What: Cass County Commission Meeting
When: February 4, 2026, at 12:00 pm
Location: Historic Courthouse, 3rd Floor Conference Room, 102 E Wall Street, Harrisonville, MO 64701

AGENDA

The tentative agenda of this meeting includes:

Agenda Commission Meeting - 12:00 pm

1. **Call to Order**
2. **Roll Call**
3. **Pledge of Allegiance**
4. **Accept the Agenda as presented.**
5. **Approval of Commission Meeting Minutes**
    - January 21, 2026
6. **Approval of Work Session Minutes**
    - January 14, 2026 – Bike MS ride
7. **Resolution No. 26-09 – Cass County Emergency Management**
    - Adopting the Cass County Emergency Operations Plan
    - Comment:
8. **Resolution No. 26-10 – Cass County Commission**
    - Approving a services agreement with Graves Garrett Greim, LLC
    - Comment:
9. **Resolution No. 26-11 – Cass County Sheriff's Office**
    - Approving participation in the Missouri Highway Safety Program
    - Comment:
10. **Ordinance No. 26-03 – Cass County Codes & Zoning Department**
    - An ordinance amending County Code Chapter 700, article I related to wastewater treatment systems.
    - Comment**:**
11. **Public Comment (5-minute limit):**
12. **Commissioner Communications:**
13. **Adjourn**

The tentative agenda of this meeting may also include a vote to close part of the meeting pursuant to RS MO Sections:

	RSMo. 610.021.1 - Legal
	RSMo. 610.021.2 – Real Estate
	RSMo. 610.021.3 – Personnel Actions
	RSMo. 610.021.13 – Personnel Records
	RSMo. 610.021.18 – Confidential Communication with Auditor
	RSMo. 610.021.12 – Contract Negotiations

What: Cass County Commission Meeting
When: January 21, 2026 at 12:00 PM
Location: Historic Courthouse, 3rd Floor Conference Room.102 E Wall Street, Harrisonville, MO 64701

Bob Huston, Presiding Commissioner
Kathy Lambertz, County Clerk
Mike Moreland, Associate Commissioner District 1
Jeff Fletcher, Associate Commissioner District 2

Cass County Meeting Minutes

1. **Call to Order**

   Presiding Commissioner Huston called the meeting to order at 12:00 PM.

2. **Roll Call**

Attendance	Name	Title
x	Bob Huston	Presiding Commissioner
x	Mike Moreland	Associate Commissioner District 1
x	Jeff Fletcher	Associate Commissioner District 2

3. **Pledge of Allegiance**

4. **Accept the agenda as presented.**

   Commissioner Moreland made a motion to accept the agenda.
   Commissioner Fletcher seconded the motion to accept the agenda.
   Motion Status: Passed 3-0

5. **Approval of Commission Meeting Minutes**
   - January 14, 2026

   Commissioner Fletcher made a motion to accept the Minutes.
   Commissioner Moreland seconded the motion to accept the Minutes.
   Motion Status: Passed 3-0

6. **Resolution No. 26-07 – Cass County Treasurer's Office**
   - Approving an agreement to provide professional consulting services with John L. Bower, CPA
   - Comment: Treasurer Steve Cheslik gave an update.

   Commissioner Moreland made a motion to accept Resolution No. 26-07.
   Commissioner Fletcher seconded the motion to accept Resolution No. 26-07.
   Motion Status: Passed 3-0

7. **Resolution No. 26-08 – Cass County Sheriff's Office**
   - Authorizing the purchase of an X-ray inspection system and related equipment.
   - Comment: Captain Barbarick gave and update.

   Commissioner Fletcher made a motion to accept Resolution No. 26-08.
   Commissioner Moreland seconded the motion to accept Resolution No. 26-08.
   Motion Status: Passed 3-0

8. **Ordinance No. 26-02 – Cass County Commission**
    - An ordinance amending County Code Chapter 115 relating to the Procurement Policy
    - Comment**:** HR Director Holly Braswell gave an update.

    Commissioner Moreland made a motion to accept Ordinance No. 26-02.
    Commissioner Fletcher seconded the motion to accept Ordinance No. 26-02.
    Motion Status: Passed 3-0

9. **Ordinance No. 26-03 – Cass County Codes & Zoning**
    - An ordinance amending county codes chapter 700, article related to wastewater treatment systems.
    - Comment: Tabled for the next Commission Meeting – February 4, 2026

    Commissioner Fletcher made a motion to Table Ordinance No. 26-03 for two weeks.
    Commissioner Moreland seconded the motion to Table Ordinance No. 26-03 for two weeks.
    Motion Status: Passed 3-0

10. **Public Comment (5-minute limit):** Michael Gulyas from Raymore voiced concerns for ICE Detention Center. Captain Sack gave a report on 2025 Traffic unit year end report.
11. **Commissioner Communications:** n/a
12. **Adjourn**

    Commissioner Fletcher made a motion to adjourn at 12:08PM.
    Commissioner Moreland seconded the motion to adjourn.
    Motion Status: Passed 3-0

_____	_____
Bob Huston	Mike Moreland
Presiding Commissioner	Associate Commissioner District 1
_____	_____
Jeff Fletcher	Kathy Lambertz
Associate Commissioner District 2	County Clerk

Minutes Approval Date: _____

Cass County Commission – Work Session Minutes

What: Bike MS Kansas City Ride 2026
When: January 14, 2026
Time Started: 12:30 pm
Time Ended: 12:53 pm
Location: Historic Courthouse, 3rd floor conference room
Address: 102 E Wall Street, Harrisonville, MO 64701

Attendance	Name	Title
x	Bob Huston	Presiding Commissioner
x	Mike Moreland	Associate Commissioner District 1
x	Jeff Fletcher	Associate Commissioner District 2
x	Kathy Lambertz	County Clerk
x	Jeanne Middaugh	MS bike ride 2026
x	Carolyn	MS bike ride 2026
x	Jacqueline Helms	MS bike ride 2026

1. Call to Order
2. Roll Call:

General Topics of Discussion

MS Bike ride route will start and end at Still Meadow 28708 MO-7 Garden City, Missouri 64747

Presiding Commissioner Huston motioned to adjourn the meeting; Commissioner Fletcher seconded the motion. Vote 3-0

Prepared By: Kayleigh Bowes

Certified Copy of Record

STATE OF MISSOURI,
County of Cass, } *ss.*

In the County Commission of Cass County, Missouri, at the January Term, 2026, held on the 4th day of February 2026 amongst others, were the following proceedings:

RESOLUTION NO. 26-09
OF THE CASS COUNTY COMMISSION

ADOPTING THE CASS COUNTY EMERGENCY OPERATIONS PLAN

BE IT HEREBY RESOLVED AND ORDERED BY THE COUNTY COMMISSION OF CASSCOUNTY, MISSOURI, THAT, this Commission hereby adopts the Cass County Emergency Operations Plan, a copy of which is on file with the County Emergency Manager. The Presiding Commissioner and other appropriate County officials are hereby authorized to execute all documents and take any actions necessary to carry out the intent and purpose of this Resolution on behalf of Cass County, Missouri.

ADOPTED BY THE COUNTY COMMISSION OF CASS COUNTY, MISSOURI, THIS 4TH DAY OF FEBRUARY 2026.

Bob Huston Presiding Commissioner	Mike Moreland Associate Commissioner Dist. 1	Jeff Fletcher Associate Commissioner Dist. 2

ATTEST:

COUNTY SEAL
CASS COUNTY MISSOURI

Kathy Lambertz
County Clerk

Dated: _____

CASS COUNTY, MISSOURI
EMERGENCY OPERATIONS PLAN
Public Release

2025 – 2027

2025 Revision – December 2025

1 Introduction

Missouri Revised Statutes Chapter 44 requires political subdivisions to establish local emergency management organizations. Cass County Code Chapter 215 establishes the Cass County Emergency Management Agency as the disaster agency responsible for emergency management in unincorporated Cass County and for coordination support to municipalities.

This Emergency Operations Plan is designed to provide Cass County an overarching framework for managing emergencies and disasters by outlining how local government, response agencies, community partners, and the private sector work together to minimize impacts to lives, property, the environment, essential services and community lifelines.

It establishes a flexible structure for coordinating preparedness, response, and recovery activities across all hazards, recognizing that incidents can evolve rapidly and require scalable, multi-agency collaboration.

The plan emphasizes practical decision-making, resource coordination, and unity of effort, while integrating established systems such as the National Incident Management System, Incident Command System, and locally defined authorities.

The Plan and its contents apply to all County agencies, departments, offices, municipalities that adopt the plan, and partners participating in emergency operations.

1.1 Promulgation Statement

Chapter 215 Emergency Management of the Cass County Code, 2025, as amended, assigns responsibility to the Cass County Emergency Management Agency for the preparation and implementation of emergency functions required to prevent, minimize and repair injury and damage due to disasters, to include emergency management of resources and administration of such economic controls as may be needed to provide for the welfare of the people, and emergency activities.

Municipalities within Cass County are encouraged to promulgate this Emergency Operations Plan through their respective chief executive officers. Each municipality may adopt this plan in whole or in part, and may develop supplemental procedures, annexes, or standard operating guidelines specific to their jurisdiction. Upon promulgation, municipalities should provide written notification to Cass County Emergency Management for coordination purposes.

The following promulgation statement formally adopts this EOP and authorizes its implementation.

Promulgation Statement

Officials of Cass County have developed an emergency operations plan that will enhance their emergency response capability. This document is the result of that effort.

It is designed to promote the coordination of local emergency services and the use of available resources to minimize the effects of a major disaster (natural or otherwise) on life and property of the citizens of Missouri. It also incorporates the principles and processes of the National Incident Management System (NIMS) and the Incident Command System (ICS).

The Cass County Emergency Management Plan, when used properly and updated annually can assist local government officials in responding to and recovering from the effects of all-hazards. This plan and its provisions will become official when it has been signed and dated below by the concurring government officials of Cass County.

_____ _____
Bob Huston, Cass County Presiding Commissioner Date

_____ _____
Jeff Fletcher, Cass County Northern District Commissioner Date

_____ _____
Mike Moreland, Cass County Southern District Commissioner Date

_____ _____
Justin Crane, Director, Cass County Emergency Management Date

1.2 Approval and Implementation

This Emergency Operations Plan was formally adopted by the Cass County Commission and on the dates indicated on the promulgation statement in Section 1.1 Promulgation Statements.

The plan becomes effective immediately upon promulgation and remains in force until superseded by a revised plan or rescinded by the Cass County Commission. All county agencies and departments are directed to maintain familiarity with this plan, develop, and maintain supporting standard operating procedures, and participate in training and exercises necessary to ensure operational readiness.

1.3 Plan Structure

The Cass County EOP is a multi-hazard Emergency Support Function (ESF) focused plan consisting of four components:

1. Base Plan: Overview of the county's hazards, emergency management approach, organization, and general policies.
2. Emergency Support Function (ESF) Annexes: Specific emergency support functions critical to response and recovery operations.
3. Support Annexes: Describes essential supporting processes and considerations common to most incidents.
4. Threat or Hazard Specific Annexes: describe the policies, situation, CONOPS and responsibilities for particular threats and hazards.

1.4 Organizational Responsibilities

Each agency or organization assigned tasks under this plan is encouraged to:

- Develop and maintain standard operating procedures to execute assigned functions
- Recommend updates to assigned plan sections based on exercises, actual incidents, organizational changes, and evolving best practices
- Provide updated materials to Cass County Emergency Management for plan integration
- Train personnel on emergency roles and responsibilities
- Participate in exercises and drills to validate procedures as feasible

1.5 Plan Maintenance

This plan should be reviewed at least biennially or as needed to incorporate lessons learned, capability changes, and evolving Emergency Management practices. All plan revisions require coordination through Cass County Emergency Management and when required, approval by appropriate authorities.

The Emergency Management Director is authorized to update this plan and its annexes and appendices without full re-promulgation when changes do not affect fundamental authorities or require County Commission action. Updated materials will be distributed to agencies listed in the Record of Distribution.

1.6 NIMS Compliance

All emergency operations conducted under this plan follow concepts of the National Incident Management System (NIMS) and Incident Command System (ICS) to ensure interoperability with state, federal, and mutual aid partners.

1.7 NIMS Adoption

The National Incident Management System (NIMS) is a standardized framework developed by the Federal Emergency Management Agency (FEMA) that provides a consistent, nationwide approach to emergency preparedness, response, and recovery. NIMS establishes common terminology, organizational structures, and procedures that enable jurisdictions and agencies to work together seamlessly during incidents of all sizes and complexities.

Adoption of NIMS is a requirement for state and local governments to receive federal preparedness grants and other emergency management funding. On August 23, 2005, the Cass County Commission formally adopted NIMS through the Resolution 05-06 on the following page, affirming the county's commitment to interoperability and coordination with federal, state, regional, and local emergency response partners.

Figure 1. Resolution 05-06 Formally Adopting NIMS

Certified Copy of Record

STATE OF MISSOURI,
County of Cass, } **ss.**

In the County Commission of Cass County, Missouri, at the July Term, 2005, held on the 23rd day of August, 2005, amongst others, were the following proceedings:

CASS COUNTY, MISSOURI
RESOLUTION NO. 05-06
Adoption of the National Incident Management System
August 23, 2005

BE IT ORDAINED, BY THE COUNTY COMMISSION OF CASS COUNTY, MISSOURI, AS FOLLOWS:

WHEREAS; Emergency Response to critical incidents, whether natural or manmade, requires integrated professional management, and

WHEREAS; Unified Command of such incidents is recognized as the management model to maximize the public safety response, and

WHEREAS; The National Incident Management System, herein referred to as NIMS, has been identified by the Federal Government as being the requisite emergency management system for all political subdivisions, and

WHEREAS; Failure to adopt NIMS as the requisite emergency management system may preclude reimbursement to the political subdivision for costs expended during and after a declared emergency or disaster and for training and preparation for such disasters or emergencies.

THEREFORE; It shall be the public policy of this Cass County to adopt the NIMS concept of emergency planning and unified command. It shall further be the policy of this Cass County to train public officials responsible for emergency management.

Gary L. Mallory
Presiding Commissioner

Jon H. Seabaugh
Associate Commissioner#1

Jim Meara
Associate Commissioner #2

A True copy from the Records of said Commission.

WITNESS my Hand and the Seal of said Commission, this 23rd day of August, 2005.

(SEAL)

Janet Burlingame
County Clerk

By: Jan Cantrell
Jan Cantrell
Administrative Assistant

1.8 Record of Change

This Record of Changes documents all revisions, updates, and modifications made to the Cass County Emergency Operations Plan (EOP) since its adoption.

The EOP is a living document that should be reviewed and updated regularly, as appropriate, to reflect:

- Changes in hazards, risks, and vulnerabilities faced by the county
- Lessons learned from exercises, incidents, and real-world events
- Organizational changes in Emergency Management structure or personnel
- Updates to laws, regulations, and planning guidance
- New or modified mutual aid agreements and interagency coordination procedures
- Technological advancements and improved Emergency Management practices

All plan stakeholders are encouraged to recommend updates when conditions warrant revision, including feedback from the whole community and partners.

