

Chapter 151-8 Subdivision Design and Improvements

151-8.1 General

A. Applicability

The standards of this chapter shall apply to all subdivisions of land unless otherwise expressly exempted.

B. Technical Specifications and Design Criteria Manual

Standards and specifications for public improvements and technical subdivision design standards are addressed in the County's *Technical Specifications and Design Criteria Manual*. Compliance with the standards of the *Technical Specifications and Design Criteria Manual* shall be required on all publicly dedicated rights-of-way.

C. Exemptions

The standards of this chapter shall not apply to the following subdivisions:

1. A transaction between owners of adjoining unplatted property which involves only a change in the boundary between the land owned by such persons provided no additional tracts are created and such tracts comply with the lot size and setback standards of the underlying zoning district.
2. Property which is created by adjoining unplatted tracts which involves the combination of contiguous parcels of land into one larger parcel.
3. The conveyance of land for street or railroad right-of-way, utility or drainage easements, or other public utility purposes subject to local, state, or federal regulations, and where no new street or access easements are created.
4. The conveyance of land for public recreation, trails or similar easements and public purposes.
5. The division of land into tracts 20 acres or larger in area on or before June 13, 1994 and in compliance with the subdivision regulations in force at that time.
6. The division of land into tracts 40 acres or larger in area after June 13, 1994 and in compliance with the County Subdivision Regulations in force at that time.
7. The division of land into tracts 40 acres or larger in area after the date of adoption of this chapter, provided such tracts have at least 100 total feet of frontage along a state or county maintained roadway, and access to the tracts and any remnant parcels comply with state minimum sight distance requirements.
8. The division of land into cemetery plots, provided that such division complies with RSMo 214.

(Commentary: The exemption for cemetery plots exempts those creating individual subdivision plots from the subdivision process. It does not exempt those creating a cemetery.)
9. The division of land by any court action pursuant to the law of eminent domain.
10. A division of property through the probate of an estate, or by order or judgment of a court of law of competent jurisdiction of the State of Missouri.

151-8.2 Layout and Design Generally

A. Compliance with Plans and Regulations

The design of subdivisions shall be consistent with:

1. The *Comprehensive Plan* and all other adopted plans and policies of the County Commission; and
2. The requirements of the zoning district in which the property is located and all other applicable standards of this Land Development Code.

B. Traffic Movement and Pedestrian Circulation

1. The design of subdivisions should create an integrated system of lots, streets, trails, and infrastructure that provides for efficient movement of people, bicycles, and automobiles within the subdivision and to and from adjacent development.
2. All subdivisions should provide for the efficient movement of through traffic by providing a completely interconnected hierarchy of streets in order to avoid isolation of residential areas and over-reliance on arterial streets.
3. Subdivisions should be designed to provide safe and attractive pedestrian routes to nearby commercial centers, employment, recreation, and other uses.
4. Street layouts should be uncomplicated, so that emergency services, public services, and visitors can find their way to their destinations.
5. The proliferation of individual driveways on state and county roads shall be avoided. A tract of land which must provide a 60 foot wide shared ingress/egress easement for driveway access for a maximum of four (4) of at least 20 acre lots will be allowed. The homeowners are responsible for all maintenance of driveway easements. Specific address signage may be required.
6. Residential subdivisions involving 5 or more lots should be served by internal street systems rather than relying on the state and county roads for direct access to all lots, unless exempted by the Clay County Highway Department or the state regulating authority. If the decision-making body allows direct residential driveway access to state or county roads, the decision-making body shall be authorized to require shared access drives and other mitigation measures to reduce the number of access points on to state and county roads and thereby promote public safety and efficient movement of traffic.

C. Streetscape Appearance

1. Lot and street designs should be designed to avoid extended distances of back yard frontage on arterial streets, and where that cannot be avoided, buffering of back yards from those streets should be landscaped with buffers and fences.
2. Edges of subdivisions should include adequate landscaping and buffering to improve the image of the area, and to protect future residents of the subdivision and adjacent developments from adverse impacts caused by significant differences in use, development intensity, or development height.
3. Lots and streets should not be designed to require significant numbers of adjacent dwelling units with front-loaded garages that dominate the streetscape.

D. Open Spaces

1. Open spaces should be integrated into and throughout the subdivision, should be connected with each other and with open spaces in adjacent development, and should include trails that connect to pedestrian routes in the subdivision and to regional trail systems.
2. Open spaces anticipated for use as active or developed parks should be located on relatively flat, well-drained terrain.
3. Open spaces not anticipated for use as active or developed parks should be located on prominent high points with significant views, or along significant and interesting geological features or wooded areas, or along significant drainages.
4. Open spaces that are anticipated to serve as trail corridors should be continuous with anticipated trail corridors on adjacent properties.
5. Subdivisions should be designed and laid out in a manner that creates the least damage to the natural environment, avoids to the maximum extent feasible, significant natural resources such as prime agricultural lands, wooded areas and wetlands.

E. Specifications and Standards Generally

1. All public improvements shall be constructed in compliance with the standards and specifications established by this chapter, the County Code and adopted regulations, including all design standards and requirements set forth in the *Technical Specifications and Design Criteria Manual*. (Adopted: November 8, 1999).
2. No subdivider shall be relieved of the duty to construct public improvements for the subdivision until all public improvements are constructed, approved and accepted by the county. This may be accomplished by an irrevocable letter of credit, cash escrow, performance bond, or other financial improvement guarantee acceptable to the County.

151-8.3 Required Infrastructure and Improvements

Infrastructure and subdivision improvements shall be required in accordance with the following table:

Zoning District	Streets / Roads	Water	Fire Protection	Wastewater Systems	Sidewalks
	See 151-8.7-151-8.8	See 151-8.9	See 151-8.9	See 151-8.10	See 151-8.6
AG	Asphalt, curb and gutter [2] and perimeter road improvements [3]	Municipal, PWSD or well [1]	Hydrants required unless exempted pursuant to 151-8.9-B	Central (gravity) system, package plant or septic [1]	One side only [4] [5]
R-1		Municipal or PWSD [1]		Central (gravity) system or package plant [1]	One side only [4][5]
R-1A			Hydrants required unless exempted pursuant to 151-8.9-B	Central (gravity) system or package plant [1]	One side only [4][5]
R-1B				Central (gravity) system or package plant [1]	Both sides [4]
R-2				Central (gravity) system or package plant [1]	Required
R-3				Central (gravity) system or package plant [1]	Required
R-MHP		Central (gravity) system or package plant [1]	Required [5]		
C-1	Asphalt, curb and gutter [2] and perimeter road improvements [3]	Municipal or PWSD [1]	Hydrants required unless exempted pursuant to 151-8.9-B	Central (gravity) system, package plant or septic [1]	Not required in Rural or Low Density Development Zone. Required in Urban Density Dev't Zone [5]
C-2	Asphalt, curb and gutter [2] and perimeter road improvements [3]	Municipal or PWSD [1]	Hydrants required unless exempted pursuant to 151-8.9-B	Central (gravity) system, package plant or septic [1]	Required [5]
C-3					Not required in Rural or Low Density Development Zone. Required in Urban Density Dev't Zone [5]
I-1					
I-2					
PUD					Infrastructure/improvements as required by decision-making body as part of PUD approval (151-3.8)

[1] As approved/required by decision-making body.

[2] See Street Design Requirements (Sec. 151-8.7-L). Ditch sections may be approved in AG and R-1 zoning districts.

[3] See Section 151-9

[4] Decision-making bodies shall be authorized to require trails/trail easements as necessary to implement the *Comprehensive Plan*.

[5] Sidewalks not required if lots within subdivision average 1.5 acres or more in area.

151-8.4 Lots

A. Width to Depth Ratio

The width to depth ratio of any lot shall not exceed 1 to 4 (width to depth).

B. Lot Area

Minimum lot area shall be subject to the underlying zoning district in which the subdivision is located, unless modified by Conservation District or Planned Unit Development.

C. Land Remnants

Remnants of land containing less area than prescribed by the underlying zoning district regulations shall not be permitted unless designated and accepted for utility or public purposes.

D. Side Lot Lines

All side lot lines shall bear between 60 and 90 degrees from the street right-of-way line on a straight street, or from the tangent of a curved street.

E. Setbacks

Front building or setback lines shall be shown on the final plat for all lots in the subdivision and shall not be less than the setbacks required by the underlying zoning district or any other regulations adopted by the County Commission.

F. Double Frontage

Double frontage lots shall be avoided except along arterial streets unless, in the opinion of the decision-making body, a variation to this rule will give better street alignment and lot arrangement.

