cost of the materials shall be the current prices being paid by the HCRD for culvert pipes and rock material. Payment for materials shall be made during the "Encroachment Permit" application process. The HCRD shall install the culvert pipe and provide gravel for the modified entrance within county right of way (only). The HCRD shall not provide/install concrete or asphalt pavement for the modified driveway extension.

c) Maintenance of Private Driveways:

Maintenance of all private driveways (adding gravel, repairing or replacing

deteriorated concrete/asphalt drives, etc.) shall be the responsibility of the private property owner.

F. Right of Ways

Right of Ways to be dedicated to the County shall be a minimum width identified in the "Subdivision Regulations".

G. Easements

All utility, drainage, construction, and/or maintenance easements shall be shown on the construction plans. Typically, no utility easements shall be in the right of way unless specifically requested and identified on the plans. All underground utilities which cross the roadway (i.e., electric lines) shall be specifically shown on the construction plans. All utilities which are to be installed in the County right of way shall have "Utility Identification Tape" installed during backfill of the utility trench. This identification tape shall be placed approximately 18 inches above the utility.

All utilities which are installed within the pavement structure area shall be properly backfilled with flowable fill concrete and compacted in accordance with Section 601.03.09 Section (C) of the KYSS.

H. Curb & Gutters/Sidewalks

Curbs, gutters, and sidewalks shall be installed when required by the Hardin County Planning Commission's Subdivision Regulations. Refer to the Subdivision Regulations for minimum sidewalk, curb, and gutter requirements. All sidewalks within public rights-of-way shall be ADA accessible. Refer to KYTC Standard Drawings for typical entrance details, sidewalk ramps, and detectable warnings requirements. Any variance from these standards

shall be identified in the construction plans.

Adequate surface drain structures (i.e., curb box inlets with clean out manholes) shall be installed along the curb and gutters (at all low points in roadways, or at sufficient intervals along relatively flat roadways as designed by the Engineer) to allow surface water drain off from the pavement structure. Catch basin clean out manhole spacing shall not exceed 150 feet.

The Design Engineer shall consider any subsurface drainage problems which could result from curb/gutter installation due to the site's soil/clay material and/or terrain. The requirement for subsurface drainage is a designer decision.

I. Complete Streets

Consider all users of the roadway during the planning phase of a project. Implementation may include a dedicated space for pedestrians and cyclists, such as bike lanes (or wide paved shoulders), sidewalks, crosswalks, median islands, accessible pedestrian signals, roadway reconfigurations, and roundabouts. Refer to KYTC's Complete Streets, Roads and Highways Manual.

J. Street Lighting

Street Lighting is not required according to the Subdivision Regulations.

K. Street signs

1. – General –

The 911 Department's Geographic Information System (GIS) Specialist shall be responsible to coordinate naming of all Public Roads and Private Roads in Hardin County. The GIS Specialist shall assure all names of streets have not been duplicated and proposed

names comply with general guidelines of the National Emergency Number Association (NENA) Standard Formats for 9-1-1 GIS Mapping and in accordance with Ordinance #294, Series 2013 (An Ordinance Relating to the Amendment of Address Standards for Street Naming, House Numbering and Street Signs).

The Director of Planning and Zoning shall coordinate/confer with the GIS Specialist regarding proper Street Names when any subdivision of land has created new Public Roads and/or new Private Roads.

The GIS Specialist shall also be responsible to assign all new addresses for new residences, new commercial facilities, new industrial facilities, and/or any entity requiring a street address.

Existing unnamed Private Roads shall be named/re-named in accordance with KRS 179.330, "Names of county roads – How changed and established – Erection of signs". Existing or improperly named public or county roads that require a new name for any reason shall be changed by the Hardin County Fiscal Court only after a public hearing, advertised in accordance with KRS 424.130, is held by the Hardin Fiscal Court. The purpose of this public hearing is to receive public input. This is an advisory meeting only and does not create a right to appeal any decision regarding the name of a road.

Once the naming of a proposed road/street has been accomplished per above, then the GIS Specialist shall provide GIS shape files/database files as requested to the appropriate agency (i.e., PVA, 911, Lincoln Trail ADD, KYTC).

2. - Public Road Street Signs -

For any new roadways, the initial cost for materials and installation of roadway

signage is to be provided by the project developer. Ongoing maintenance and replacement of Public Road Street Signs within the jurisdiction of the HCRD shall be the responsibility of the HCRD. All incorporated cities within Hardin County shall be responsible for their own street sign purchase/installation policy.

HCRD Public Street/Road Signs shall be GREEN background with WHITE letters. Signs may be installed on steel post at the discretion of the HCRD. Special decorative signage may be allowed upon request provided that the developer or HOA signs an agreement to repair or replace any damaged sign/post at no cost to Hardin County.

All sign colors shall be made of high intensity, high reflective material which shall comply with the Federal Highway Administrations' Manual of Uniform Traffic Control Devices (2009 edition or later) minimum sign "Retro-reflectivity Requirements."

3. - Private Road Street Signs -

Hardin County will not pay for the purchase or installation of private road street signs.

L. Stormwater Management & Drainage Plans

Stormwater management and drainage plans shall be submitted as required and in compliance with Hardin Fiscal Court Ordinances No. 272, Series 2010; No. 304, Series 2016; and No. 320, Series 2019.

§ 5 - Severability

The provisions of this Ordinance are intended to be severable. Therefore if any provision, section, sentence or part of a sentence or the application thereof to any person, licensee, class or group be held by a court of law to be unconstitutional or invalid for any reason, such holding shall not affect or impair the remainder of this Ordinance. It is the legislative intent to ordain and enact

each provision separately and independently of the rest.

§ 6 - Effective Date

This Ordinance shall become effective immediately upon Second Reading and final passage.

Given First Reading this 29 day of August, 2023.

Given Second Reading this 12 day of September, 2023.



Keith L. Taul
Hardin County Judge/Executive

Attest:

Prepared:



Brian D. Smith
Hardin County Clerk



Jennifer B. Oldham
Hardin County Attorney