Cass County Emergency Management coordinates the review and revision process, solicits appropriate stakeholder input, and maintains this official record.

Plan holders are encouraged to incorporate approved updates and maintain current versions of the EOP. Questions regarding Plan revisions should be directed to the Cass County Emergency Management Director.

Table 1. Record of Change

Change Number	Date	Section/Annex Revised	Description of Change	Changed By
001	12/15/2025	Base Plan	Update to incorporate 2025 CPG101 V3.1 Guidance, enhance the ESF focused framework, and implement end-user operability and resources.	JFales

1.9 Record of Distribution

Table 2. Record of Distribution

Category	Recipients
Cass County	Cass County Emergency Management Agency Cass County Commission Cass County Dispatch Cass County Clerk Cass County Road and Bridge Cass County Health Department Forensic Medical of KS, LLC (Contracted County Coroner)
Fire Departments / Fire Protection Districts	Belton Fire Department Central Cass Fire Protection District Creighton Fire Protection District Dolan West Dolan Fire Protection District Drexel Fire Protection District East Lynne–Gunn City Fire Protection District Garden City Fire Protection District Harrisonville Fire Department Pleasant Hill Fire Protection District South Metro Fire Protection District Western Cass Fire Protection District West Peculiar Fire Protection District
Law Enforcement	Cass County Sheriff Archie Police Department Belton Police Department Cleveland Police Department Drexel Police Department Garden City Police Department Greenwood Police Department Harrisonville Police Department Lake Winnebago Police Department Peculiar Police Department Pleasant Hill Police Department Raymore Police Department

Category	Recipients
Ambulance Districts / EMS Services	Belton Fire / EMS Central Cass Fire Protection District Garden City Fire Protection District Harrisonville Fire / EMS Pleasant Hill Fire Protection District South Metro Fire Protection District West Peculiar Fire Protection District
Hospitals	Belton Regional Medical Center Cass Regional Medical Center
Cities	Archie Belton Cleveland Creighton Drexel East Lynne Freeman Garden City Greenwood Harrisonville Lake Annette Lake Winnebago Lee's Summit Peculiar Pleasant Hill Raymore Strasburg
Villages	Baldwin Park Gunn City Loch Lloyd Riverview Estates West Line
Other Agencies / Organizations	American Red Cross Chapter Salvation Army State Emergency Management Agency Region A Coordinator Missouri State Highway Patrol Troop A Missouri Emergency Response Commission

This plan is distributed electronically so that all stakeholders have access to the most current version. The official electronic copy shall be provided to the organizations listed above.

Printed copies may be generated as needed by individual users, who should include a signed promulgation statement with each printed version.

1.10 Table of Contents

1.11 List of Tables

1.12 List of Figures

2 Purpose, Scope, Situation Overview, and Planning Assumptions

2.1 Purpose

This plan applies to emergency and disaster operations within Cass County, Missouri, including all incorporated municipalities and unincorporated areas. It provides a coordination framework for County departments, municipal agencies, special districts, volunteer organizations, and private-sector partners.

The plan provides for scalable, tiered response based on incident severity:

- Local Response: Incidents managed with existing departmental resources
- Unified Response: Multi-agency incidents requiring EOC activation and resource coordination
- Regional/State Support: Incidents requiring mutual aid or state emergency declarations
- Federal Assistance: Catastrophic disasters requiring Presidential disaster declaration under the Stafford Act

Cass County's Emergency Management capabilities are based on available resources, trained personnel, equipment, and external assistance availability. Response priorities include the following:

- Protect human life and minimize injury
- Preserve critical infrastructure and essential government functions
- Safeguard property and the environment to the extent practicable
- Support community lifelines, recovery, and resilience

The County recognizes that large scale incidents may exceed available capabilities, requiring prioritization decisions based on risk, operational feasibility, and resource availability.

Emergency operations integrate access and functional needs considerations consistent with ADA requirements and operational feasibility.

All actions described in this plan are discretionary governmental functions requiring professional judgment, policy decisions, and resource allocation determinations.

2.2 Scope

The plan is applicable to all emergencies and disasters that require a coordinated response exceeding normal day-to-day operations. It establishes the framework for integrating local, regional, state, and federal resources to support emergency operations as follows:

- Identifies the departments and agencies designated to perform response and recovery activities and specifies the tasks they are assigned to perform as resources and priorities allow
- Outlines assistance available to the county and municipalities during disasters that exceed local capabilities
- Outlines direction, control, and communication procedures for alerting, notifying, and dispatching emergency response personnel
- Provides for coordinated implementation of mutual aid agreements and interstate compacts, as applicable
- Describes logistical support for planned operations

2.3 Situation Overview

Cass County, Missouri, is located in the western part of the state and is part of the Kansas City metropolitan area and is bordered by Jackson, Johnson, Henry, and Bates counties in Missouri, and by Miami and Johnson counties in Kansas.

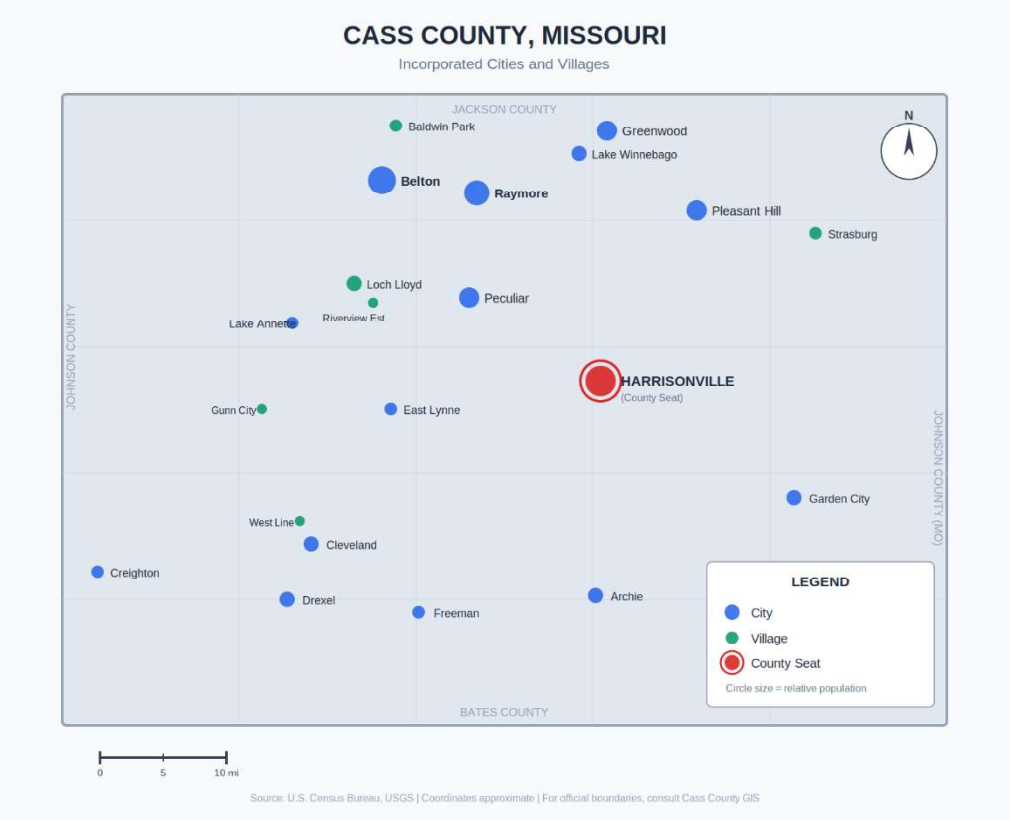
The County encompasses approximately 697 square miles with an estimated population of 111,732 as of the 2023 census.

Harrisonville serves as the county seat, with other municipalities including:

Archie
Austin
Baldwin Park
Belton
Cleveland
Creighton
Drexel
East Lynne

Freeman
Garden City
Greenwood
Gunn City
Lake Annette
Lake Winnebago
Loch Lloyd
Peculiar
Pleasant Hill
Raymore
Strasburg
Riverview Estates
West Line

Figure 2. Cass County Incorporated Municipalities Map



Hazard Analysis Summary

The county is susceptible to a wide range of natural, technological, and human-caused hazards, including flooding, tornadoes, severe storms, winter weather, wildfires, dam failure, hazardous-materials releases, power outages, structural fires, transportation accidents, civil unrest, terrorism, and potential nuclear exposure. The complete Hazard Identification and Risk Assessment can be found in the Mid-American Regional Council Hazard Mitigation Plan.

Vulnerable facilities and populations considered in county emergency planning include:

Table 3. Cass County Vulnerable Facilities Listing

Facility Type	Count
VULNERABLE POPULATIONS	
Day Care Centers	49
Nursing Homes	10
Schools (K – 12)	47
Career/Technical Centers	1
EMERGENCY SERVICES	
Hospitals	2
Fire Stations	17
Police Facilities	15
Emergency Communications (PSAP)	5
National Guard Armory	1
HAZARDOUS MATERIALS	
Tier II Facilities	110
Risk Management Plan (RMP) Facilities	6
INFRASTRUCTURE	
Wastewater Treatment Plants	16

Key infrastructure and community lifelines include:

Table 4. Key Infrastructure and Community Lifelines

Infrastructure System	Key Components
WATER SUPPLY	
Public Water Supply Systems	PWSD #2, #7, #9, #10; and various municipal water systems
ENERGY	
Electrical Distribution Grid	Electric cooperatives, investor-owned utilities

Infrastructure System	Key Components
Natural Gas Pipeline Network	Regional transmission and distribution
Petroleum Production	60% of Missouri's crude oil production
TRANSPORTATION	
Major Highways	U.S. 71, Missouri Routes 2 & 7
County Road Network	503 miles of functional class roads
Rail Infrastructure	Freight rail lines serving industrial areas
Bridges	Critical river and creek crossings
COMMUNICATIONS	
Telecommunications Network	Fiber optic, cellular towers, landline
Internet Service Providers	Cable, fiber, wireless broadband providers

Emergency planning also considers populations with access and functional needs, including homebound elderly and disabled residents, individuals with limited English proficiency, rural residents, and agricultural operations with livestock. Cass County integrates access and functional needs considerations into emergency planning consistent with ADA, Section 504, and operational capabilities.

Coordination with External Plans: This EOP is designed to integrate with:

- Missouri State Emergency Operations Plan
- Regional Homeland Security Coordination Plans
- Municipal emergency plans and ordinances
- Mutual aid agreements and compacts
- Federal National Response Framework (NRF) and Emergency Support Functions (ESFs)

Capability Assessment

Cass County maintains emergency response capabilities through a combination of county agencies, municipal departments, fire protection districts, and private-sector partners. Key capabilities include:

Fire and Rescue: Twelve fire departments and fire protection districts provide structural firefighting, wildland fire response, vehicle rescue, and basic hazardous materials response throughout the county. Several districts maintain technical rescue capabilities including water rescue and vehicle extrication.

Emergency Medical Services: EMS coverage is provided by fire-based transport services and private ambulance providers. Two hospitals, Belton Regional Medical Center and Cass Regional Medical Center, provide emergency and inpatient care within the county.

Law Enforcement: The Cass County Sheriff's Office provides law enforcement services in unincorporated areas and maintains the county detention facility. Twelve municipal police departments serve incorporated areas.

Public Works: County Road and Bridge and municipal public works departments maintain equipment for debris clearance, road repair, and infrastructure restoration.

Emergency Management: The Cass County Emergency Management Agency maintains the County EOC, coordinates planning and exercises, and facilitates mutual aid and state resource requests.

Identified Limitations: Large-scale or prolonged incidents may exceed local staffing and equipment capacity, requiring mutual aid from neighboring jurisdictions or state resources. The county does not maintain a dedicated hazardous materials response team; HAZMAT incidents requiring technician-level response are handled through mutual aid with regional teams. The county relies on volunteer and combination fire departments, which may have limited daytime staffing availability.

Mitigation Overview

Cass County actively participates in and implements local and regional mitigation initiatives designed to lessen the impact of identified hazards. Ongoing and planned mitigation actions include:

- Implementing a community-wide weather radio program.
- Developing a cloud-based dashboard to view flood affected areas.
- Promoting the county’s Mass Notification system.
- Leveraging social media to educate and inform the public about emergency preparedness and response activities.

These activities are coordinated among regional county departments, municipalities, and partner agencies to reduce overall community risk and enhance long-term resilience.

2.4 Planning Assumptions

The following assumptions provide the foundation for emergency operations planning in Cass County and guide the development and implementation of this Emergency Operations Plan:

Jurisdictional and Adoption Assumptions

- Cass County and its incorporated municipalities retain independent legal authority for emergency management within their respective jurisdictions.
- Municipalities may adopt this EOP in whole, in part, or may choose to develop independent emergency operations plans based on local needs and priorities.
- The degree of municipal participation in county-directed emergency operations will vary based on local adoption decisions, available resources, and the nature and scope of the incident.
- Mutual aid and cooperative response between the county and municipalities will be conducted through established agreements and protocols.
- Emergency operations will be scaled and coordinated to match the jurisdictional scope of the incident, with local incidents managed at the municipal level and county-wide or multi-jurisdictional incidents coordinated by the county.

Hazard and Impact Assumptions

- Cass County is vulnerable to multiple natural, technological, and human-caused hazards that may occur with little or no warning.
- Major emergencies and disasters may occur simultaneously or in rapid succession, requiring prioritization of resources and response activities.
- Some incidents will exceed the response and recovery capabilities of individual municipalities and will require county-level coordination and resource support.
- Certain incidents may impact critical infrastructure, disrupting essential services such as utilities, communications, transportation, and healthcare for extended periods.
- Vulnerable populations, including residents of nursing homes, day care centers, schools, and other congregate care facilities, will require specialized assistance during emergency operations.

Response Capability Assumptions

- Local emergency response resources may be insufficient to address large-scale or catastrophic incidents without external assistance.
- Mutual aid from neighboring jurisdictions, state resources, and federal assistance will be available but may not arrive immediately following a disaster.

- Response agencies will implement the National Incident Management System (NIMS) and Incident Command System (ICS) principles during emergency operations.
- Public and private sector partners, including utilities, healthcare facilities, businesses, and volunteer organizations, will participate in emergency response and recovery operations.
- County and municipal emergency operations centers (EOCs) may be activated independently or in coordination, depending on the scope and nature of the incident.

Operational Assumptions

- The Cass County Emergency Management Agency will serve as the coordinating body for county-level emergency operations and will facilitate information sharing and resource coordination among participating jurisdictions.
- Municipalities that have not formally adopted this EOP may still request and receive county support during emergencies through established mutual aid protocols.
- Emergency operations will be conducted in accordance with federal, state, and local laws, regulations, and established emergency management frameworks.
- Incident command will be established at the lowest appropriate jurisdictional level, with coordination and support provided by county emergency management as needed.
- Emergency response priorities will focus on life safety, incident stabilization, property protection, and community lifelines.