G. Street Access

Every lot should abut on and have access to a public street other than an alley, provided that the decision-making body may approve lots with access to private streets when included as part of a Conservation District or Planned Unit Development.

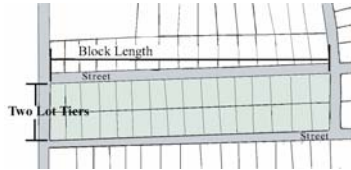
H. Existing Structures

The subdivision or re-subdivision of a tract or lot shall not be permitted where the subdivision or re-subdivision causes an existing permanent structure to violate the standards of this Land Development Code.

151-8.5 Blocks

A. Width

Blocks must have sufficient width to provide for 2 tiers of lots, except where single tier lots are required to separate residential development from through vehicular traffic, to separate lots from another type of incompatible use, to allow for unusual topographic conditions or when adjacent to the outer perimeter of the subdivision.



B. Length

Block lengths shall not exceed 1,320 feet, and when blocks longer than 800 feet are proposed, pedestrian crossings may be required near the center of the block.

151-8.6 Pedestrian Circulation (Sidewalk and Trails)

Where required (See Sec. 151-8.3), sidewalks shall meet the following standards.

A. Location

Sidewalks shall be constructed in the road right-of-way within 1 foot from the property line. Sidewalks shall also be installed in any pedestrian easements as may be required by the decision-making body.

B. Paving Width and Depth

Sidewalks shall be constructed in accordance with the *Technical Specifications and Design Criteria Manual*, unless different design criteria are approved by the County Commission (e.g. trails instead of sidewalks).

C. Responsibility for Installation

Construction of sidewalks along streets shall be the responsibility of the builder on each lot adjacent to the street. Sidewalks in common open spaces, greenways or parks shall be the responsibility of the subdivider.

D. Maintenance

The maintenance of sidewalks shall be the responsibility of the adjacent property owner or homeowners association and shall not be the responsibility of the County.

E. Sidewalk Exemptions

1. Sidewalks are not required in subdivision where the average of all lot sizes are 1.5 acres or more.
2. Sidewalks are required on only one side of the street in AG, R-1, and R-1A.
3. Sidewalks are required on both sides of the street in an R-1B zone.
4. Pedestrian trails, particularly where they connect to the Northland Trails System or the Clay County Master Parks Plan, may be substituted for sidewalks.

151-8.7 Vehicular Circulation (Streets and Bridges)

All new public street and bridge construction shall comply with all applicable state and county requirements. It is furthermore intended that all streets be dedicated, along with required rights-of-way, to the county. The standards of this section shall apply to any street or bridge regardless of location in a Rural Density, Low Density or Urban Density Development Zone, unless otherwise expressly stated. In the Urban Density Development Zone, compliance with more restrictive standards of the nearest municipality may be required if such property lies within the Stated Annexation Intent Area of the subject municipality.

A. Street Curvature

On streets with reverse curves, a reasonable tangent shall be provided between curves to permit a smooth flow of traffic.

B. Street Layout

Proposed streets shall conform to topography as nearly as possible to reduce drainage problems and grades. Intersections shall be designed with a flat grade. Except in unusual circumstances (as determined by the County Highway Administrator), in hilly or rolling areas, at the approach to an intersection, a leveling area shall be provided having not greater than 2 percent rate for a distance of 60 feet, measured from the nearest right-of-way line of the intersecting street. Where any street intersection will involve earth banks or existing vegetation inside any lot corner that would create a traffic hazard by limiting visibility, the developer shall cut such ground, and/or vegetation (including trees) in connection with the grading of the public right-of-way to the extent deemed necessary to provide an adequate sight distance within the right-of-way. Sight triangles shall conform to the requirements of Sec. 151-10.4. The cross-slopes on all streets, including intersections, shall be 3 percent or less.

C. Arterial Street Intersections

The number of intersections and private vehicular access points (curb cuts) along arterial streets shall be held to a minimum. Unless otherwise expressly approved by the decision-making body, the distance between intersections shall not be less than 1,200 feet.

D. Arterial Streets

Arterial streets through subdivisions shall conform to the major street plan of the *Comprehensive Plan*.

E. Collector Streets

Unless otherwise expressly approved by the decision-making body, collector streets (as designated in the *Comprehensive Plan*) on either side of an arterial street shall be offset by at least 600 feet (measured centerline to centerline).

F. Alleys

Alleys may be required in commercial, industrial, and residential areas. Dead-end alleys shall be avoided wherever possible, but if unavoidable, such alleys shall be provided with adequate turnaround facilities at the dead-end.

G. Cul-de-sacs

An adequate turnaround of not less than 120-foot diameter right-of-way shall be provided at the closed end of a dead-end local street longer than one lot in length. If such cul-de-sac does not have a curb and gutter (“temporary”), the turnaround right-of-way shall not be less than a 100-foot diameter. The maximum length of a cul-de-sac street shall be as follows:

Maximum Length*	Temporary	Permanent
Rural Density Development Zone	1,600 feet	1,620 feet
Low Density Development Zone	1,600 feet	1,620 feet
Urban Density Development Zone	1,000 feet [1]	1,000 feet [1]

[1] Or more restrictive standard of the nearest municipality or fire district.
 * Length shall be measured from the centerline of an intersection of a cross street to the center of the cul-de-sac.

H. Offset

Local streets shall be at least 150 feet apart (measured centerline to centerline).

I. Right-Angle Intersections

Under normal conditions, streets shall be laid out to intersect, as nearly as possible, at right angles. Where topography or other conditions justify a variation from the right-angle intersection, the minimum angle shall be 60 degrees.

J. Required Street (Right of Way) Dedications

With the platting of any property, right of way shall be dedicated to provide the proper width for the street type as shown in Section 151-8.7L Street Design Requirements. Any such dedication of right of way shall not create a lot area less than the minimum lot area of the applicable zoning classification.

K. Streets Adjacent to a Railroad, Freeway, Principal Highway or Arterial Street

Where lots front or side, but do not back on railroad right-of-way, limited access freeways, or principal highways or arterial streets, the decision-making body may require a marginal access street or frontage road adjacent to the boundary of such right-of-way in order to ensure traffic safety and maintain adopted levels of service on the adjacent street. The distance from said right-of-way shall be determined based on a consideration of minimum distance requirements for approach connections to future grade-separated intersections.

L. Street Design Requirements

Unless otherwise specified herein, the minimum design criteria, construction methods and material specifications for public improvements required by the chapter shall conform to the current standards adopted by the Kansas City Metropolitan Chapter of the American Public Works Association, for Streets. Any specification as to procedure, equipment, or materials not covered in the street specifications and standards APWA, and subsequent amendments and/or revisions thereto, or the Clay County Highway Department's special instructions, shall be subject to the current specifications of the Missouri Department of Transportation (MoDOT) Standards for Highway Construction and subsequent amendments and/or revisions thereto, for all Clay County roads in the unincorporated area. The right-of-way, grades and widths for proposed or existing abutting streets and alleys shall conform to the designation in the *Comprehensive Plan* and shall not be less than the minimum for each classification as follows:

Feature	Street Types					
	Major Arterial	Minor Arterial	Collector	Local Rural/Low	Local Urban (Res)	Local (Comm/Ind)
Minimum Right-of- Way Width (ft) [1]	120	100	80	60	50	70
Pavement Width	44+	32+	32+	24	24	32
Degree of Curvature	12.5	12.5	23	28	28	23
Curb Radii	30	30	25	25	25	30
Curbing	CG-2	CG-2	CG-2	CG-2	CG-2	CG-2
Number of Lanes	2-4	2-4	2-3	2-3	2	2-3
Pavement Section	[2]	[2]	[3]	[3]	[4]	[3]

- [1] When existing or anticipated traffic on arterial and collector streets warrants greater widths of right-of-way, the additional width shall be dedicated.
- [2] To be constructed to specifications of APWA Standard Drawing ST-3, Type B or C design.
- [3] To be constructed to specifications of APWA Standard Drawing ST-2, Type B or C design.
- [4] To be constructed to specifications of APWA Standard Drawing ST-1, Type E or F design. The absolute minimum gradient on a street shall be 0.25 percent and a minimum gradient shall be 1.0 percent wherever practical.

M. Low Impact Development Design

Low Impact Development (LID) design standards may be substituted for standard street design, curb and gutter requirements used within Conservation Districts and Planned Unit Developments with the approval of the Highway Department, Planning and Zoning Commission and County Commission, and provided they are maintained by the homeowner association for the subdivision.

LID design standards may include, but are not limited to: engineered vegetative swales, individual lot rain gardens, lot layout adjustments to preserve natural drainage ways, open space, wetlands, lakes, upland prairie plantings, minimizing impervious surfaces, maximizing green space and other stormwater management tools which slow, reduce and filter stormwater runoff to mimic per-existing hydrologic conditions and protect water quality.