Communication and Information Assumptions

- Primary communication systems may be disrupted or overloaded during major emergencies, requiring the use of backup and alternative communication methods.
- Timely and accurate information sharing among responding agencies, elected officials, and the public is essential for effective emergency operations.
- Public information and warning systems will be used to notify and instruct the public during emergencies, though not all residents may receive or respond to these notifications.
- Situational awareness and common operating picture development will require coordinated information gathering and sharing among all responding agencies and jurisdictions.

Resource and Logistics Assumptions

- Emergency response agencies will require logistical support, including equipment, supplies, facilities, and personnel, which may need to be obtained through mutual aid or external sources.

- Private sector resources and capabilities may be mobilized to support emergency operations through existing agreements or emergency procurement procedures.
- Extended emergency operations may strain local resources and require careful management of personnel, equipment, and supplies to maintain operational effectiveness.

Recovery and Continuity Assumptions

- Recovery from major disasters may require months or years and will necessitate coordinated planning and implementation among multiple jurisdictions and agencies.
- Essential government functions must continue during emergencies, and jurisdictions will implement continuity of operations procedures to maintain critical services.
- Documentation of emergency expenditures and activities is necessary for potential state and federal disaster assistance and reimbursement.

3 Concept of Operations

The Concept of Operations describes how Cass County and its municipalities will organize and coordinate emergency response and recovery activities. EOC operations may be conducted 24 hours a day, 7 days a week at any activation level as incident conditions require.

3.1 Emergency Management Framework

Phases of Emergency Management

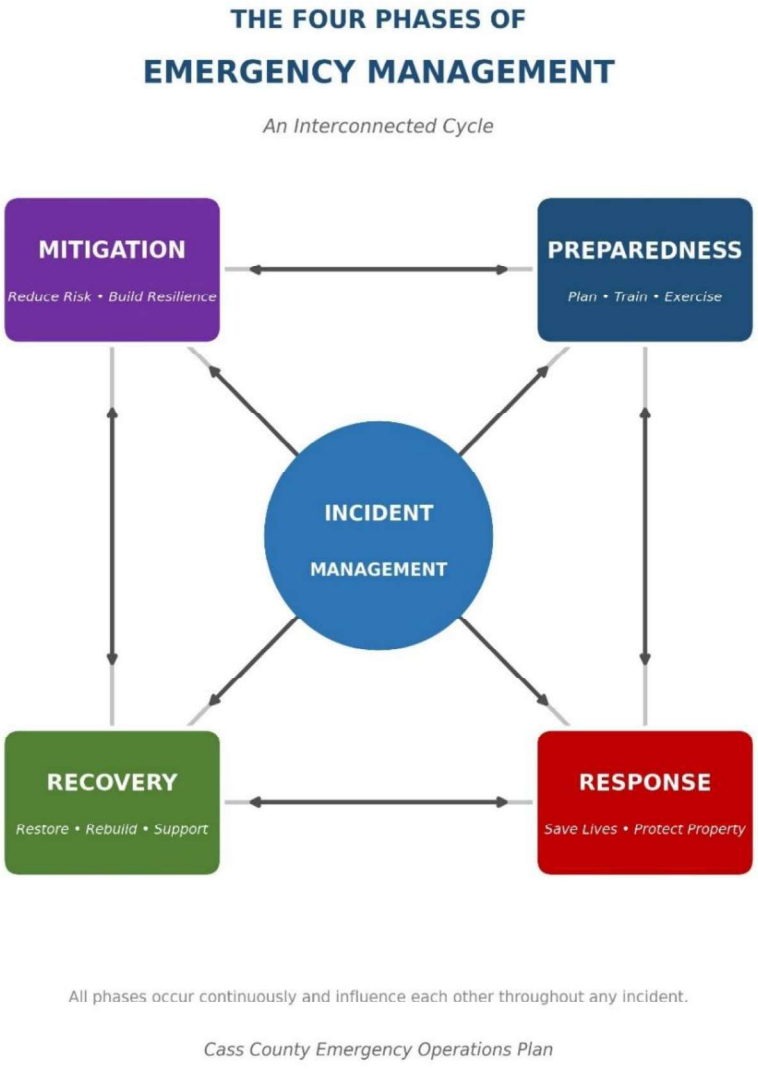
Emergency management activities are organized around four interconnected phases that guide planning, operations, and resource allocation. These phases structure the operational sections of each annex in this plan.

- Preparedness includes activities undertaken before an incident to build and sustain capabilities. This includes planning, training, exercises, public education, resource acquisition, and maintaining mutual aid agreements. Preparedness activities are continuous and inform improvements across all other phases.
- Response encompasses actions taken immediately before, during, and in the direct aftermath of an incident to save lives, protect property, stabilize the situation, and meet basic human needs. Response activities are typically time-critical and resource-intensive.
- Recovery involves actions to restore essential services, repair infrastructure, and support community and economic restoration following an incident. Recovery begins during the response phase and may continue for months or years depending on incident severity. Recovery includes both short-term stabilization and long-term community rebuilding.

- Mitigation includes sustained actions to reduce or eliminate long-term risk from hazards. Mitigation activities occur before, during, and after incidents and include infrastructure improvements, land use planning, code enforcement, and public awareness programs. Cass County's mitigation priorities are documented in the Mid-America Regional Council Regional Hazard Mitigation Plan.

These phases are not strictly sequential. During any incident, activities from multiple phases occur simultaneously; response operations continue while recovery planning begins, and mitigation opportunities are identified throughout.

Figure 3. Phases of Emergency Management



Note: The National Preparedness Goal identifies five mission areas: Prevention, Protection, Mitigation, Response, and Recovery. Prevention and Protection address terrorism and intentional threats and are incorporated into federal homeland security grant programs and capability assessments. This plan uses the four-phase operational model standard for all-hazards local emergency operations planning, where prevention and protection activities are addressed within preparedness and mitigation.

General Principles

Incident Command System (ICS). All field operations use ICS to provide a standardized, scalable management structure enabling effective coordination among responding agencies regardless of incident type or complexity.

Emergency Support Function (ESF) Structure. This plan organizes emergency functions using an ESF structure aligned with state and federal frameworks. ESFs group related capabilities and resources under designated coordinating agencies to facilitate resource coordination and mutual aid integration.

Scalable Response. Emergency operations scaled to match incident requirements. Not all incidents require EOC activation; not all EOC activations require full staffing. Activation levels and resource commitments are based on incident scope, complexity, and anticipated duration.

Coordination, Not Duplication. This plan establishes coordination frameworks and assigns functional responsibilities without duplicating operational procedures maintained by individual agencies. Responding agencies retain authority over their personnel and operate under their own standard operating procedures while coordinating through established channels.

Local Control. Incidents are managed at the lowest capable jurisdictional level. Municipal governments retain independent authority within their jurisdictions. The County will not supersede the authority of municipal elected officials unless: (1) requested by those officials, (2) the municipal government is incapacitated or unable to function, or (3) empowered to do so by the Governor under RSMo Chapter 44. The County EOC provides coordination and resource support when incidents exceed local capabilities or affect multiple jurisdictions.

Continuity of Normal Functions. Emergency functions parallel normal day-to-day operations as closely as possible. Personnel and resources are employed in emergency roles consistent with their regular duties and expertise. Day-to-day functions that do not contribute directly to emergency operations may be suspended, with those resources redirected to emergency tasks for the duration of the incident.

Annex Structure

Each annex in this plan follows a consistent structure to facilitate rapid reference during operations. The Concept of Operations section within each annex organizes operational guidance by phase:

- Preparedness: Actions to build and maintain readiness
- Response: Actions during incident operations
- Recovery: Actions to restore normal operations
- Mitigation: Actions to reduce future risk (where applicable to the function)

Users should review relevant annexes during non-emergency periods to ensure familiarity with assigned roles and phase-specific responsibilities.

3.2 Activation Authority

This Emergency Operations Plan may be activated in whole or in part by the following officials based on the scope, severity, and anticipated duration of the emergency or disaster:

Cass County Commission (Presiding Commissioner or designee)

- Full authority for county-wide incidents and unincorporated areas

Cass County Emergency Management Director

- Immediate activation authority for incidents requiring multi-agency coordination
- Determines appropriate activation level based on incident scope and needs
- 24-hour operational authority for time-sensitive response
- Notifies County Commission as soon as practicable following activation

Cass County Department Heads

- May request activation when incidents exceed normal operational capabilities

Municipal Chief Elected Officials (Mayors) or designee

- Independent authority within municipal jurisdictions
- May coordinate with County EOC for regional support

State and Mutual Aid Partners

- SEMA may request county EOC activation for state-coordinated events or when providing state resources
- Mutual aid partners may request activation when coordinating significant resource deployments to or from Cass County

3.3 EOC Activation

Cass County utilizes four levels of EOC activation consistent with FEMA and SEMA standards, scaled to match incident complexity and required coordination. EOC operations may be conducted 24 hours a day, 7 days a week at any activation level as incident conditions require.

Level 4 – Monitoring/Watch

- Situation monitoring by emergency management staff and technical experts
- May be conducted remotely or after hours
- Personnel may be placed on-call for potential escalation
- Appropriate for potential or minor threats requiring situational awareness

Level 3 – Partial Activation

- Limited EOC staffing of essential positions
- Specific agencies or departments activated based on incident type
- Personnel responding to a limited geographical area and operational periods
- Appropriate for small incidents with potential to escalate

Level 2 – Full Activation

- Full EOC staffing of all emergency support functions
- External partners and supporting agencies involved
- Personnel responding to widespread geographical areas and multiple operational periods
- Appropriate for significant, complex incidents affecting the county

Level 1 – Full Activation with State/Federal Coordination

- Full EOC staffing with augmentation as needed
- State and Federal Emergency Management Agency participation
- Personnel responding to widespread geographical areas with extended operational periods
- Appropriate for large-scale complex disasters requiring external assistance

3.4 Declaration of Emergency

A declaration of emergency authorizes the use of resources, enables emergency powers authorized by law, and initiates eligibility for state or federal assistance if available. The declaration may be issued in anticipation of, or in response to, conditions that threaten life, public health, property, the environment, and community lifelines.

General Authority

Emergencies or disasters may occur with or without warning. County departments and municipalities may take immediate protective actions and utilize available resources in accordance with this Emergency Operations Plan. When the scope of an incident exceeds routine response capability, the chief executive official for the jurisdiction may declare an emergency.

Emergency Declaration Levels

Municipal Emergency Declarations

- Incorporated municipalities within Cass County retain the authority to declare a local emergency.
- A municipal declaration applies within that jurisdiction and activates the relevant portions of this plan for coordinated response and resource management.
- When a municipality issues a local emergency declaration, it should notify the Cass County Emergency Management Director as soon as practicable and provide a copy of the written declaration for coordination and recordkeeping

County Emergency Declarations

- Issued by the Presiding Commissioner or Commission Designee when an incident requires extraordinary coordination or access to emergency powers.
- Activates applicable portions of the EOP and County EOC as needed.
- Authorizes emergency actions, resource allocation, emergency procurement, etc.
- When the county issues an emergency declaration, it should notify the affected municipalities and SEMA as soon as practicable and retain a copy of the written declaration for record keeping

State Emergency Declaration

- The Governor of Missouri, through SEMA, may declare a state of emergency when local resources are insufficient.
- Enables the Governor to activate various emergency authorities and response mechanisms
- May authorize deployment of State assets and Missouri National Guard resources
- May initiate the joint damage assessment process

Federal Emergency or Major Disaster Declaration

- Upon request from the Governor, the President may issue a Presidential Declaration under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5121 et seq.).
- Enables access to federal assistance programs and resources.
- May authorize federal cost-sharing for eligible response and recovery activities.

Termination of Declaration

- Local emergency declarations remain in effect until the expiration date specified in the declaration or until formally terminated by the declaring authority
- County emergency declarations remain in effect until the expiration date specified in the declaration or until formally terminated by the Cass County Commission
- State and federal declarations are terminated by the declaring authority in accordance with applicable statutes and regulations

3.5 Legal Coordination and Liability Protection

Legal Consultation

If legal issues arise during preparedness, response, or recovery operations, the Cass County Commission and County Emergency Management Director may consult with the County Attorney, which represents the County in legal matters, or with other designated legal counsel for guidance.

When legal questions involve technical or operational subject matter, the County Attorney may request input from the Emergency Management Director or other subject-matter experts to ensure that advice reflects both legal and operational considerations.

Municipal Legal Coordination

- Municipalities within Cass County retain independent legal authority and counsel.
- If a municipality encounters legal questions related to actions taken under this Plan, the issue should first be referred to the municipal attorney for review.
- The municipal attorney may coordinate with the Cass County Attorney when joint or countywide legal interpretation is required.
- Nothing in this Plan transfers legal representation or liability from the municipality to Cass County; each jurisdiction remains responsible for its own legal determinations and representation.

Liability Protection for Responders and Volunteers

County and municipal employees, registered volunteers, and mutual-aid partners operating under official direction during emergency operations are afforded liability protection under federal and state law, including:

The Federal Volunteer Protection Act (42 U.S.C. § 14501 et seq.), which protects volunteers serving governmental entities from personal liability for acts or omissions while acting within scope of responsibilities, absent willful misconduct or gross negligence.

Missouri emergency management and mutual aid statutes (RSMo § 44.045, § 44.090, and §537.600), which grant immunity for authorized emergency management activities, mutual aid operations, and discretionary governmental functions performed in good faith.

Volunteer and private-sector partners are expected to operate under formal activation or mutual-aid agreements to ensure eligibility for statutory protection.

Legal Documentation

All legal questions, opinions, or determinations affecting emergency actions will be documented in the EOC's administrative records and retained in accordance with County and municipal record-retention policies.

All legal provisions, statutory citations, and delegated authorities that govern emergency management within Cass County are identified in Section 10 – Authorities and References of this plan.

3.6 Interagency Coordination

The Cass County Emergency Management Agency (EMA) serves as the coordinating entity for Emergency Management activities within the County. Coordination between the County and municipal jurisdictions is maintained through established communication channels, formal adoption of this EOP, and participation in countywide Emergency Management programs.

During preparedness, response, and recovery operations, the County EMA facilitates information sharing, situational awareness, and resource coordination among municipal governments, county departments, special districts, volunteer organizations, and private-sector partners.

When incidents affect multiple jurisdictions or exceed a municipality's capability, the affected jurisdiction coordinates with the County EMA to request support, align response priorities, and ensure consistency with the County Emergency Operations Plan (EOP). The County EMA may activate the Emergency Operations Center (EOC) to serve as the central coordination point for interagency operations, public information, and requests for state or federal assistance as appropriate.

Coordination is maintained through established procedures, liaison assignments, joint training and exercises, and participation in unified command or area command structures when warranted by incident complexity.

3.7 Inclusive and Whole-Community Operations

Emergency operations under this plan are designed to address the needs of all populations within Cass County that may require additional assistance before, during, or after an emergency.

The County applies a whole-community approach that engages diverse stakeholders and community partners in supporting inclusive emergency management.

Considerations for the Needs of Children

Emergency operations account for the physical, emotional, and developmental needs of children who may be affected by disasters. Cass County and its municipalities integrate child-focused considerations into preparedness, response, sheltering, family reunification for unaccompanied minors, and recovery activities as appropriate to the incident and available resources.

Coordination occurs with schools, childcare providers, public health agencies, and child-welfare organizations to support safe evacuation and shelter environments, promote access to age-appropriate food, water, and medical care, and maintain family unity whenever possible.

Response partners should strive, when feasible, to provide trauma-informed care, behavioral-health support, and continuity of education through collaboration with the Missouri Department of Elementary and Secondary Education and other child-serving entities.

Access and Functional Needs Considerations

Cass County and its municipalities incorporate the needs of individuals with access and functional needs (AFN) through preparedness, response, recovery, and mitigation activities. Planning and operations address physical accessibility, program access, and effective communication consistent with the intent of the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act.

As appropriate to the incident and available resources, agencies and response partners coordinate with disability-service organizations, public-health providers, transportation agencies, and volunteer groups to promote access to emergency notifications, transportation, sheltering, medical care, and recovery assistance.

The County strives to provide information in accessible formats, integrate reasonable modifications into emergency programs, and may assign liaisons or specialists within the Emergency Operations Center (EOC) to support AFN coordination.

These efforts are implemented through existing procedures, training, and collaboration with whole-community partners to enhance equitable outcomes while maintaining operational flexibility.

3.8 Household Pets and Service Animal Considerations

Cass County and its municipalities incorporate the needs of individuals with household pets and service animals into emergency preparedness, evacuation, sheltering, and recovery operations as appropriate to the incident and available resources.

In accordance with the Pets Evacuation and Transportation Standards (PETS) Act and applicable state guidance, the County Emergency Management Agency coordinates with local animal-control agencies, veterinary providers, humane societies, and volunteer organizations to promote safe sheltering and reunification of household pets and service animals during disasters.

Service animals accompanying individuals with disabilities are accommodated in accordance with the Americans with Disabilities Act (ADA) and applicable public-health and safety requirements.

Public Information efforts include messaging on pet preparedness, evacuation options, and animal-sheltering locations to support responsible pet owner actions and reduce barriers to evacuation.

3.9 Community Lifelines

Cass County uses the FEMA Community Lifelines construct to assess and report incident impacts, set operational priorities, and coordinate resources during emergencies. Lifelines represent the essential services that sustain life, protect property, and maintain community stability. Stabilizing these lifelines is the operational objective during response and a key measure of progress during recovery.

FEMA identifies eight Community Lifelines:

Safety and Security - Law Enforcement/Security, Fire Service, Search and Rescue, Government Service, Community Safety

Food, Hydration, Shelter - Food, Hydration, Shelter, Agriculture

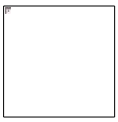
Health and Medical - Medical Care, Public Health, Patient Movement, Medical Supply Chain, Fatality Management

Energy - Power Grid, Fuel

Communications - Infrastructure, Responder Communications, Alerts Warnings and Messages, Finance, 911 and Dispatch

Transportation - Highway/Roadway/Motor Vehicle, Mass Transit, Railway, Aviation, Maritime

Hazardous Materials - Facilities, HAZMAT, Pollutants, Contaminants
Graphic



Water Systems - Potable Water Infrastructure, Wastewater Management

3.10 Supporting and Related Plans

The Cass County Emergency Operations Plan (EOP) is supported by a series of ESF, support, and hazard-specific annexes and partner plans that guide coordinated Emergency Management operations across the County. These supporting documents provide detailed procedures for specific missions and capabilities, consistent with the framework established in this EOP.

Supporting plans include, but are not limited to:

- County and municipal departmental standard operating procedures (SOPs) and emergency procedures
- Functional annexes addressing core emergency support functions (ESFs) such as communications, transportation, public health, and sheltering
- Hazard-specific annexes for incidents such as severe weather, hazardous materials releases, flooding, and public health emergencies
- Continuity of Operations (COOP) and Continuity of Government (COG) plans
- Mutual-aid agreements and memoranda of understanding with local, regional, and state partners
- State of Missouri and municipal emergency operations plans that align with this document
- Private-sector, NGO, educational, and other partner emergency plans.

4 Organization and Assignment of Responsibilities

To the extent possible, emergency operations will mirror day-to-day government operations, utilizing the pre-established relationships and coordination that occur between departments and offices on a regular basis. Most agencies within the County have emergency functions to perform in addition to their normal duties.

4.1 Presiding Commissioner

- Issue declaration of local public emergency and related orders as required
- Serve as or appoint a chief spokesperson for the County during emergencies
- Direct the activation of the COG Plan
- Exercise emergency powers as defined in Chapter 215 Emergency Management of the Cass County Code, 2025, as amended.
- Authorize expenditure of funds for emergency purposes in accordance with county procedures
- Confer with department heads as appropriate on policy issues related to the response and recovery operations
- Serve as liaison and coordinate with other elected officials at the regional and state level
- Terminate the local public emergency declaration and facilitate the restoration of routine services

4.2 Emergency Management Director

Preparedness

- Develop and maintain emergency plans including the County EOP, COG, and SOPs, and other plans required or necessary to plan for, respond to, mitigate, and recover from disasters.
- Serve as liaison to state and federal authorities and other political subdivisions as necessary to facilitate disaster preparedness and response capabilities.
- Manage and maintain the operational readiness of the EOC and County alert systems.
- Coordinate efforts to identify and maintain an inventory of available NIMS-typed resources and credentialed personnel within the county, in collaboration with municipal agencies, emergency services, and regional partners.
- Coordinate a training and exercise program to meet regulatory and grant requirements, support emergency response skill development, and promote operational readiness.
- Promote public education and outreach on emergency preparedness and community resilience.

Response

- Activate and staff the County EOC at the appropriate level in response to the severity and anticipated duration of an incident in coordination with municipal, state, and private partners.
- Facilitate incident coordination, situational awareness, and resource support to affected agencies and jurisdictions.
- Advise the County Commission on local emergency declarations, resource requests, and response priorities.
- Support the development and distribution of situation reports, incident action plans, and public information.
- Coordinate emergency warning and notification to the public.
- Facilitate integration of volunteer organizations, spontaneous volunteers, and private-sector partners into response operations.

Recovery

- Coordinate initial damage assessments (IDAs) and joint damage assessment processes with local and state partners.
- Support short- and long-term recovery coordination, including restoration of critical infrastructure and community services.
- Assist the County Commission in applying for state and federal disaster assistance under the Stafford Act.
- Facilitate the establishment of local disaster recovery committees or long-term recovery groups.
- Coordinate debris management planning and implementation.
- Maintain documentation of disaster response and recovery actions to support reimbursement and after-action reporting
- Coordinate unmet needs with community organizations and NGOs
- Coordinate post-incident debriefs and corrective-action planning to improve future preparedness and interagency coordination and incorporate lessons learned into future planning and training

Mitigation

- Participate in regional hazard mitigation planning.
- Identify and prioritize mitigation projects to reduce hazard impacts and repetitive losses
- Facilitate applications for state and federal mitigation grant programs (e.g., HMGP, BRIC)
- Support integration of mitigation strategies into land-use planning, infrastructure development, and community resilience initiatives
- Promote public education on hazard risk reduction and insurance awareness (e.g., floodplain management, NFIP participation)

4.3 County Departments and Offices

- Provide representatives to the EOC, with authority to make operational decisions and commit departmental resources.
- Coordinate departmental actions, share situational updates, and support countywide decision-making.
- Implement departmental emergency procedures and continuity-of-operations plans to maintain essential services as feasible under incident conditions.
- Maintain, as feasible, communications with field personnel, municipal counterparts, and mutual-aid partners to provide status reports and identify resource needs.
- Coordinate logistics and resource support for field operations, including personnel, equipment, vehicles, and supplies.
- Track resource use and expenditures for reporting and potential reimbursement through disaster assistance programs.
- Assist with damage assessment by providing field observations, reports, and technical data relevant to departmental areas of responsibility.
- Support access and functional needs considerations by identifying and addressing service requirements of vulnerable populations within departmental missions.
- Document actions taken, decisions made, and issues encountered to support after-action reviews, improvement planning, and reimbursement documentation.
- Support transition from response to recovery, assisting with restoration of services, infrastructure, and administrative operations.
- Participate in post-incident debriefs and corrective-action planning to improve future preparedness and interagency coordination.

4.4 Municipalities

- Develop and maintain a local emergency operations plan, or adopt the County Emergency Operations Plan, to guide preparedness, response, recovery, and mitigation activities consistent with county and state procedures.
- Designate a Municipal Emergency Management Coordinator or other point of contact to serve as the jurisdiction's liaison to the County EOC.
- Develop an inventory of local resources, equipment, and personnel that align with NIMS typing standards, as feasible given local staffing and record systems.
- Notify the County Emergency Management Director of incidents that may require situational awareness, multi-jurisdictional coordination, or county assistance.
- Provide representation to the County EOC when activated and requested, if available, to support unified coordination and information sharing.
- Implement protective actions (evacuation, shelter-in-place, public warnings) for their jurisdictions in coordination with the County and partner agencies.
- Coordinate public information with the County Public Information Officer to ensure consistent, accurate, and accessible messaging.
- Support emergency sheltering operations by identifying local facilities and assisting in the care of displaced residents and animals, as feasible.
- Collect and provide damage assessment information to the County EOC for countywide reporting and potential state/federal disaster assistance.
- Assist in recovery operations by restoring essential services, clearing debris, and supporting community recovery efforts.
- Encourage local hazard mitigation activities consistent with the County Hazard Mitigation Plan and local development policies.
- Maintain records of emergency actions, costs, and communications to support documentation, potential reimbursement, and after-action review.
- Participate in joint training, exercises, after-action reviews, and planning initiatives led by the County Emergency Management Agency.

4.5 Functional Emergency Responsibilities

To the extent possible, emergency operations mirror day-to-day government operations, utilizing the pre-established relationships and coordination that occur between departments and offices on a regular basis. Most agencies within the County have emergency functions to perform in addition to their normal duties.

Emergency Support Function Framework

This plan organizes emergency responsibilities using the Emergency Support Function (ESF) structure, a framework used by federal, state, and local governments to group capabilities and resources for coordinated emergency response. The ESF structure facilitates mutual aid integration by aligning local functions with state and federal counterparts.

Each ESF identifies a primary agency responsible for coordinating that function and support agencies that provide personnel, equipment, and technical assistance. Primary agencies do not necessarily perform all activities within an ESF—they coordinate among the agencies and organizations that contribute to that function.

Cass County utilizes 15 Emergency Support Functions:

Table 5. List of Emergency Support Functions

ESF	Function
ESF #1	Transportation
ESF #2	Communications
ESF #3	Public Works & Engineering
ESF #4	Firefighting
ESF #5	Emergency Management
ESF #6	Mass Care, Emergency Assistance, Housing & Human Services
ESF #7	Logistics Management & Resource Support
ESF #8	Public Health & Medical Services
ESF #9	Search & Rescue
ESF #10	Hazardous Materials
ESF #11	Agriculture & Natural Resources
ESF #12	Energy
ESF #13	Public Safety & Security
ESF #14	Cross-Sector Business & Infrastructure
ESF #15	External Affairs

Primary and support responsibilities for each emergency support function are outlined in the following table.

Table 6. ESF Responsibility Assignments

P = Primary S= Support

Emergency Support Function (ESF) Annexes	County Commission	Emergency Management	Assessor	Auditor	Building Codes, Zoning & Env Health	Coroner	County Attorney	EMS / Ambulance	Fire Districts	GIS	Health	Human Resources	Road & Bridge	Sherriff	911 Center	Treasurer	Red Cross / Ministerial Alliance	Utility Services
ESF #1: Transportation										S			P	S				
ESF #2: Communications		S						S	S					S	P			
ESF #3: Public Works & Engineering		S			P					S				S				
ESF #4: Firefighting					S			P	P		S			S				
ESF #5: Emergency Management	S	P					S	S	S	S				S				
ESF #6: Mass Care, Emergency Assistance, Housing & Human Services		P			S			S	S		S			S			S	
ESF #7: Logistics Management and Resource Support		p								S				S				
ESF #8: Public Health and Medical Services		S				S		S	S		P			S			S	
ESF #9: Search & Rescue					S			S	P	S				S				

Emergency Support Function (ESF) Annexes	County Commission	Emergency Management	Assessor	Auditor	Building Codes, Zoning & Env Health	Coroner	County Attorney	EMS / Ambulance	Fire Districts	GIS	Health	Human Resources	Road & Bridge	Sherriff	911 Center	Treasurer	Red Cross / Ministerial Alliance	Utility Services
ESF #10: Oil and Hazardous Materials Response		S			S				P	S	S			S				
ESF #11: Agriculture and Natural Resources		P			S				S	S	S		S	S				
ESF #12: Energy		S			P						S							S
ESF #13: Public Safety & Security							S		S	S			S	P				
ESF #14: Cross-sector Business and Infrastructure	S	P			S		S											
ESF #15: External Affairs	S	P																

4.6 Emergency Responsibilities by Agency

This section summarizes the functional emergency responsibilities of key county departments, offices, and partner agencies. Assignments reflect each agency's normal authorities, capabilities, and resources, and are intended to guide coordination within the County EOC and across supporting organizations.

These responsibilities correspond to the emergency functions identified in Section 4.5, Functional Responsibilities, and may be adjusted as incident conditions, priorities, and available resources require.