Developments using Conservation District or Low Impact Development design may reduce the street width from 60 feet to 50 feet.

151-8.8 Construction Standards for Vehicular Circulation (Streets and Bridges)

The subdivider shall install, construct, or provide for the construction of the improvements required by this chapter and in conjunction with all laws, restrictions, and codes established by this chapter, the Statutes of the State of Missouri, and all other applicable regulations. All required improvements shall conform to the specifications of this chapter and compliance therewith shall be confirmed by the County Highway Department prior to release of the surety by the County Commission.

A. Assignment of Responsibilities to the Subdivider

The dedication of right-of-way and the construction of improvements for new interior roads shall be at the expense of the subdivider. All right-of-way dedication and road construction shall be in conformance with the provisions of this chapter, and other pertinent codes of Clay County.

B. Location of Street Paving

All street paving shall be located in the center of the right-of-way.

C. Construction Plans

No grading or other construction shall take place within a street right-of-way until construction plans have been examined and approved by the County Highway Administrator and all necessary permits have been obtained.

D. No Use Prior to Acceptance

No right-of-way may be used for vehicular access until the required improvements are accepted by the County Commission, in accordance with the provisions of this chapter.

E. Access to Adjoining Land Required

In instances where proposed development abuts undeveloped land on at least 2 sides, a minimum of 2 street accesses shall be provided to such undeveloped property. This requirement may be waived by the decision-making body in cases where a traffic study conducted by a licensed engineer determines that 1 or more such accesses are impractical due to topography, water courses, or traffic.

F. Connecting Streets Required

Streets in the proposed developments shall connect with existing streets that abut the proposed development.

G. Street Trees

Street trees may be planted by the subdivider on all streets in the subdivision. Such trees, if provided, shall be planted on private property and located at least 5 feet back from the right-of-way line.

H. Street Names

Street names shall conform to the County's 911 Emergency Response standards. Streets that are obviously in alignment with other already existing and named streets shall bear the names of the existing streets in accordance with the County's master street name plan and adopted policies. Street names may be changed by the County Commission after a duly advertised public hearing held to discuss such name change. At least 15 days prior to such hearing, notice of such proposed change shall be published in the official county newspaper and the local newspaper in the area where the change is proposed. After a street name change, notification shall be made to the 911 coordinator, County Assessor, telephone company, post office(s), and other public and quasi-public agencies requiring such information.

I. Required Improvements or Maintenance to Existing Roadways

The improvement or maintenance of existing roads shall be undertaken in accordance with the requirements of this Land Development Code. Such regulations apply to all roadways abutting all new and expanded development.

J. Existing Subdivisions With Unimproved Internal Roadways

If an existing subdivision has an unimproved road or an improved road that has not been accepted into the County system or is not under an approved 2 year developer maintenance bond, then prior to issuing a building permit for any construction upon any lots within this subdivision, these roads shall be improved to the current County standards.

K. Bridge Standards

New or replacement bridge and concrete box culvert construction on all roads in the unincorporated area of Clay County shall be to the current specifications of MoDOT Standards for Highway Construction, using the Federal-Aid Highway Off-System Bridge Replacement and Rehabilitation Program specifications and subsequent amendments and/or revisions thereto. Minimum standards are:

1. H S-20 load design
2. Traffic lane deck width 12 feet per traffic lane
3. Equipped with safety guide rails
4. Designed to the 50 year flood level minimum in the Rural Density Development Zone, the 50 year flood level minimum in the Low Density Development Zone, and the 100 year flood level minimum in the Urban Density Development Zone, or as determined by the U.S. Army Corps of Engineers.

All new bridges and box culverts will meet these standards and minimums regardless of the source of funding.

L. Bridge Responsibilities

Bridges of primary benefit to the subdivider shall be constructed at the full expense of the subdivider without reimbursement from the County. The sharing expense for the construction of bridges not of primary benefit to the subdivider may be established by special agreement between the County Commission and the subdivider. Such costs shall be charged to the developer pro rata as the percentage of his land developed and so served. Determination of benefit to the subdivider shall be made at the time of preliminary plat between the subdivider and Highway Administrator. Final approval of benefit and any special agreements shall be made by the County Commission and recorded with the Recorder of Deeds Office.

M. Requirement of Final Platting

No roadway improvements shall be constructed nor shall any work preliminary thereto be done until such time as a final plat and the engineering drawings accompanying it shall have been approved and there shall have been compliance with all of the requirements relating to financial guarantee, as specified in these regulations.

N. Acceptance of Improvements

No roadway improvements shall be accepted into, or recommended for acceptance into the County Highway Road System until after the 2-year maintenance period by the contractor and/or developer has been successfully completed and approved by the County Highway Administrator. Ten days prior to the conclusion of the 2-year maintenance period by the contractor and/or developer, a written request shall be submitted to the County Highway Administrator for the streets, roads or subdivision improvements to be accepted into the County Road System. Upon receipt of this written request, the County Highway Administrator shall mail a standard form to the contractor and/or developer, to be signed and notarized by the contractor and/or developer, and returned promptly to the County Highway Administrator. Upon determination by the Highway Administrator that all street specifications and standards have been met by the contractor and/or developer, the Highway Administrator shall promptly recommend to the County Commission the acceptance of the particular streets, roads or subdivision improvements into the County road system.

151-8.9 Water Supply and Fire Protection

- A. Unless otherwise expressly exempted, all proposed development shall be connected to an approved water system that meets the following minimum requirements:

Improvement		Development Zone		
		Rural	Low	Urban
Minimum Line Size (diameter in inches)		6	6	8
Maximum Distance from Fire Hydrant to Structure (ft.)		2,400	1,200	600
Fire Flow (gallons per minute)	Building Separation >100 ft.		250	
	Building Separation 31-99 ft.		500	
	Building Separation 11-30 ft.		750	
	Building Separation <11 ft.		[1]	

[1] Fire flow for buildings closer than 11 feet shall comply with applicable fire safety codes.

B. Exemptions

Exemptions from the standards of Sec. 151-8.9-A may be approved only in the following 2 instances. As a condition of any approved exemption, the property owner shall sign a notarized statement that they will connect within 90 days to a public water supply district or other approved water source when service becomes available within 200 feet of the property. This agreement and connection requirement shall be noted on all Preliminary and Final plats.

1. Single dwelling units located on parcels with a minimum area of at least 10 acres in the Rural Density Development Zone and accessory farm buildings shall be exempt from the minimum standards of Sec. 151-8.9-A.
2. Decision-making bodies may approve subdivisions that do not comply with the standards of Sec. 151-8.9-A if both of the following conditions are met:
 - a. The applicable water supplier has reviewed the proposed development and stated in writing that it has budgeted improvements to provide water supplies consistent with the standards in Sec. 151-8.9-A within 2 years, or that there is no feasible way to meet the water supply standards within 5 years; and,
 - b. The decision-making body determines that the proposed development:
 - i. will be adequately served for normal water demands;
 - ii. will not reduce system water pressures or supplies so as to create a hazard to the public health or safety within other development served by the water system;
 - iii. will not pose a threat to life or property within or adjacent to the proposed development due to inadequate fire protection; and
 - iv. will not impede the logical extension of services to serve growth in the county in accordance with the *Comprehensive Plan*.

In acting on exemptions pursuant to the preceding paragraph, the decision making body shall give due consideration to any recommendation submitted by the applicable fire district. The fire district shall be authorized to recommend, and the decision-making body shall be authorized to approve alternative strategies for providing fire protection to the subject development.

C. Technical Specifications

All water supply systems shall be designed and constructed to meet APWA and AWWA standards or other standard adopted by the water supplier. Written authorization from the water supplier shall be required prior to approval of any system which does not meet these standards.

D. Off-Site Water Improvements

The developer of a parcel shall provide for on-site and off-site improvements required to adequately serve a proposed development, provided that the decision-making body may authorize development to proceed if the water provider certifies that the necessary capital improvements have been funded for construction within 18 months.

E. Approved Supply Required

In no event shall a certificate of occupancy be granted prior to connection to an approved water supply that meets all applicable state standards. The decision-making body shall be authorized to require that a licensed engineer, registered in the State of Missouri, certify that the water system serving the development will be adequate to meet all state requirements and the standards of this Land Development Code without adversely affecting service to existing dwelling units.

F. Water System Construction

Public water services, including rural water districts, shall be used whenever available. Lines shall be installed to form a closed service loop wherever possible.

G. Water Meters

Water meters shall be connected to every lot within a subdivision.