County and Key Agency Roles and Responsibilities

Table 7. County and key Agency Responsibility Matrix

County Agency	General Responsibilities
Commissioners	– Provide incident response policy and guidance – Authorize incident expenditures – Coordinate with other governmental entities
Emergency Management	– Coordinate Emergency Management activities countywide through the Emergency Management Agency, as described in Section 4.2
Assessor	– Support post-incident damage assessment efforts by providing property valuation data and assisting with cost estimation – Assist with mapping for planning and response operations
Auditor	– Document and track all county incident related purchases and expenditures – Implement emergency purchasing guidelines when authorized
Building Codes, Zoning & Environmental Health	– Conduct safety inspections of damaged structures and issue placards indicating occupancy status and safety conditions – Coordinate demolition and debris removal operations for structures deemed unsafe or uninhabitable – Enforce temporary land use restrictions and building code modifications authorized during emergency recovery – Monitor environmental health hazards including water quality, wastewater systems, and solid waste management during response and recovery operations

County Agency	General Responsibilities
Coroner	– Coordinate death investigation and fatality-management activities consistent with state law. – Identify and prioritize temporary morgue facilities as required when local capacity is exceeded – Coordinate with law enforcement, public health, and DMORT or mutual-aid resources as needed.
County Attorney	– Provide legal counsel to the County Commission, Emergency Management Director, and department heads regarding emergency authorities, declarations, and orders. – Review and advise on the legality and wording of local emergency declarations, disaster expenditure authorizations, and mutual-aid or resource-sharing agreements. – Advise on the interpretation and application of state statutes, county ordinances, and executive powers during emergency operations.
EMS/Ambulance	– Provide emergency medical response, triage, treatment, and transport for ill or injured individuals – Coordinate with hospitals and medical facilities to manage patient distribution and avoid facility overload – Establish medical treatment and staging areas at incident scenes as appropriate to the incident – Support mass casualty incident operations through mutual aid coordination and specialized medical response teams
Fire Districts	– Provide fire suppression, rescue operations, and hazardous materials response within their respective jurisdictions – Conduct search and rescue operations for missing or trapped individuals – Establish incident command at emergency scenes and coordinate with other responding agencies through ICS structure – Support emergency medical operations and provide mutual aid to other districts as needed

County Agency	General Responsibilities
GIS	– Produce and maintain situational awareness maps showing incident locations, affected areas, and response resources – Support damage assessment operations by mapping impacted structures and infrastructure – Provide spatial analysis and mapping products to support operational planning and decision-making
Health	– Coordinate public health response activities in cooperation with Emergency Management, healthcare providers, and regional public health partners – Monitor and report communicable disease outbreaks and public health threats through established local and state notification systems – Support emergency medical and health resource coordination – Provide technical guidance on sanitation, food safety, and water quality in shelters, reception centers, and affected communities – Assist with risk communication and health information to ensure the public receives timely, accurate, and accessible health guidance – Participate in damage assessments and recovery operations related to environmental health and community wellness
Human Resources	– Implement employee safety and welfare measures, including worksite safety guidance, injury reporting, and mental-health/employee-assistance referrals – Advise departments on emergency leave, compensation, and labor-management policies applicable during emergency response – Maintain personnel and payroll records required for disaster-related cost recovery and insurance claims
Road & Bridges	– Coordinate debris clearance and road-repair operations to restore access for emergency responders and critical services. – Support traffic-control and evacuation efforts by providing barricades, signage, and operational assistance as requested. – Inspect bridges, culverts, and roadways for structural damage and hazards following severe weather or disaster events.

County Agency	General Responsibilities
Sheriff	– Coordinate countywide law-enforcement activities and maintain liaison with municipal, state, and federal partners during emergencies. – Support evacuation, traffic control, and re-entry operations as conditions allow, prioritizing life safety and security of affected areas. – Provide security for critical facilities, shelters, and emergency supply distribution sites in coordination with Emergency Management and partner agencies. – Serve as the designated county Public Information Officer (PIO), coordinating media relations and supporting Joint Information Center (JIC) operations when activated. – Maintain detention-facility safety and continuity of operations by activating internal emergency procedures and coordinating assistance if needed. – Assist with search, rescue, and fatality-management operations in cooperation with fire, EMS, and the County Coroner.
911 Center	– Receive and process emergency calls and dispatch appropriate response resources – Coordinate multi-agency communications and provide situational awareness to responding units – Activate emergency notification systems to disseminate warnings and public safety information – Maintain continuous communications operations and implement backup procedures when primary systems are compromised
Treasurer	– Coordinate with the Commission and County Auditor to manage the receipt, disbursement, and tracking of emergency or disaster-related funds. – Support documentation of financial transactions related to response and recovery operations. – Provide financial status information to the County Emergency Management Director and County Commission to support situational awareness and recovery planning.

NGO Partners	General Responsibilities
Red Cross / Ministerial Alliance	– Establish and operate emergency shelters for displaced individuals and families – Support emergency mass care services including food, clothing, and comfort kits to disaster survivors – Coordinate with Emergency Management and voluntary organizations to address unmet needs – Support disaster health and mental health services through trained volunteers and disaster action teams

Municipal Agency Roles and Responsibilities

Table 8. Municipal Agency Roles and Responsibilities

Municipal Agencies	General Responsibilities
Archie Austin Baldwin Park Belton Cleveland Creighton Drexel East Lynne Freeman Garden City Greenwood Gunn City Harrisonville Lake Annette Lake Winnebago Loch Loyd Peculiar Pleasant Hill Raymore Strasburg Village of Riverview Estates West Line	– Provide available staff, resources, and facilities to support emergency operations – Coordinate debris removal and disposal operations within the municipality to restore access and essential services – Maintain law and order and provide security for critical facilities and resources within the municipality – Order and conduct evacuations, when warranted, and provide access control to evacuated areas – Identify and maintain an inventory of available NIMS-typed resources and credentialed personnel, as feasible – Coordinate damage assessment activities within the municipality and provide reports to the County, as requested – Monitor, stabilize, and restore community lifelines within the municipality, requesting county or state assistance as needed when local capabilities are exceeded

Supporting Agency Roles and Responsibilities

External partners including voluntary organizations, private sector entities, and NGOs—support emergency operations through voluntary coordination and provide resources and expertise as available. External partners do not have formal emergency responsibilities assigned under this plan but are valuable contributors to coordinated response and recovery.

Table 9. Supporting Agency Roles and Responsibilities

Supporting Agency	General Responsibilities
Agricultural & Rural Community Groups – Cass County Farm Bureau – 4-H Clubs – FFA Chapters – MU Extension	– Coordinate with the County EMA to assess and report disaster impacts on farms, livestock, and agricultural infrastructure – Provide subject-matter expertise and technical guidance on crop, livestock, and soil management issues related to response and recovery operations – Support agricultural damage assessment and loss documentation – Facilitate communication between producers, cooperatives, and emergency officials – Support coordination of volunteer and donated resources (feed, fencing, equipment, etc.) for impacted producers through Extension, Farm Bureau, COAD networks, etc.
Business and Economic Organizations – Chamber of Commerce – Rotary Clubs – Main Street Groups	– Coordinate with the County Emergency Management Agency and municipalities to share situational updates on business impacts, infrastructure disruptions, and community lifeline stability. – Support business-continuity and recovery coordination by communicating preparedness, re-opening, and assistance resources to local employers and industries. – Assist with donations, resources, and volunteer management by connecting businesses that can provide materials, equipment, or specialized services to emergency operations. – Provide economic-impact information and business status reports to support county damage assessments. – Promote preparedness and continuity planning among members before emergencies, and facilitate outreach on recovery programs (e.g., SBA loans, insurance, or workforce programs) afterward. – Serve as a communication bridge between the County EOC and the business community to relay accurate, timely information on safety measures, re-entry, and resource availability.

Supporting Agency	General Responsibilities
Hospitals and Healthcare Providers	– Maintain communication with the County regarding any planned or unexpected closures or impacts on services – Maintain COOP Plans to reduce impacts to services from natural or manmade disasters, including emergency notification plans for staff and clients – Coordinate planning and preparedness efforts with county health to promote a coordinated public health and medical response to an emergency.
Non-Profits and Human Service Agencies – Salvation Army – United Way – Food Pantries – Faith Based Groups and Ministerial Alliances – Fuller Center for Housing of Cass County, Missouri – Animal Rescue and Shelter Partners	– Coordinate with the County Emergency Management Agency and municipal partners to identify and address community human-service needs arising from disasters or emergencies – Support emergency sheltering, feeding, and basic needs assistance for displaced residents, as feasible and within each organization's mission and resources. – Support animal care and sheltering operations under the PETS Act, as resources allow – Assist with donations management and volunteer coordination – Provide case management, unmet-needs coordination, and long-term recovery services for affected individuals and families
Public School Districts	– Maintain emergency operations and reunification plans for district facilities. – Coordinate with local police, fire, and municipal officials during incidents affecting schools. – Coordinate buses, district facilities, or staff to support community sheltering or evacuation operations when feasible and upon request. – Share situational information with the County EMA when incidents may affect multiple jurisdictions or require countywide coordination.

Supporting Agency	General Responsibilities
Utilities: – Electric: Every Missouri West, Osage Valley Electric Cooperative, West Central Electric Cooperative, Harrisonville Electric Department – Natural Gas: Spire Inc. – Water and Wastewater: Public Water Supply District #2, #7, #9, and #10 of Cass County; Northwest Water Resource District, and municipal water systems serving incorporated municipalities – Telecommunications: AT&T, Spectrum, Google Fiber, Brightspeed, T-Mobile Verizon, Mediacom, and other regional internet and cellular providers	– Coordinate the restoration and stabilization of community lifelines, electricity, gas, water, wastewater, and telecommunications, within their service areas – Provide situation updates to the County EOC on service disruptions, estimated restoration timelines, and resource needs – Prioritize repair activities to support emergency response operations, health and safety facilities, and critical infrastructure – Coordinate with Emergency Management and public information officers to communicate safety notices, outages, and restoration information to the public – Support mutual-aid coordination through statewide and industry agreements (e.g., Missouri Public Utility Alliance, Midwest Mutual Assistance) – Implement emergency safety measures such as power isolation, gas shutoffs, or boil-water advisories when necessary to protect the public

Supporting Agency	General Responsibilities
Youth, Senior, and Civic Engagement Groups – Girl Scouts – Scouting America – Senior Citizens Groups – Veterans Organizations – Civic Groups	– Assist with volunteer coordination, donations collection, or community support activities before, during, or after emergencies, as feasible and within each organization's mission. – Identify and communicate needs or concerns of youth, senior citizens, and veterans to help guide planning for access, functional, and support services. – Participate in community recovery efforts by organizing service projects, neighborhood clean-ups, and outreach to affected populations.

State Agency Roles and Responsibilities

The State of Missouri provides Emergency Management support to Cass County through the Missouri State Emergency Management Agency (SEMA) and its partner departments. State agencies coordinate with county and municipal officials to supplement local response and recovery operations when requested or when directed by the Governor under state emergency authorities.

State departments provide technical expertise, specialized resources, and operational support to affected jurisdictions to the extent feasible, based on their statutory missions, available resources, and current incident priorities.

Table 10. Missouri Agency Roles and Responsibilities

Missouri Agency	General Responsibilities
Department of Public Safety – State Emergency Management Agency – Highway Patrol – State Fire Marshal	– Coordinate state-level assistance, manages disaster declarations and resource requests, activates the State Emergency Operations Center, and facilitates mutual aid through EMAC and regional coordination systems – Oversee statewide public safety coordination, law enforcement mutual aid, fire service mobilization – Provide law enforcement support, traffic control, hazardous materials incident response, and air or ground support as requested and available
Department of Agriculture	– Support agricultural impact assessments, livestock health, food-supply protection, and coordination with MU Extension and USDA partners
Department of Conservation	– Assist with wildlife management, natural-resource damage assessment, and use of conservation areas for staging or response operations

Missouri Agency	General Responsibilities
Department of Corrections	– Coordinate with county and municipal law enforcement agencies to ensure the safety, custody, and potential relocation of inmates during incidents affecting correctional or detention facilities. – Support local emergency operations by providing situational updates, security coordination, and assistance through regional probation and parole offices, as appropriate. – Coordinate specialized personnel or resources, such as inmate work crews, for debris removal when requested and authorized under state policy.
Department of Elementary and Secondary Education	– Coordinate with school districts on education continuity, school-safety planning, and recovery of educational facilities
Department of Higher Education and Workforce Development	– Support workforce recovery programs following disasters through job-placement services, reemployment assistance, and coordination with local workforce development boards. – Assist in identifying and communicating educational facility needs related to damage, relocation, or temporary housing of displaced students
Department of Commerce and Insurance	– Coordinate with local governments, insurers, and the public to facilitate insurance claims, damage verification, and consumer protection following disasters. – Provide guidance to residents and businesses on insurance processes, fraud prevention, and access to state or federal recovery resources. – Support local officials and emergency managers by sharing data on insured losses and economic impacts to aid in damage assessment and recovery planning.
Department of Mental Health	– Coordinate behavioral health, crisis-counseling, and mental health services during response and recovery operations
Department of Natural Resources	– Provide technical assistance for hazardous materials, water-quality issues, dam safety, and debris management related to environmental protection
Department of Social Services	– Coordinate human-services and mass-care such as temporary housing and assistance programs
Department of Transportation	– Support transportation infrastructure assessment, debris clearance on state routes, detours, and traffic-control resources

Missouri Agency	General Responsibilities
Missouri National Guard (MONG)	– Provide personnel and equipment support to local jurisdictions when activated by the Governor for state active duty missions, in coordination with the Missouri State Emergency Management Agency (SEMA). – Assist with life-safety, security, transportation, and logistics operations such as search and rescue, debris removal, route clearance, and commodity distribution when requested through the state resource-request process. – Support aerial reconnaissance, damage assessment, and communications missions to enhance situational awareness and response coordination. – Provide security and traffic-control assistance for disaster areas, shelters, or critical facilities under state authorization and local coordination. – Assist with humanitarian support operations including mass care, water supply, and medical transport as mission assignments and capabilities allow.

Federal Agency Roles and Responsibilities

Federal support to Cass County is coordinated through the Missouri State Emergency Management Agency (SEMA). Federal agencies assist when local and state resources are insufficient or overwhelmed, operating under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, the National Response Framework (NRF), and applicable Emergency Support Functions (ESFs).

Table 11. Federal Agency Roles and Responsibilities

Federal Agency	General Responsibilities
Federal Emergency Management Agency (FEMA)	– Coordinates federal disaster assistance under the Stafford Act; supports joint damage assessments, resource coordination, individual/public assistance, and hazard-mitigation programs.
Department of Homeland Security (DHS)	– Oversees national incident management and critical-infrastructure protection through FEMA, CISA, and related components.
Cybersecurity and Infrastructure Security Agency (CISA)	– Provides technical assistance on cybersecurity and physical-security threats – supports restoration of critical infrastructure and lifelines; shares threat intelligence with state and local partners.

Federal Agency	General Responsibilities
Federal Bureau of Investigation (FBI)	– Leads federal investigations of terrorism and major crimes – coordinates with local and state law enforcement via the Kansas City Field Office and JTTF – provides intelligence sharing and forensic support
U.S. Department of Defense / U.S. Northern Command (DoD / USNORTHCOM)	– Provides military assistance (engineering, logistics, airlift, communications) when directed by the President or Secretary of Defense, typically through FEMA Region VII and the Missouri National Guard
National Weather Service (NWS)	– Issues official weather watches, warnings, and situational briefings to emergency managers and the public
U.S. Army Corps of Engineers (USACE)	– Provides technical and engineering assistance for flood control, debris removal, temporary power, and infrastructure assessments
U.S. Department of Health and Human Services (HHS)	– Supports ESF #8 functions through ASPR and CDC; assists with disease surveillance, mass care, and environmental health guidance
U.S. Department of Agriculture (USDA)	– Supports ESF #11 activities including agricultural damage assessment, food assistance, and livestock health (via FSA and NRCS)
U.S. Environmental Protection Agency (EPA)	– Provides expertise for hazardous-materials response, water quality, and environmental remediation under ESF #10 and #3
U.S. Department of Transportation (USDOT)	– Supports emergency highway funding, transportation-system repair, and coordination for aviation, rail, and pipeline safety
U.S. Small Business Administration (SBA)	– Provides low-interest disaster-recovery loans for individuals, businesses, and nonprofits
U.S. Department of Housing and Urban Development (HUD)	– Assists with temporary and permanent housing programs and community-development recovery grants

5 Direction, Control, and Coordination

Within Cass County, Missouri, each incorporated municipality and the County itself serves as the Agency Having Jurisdiction (AHJ) for emergency incidents occurring within its legal boundaries. The AHJ is the governmental entity that holds statutory or delegated authority to establish command, control, and oversight for emergency actions within its jurisdiction.

The following organizational chart identifies the direction and control structure of Cass County as it relates to Emergency Management authority and leadership. This chart identifies key positions responsible for carrying out the provisions of this Emergency Operations Plan.

Figure 4. Cass County EOC Direction & Control Organization Chart

<table>
<tr><td colspan="4">Cass County Commission
Policy & Resource Authorization</td></tr>
<tr><td colspan="4">Emergency Management Agency
EOC Manager</td></tr>
<tr><td colspan="4">EOC Leadership Staff</td></tr>
<tr><td colspan="2">EOC Public Information Officer
EMA</td><td>EOC Legal Guidance
County Attorney</td><td>EOC Liaison Officer
EMA / Commission</td></tr>
<tr><td colspan="4">EOC General Staff</td></tr>
<tr><td>EOC Operations Support</td><td>EOC Planning Support</td><td>EOC Logistics Support</td><td>EOC Finance/Admin Support</td></tr>
<tr><td>Law Enforcement / Terrorism / Evacuation
Sheriff’s Office</td><td>Situation Analysis
EMA</td><td>Resources & Supply
EMD /</td><td>Procurement / Cost Tracking
Auditor / Treasurer</td></tr>
<tr><td>Fire / Rescue / Hazmat
District Fire Depts</td><td>Documentation
EMA / Clerk</td><td>Communications
911 Center</td><td>Payroll / Workers Comp
Human Resources</td></tr>
<tr><td>Health & Medical
Health / EMS Ambulance</td><td>Mapping
Assessor / Surveyor / GIS</td><td>Information Technology
Sheriff’s Office IT</td><td></td></tr>
<tr><td>Reception & Care
American Red Cross</td><td>Damage Assessment
Building Codes, Zoning & Environmental Health</td><td></td><td></td></tr>
<tr><td>Public Works
Road & Bridges / Water Systems</td><td>Demobilization
Commission / EMA</td><td></td><td></td></tr>
<tr><td>Public Warning
EMA / 911 Center</td><td></td><td></td><td></td></tr>
</table>

5.1 Continuity of Government

Cass County maintains continuity of government (COG) and continuity of operations (COOP) capabilities to ensure essential government functions continue when primary officials or facilities are unavailable. COG preserves constitutional governance and leadership succession; COOP maintains essential services and operations within individual departments.

The County Commission order of succession for the Presiding Commissioner is through the District Commissioners by seniority, followed by the County Clerk:

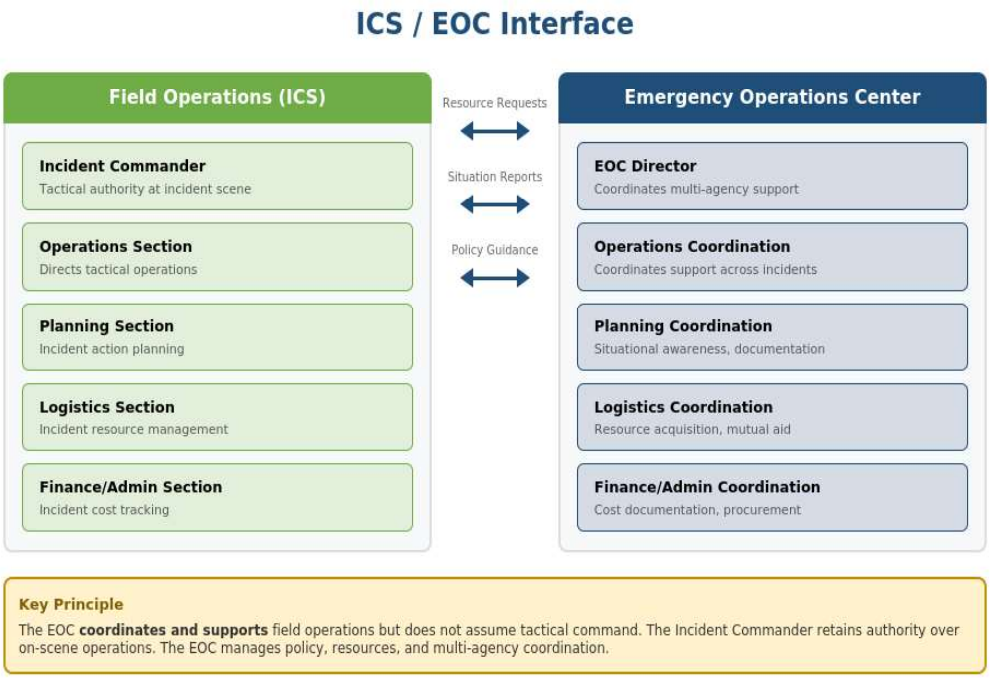
Each elected official, department head, and ESF coordinator maintains a line of succession for their respective functions. Function-specific succession is identified in Section 12 of each annex.

5.2 On-Scene Command

The Incident Commander (IC), designated by the Agency Having Jurisdiction (AHJ), has tactical command and decision-making authority at the incident scene. The IC manages life safety, incident stabilization, and property protection using the jurisdiction's resources and mutual-aid partners as appropriate to the incident.

During incidents that affect multiple agencies or jurisdictions, a Unified Command may be established to integrate tactical operations and coordinate unified objectives under shared command authority.

Figure 5. ICS/EOC Interface Flow Cart



5.3 Multi-Jurisdictional Coordination

When an incident affects multiple municipalities or exceeds local capabilities, the County Emergency Management Agency may activate the County EOC to support coordination efforts. Municipal AHJs retain authority for operations within their boundaries while working collaboratively with County EMA to ensure a unified, resource-supported response.

During incidents requiring strategic coordination across multiple jurisdictions or levels of government, Multi-Agency Coordination (MAC) Groups may be activated at the regional or state level. MAC Groups provide strategic coordination, establish priorities among competing incidents, facilitate resource allocation, and resolve policy issues without directing tactical operations. Cass County coordinates with MAC Groups when activated to support countywide response and recovery operations.

Emergency coordination in Missouri follows an established pathway that moves from local jurisdictions through county and state levels to federal agencies when needed. This tiered approach ensures incidents are managed at the most appropriate level while providing access to additional resources when local capabilities are exceeded.

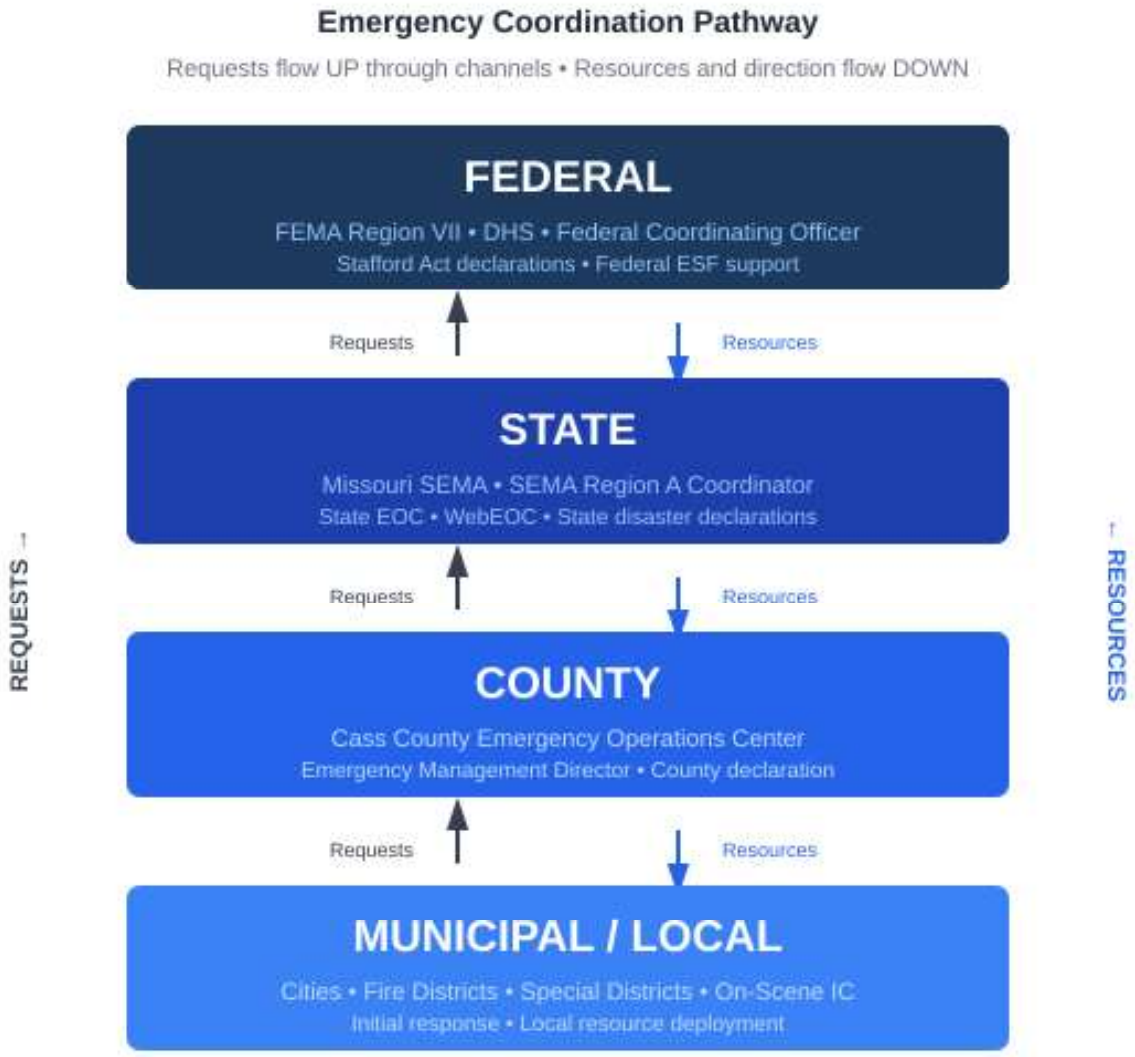
5.4 Coordination Pathway

Emergency coordination follows an established pathway that moves from local jurisdictions through county and state levels to federal agencies when needed. This tiered approach ensures incidents are managed at the most appropriate level while providing access to additional resources when local capabilities are exceeded.

The coordination pathway described in this section is grounded in the National Response Framework (NRF), which establishes fundamental doctrine for disaster response in the United States. The NRF describes response operations as locally executed, state managed and federally supported. This principle recognizes incidents begin and end locally, with higher levels of government providing support when local capabilities are exceeded.

Requests for assistance flow upward through established channels, while resources, guidance, and policy direction flow downward. This bidirectional flow maintains clear lines of communication and accountability at each level.

Figure 6. Emergency Coordination Pathway



Municipal and Local Level

Emergency response begins at the local level. Municipal governments, fire districts, and other local agencies provide initial response using their own resources. When an incident exceeds local capabilities or affects multiple jurisdictions, the municipality requests assistance from Cass County Emergency Management.

County Level

The Cass County Emergency Operations Center (EOC) coordinates resources across jurisdictions, facilitates mutual aid, and provides a common operating picture for incidents affecting the county. When the incident requires resources beyond what the county and its mutual aid partners can provide, the Emergency Management Director requests state assistance through SEMA Region A.

State Level

The Missouri State Emergency Management Agency (SEMA) serves as the coordination point between county and federal resources. SEMA Region A provides regional coordination for Cass County and surrounding jurisdictions. The State Emergency Operations Center (SEOC) coordinates statewide resource deployment, manages state disaster declarations, and serves as the gateway for federal assistance requests. Communication between Cass County and SEMA occurs primarily through WebEOC.

Federal Level

Federal assistance becomes available following a Presidential disaster or emergency declaration under the Robert T. Stafford Act. FEMA Region VII coordinates federal support, which may include Public Assistance, Individual Assistance, Hazard Mitigation Assistance, and activation of federal Emergency Support Functions. Federal resources are requested through SEMA, not directly by local jurisdictions.

5.5 Emergency Operations Center (EOC) Coordination

The Cass County Emergency Operations Center (EOC) provides centralized coordination, resource support, and situational awareness during major incidents. When activated, the EOC supports incident operations by:

- Collecting, analyzing, and disseminating information to support operational decision-making.
- Coordinating mutual-aid and state resource requests.
- Maintaining communication between municipal EOCs, emergency responders, and the State Emergency Management Agency (SEMA).
- Developing and maintaining the Incident Action Plan (IAP) for county-level coordination, as applicable.

The Emergency Management Director (or designee) serves as the EOC Manager and ensures unified coordination across participating municipalities and partner agencies.

5.6 State and Federal Agency Coordination

Cass County Emergency Management Agency coordinates with the Missouri State Emergency Management Agency (SEMA) when county resources are exceeded or overwhelmed, or when state assistance is required. SEMA serves as the gateway for federal coordination. The County EOC submits situation reports, resource requests, and damage assessments through WebEOC or other designated systems.

5.7 Transition to Recovery

When life-safety objectives are met and immediate threats are stabilized, command and coordination transition from incident response to recovery operations. The Emergency Management Agency Director coordinates with municipal leaders and state partners to ensure continuity of government, maintain essential services, and support long-term recovery efforts as outlined in the Recovery Annex. The EOC may remain activated or transition to modified operations to support recovery coordination as appropriate to the incident.

6 Information Collection, Analysis and Dissemination

This section describes how Cass County and its municipalities collect, verify, analyze, and share information before, during, and after emergency incidents. Effective information management supports situational awareness, decision-making, resource coordination, and public communication throughout the county.

6.1 Information Collection

Primary Collection Points

Field Operations: Incident Commanders and response agencies collect tactical and situational data at the scene and relay updates to dispatch and the Emergency Operations Center (EOC).

Municipal Coordination: Each incorporated municipality collects incident information within its jurisdiction and shares verified updates with the County EOC when activated.

911 Center: Receives 9-1-1 and radio reports, logs incident data, and forwards relevant updates to the EOC and affected agencies.

Partner Agencies: Public health, utilities, volunteer organizations, and other partners provide incident-specific data related to health impacts, infrastructure status, and community needs.

State and Regional Sources: The Missouri State Emergency Management Agency (SEMA) Region A office, National Weather Service, and surrounding counties provide situational updates, weather intelligence, and resource-status information affecting Cass County.