H. Well Water

Well water for residential or commercial use may be approved only under unusual circumstances, as determined by the Planning and Zoning Commission, Clay County Commission and approved by the MO Department of Natural Resources.

151-8.10 Wastewater Systems

It is the intent of the *Comprehensive Plan* to protect the natural environment of Clay County and provide for densities that would support common sanitary sewer systems either from existing municipalities, a regional sewer district, or private provider. The *Comprehensive Plan's* adopted growth strategy (Development Zones) is based largely on these goals. Provisions set forth herein shall govern the provision of sanitary sewer service in the county.

A. General Standards

Sanitary sewer disposal connections shall be required of all properties and uses in the County according to the following general standards:

1. Rural Density Development Zone

Sanitary sewer service may be provided by on-site disposal methods (septic systems) approved by the County Health Department with the exception that lots less than 10 acres in size in the Smithville Lake Drainage Basin should be connected to a central sanitary sewer system.

2. Low Density Development Zone

Sanitary sewer service may be provided by on-site disposal methods (septic systems) approved by the County Health Department with the exception that lots less than 10 acres in size in the Smithville Lake Drainage Basin should be connected to a central sanitary sewer system. Additionally, if any lot of the subdivision lies within 1,000 feet and within the same service basin of a central sanitary sewer system with capacity to serve the subdivision, then on-site disposal systems will be prohibited and connection to the central system will be required.

3. Urban Density Development Zone

Sanitary sewer service will be provided through use of, or connection to, a central sanitary sewer system except for residences on lots zoned AG, R-1, and R-1A unless such lots lie within 1,000 feet and within the same service basin of a central sanitary sewer system with capacity to serve the lots. In that case, on-site disposal systems will be prohibited and connection to the central system will be required.

B. Service and Ownership Requirement

The subdivider shall be required to install sanitary sewer facilities, or individual sewage disposal systems, designed in accordance with the rules, regulations and standards of the Missouri Clean Water Commission and the Missouri Department of Natural Resources. Installation of a central sanitary sewer system that is not connected to a municipal or other public authority treatment plant shall require the dedication of the treatment facility to a utility agency approved by the County Commission. This provision shall not be interpreted as allowing the County Commission to approve control of a treatment facility by a property owners' association.

C. Connection Requirement

Sewage from a building or premises shall be discharged directly into the community or county sewage system when the system is available within 200 feet (or other applicable requirement) from the building or premises measured along a street, alley, or easement to the encasement of the sewer system. Abandoned or disconnected septic tanks or pits shall be pumped out and filled with clean earth or sand, in accordance with State and County regulations.

D. Adjoining Properties Service Requirement

Where a development is proposed to have a central sanitary sewer system and is adjacent to an undeveloped tract of land, the proposed sanitary sewer system should be extended to the exterior boundary lines of the proposed development so as to provide for future connection to the adjacent tract of land.

E. Performance Standards for Smithville Lake

All wastewater which is released within the Smithville Lake Drainage Basin, as indicated in the adopted Clay County *Comprehensive Plan*, shall be treated so as to contain no more than 20 milligrams per liter of suspended solids or be rated higher than having a biological oxygen demand (B.O.D.) of 20 milligrams per liter at the point it is discharged immediately after treatment. All sewage system effluent discharge shall be disinfected in accordance with Clay County Health Department standards. The Clay County Health Department shall be responsible for determining whether proposed treatment facilities comply with the standards of this paragraph.

151-8.11 Other Utilities

A. Electrical and Communication Lines

All telephone, cable television, electrical service and distribution lines shall be placed underground, except that this provision shall not include meters, service pedestals, transformers, three phase feeder lines, subtransmission and transmission lines (34.5KV and above), electrical substations, and other such facilities as the utility may deem necessary to install utilizing overhead type construction.

B. Gas Meters

All gas meters must be located within 3 feet of the building foundation, and located within front yards in all subdivisions.

C. Water Towers

All private or public water towers will require a review and building permits from the Clay County Building Official.

D. Blasting Permits

Any entity desiring to use blasting materials in their construction process must notify the Planning and Zoning Department, Building Official, County Sheriff, and all residents located within 1,000 feet of the blasting area at least 24 hours in advance of the blasting.

151-8.12 Stormwater Management/Design Criteria

- A.** Stormwater management is a requirement of all development within Clay County. New development is required to be responsible for potential runoff onto and off of the property. All stormwater management within Clay County shall be designed in accordance with the requirements of this section. Other specific requirements are noted in the "Technical Specifications and Design Criteria Manual", "Drainage Easements" (Sec. 151-8.15) and "Stormwater Management" (Sec.151-11.2).
- B.** When required by the Planning and Zoning Commission, two copies of the final stormwater plan and approved preliminary plat shall be submitted to the Planning and Zoning Department for review by the County's engineer, or designee, and one copy with the approved preliminary plat to the Clay County Highway Department. Appropriate plan review and inspection fees will be paid at the time of submitting the plans.

C. Adoption of the KC-APWA Section 5600 by Reference

Division V-Design Criteria, Section 5600-Storm Drainage Systems and Facilities (Section 5600) of the Standard Specifications and Design Criteria, published by the Kansas City Metropolitan Chapter of the American Public Works Association (KC-APWA), is hereby adopted by reference as the Design Criteria for the County, except as amended. This adoption shall apply to the revision of Section 5600 adopted KC-APWA on February 15, 2006.

- D.** The following amendments to Section 5600 shall apply to stormwater management facilities within the County:
 - 1. Requirements as noted in the "Technical Specifications and Design Criteria Manual", "Drainage Easements" (Sec. 151-8.15) and "Stormwater Management" (Sec.151-11.2).
 - 2. The County Engineer may approve variances from specific requirements of the design criteria when the County Engineer deems it appropriate and justified by engineering standards.
 - 3. Should there be a conflict with the KC-APWA Section 5600 and "Technical Specifications and Design Criteria Manual" the County Engineer shall make a determination as to the most applicable requirement.
- E.** All construction improvements shall be guaranteed in the same manner as street improvements.

151-8.13 Dams and Water Impoundment Structures

A. New Dams

New dams and water impoundment structures shall comply with the standards of Sec. 151-11.1B.

B. Existing Dams

1. Within Minor Subdivisions

All dams and ponds within a minor subdivision (3 or fewer lots) must be inspected by the Clay County Soil and Conservation District (for lots 20 acres or more) or a registered engineer to insure stability.

2. Within Major Subdivisions

An engineering report shall be submitted to the county with the Preliminary Plat on all existing dams within a proposed major subdivision (4 or more lots). Any dam found to be structurally unsafe or inadequate to accommodate the proposed development shall be reconstructed, reinforced or removed in accordance with all applicable standards, including those of Sec. 151-11.1.

151-8.14 Street Signs and Traffic Markers

The subdivider shall install street signs and other traffic control devices at all intersections within the subdivision. Such signs shall meet the size and design standards established by the Missouri Department of Transportation or by the Clay County Highway Department

151-8.15 Easements

A. Utility Easements

Where alleys are not provided, permanent easements shall be provided of not less than 7 ½ feet in width on each side of all rear and side lot lines, for utility poles, wires, conduits, underground conductors, storm and sanitary sewers, gas, water and heat mains, and other public utilities and a maximum of 30 feet along all front lot lines. These easements shall provide for a continuous right-of-way. Where the utility company or agency has the need for a wider easement than required above for a specific location, this easement shall be shown on the plat. Permanent easements shall not be obstructed by structures, retaining walls, ponds or trees. A property owner may install fences and landscape over the easement with grass and shrubs at their own risk. Property owners shall be responsible for the maintenance on their property.

B. Drainage Easements

If a subdivision is traversed by a watercourse, drainage way or channel, the decision-making body shall be authorized to require the provision of drainage easements or no-build zones to protect such watercourses. Required easements and no-build zones shall be of such width or construction, or both, as may be necessary to provide adequate storm water drainage for a 100-year storm and for access for maintenance thereof. Parallel streets, parkways or recreational easements may be required in connection therewith. The subdivider shall have an engineer's study prepared for review as part of the plat process. The study shall address the required width of easements for each watercourse or drainage way. Such study shall be based on a 100-year storm, using build-out assumptions derived from the *Comprehensive Plan*. Wherever possible, drainage ways should remain open, unpaved and maintained so as not to become overgrown.

C. Landscape Easements

Landscape easements or buffer strips may be required by the Planning and Zoning Commission wherever the proposed subdivision contains or is adjacent to a railroad right-of-way or limited access highway, or where lots back onto a public street. When in residential districts, landscape easements should be at least 50 feet in depth, in addition to the normal required lot depth when provided adjacent to the railroad right-of-way or limited access

highway. Landscape easements shall be a part of the platted lots and shall have the following restriction letter on the face of the plat: "This strip reserved for the planting and maintenance of trees or shrubs by the owner; the building of structures hereon is prohibited".

D. Topographic Preservation Easements

If greenways or drainage ways influenced by topographical features such as streams or ponds, ravines, wooded areas or other natural features are to be provided within the proposed plat, their width and location shall be determined as may be necessary to preserve such features.

E. Stream Setback Easements

Any development adjacent to an existing stream shall be set back 75 feet from the center of the stream. (See Sec. 151-11.2C)

F. Trail Easements

See Chapter 151-8.17.

151-8.16 Monuments

Permanent surveyor monuments shall be placed at all lot and block corners, angle points, points of curves in streets, and at intermediate points as required prior to final acceptance by the County. Such permanent monuments shall be 3/4-inch iron bars with aluminum caps, at least 2 feet in length, and shall be set with top of the monument flush with existing grade. Such monuments shall be installed in accordance with minimum standards as established by the Missouri Department of Natural Resources.

151-8.17 Parks, Trail Dedications, and Construction Standards

In accordance with the intent of the Northland Trails Plan adopted on September 4, 2001 by the Clay County Planning and Zoning Commission, it is a requirement of subdivision of property in the County for residential and non-residential purposes in the County.

A. General Requirements

Whenever a proposed subdivision includes designated trail system locations, or is located adjacent to such designated trails, and shown on the approved Northland Trails Plan, the dedication of such land or an appropriate easement over such land shall be required as a condition of plat approval, unless otherwise waived as provided herein. Such dedication or easement shall be consistent with the standards of the Northland Trails Plan and as established within this Ordinance, and shall be granted by the subdivider without any charge to the County. Such dedication or easement shall be designed with the intent and ability to connect to or supplement the Northland Trails System at some future date.

B. Requirements of Platting

As a condition of Preliminary Plat approval, the trail easement/dedication shall be shown on the Preliminary Plat. For Final Plat approval the subdivider shall dedicate land or designate an easement for trail, transportation, and recreational purposes consistent with the approved preliminary plat and according to the standards contained in this Section and Sec. 151-3.6.

C. Dedication of Land

1. Standards for Dedication of Land

Where the planning director, in consultation with the highway and parks directors, has determined that a public trails system is planned to be located in whole or in part within the proposed subdivision, the subdivider of the proposed subdivision shall convey sufficient land or land interests by plat or deed for trails to meet that need, as specified in this Section, the Comprehensive Plan and the Northland Trails Plan. The quality and quantity of property required to be conveyed shall be based on the standards for the trails system as established in the Northland Trails Plan.

The evaluative process will occur during the review of applications for preliminary plat approval. Diversity and originality in lot layout and property dedication should be encouraged to achieve the best possible relationship between development and conservation/recreation areas.

2. **Suitability of Land**

Land to be dedicated for trails shall be suitable for a community trails system consistent with the Comprehensive Plan and the Northland Trails Plan. While efforts shall be made to accept and utilize land that is otherwise protected or not feasible for development (e.g., located in a riparian corridor, unusual topography, or in protected wildlife habitat), the location, accessibility, size, topography, environmental characteristics, and development potential for the intended trails shall be considered. At a minimum, consideration shall be given to the following factors in determining the suitability of land for trails:

a. **Location**

Land to be dedicated should be located along a trail route designated in the Northland Trail Plan or, if that location is not practicable, in close proximity to the designated route with a direct connection to the designated trail route.

b. **Characteristics**

The land to be dedicated should:

- 1) be of sufficient shape, size, and overall quality to allow for any approved amenities (e.g., trailside exercise facilities, drinking fountains, benches) to be provided and for other physical features necessary to provide access;
- 2) not have unusual topography that renders the land unusable for the intended recreational purposes;
- 3) preserve existing trees, scenic elements, and other aesthetic features;
- 4) protect and preserve floodplains, wetlands, and steep slopes;
- 5) preserve and maintain mature woodlands, existing fields, pastures, meadows, prairies, and other natural features;
- 6) be designed around existing tree lines, hedgerows, between fields or meadows, and minimize impacts on large woodlands;
- 7) protect wildlife habitat areas;
- 8) be designed around and preserve sites of historic, archaeological, or cultural value;
- 9) provide active recreational areas;
- 10) offer adequate screening from nearby residential or non-residential development;
- 11) facilitate pedestrian access within neighborhoods, to and from adjoining neighborhoods, schools and other public uses.

3. **Plat Note Requirements**

In order to dedicate land interests, there shall be a statement on the final plat, which says the following:

a. **Easement Note**

"A recreational easement consistent with the Northland Trails design guidelines shall be granted to Clay County for the purpose of developing part of trail _____ of the Northland Trails Plan along the _____."

b. **Dedication Statement**

"...over, under and along the strips of land designated utility easement (U.E.)"

and a Northland Trails dedication/easement.”

4. Waiver

The County, through an application to the Board of Zoning Adjustment, may waive the requirement to dedicate land interests for the Northland Trails System based on the subdivider’s ability to demonstrate that the dedication is not lawfully justified because of a lack of requisite reasonable relationship, unique site circumstances, undue hardship, or other circumstances warranting a waiver. Any decision by the County rejecting a waiver must be appealed within thirty (30) days of the review by filing a written petition with the Circuit Court of Clay County. The County may also waive the dedication provisions of this section on its own initiative such as where there is no suitable or acceptable land within the subdivision to which the County, in the public interest, is willing to accept dedication.

D. Construction Standards

1. For construction standards and design criteria of trail dedications designated as part of the Northland Trails Plan please refer to the Comprehensive Plan and the Northland Trails Plan.
2. The construction standards and design criteria for trails which will become part of a community or subdivision trails system are required to also follow those guidelines as addressed in the Comprehensive Plan and Northland Trails Plan, with the standards also as listed below:
 - a. A maximum grade of 12 to 1.
 - b. A minimum of 8’ to 10’ feet width.
 - c. A Minimum of 4” asphalt thickness, with a gravel base.
 - d. Refer to the Northland Trails Plan for design criteria specific to equine trails.

151-8.18 Subdivision Guarantees

Two types of subdivision guarantees are established for the purpose of assuring proper, safe and timely installation and maintenance of required subdivision improvements: (1) performance guarantees and (2) maintenance guarantees. Subdivision guarantees shall be required for all subdivisions, except for those with no engineered improvements.

A. General Requirements

All restoration, performance and maintenance guarantees shall be prepared in a format acceptable to the County and shall be submitted to the Highway Administrator. The Treasurer of Clay County shall be the beneficiary of all subdivision guarantees. Upon acceptance of a subdivision guarantee, the Highway Administrator shall deposit the guarantee with the County Clerk or may place it in an account with the County Treasurer. The following forms of subdivision guarantees may be used for required restoration, performance and maintenance guarantees.

1. Irrevocable Letter of Credit

An Irrevocable Letter of Credit is an acceptable form of subdivision guarantee provided the form and content of the documents are found acceptable to the County.

B. Performance Guarantees

1. Purpose

Performance guarantees are established for the purpose of assuring that the developer properly installs all proposed subdivision improvements in accordance with the approved Construction Plans and Final Plat for the subdivision. Should the developer fail to properly install all subdivision improvements within the term of the guarantee, the county may draw on the guarantee and use the funds to complete subdivision improvements.

The county also may draw on the performance guarantee if the developer fails to provide a maintenance guarantee to the county. The county may use the funds to ensure proper maintenance of subdivision improvements.

2. **Amount**

The amount of the performance guarantee shall be 100 percent of the engineer's estimate of the probable cost of subdivision improvements, as approved during the review of Construction Plans.

3. **Term**

The performance guarantee shall be posted as a prerequisite to recordation of the Final Plat. The guarantee shall be posted for a minimum 2-year period. The Highway Administrator, for good cause and with the approval of the provider of the guarantee, may extend the term for not more than 1 year.

4. **Release of Development Improvement Agreement and Guarantee**

The county's final acceptance of improvements will follow the receipt of signatures of all entities accepting the constructed improvements and documentation showing that the developer owns the improvements in fee simple and that there are no liens or encumbrances on the improvements. The county will then execute a resolution accepting the improvements and releasing the developer from the performance guarantee, after which the developer shall record such release.

C. Maintenance Guarantees

1. **Purpose**

Maintenance guarantees may be required by the County Commission for the purpose of assuring that the developer maintains the structure, function and integrity of subdivision improvements in accordance with the approved Construction Plans and specifications for the subdivision during the term of the guarantee. In the event the developer has failed to maintain subdivision improvements within the term of the guarantee, the county may draw on such guarantees and use the funds to correct the deficiencies.