Traditional Media: Local television, radio, and print media provide field reports, public perspectives, and early incident awareness through journalist observations and coverage.

Public and Social Media: Social media posts, community reports, and direct observations provide supplemental situational awareness and help identify emerging concerns, misinformation, or affected areas requiring attention.

Essential Elements of Information

Cass County and its municipalities identify Essential Elements of Information (EEIs) to guide information collection, analysis, and reporting during emergencies. EEIs represent the specific, high-value information needed by decision-makers to assess the situation, prioritize actions, and coordinate resources.

Typical EEIs include:

- Life-safety impacts and immediate threats to people, responders, or facilities
- Incident location, size, and operational status
- Damage assessments and critical-infrastructure disruptions (transportation, power, water, communications)
- Shelter openings, population impacts, and unmet human or animal needs
- Availability and resource gaps of personnel, equipment, and supplies
- Public health, medical, or environmental conditions that may affect response or recovery
- Weather, forecast changes, and other factors influencing operations

EEIs are refined as incidents evolve and are incorporated into Situation Reports (SitReps), Incident Action Plans (IAPs), and EOC briefings to support timely and informed decision-making.

Operational Information Collection Methods

Actions and Decisions: Documentation of actions and decisions creates an operational record that supports situational awareness, shift transitions, and post-incident analysis.

Information Sources*:* EOC position logs, department action logs, incident commander notes, briefing records, email correspondence, and verbal communications recorded in EOC documentation systems.

Collection Methods*:* EOC positions maintain individual position logs documenting significant actions, decisions, and communications during each operational period. The Planning Section maintains a master chronological log of major decisions, policy determinations, and coordination activities. Department heads and incident commanders document field-level decisions and tactical actions through standard reporting systems and incident management software.

Recording Requirements*:* Documentation should include the date and time of action or decision, the person or position making the decision, the rationale or information supporting the decision, any alternatives considered, and the expected outcome. Significant policy decisions are documented in writing and retained in EOC administrative files.

Personnel Status: Accurate personnel records support cost recovery, ensure compliance with labor regulations, and document workforce deployment during emergencies.

Information Sources*:* Department timekeeping systems, EOC sign-in sheets, ICS Form 211 (Incident Check-In List), mutual-aid resource orders, supervisor logs, and payroll records.

Collection Methods*:* Personnel deployed to emergency operations sign in and out using standardized check-in procedures at the EOC, incident command posts, or staging areas. Supervisors track work hours, overtime, and rest periods for personnel under their command. The EOC Planning Section maintains resource status tracking for all deployed personnel. Departments submit time records to the County Auditor for processing and retention.

Recording Requirements*:* Personnel records document employee name, position or assignment, dates and times worked, regular versus overtime hours, incident or EOC assignment, and supervisor authorization. Mutual-aid personnel records include agency affiliation, resource order number, and deployment period. Records distinguish between normal duty assignments and emergency response work to support disaster-assistance reimbursement.

Equipment Status: Equipment documentation tracks deployment, operational status, damage assessment, and maintenance requirements during emergency operations.

Information Sources*:* Equipment checkout logs, vehicle use records, ICS Form 218 (Support Vehicle/Equipment Inventory), damage assessment reports, maintenance records, and repair invoices.

Collection Methods*:* Departments maintain equipment inventories identifying available resources and operational status. Equipment deployed to emergency operations is checked out through the EOC Logistics Section or departmental procedures, with records documenting operator assignment, deployment location, and usage hours. Equipment operators conduct pre-use and post-use inspections, documenting damage or maintenance needs. Significant equipment damage is photographed and reported through supervisory channels to the EOC and department leadership.

Recording Requirements*:* Equipment records include asset identification (vehicle number, equipment description), operator name, deployment dates and duration, operational status (available, assigned, out of service), fuel consumption, mileage or hours of operation, damage description and cause, and maintenance or repair actions taken. Equipment damage related to emergency operations is documented separately from routine wear to support potential reimbursement.

Resource Requests and Deployments: Resource documentation tracks requests for assistance, fulfillment of requests, deployment logistics, and return to service.

Information Sources*:* WebEOC resource request records, ICS Form 213 (Resource Request Message), mutual-aid agreements, MOSCOPE activation records, mission assignments, deployment orders, and resource status tracking systems.

Collection Methods*:* Resource requests originate from incident commanders, EOC sections, or municipal partners and are submitted to the EOC Logistics Section. The Logistics Section validates requests, identifies potential sources (local inventory, mutual aid, state resources), and coordinates fulfillment. All resource requests and deployments are logged in WebEOC or equivalent tracking systems. Mutual-aid activations are documented through formal request processes including contact with providing agencies, acceptance of resources, and coordination of deployment logistics.

Recording Requirements*:* Resource documentation includes the requesting agency or jurisdiction, specific resource requirements (type, quantity, capabilities), mission assignment or operational need, resource source (local, mutual aid, state), estimated and actual arrival times, deployment location and duration, demobilization date and process, and any costs or reimbursement arrangements. Mutual-aid documentation includes authorization records, incident assignment details, and resource return verification.

Financial Transactions: Financial documentation supports accountability, cost tracking, and potential reimbursement through disaster-assistance programs.

Information Sources*:* Purchase orders, invoices, receipts, vendor contracts, emergency procurement authorizations, payment records, credit card statements, and departmental expenditure logs.

Collection Methods*:* Departments document all emergency-related purchases at the time of transaction, including routine purchases conducted under normal procedures and emergency procurements authorized under expedited authority. The County Auditor maintains centralized financial records and coordinates with departments to ensure proper coding of emergency expenditures. Large or unusual purchases are coordinated with the EOC Finance Section and County Commission to ensure proper authorization and documentation.

Recording Requirements*:* Financial records document the date and amount of expenditure, vendor information, detailed description of goods or services purchased, incident or mission assignment justifying the purchase, authorization source (department head, emergency declaration, County Commission), and account codes for tracking and reimbursement. Supporting documentation includes purchase orders, invoices, delivery receipts, contracts, and photographic evidence of work completed. Emergency procurements conducted outside normal purchasing procedures require additional documentation explaining the emergency justification and time constraints.

Damage Information: Damage documentation supports recovery planning, disaster-assistance applications, and long-term mitigation efforts.

Information Sources*:* Field assessment reports, inspection records, photographic documentation, geographic information system (GIS) mapping, utility damage reports, infrastructure assessments, injury and fatality records, and preliminary damage estimates.

Collection Methods*:* Initial damage information is collected by first responders, incident commanders, and EOC staff through field observations, aerial reconnaissance, and reports from affected jurisdictions and property owners. The Emergency Management Agency coordinates formal damage assessment teams including county departments, municipal representatives, and state partners. Assessment teams conduct site visits, document damage severity and extent, estimate repair costs, and photograph affected areas. Information is compiled in standardized damage assessment forms and entered into GIS systems for mapping and analysis.

Recording Requirements*:* Damage assessment records include location (address, GPS coordinates), property owner or responsible jurisdiction, facility or infrastructure type, description of damage, preliminary cost estimates, photographs from multiple angles, inspector name and affiliation, assessment date, and recommended next steps (repair, replace, demolish). Public infrastructure damage is categorized by facility type (roads, bridges, buildings, utilities) to support disaster-assistance applications. Private property damage is documented at an aggregate level to support federal individual assistance determinations.

Communications and Coordination: Communications records document the flow of information, coordination activities, and decision-making processes during emergency operations.

Information Sources*:* EOC position logs, email records, WebEOC messages, radio communications logs (when recorded or documented), telephone logs, and meeting minutes.

Collection Methods*:* All significant communications are documented in position logs or communications systems. The Planning Section maintains records of coordination calls, briefings, and meetings. Key decisions and policy determinations are documented in writing with supporting rationale and distributed to affected parties. The 911 Center maintains records of emergency calls and dispatch activities in computer-aided dispatch systems.

Recording Requirements*:* Communications records capture who communicated with whom, when, through what channel, and what information or decisions were exchanged. Critical coordination activities and policy decisions receive detailed documentation including participants, issues discussed, decisions made, and follow-up actions required.

Public Information: Public information records document messages, warnings, and information provided to the public and media during emergency operations.

Information Sources*:* Press releases, social media posts, emergency alert system activations, mass notification messages, public service announcements, media briefings, and website updates.

Collection Methods*:* The Public Information Officer maintains copies of all official public messages and coordinates with the Planning Section to ensure messages align with incident priorities and operational status. Social media posts are archived through platform tools or screenshot documentation. Emergency alert activations are logged through IPAWS and mass notification systems. Media interactions are documented through briefing summaries and question/answer records.

Recording Requirements*:* Public information documentation includes the message content, distribution channel, date and time of release, target audience, and any corrections or follow-up messages issued. Documentation demonstrates timely and accurate public notification during emergencies.

6.2 Information Analysis

The Cass County Emergency Management Agency (EMA) serves as the central analysis point during EOC activation. Collected information is validated, cross-checked with multiple sources, and synthesized into situational summaries and decision-support products.

Analysis Process

Verification: Compare multiple independent reports (e.g., field updates, WebEOC entries, 9-1-1 logs) to confirm accuracy and eliminate conflicting or unverified information.

Prioritization: Identify issues with immediate life-safety or operational significance that require command attention and resource allocation.

Synthesis: Integrate data into Situation Reports (SitReps), Incident Action Plans (IAPs), and EOC briefings that provide a common operating picture.

Coordination: Distribute analytical products to county leadership, municipal EOCs, SEMA Region A, and neighboring counties to support unified situational awareness.

Analytical Products

Situation Reports: Periodic summaries of incident status, operational priorities, resource deployment, community impacts, and anticipated needs. Situation reports provide snapshot assessments at regular intervals throughout response operations.

Incident Action Plans: Planning documents that establish operational objectives, resource assignments, safety considerations, and coordination procedures for upcoming operational periods.

Status Boards and Maps: Visual displays showing incident locations, affected areas, resource positions, shelter locations, road closures, and other geospatial information supporting operational decision-making.

Briefing Materials: Presentation materials for operational briefings, policy discussions, media events, and coordination meetings with state and regional partners.

6.3 Information Dissemination

Cass County disseminates verified information to internal response agencies, external partners, and the public to support coordinated decision-making and maintain situational awareness. Information is shared through appropriate channels based on audience, sensitivity, and operational needs.

Internal Dissemination

EOC Briefings: Conducted at regular intervals to update EOC staff, response agencies, and county leadership on current situation, operational priorities, resource status, and anticipated needs.

Situation Reports: Prepared by the Planning Section and distributed to participating municipalities, county departments, SEMA, and partner agencies through WebEOC and email distribution lists.

WebEOC Updates: Real-time information sharing through the WebEOC platform enables continuous situational awareness among county and municipal agencies, state partners, and regional coordination centers.

Radio and Telephone: Tactical communications and coordination conducted through established radio frequencies, telephone trees, and direct communications between field personnel and EOC staff.

External Dissemination

Regional and State Partners: Validated information shared with SEMA Region A, neighboring counties, and other response partners for situational awareness and resource coordination. Information flows through established channels including WebEOC, conference calls, and liaison officers.

Public Information: Coordinated by the Public Information Officer (PIO) through the Joint Information System (JIS) and distributed via official websites, social media, press releases, and the Emergency Alert System (EAS).

Media Coordination: Regular briefings and updates provided to traditional media outlets to ensure accurate, consistent public messaging and reduce misinformation.

Community Partners: Targeted information sharing with schools, healthcare facilities, utilities, businesses, and volunteer organizations to support coordinated response and recovery operations.

Information Security and Sensitivity

Certain information collected during emergency operations requires protection from unauthorized disclosure:

Personally Identifiable Information: Names, addresses, medical information, and other details about individuals affected by incidents are protected in accordance with privacy laws and regulations.

Law Enforcement Sensitive Information: Criminal investigation details, security plans, and tactical law enforcement information are restricted to authorized personnel.

Critical Infrastructure Information: Detailed vulnerability assessments, security plans, and operational details for critical facilities are protected from public disclosure.

Preliminary Damage Estimates: Unverified damage information and preliminary cost estimates are marked as preliminary and distributed with appropriate caveats until formal assessments are completed.

The Planning Section coordinates with the County Attorney and affected agencies to ensure appropriate protection and handling of sensitive information while maintaining transparency in public emergency operations.

Information Documentation

All information products, including situation reports, Incident Action Plans (IAPs), and resource logs, are maintained by Cass County Emergency Management Agency in accordance with county records-retention policy and state requirements. Official documentation is archived to support after-action review, cost recovery and reimbursement, and long-term recovery planning.

7 Communications

Cass County and its municipalities coordinate emergency communications through interoperable radio, data systems, and public-alert systems that link dispatch centers, field responders, and the County Emergency Operations Center (EOC).

7.1 Emergency Response Communication Systems

- Radio Systems: Agency frequency sets used by county and municipal responders for field communications
- Computer-Aided Dispatch (CAD): Supports information sharing between dispatch, field units, and the EOC.
- Missouri Statewide Wireless Interoperable Network (MOSWIN): Provides statewide interoperability with state and regional partners
- WebEOC**:** Real-time information-sharing platform connecting local and state agencies
- Amateur Radio Emergency Service (ARES)**:** Augments communications and relays reports when primary systems are degraded
- NWS Chat: (Slack) Direct coordination channel with National Weather Service forecasters in Pleasant Hill
- Telephone, Cellular, and Satellite Devices**:** Redundant voice and data capability when radio systems are congested or degraded

Each agency maintains and tests its assigned systems on a routine basis.

Interoperability channels are coordinated through the 911 Center and the County Emergency Management Agency (EMA).

If primary systems fail, alternate or mobile assets are deployed as available and when feasible to sustain essential communications.

7.2 Communication Coordination Structure

Incident Level: Field units communicate through the 911 center, which serves as the primary dispatch and coordination hub for law enforcement, fire, and EMS.

County EOC: When activated, the EOC maintains contact with 911 and affected jurisdictions and serves as the point of contact with the Missouri State Emergency Management Agency (SEMA).

Municipal and Special District Partners: Retain operational control of their communication systems but share situational updates with the EOC to maintain a common operating picture.

7.3 Public Alert and Warning Systems

Public warning and information are coordinated through Cass County EMA and 911 using multiple, redundant platforms, including:

Everbridge: Sends emergency and community messages by text, email, and voice call

Integrated Public Alert and Warning System (IPAWS): Emergency alert system for originating and disseminating official warnings

Wireless Emergency Alerts (WEA): Delivers geographically targeted alerts to mobile devices

NOAA Weather Radio: Provides weather warnings and emergency notifications through weather radio receivers

Outdoor Warning Sirens: Tornado outdoor warning sirens operated by municipalities are located throughout the county

Social Media: County emergency management and official government social media channels

Giant Voice: Mobile outdoor siren and communication device available through Saline County Emergency Management Agency

The 911 Center provides accessible communication options for individuals who are deaf, hard of hearing, speech impaired, or with limited English proficiency.