Furthermore, if at any time during the term of the maintenance guarantee the county identifies that the developer's failure to maintain subdivision improvements has created a clear threat to the public's health, safety and/or general welfare, the county may, after appropriate notice and demand requirements, draw on the maintenance guarantee and use the funds to correct the identified threat.

2. **Amount**

The amount of the maintenance guarantee shall be determined by the County Commission. Generally, the maintenance guarantee shall be 15 percent of the engineer's estimate of the probable cost of subdivision improvements, as approved during the review of Construction Plans. The County Commission may waive the requirement for a maintenance guarantee when it finds that the guarantee is not necessary.

3. **Term**

The maintenance guarantee shall be posted as a prerequisite to the release of the performance guarantee, unless waived by the Highway Administrator. The guarantee shall be posted for a period of 2 years, as deemed necessary by the Highway Administrator. The Highway Administrator, for good cause and with the approval of the provider of the guarantee, may extend the term not to exceed the total maintenance period to more than 3 years.

Section 151-8.19 Erosion and Sediment Control Regulations

A. Title, Purpose, Scope, Adoption of Kansas City Metropolitan Chapter of the American Public Works Association (“KC-APWA”) Regulations, and Performance Surety

1. Title

These regulations shall be known by short title as the “Clay County Erosion and Sediment Control Regulations”, may be cited as such and will be referred to herein as “this section”.

2. Purpose

The purpose of this section is to control soil erosion on land that is undergoing land disturbance activities for non-agricultural uses and to prevent sediment and soil erosion from being transported onto adjacent property and into streams, rivers, lakes, ponds, or other areas as required by the Federal Clean Water Act (33 U.S.C. § 1251 *et seq.* as amended to date). The Federal Clean Water Act implemented a National Pollutant Discharge Elimination System (“NPDES”) program by federal law that Clay County is obligated to develop, implement, and enforce minimum erosion and sediment control standards.

Soil is most vulnerable to erosion and sediment pollution caused by the power of water and wind during the construction process. This eroded soil endangers water resources by reducing water quality, and causes siltation of aquatic habitat for fish and other desirable species. Eroded soil also necessitates repair of sewers and ditches, and the dredging of water bodies. In addition, clearing and grading methods during construction often causes the loss of native vegetation necessary for terrestrial and aquatic habitat, and to provide a healthy living environment.

This section is intended to do the following:

- a. Protect and enhance the water quality of watercourses, water bodies, and wetlands.
- b. Minimize soil erosion and sedimentation caused by land disturbance activities.
- c. Reduce maintenance costs of public and private improvements and services.
- d. Promote and protect the public's health, safety, and general welfare.

The property owner is responsible for the land disturbance activities including the protection of downstream and adjacent properties from siltation and erosion. All necessary steps shall be taken to prevent sediment and soil erosion from being transported onto adjacent properties and into streams, rivers, lakes, ponds or other areas.

These standards shall apply after the date of passage by the County Commission to preliminary plats, Building Permit submittals or Land Disturbance (LD) permit applications.

3. Adoption of KC-APWA Sections 5100, 2100, 2150, 2400, the Division III Standard Drawings, and the MARC/APWA Manual of Best Management Practices for Stormwater Quality by Reference

All design, construction and maintenance standards shall be in accordance with the most current standards as published by the KC-APWA of Sections 5100 (*Erosion and Sediment Control-Design Criteria*), 2100 (*Grading and Site Preparation*), 2150 (*Erosion and Sediment Control-Specifications*), 2400 (*Seeding and Sodding*), the KC-APWA Division III Standard Drawings, and the MARC/APWA Manual of Best Management Practices for Stormwater Quality (collectively referred to as the Clay County "**Design Manual**") is hereby adopted by reference as the design, construction and maintenance standards for Erosion and Sediment Control, except as amended.

- a. The following amendment shall apply:
 - i. The Director may approve variances from specific requirements of the County's Design Manual when the Director deems it appropriate and justified by engineering standards.

4. **Scope of Authority**

Any person, firm, corporation or business proposing to develop land within Clay County which will disturb one (1) or more acres over the life of the project or are part of a larger common plan of development or sale that will disturb one (1) or more acres over the life of the project, must obtain a Land Disturbance (LD) Permit from Clay County, and also develop and implement a Storm Water Pollution Protection Plan (SWPPP), as specified in this section.

- a. No land shall be graded except upon issuance of such a LD permit.
- b. Any development or grading which does not comply with the requirements set forth herein shall be deemed to be in violation of this section and shall be subject to enforcement measures and penalties set forth herein.

Land disturbance sites that disturb less than one (1) acre do not require a Land Disturbance (LD) permit, and the site owner is not required to submit a site-specific Storm Water Pollution Prevention Plan (SWPPP), but must comply with the guidelines in the document "Erosion and Sediment Control Standards for Building Construction that Disturbs Less Than One Acre for Unincorporated Area of Clay County".

5. **Performance Surety**

Performance under every LD permit shall be secured by a letter of credit, performance bond, cash escrow, or other method of not less than the value of all work to be done under the LD permit for installation of the erosion and sediment control measures as required by this section and the Design Manual, which will provide adequate assurances to the County that the construction of the erosion and sediment control measures are installed in a timely and workmanlike manner and maintained throughout the duration of the project.

- a. This may be a part of other bond/escrow funds, subject to the County's discretion.
- b. In the event of a violation of this section, the performance surety proceeds shall be used by the County to complete the planned erosion and sediment control practices.
- c. The required surety amount may be increased by the Director by up to 50% from the standard amount depending upon specific nature and scope of project and anticipated disturbance. Upon request and supporting documentation from the owner, the Director may also reduce the standard surety amount if on-site conditions warrant a reduction.

For LD permits which do not include the construction of public improvements related to subdividing land under jurisdiction of the Land Development Code ("LDC"), or

construction of permanent structures, under jurisdiction of the Building Codes (i.e. where only grading work is included, such as for a borrow pit) the only type of security which will be accepted will be a cash bond.

B. Definitions

For the purpose of this section, certain terms, phrases, words and their derivatives shall be defined as specified in this section. Where terms are not defined, they shall have their ordinary accepted meanings within the context with which they are used. Words in the singular include the plural and the plural the singular. Words used in the masculine gender include the feminine and the feminine the masculine. The following terms shall have the following meanings in this section. In the event of a conflict between defined terms in Section 151-15 and the terms defined herein, this section shall control.

Term	Definition
Best Management Practices	Physical facilities, schedules of activities, prohibitions of practices, maintenance procedures, and other management practices which, when properly designed, installed and maintained, will be effective to prevent or reduce the discharge of water or air pollution associated with land disturbance activities.
Channel	A watercourse of perceptible extent which periodically or continuously contains moving water or which forms a connecting link between two (2) bodies of water.
Clearcutting	Cutting essentially all trees in a given area
Clearing	Any activity by which vegetative cover, structures or surface material are removed, including, but not limited to, surface layer, root or topsoil removal.
Common Plan	A plan undertaken by one (1) or more persons, to offer lots for sale or lease; where land is offered for sale by a person or group of persons acting in concert, and the land is contiguous or is known, designated or advertised as a common unit or by a common name or similar names, the land is presumed, without regard to the number of lots covered by each individual offering, as being offered for sale or lease as part of a common promotional plan.
Debris or Sediment Basin	A barrier or dam built across a waterway or at other suitable locations to retain rock, sand, sediment, gravel, silt, or other materials.
Design Manual	Means all design, construction and maintenance standards in accordance with the most current standards as established in the following: the Kansas City Metropolitan Chapter of the American Public Works Association (KC-APWA) sections 5100 (<i>Erosion and Sediment Control-Design Criteria</i>), 2100 (<i>Grading and Site Preparation</i>), 2150 (<i>Erosion and Sediment Control-Specifications</i>), 2400 (<i>Seeding and Sodding</i>), the KC-APWA Division III Standard Drawings, and the MARC/APWA Manual of Best Management Practices for Stormwater Quality.
Director	Clay County Planning and Zoning Director or the Director's authorized representative.
Diversion	A channel with or without a supporting ridge on the lower side constructed across or at the bottom of a slope.
Drainage Way	Any channel that conveys surface runoff within, through and/or away from the site.
Erosion	The wearing away of land by the action of wind, water, gravity, ice, or artificial means, and/or land disturbance activities.
Erosion Control	Measures that prevent erosion.

Term	Definition
Erosion and Sediment Control Plan	A plan for the control of sedimentation and erosion resulting from land disturbance activities, and may include, without being limited to, the drawings, specifications, construction documents, schedules, or other related documents upon which the Best Management Practices to be used on a site are set forth, including such information as necessary to review the basis for their design and to ensure their proper installation, maintenance, inspection and removal.
Excavation or Cut	The removal, stripping or disturbance of soil, earth, sand rock, gravel, or other substance from the surface of the earth.
Existing Grade	The vertical elevation of the existing ground surface prior to excavation or filling.
Fill or Filling	The placing of any soil, earth, sand, rock, gravel or other substance on the ground.
Finished Grade	The final grade or elevation of the ground surface conforming to the proposed design.
Grading	Excavation or fill of material, including the resulting conditions thereof.
Land Disturbance or Land Disturbing Activity	Any activity that changes the physical conditions of landform, vegetation and hydrology, creates bare soil, or otherwise may cause erosion or sedimentation. Such activities include, but are not limited to, Clearing, removal of vegetation, stripping, Grading, grubbing, excavating, filling, logging and storing of materials.
Land Disturbance (LD) Permit	A permit issued by Clay County for the construction or alteration of ground improvements and structures for the control of erosion, runoff and grading or other activity which results in the destruction of the root zone.
Open Channel	A constructed ditch or channel designed to remove water.
Perennial Vegetation	Grass or other appropriate natural growing vegetation that provides substantial land cover, erosion protection and soil stability and that is capable of sustained and healthy growth over multiple years under the constraints of shade, temperature, and moisture that will be prevalent on the site.
Perimeter Control	A barrier that prevents sediment from leaving a site either by filtering sediment-laden runoff, or diverting it to a sediment trap or basin.
Phasing	Clearing a parcel of land in distinct phases, with the stabilization of each phase before the clearing of the next.
Qualified Erosion Control Specialist	A person qualified to perform inspections of Erosion and Sediment Control measures. Qualified personnel includes a Professional Engineer licensed in the state of Missouri or anyone who has obtained one of the following certifications: CCIS through Stormwater USA, LLC; CISEC through CISEC, Inc; or CESSWI through EnviroCert International, Inc. or equivalent qualifications approved in writing by the Director as part of an approved Stormwater Pollution Prevention Plan.
Sediment	Soils or other materials transported or deposited by the action of wind, water, gravity, ice, or artificial means in a location other than the point of origin.
Sediment Control	Measures that prevent eroded sediment from leaving the site.

Term	Definition
Silt Traps or Filters	Staked bales of straw or silt fencing systems that function as a filter and a velocity check to trap fine-grained sediment while allowing satisfactory passage of storm water runoff.
Site	A parcel of land, or a contiguous combination thereof, where land disturbance work is performed as a single unified operation.
Site Development	Altering terrain and/or vegetation and constructing improvements.
Stabilization	The use of practices that prevent exposed soil from eroding.
Start of Construction	The first land disturbance activity associated with a development, including land preparation such as clearing, grading and filling; installation of streets and walkways; excavation for basements, footings, piers or foundations; erection of temporary forms; and installation of accessory buildings such as garages.
Stream Bank, Top of Existing	The usual boundaries, not the flood boundaries, of a stream channel. The top of the natural incline bordering a stream.
Stop Work Order	An order issued which requires that some or all construction activity on the site be stopped.
Stormwater Pollution Prevention Plan (SWPPP)	A plan required by Clay County and the Missouri Department of Natural Resources (MoDNR) for which contents are specified by the Missouri State Operating Permit . The purpose of the Stormwater Pollution Prevention Plan (SWPPP) is to help identify the sources of pollution that affect the quality of storm water discharges from a site and to describe and ensure the implementation of practices to reduce pollutants in storm water discharges and includes an Erosion and Sediment Control Plan as well as plans to prevent pollution from other construction site sources such as, but not limited to, concrete washout, litter, and sanitary waste.
Tree	Vegetative growth with a trunk six (6) inches in diameter and larger, measured three (3) feet above ground.
Vegetative Cover	Any grasses, shrubs, trees, and other vegetation that protects and stabilizes soils.
Watercourse	Any body of water, including, but not limited to lakes, ponds, rivers, streams, and bodies of water which are delineated by Clay County.
Watershed	All that area drained by a waterway, drainage ditch, stream or other water course.
Waterway	A channel that directs surface runoff to a Watercourse, or to a storm drain.

C. Land Disturbance (“LD”) Permit Requirements and Exemptions

1. Unless exempt, no person shall undertake any land disturbing activity without first obtaining a LD permit.
2. No person required to obtain a LD permit shall fail to make application for such permit, fail to pay required fees, and fail to comply with the County’s Design Manual, or violate any of the requirements of this section.

3. The following shall be exempt from obtaining a LD permit:
 - a. Any emergency activity which is immediately necessary for the protection of life, property or natural resources.
 - b. Mowing, brush hog clearing, tree cutting (excluding clearcutting) or similar activities which do not grade, dig, excavate or otherwise remove or kill surface growth and root system of the vegetative cover.
 - c. Agricultural land uses, however, nothing in this section shall relieve any person from complying with any applicable erosion and sediment standards of the United States Department of Agriculture Natural Resources Conservation Service ("NRCS") or the requirements of the Missouri Department of Natural Resources ("MoDNR") or other federal or state agency.
 - d. Land disturbing activities of less than one (1) acre. For the purposes of this section, land disturbing activities that are part of a larger, phased, staged, or common plan of development shall be considered a single Site for purposes of calculating the disturbed area.
 - e. Linear, strip or ribbon construction on maintenance operations meeting one of the following criteria provided that water quality criteria are not exceeded:
 - i. Grading of existing dirt or gravel roads which does not increase the runoff coefficient and the addition of an impermeable surface over an existing dirt or gravel road;
 - ii. Cleaning or routine maintenance of roadside ditches, sewers, waterlines, pipelines, utility lines or similar facilities;
 - iii. Trenches two (2) feet in width or less; or
 - iv. Emergency repair or replacement of existing facilities as long as best management practices are employed during emergency repairs.
 - f. Federal and State projects.
 - g. City or County improvement projects. However, such projects are required to follow the Design Manual guidelines.

D. Land Disturbance ("LD") Permit and Application

1. The issuance of a LD permit is contingent upon compliance with this section, the Design Manual, all other County regulations, including the Land Development Code ("LDC"), fire code, building code and any other County requirements.
2. The Director may require additional requirements or waive specific requirements, based on the data deemed appropriate to ensure compliance with the intent, purpose and provisions of the County's Erosion and Sediment Control Regulations.
3. Every LD permit application shall be submitted to the County, on the County's forms, which shall include the following minimum requirements:
 - a. A site specific Storm Water Pollution Prevention Plan ("SWPPP") that complies with this section, the Design Manual, and a Land Disturbance Permit from the MoDNR.
 - b. A site specific Erosion and Sediment Control Plan (ESC) and approved final Engineering/Construction Plans that complies with the Design Manual and any other applicable County regulations.

- c. A site specific plan that complies with the Design Manual to provide for control of pollutants related to land disturbance activities that might cause an adverse impact to water quality, including but not limited to: discarded building materials, concrete truck washout, fuel hydraulic fuels, chemicals, litter, and sanitary wastes;
 - d. Contact information for the applicant, the site owner's name, and the retained licensed by the State of Missouri Professional Engineer or Landscape Architect and a Qualified Erosion Control Specialist who will perform the routine inspections;
 - e. Description of area to be disturbed;
 - f. Proposed schedule of work and contemplated duration of land disturbing activities on the site;
 - g. Proposed method of providing performance surety as required by this section,
 - h. Any LD permit fee as authorized by the County;
 - i. A copy of the approved Land Disturbance Permit from MoDNR ;
 - j. Upon an applicant's request, the Director may modify these requirements to take into account any unusual circumstances or factors affecting the work to be performed.
4. The LD permit application, Storm Water Pollution Prevention Plan (SWPPP), Erosion and Sediment Control Plan (ESC) and Engineering/Construction Plans and all other technical requirements shall be prepared under the supervision of, and sealed by a licensed in the State of Missouri Professional Engineer or Landscape Architect.
 5. It shall be the duty of the permit holder to ensure that land disturbing activities authorized by the LD permit be undertaken according to the approved plans and proposed schedule of work defined in the LD permit application. Modifications to the approved plan or proposed schedule of work that are not in compliance with the LD permit must be resubmitted for approval. Minor modifications of the approved plan or proposed schedule of work may be authorized by the Director without formal review provided those modifications are consistent with the Design Manual and standard industry practice.

Failure to adhere to the schedule or complete the work in accordance with the LD permit shall be: i) a violation of this section, ii) subject to additional fees to be paid by the LD permit holder, iii) may result in the revocation of the LD permit and the issuance of a Stop Work Order.
 6. Every LD permit shall have an expiration date established by the Director which takes into consideration the nature, scope, and any necessary phasing of the work to be undertaken. Requests for LD permit extension must be made to the Director prior to the expiration of the LD permit and are subject to approval by the Director.
 7. Prior to the expiration of the LD permit, the LD permit holder shall obtain a satisfactory final County inspection and approval of the work undertaken pursuant to the LD permit to determine whether the work complies with the Stormwater Pollution Prevention Plan (SWPPP), Erosion and Sediment Control Plan (ESC) and Engineering/Construction Plans. Upon satisfactory inspection and approval, the LD permit shall be deemed "closed" when conditions set forth in these sections are met.

E. Maintenance and Inspections

1. Maintenance

All erosion and sediment control measures set forth in the SWPPP, Erosion and Sediment Control Plan (ESC) and Engineering/Construction Plans shall be maintained in good order at all times during and after construction.

2. Inspections

It shall be the duty of the LD permit holder to provide routine inspections of the land disturbing activities and maintain effective erosion and sediment control measures throughout the duration of the LD permit. Inspections shall be performed by a licensed Professional Engineer or Landscape Architect in the State of Missouri or by a Qualified Erosion Control Specialist at least once each week and within twenty-four (24) hours following each rainfall event of one-half (1/2) an inch or more within any twenty-four (24) hour period. A log of all inspections shall be kept during land disturbing activities as a part of the SWPPP, Erosion and Sediment Control Plan (ESC) and Engineering/Construction Plans. Any deficiencies shall be noted in a report of the inspection and the LD permit holder shall correct such deficiencies within a reasonable time not to exceed three (3) days unless extended by the Director for good cause shown.

The LD permit holder shall keep a copy of the most current SWPPP at the site until the LD permit is closed.

The LD permit holder shall notify the Director for an inspection after installing perimeter erosion and sediment control devices, but before beginning other work on the site.

A LD permit shall not be closed until a final inspection and approval of the site stabilization and restoration is issued by the County. A site shall be considered stabilized and restored when perennial vegetation, pavement, buildings, or structures using permanent materials cover a minimum of seventy-percent (70%) of the area defined in the LD permit and as required by the Director. Restoration includes the removal of all non-permanent erosion and sediment control devices for the site. Final certification of the restoration and stabilization of the site shall be submitted for approval to the Director by the LD permit holder.

A LD permit conveys to the Director and the Director's designees, the right to enter upon property described in the LD permit as necessary to enforce provisions of this section.

F. Land Disturbances Less than One (1) Acre

Land disturbances less than one(1) acre do not require a Land Disturbance (LD) permit, and the site owner is not required to submit a site-specific Stormwater Pollution Prevention Plan (SWPPP), but must comply with the guidelines in the document "Erosion and Sediment Control Standards for Building Construction that Disturbs Less Than One Acre for Unincorporated Area of Clay County".

G. Land Disturbances Less than One (1) Acre for Utility Work

Franchised and public utility providers disturbing less than one (1) acre shall obtain a general, annual permit in lieu of obtaining a site-specific permit. The general land disturbance permits for utility providers can be renewed annually and shall include the effective erosion control standards and construction methods that are to be implemented on the utility's projects, conforming to the Design Manual. The fee and performance surety, if any, for a general permit will be as shown in the adopted fee schedule.

H. Time Requirement

Where land disturbing activities appear to have temporarily or permanently ceased on a portion of a site for fifteen (15) consecutive days, all disturbed area shall be protected from erosion by stabilizing the area with mulch or other similarly effective soil stabilizing best management practices. Where implementation of stabilization measures is precluded by weather, snow cover, or other reason beyond the LD permit holder's control, the Director may allow the LD permit holder to delay the implementation of such stabilization measures for a reasonable period.

I. Fees

Prior to issuance of LD permit for projects that disturb one (1) acre or greater, and franchised and public utilities providers shall pay fees according to the County Commission adopted fee schedule. The Director may adjust the fee Schedule annually and shall make such Fee Schedule available to the public.

J. Appeals

Any person denied a Land Disturbance (LD) permit as herein stated shall have the right to appeal such denial to the Board of Zoning Adjustment in accordance with Section 151-3.14 within thirty (30) days of the date of such denial.

K. Separability

The provisions and sections of this ordinance shall be deemed to be separable, and the invalidity of any portion of this ordinance shall not affect the validity of the remainder.

L. Responsibility for Compliance

The person responsible for compliance with this section shall include, jointly and severally:

1. The owner of the site upon which a land disturbance activity takes place. When a LD permit is issued to a person, such person shall remain responsible for land disturbance activities notwithstanding a transfer of the site unless the County approves, in writing, an assignment of the person's obligations; AND,
2. If the owner is not the LD permit holder, the person to whom a LD permit is issued for a site upon which a land disturbance activity takes place is jointly and severally liable along with the owner of the site for compliance with this section; AND,
3. Any person who undertakes any land disturbance activity and fails to ensure that a LD permit has been issued by the County for such land disturbance activity.

M. Compliance and Use

The site described in a LD permit shall be maintained at all times in compliance with the provisions of the Stormwater Pollution Prevention Plan (SWPPP), Erosion and Sediment Control Plan (ESC) and Engineering/Construction Plans.

N. Enforcement of Code Provisions

The failure to comply with any requirement of this section shall result in a fine of not less than ten (10) dollars nor more than one thousand (1,000) dollars for each such violation as determined by the Director. Each day such violation continues shall constitute a separate violation and result in a separate fine.

1. In addition, any person who fails to provide and implement a Stormwater Pollution Prevention Plan (SWPPP), Erosion and Sediment Control Plan (ESC) and Engineering/Construction Plans as required by this section may be ordered by the Director to take remedial action on any site to prevent the occurrence or recurrence of a violation of this section. Remedial action shall include, but not limited to, conformance to the requirements of this section.

When failed or absent erosion and sediment control has resulted in mud, silt, gravel, dust or other debris entering into any street right-of-way, drainage easement, stream setback easement, or adjoining property, the remedial action required shall include the restoration and stabilization of the area defined as disturbed in the LD permit, to include perennial vegetation, pavement, buildings, or structures using permanent materials cover a minimum of seventy-percent (70%) of the area defined and the removal of any debris or other pollutants caused by a failure to comply with the Design Manual.

2. Whenever the Director finds a violation of this section, the Director may order the owner of the site and the LD permit holder to take action within a minimum of three (3) days after service of such order to comply with the provisions of this section. Notice may be given in person, by mail, including electronic mail, posting at the site, telephone, by facsimile, or by any other method reasonably calculated to provide notice.

O. Stop Work Order Authorized

In addition to the enforcement provisions of this section, the Director may issue a Stop Work Order if the Director determines that work authorized by a LD permit is in violation of this section or the Stormwater Pollution Prevention Plan (SWPPP), Erosion and Sediment Control Plan (ESC) and Engineering/Construction Plans or if any one or more of the following conditions exist:

1. Inspection by the Director reveals the site defined by the LD permit is not in substantial compliance with the SWPPP, Erosion and Sediment Control Plan (ESC) and Engineering/Construction Plans, as determined by the Director; OR,
2. Failure to comply with a written order from the Director to bring the site into compliance with the LD permit, correct a violation of this section, or restore a disturbed area within the time limits defined by the Director; OR,
3. Failure to pay any required fee; OR,
4. Failure to submit reports in accordance with the Design Manual.

If a Stop Work Order is issued by the Director, the Director shall order and direct the site owner, or site owner's agent, and any party in possession of the site, including the contractor performing work at the site, to immediately suspend work.

A Stop Work Order shall be in writing, shall state the conditions under which the work may be resumed, and may be served upon a person to whom it is directed by any reasonable method including by personal delivery, by posting at the site, or mailing a copy of the same to the address identified within the LD permit application for the LD permit holder, site owner, or any party in possession of the such property. If the Director issues a Stop Work Order, all persons shall cease all work on the site, except work necessary to remedy the cause of the Stop Work Order as expressly authorized by the Director.

It shall be a violation of this section for a person to undertake, allow, consent, or permit another to undertake work upon a site subject to a Stop Work Order.

If the cause of a Stop Work Order is not cured within a reasonable period of time, the LD permit may be revoked by the Director and thereafter no person shall continue any work described in the LD permit without first obtaining a new LD permit and paying a new LD permit fee as required by this section.

P. Effective Date

The provisions of this section shall be effective upon the date as accepted by Ordinance by the Clay County Commission. A LD permit shall not be required for any land disturbance activity upon sites for which a valid County Building Permit has been issued prior to the effective date. Any final plat or final site plan approved prior to the effective date shall nonetheless be subject to this section.