8 Administration, Finance, and Logistics

This section outlines the administrative, financial, and logistical systems that support emergency operations within Cass County. These functions promote accurate documentation, sound financial management, and coordinated resource support.

8.1 Administrative Procedures

Documentation Requirements

All agencies and departments participating in emergency operations maintain records to support operational continuity, cost recovery, after-action review, and potential reimbursement through state or federal disaster-assistance programs. Documentation standards are established to ensure consistency, completeness, and compliance with federal and state requirements.

Required documentation includes:

- Actions taken and decisions made during response and recovery operations
- Personnel assignments, work hours, and overtime records
- Equipment use, damage, and maintenance activities
- Resource requests, deployments, and mutual-aid activations
- Expenditures, purchases, and contracts executed under emergency authority
- Damage assessments and incident impacts

Documentation is maintained in accordance with county records-retention policies and Missouri records-retention schedules. Emergency-related records are retained for a minimum of three years following incident closure or until all audit and reimbursement processes are completed, whichever is longer.

Records Management

Official Records Custodian: The Cass County Emergency Management Agency serves as the official custodian of EOC records and coordinates with county departments and municipal partners to ensure comprehensive documentation of emergency operations.

Record Categories: EOC records are organized into the following categories for retention and retrieval:

- EOC activation logs and operational period documentation
- Situation reports and incident action plans
- Resource tracking and mutual-aid records
- Communications logs and decision documentation
- Public information materials and media advisories
- Financial records and procurement documentation
- Damage assessment reports and recovery documentation

Retention Standards: Records are retained in accordance with the following minimum standards, consistent with Missouri Local Records Retention Schedules published by the Missouri Secretary of State's Office::

- Incident documentation supporting disaster-assistance applications: Three years following final reimbursement or grant closeout
- Personnel and payroll records: Three years following incident closure
- Financial records and procurement documentation: Three years following final payment or audit completion
- After-action reports and improvement plans: Permanent retention as part of agency planning records
- Public information materials: Retained in accordance with county public records policies

Access and Security: EOC records are maintained in secure storage with access limited to authorized personnel. Sensitive information is protected in accordance with applicable privacy laws, security requirements, and public records exemptions. Records are backed up regularly to prevent loss due to system failures or facility damage.

Reporting Requirements

Situation Reports: During EOC activation, situation reports are prepared at intervals appropriate to incident complexity and distributed to participating agencies, municipal partners, and SEMA through WebEOC or designated systems.

Incident Action Plans: Written or verbal incident action plans establish operational priorities, resource assignments, and coordination procedures for each operational period. Hazardous materials incidents requiring technician-level response require a written IAP per OSHA HAZWOPER requirements (29 CFR 1910.120).

Damage Assessment Reports: Following significant incidents, initial damage assessments are coordinated with municipal partners, county departments, and state agencies to support recovery planning and disaster-assistance applications.

Financial Status Reports: The County Auditor and County Treasurer provide periodic financial status reports to the County Commission and EOC leadership documenting emergency expenditures, budget impacts, and reimbursement status.

After-Action Reports: Following EOC activation or significant incidents, comprehensive after-action reports document response actions, identify lessons learned, and establish improvement plans.

After-Action Process

The after-action process includes multiple phases designed to capture lessons learned and develop actionable recommendations:

Hot Wash Debriefs: Immediate operational debriefs conducted as soon as practical following incident stabilization to capture initial observations while events are fresh in participants' minds.

Structured Debriefs: Formal debriefs conducted within two to four weeks following significant incidents, examining activation procedures, communications effectiveness, resource coordination, decision-making processes, public information, interagency coordination, access and functional needs integration, and documentation procedures.

Documentation Review: Analysis of incident documentation including EOC logs, situation reports, resource tracking records, and damage assessments to identify information gaps and validate timeline accuracy.

Response Assessment: Evaluation of response performance against established plans, procedures, and capabilities considering objective achievement, resource effectiveness, communication systems, interagency coordination, vulnerable population support, external factors, and plan adequacy.

After-Action Report Development: Compilation of input from hot washes, structured debriefs, documentation review, and response assessment into comprehensive reports including executive summary, event timeline, strengths analysis, gap identification, root cause analysis, improvement recommendations, and corrective action assignments.

Improvement Planning: Development of Improvement Plans (IP) identifying specific corrective actions, responsibility assignments, completion timelines, and progress tracking methods. Improvement actions may include plan revisions, training requirements, equipment acquisitions, facility improvements, organizational changes, coordination protocol enhancements, and resource inventory updates.

Lessons Learned Integration: Incorporation of validated lessons learned into plan updates, training programs, exercise scenarios, and standard operating procedures, with significant findings shared through regional and state emergency management networks.

8.2 Financial Management

Emergency Expenditure Authority

During declared emergencies, the Cass County Commission may authorize emergency expenditures and suspend normal purchasing procedures to expedite response operations. Emergency procurement authority is exercised in accordance with county purchasing policies, Missouri statutes, and federal regulations governing disaster cost recovery.

Department heads and municipal officials document emergency purchases and ensure expenditures align with eligible disaster-related activities. Emergency procurements require additional documentation explaining the emergency justification, time constraints preventing normal procedures, and efforts to obtain competitive pricing when feasible.

Cost Tracking and Accountability

The County Auditor and County Treasurer coordinate financial tracking during emergency operations to:

- Monitor emergency expenditures against available budgets
- Track personnel costs including overtime and mutual-aid reimbursements
- Document emergency contracts and vendor payments
- Maintain financial records required for disaster-assistance applications
- Provide financial status reports to the County Commission and EOC leadership
- Reconcile operational records with financial transactions
- Identify potential reimbursement eligibility and documentation gaps

Financial records are coded to distinguish emergency expenditures from routine operations and to categorize costs by incident, function, and potential funding source. The Finance Section within the EOC coordinates with departments to ensure real-time cost tracking and proper documentation throughout response operations.

Disaster Assistance Programs

When incidents exceed local capabilities and financial resources, Cass County may seek disaster assistance through state and federal programs:

State Emergency Management Assistance: SEMA coordinates state assistance programs and serves as the gateway for federal disaster assistance requests. State assistance may include personnel, equipment, technical expertise, and financial support for eligible emergency activities.

Federal Public Assistance: Under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, eligible local governments may receive reimbursement for emergency protective measures, debris removal, and permanent infrastructure repairs when a Presidential disaster declaration is issued. Public Assistance typically provides 75% federal cost share with 25% local match, though match requirements may be adjusted by Congressional action.

Federal Individual Assistance: Disaster survivors may receive assistance with temporary housing, home repairs, and other disaster-related expenses through FEMA Individual Assistance Programs when authorized under a Presidential declaration. Individual Assistance programs serve households and individuals, not local governments.

Small Business Administration Loans: Low-interest disaster loans may be available to homeowners, renters, businesses, and nonprofit organizations for repair, rehabilitation, or replacement of disaster-damaged property. SBA loans require a separate application and are available in both declared and non-declared disasters when economic injury is demonstrated.

Hazard Mitigation Grant Program: Following Presidential disaster declarations, SEMA coordinates Hazard-Mitigation Grant opportunities to reduce future disaster risks and losses. Mitigation projects receive 75% federal funding with 25% state and local match and must demonstrate cost-effectiveness and long-term risk reduction.

Community Development Block Grant Disaster Recovery: When authorized by Congress, HUD administers Community Development Block Grant funds for long-term recovery projects including housing rehabilitation, infrastructure repair, and economic revitalization.

The Emergency Management Director coordinates disaster-assistance applications and documentation requirements with affected municipalities, county departments, and state partners. Successful reimbursement depends on proper documentation, compliance with procurement regulations, and demonstration that costs are directly related to eligible emergency activities.

Insurance and Risk Management

Cass County maintains insurance coverage for property damage, liability, workers compensation, and other risks in accordance with county policies. Following disasters, the county coordinates with insurers to document losses, file claims, and pursue reimbursement for insured damages.

Insurance coverage is reviewed regularly to ensure adequate limits, appropriate deductibles, and coverage for emerging risks. Self-insured retention levels and deductibles are factored into disaster cost projections and local match requirements for disaster assistance programs.

Insurance settlements do not preclude disaster-assistance eligibility but may affect the amount of reimbursement available through state or federal programs. Disaster assistance cannot duplicate benefits available through insurance or other sources. The County Commission consults with legal counsel and financial advisors regarding insurance claims and disaster-assistance coordination to maximize recovery while ensuring compliance with applicable regulations.

8.3 Logistics and Resource Management

Resource Coordination

The Cass County Emergency Management Agency maintains awareness of available resources within the county, including personnel, equipment, facilities, and supplies that may be deployed during emergencies. Resource information is maintained through coordination with county departments, municipal agencies, and mutual-aid partners.

During EOC activation, the Logistics Section coordinates resource requests, tracks deployments, facilitates mutual-aid coordination with regional and state partners, and maintains accountability for all deployed resources. Resource coordination ensures effective utilization, prevents duplication, and supports documentation requirements for potential reimbursement.

Mutual Aid and Regional Coordination

Cass County participates in mutual-aid agreements and regional coordination systems that enable resource sharing during emergencies:

MOSCOPE (Missouri Statewide Cooperative Emergency Program)**:** Statewide mutual-aid compact enabling fire, law enforcement, emergency medical services, and other resources to be shared among Missouri jurisdictions during emergencies. MOSCOPE provides liability protection, workers compensation coverage, and reimbursement mechanisms for mutual-aid operations conducted under the compact.

EMAC (Emergency Management Assistance Compact): Interstate mutual-aid agreement enabling resource sharing with other states during catastrophic disasters, coordinated through SEMA. EMAC provides standardized procedures for requesting, deploying, and reimbursing interstate mutual aid during Governor-declared emergencies.

Cass County and its municipalities maintain mutual-aid agreements with neighboring jurisdictions for fire protection, law enforcement, emergency medical services, and other emergency functions. Local agreements establish procedures for routine mutual aid and define cost-sharing or reimbursement arrangements.

Mutual-aid resources are requested through established protocols, coordinated by the County EOC or affected municipalities, and tracked for potential reimbursement and documentation purposes. Requesting agencies document the operational need, resource specifications, deployment duration, and any costs incurred. Providing agencies document personnel deployment, equipment use, and expenses eligible for reimbursement.

Resource Typing and Credentialing

Cass County and its municipal partners work to identify and categorize resources using National Incident Management System (NIMS) Resource Typing Standards when feasible. Resource typing enables clear communication of capabilities and requirements during mutual-aid operations and state resource requests. Standard resource types include fire engines, ambulances, law enforcement personnel, public works equipment, and specialized teams.

Personnel deployed to emergency operations are encouraged to maintain appropriate training, certifications, and credentials consistent with their assigned roles and NIMS qualification standards. Credentialing verifies that personnel possess required qualifications and authorizations for assigned positions, supporting interoperability during multi-agency operations.

Facilities and Equipment

Emergency Operations Center (EOC): The Cass County Emergency Operations Center serves as the primary coordination facility for county-level emergency operations. The facility is maintained by the Emergency Management Agency and equipped with communications, information technology, and coordination resources necessary for multi-agency operations. The EOC is staffed and activated based on incident requirements using the four-level activation system described in Section 3.2.

The primary Cass County EOC is located at the Sheriff's Office Training Room, 2501 W. Mechanic, Harrisonville, MO. The facility has backup power and communications capability.

Alternate facilities include the Old Courthouse basement, 102 E. Wall, Harrisonville or the Sheriff's Academy Training Room basement, 2501 W. Mechanic, Harrisonville.

Some municipalities maintain designated EOC facilities. Municipalities activate and staff their EOCs based on local incident requirements and coordinate with the County EOC as needed.

Municipal EOCs

Belton: Fire Station #2

Harrisonville: Police Station (primary); Fire Station (alternate)

Lake Annette: Dolan West Dolan Fire Station

Lake Winnebago: City Hall

Loch Lloyd: Country Club

Peculiar: West Peculiar Fire Station #2

Pleasant Hill: City Hall Chambers (primary); Lexington Methodist Church (alternate)

Raymore: City Hall Chambers (primary); Centerview (alternate); Public Works Building (tertiary)

Alternate EOC: Alternate facilities may be activated if the primary EOC is unavailable or compromised. Alternate locations are identified through coordination with county departments and municipal partners based on incident requirements and facility availability. Alternate facilities must provide adequate space, communications connectivity, and support services for extended operations.

Incident Command Posts: Field incident command posts are established by responding agencies at or near incident scenes to coordinate tactical operations. Incident commanders coordinate with the County EOC when incidents require resource support or multi-jurisdictional coordination. The relationship between incident command and EOC coordination is complementary, with incident command maintaining tactical control and the EOC providing strategic support.

Staging Areas: During large-scale incidents, staging areas may be established for resource reception, accountability, and deployment coordination. Staging areas are selected based on incident geography, transportation access, security requirements, and facility availability. Coordination occurs with property owners and facility managers to ensure appropriate use and liability protection.

Emergency Equipment: County departments and municipal agencies maintain emergency equipment inventories appropriate to their assigned functions. Equipment maintenance, inspection, and readiness are managed through departmental procedures and coordinated with Emergency Management for countywide planning purposes. Equipment inventories are reviewed regularly and updated to reflect acquisitions, disposals, and status changes.

Supply and Logistics Operations

Supply Management: The Logistics Section coordinates procurement, tracking, and distribution of supplies during emergency operations. Supply categories include consumables (food, water, fuel), expendables (personal protective equipment, office supplies), and durable goods (generators, communications equipment, shelter supplies).

Procurement Procedures: Emergency procurements follow established county purchasing procedures when time permits. When immediate procurement is necessary to protect life and property, expedited procedures may be authorized by the County Commission or Emergency Management Director with documentation of the emergency justification. Procurement staff coordinate with the Finance Section to ensure proper coding and documentation for potential reimbursement.

Distribution Operations: Supply distribution is coordinated through established distribution points or delivered directly to incident sites, shelters, or affected jurisdictions as appropriate. Distribution operations include inventory management, security, documentation, and coordination with requesting agencies to ensure supplies reach intended recipients.

Logistics Staging: Logistics staging areas provide centralized locations for receiving, organizing, and distributing supplies and equipment. Staging operations include accountability procedures, security measures, and coordination with transportation resources to support efficient deployment.

Transportation Coordination

The Cass County Road and Bridge Department coordinates transportation resources during emergencies, including:

- Road condition assessment and route status information
- Debris clearance and emergency road repairs to restore access
- Traffic control and route coordination support
- Vehicle and equipment transportation as requested and available
- Coordination with MoDOT for state highway issues

Municipal public works departments coordinate transportation needs within their jurisdictions and may request county assistance through the EOC when local resources are insufficient. Regional transportation coordination may involve school districts for bus transportation, transit agencies for evacuation support, and private-sector transportation providers for specialized needs.

Transportation priorities during emergencies focus on life-safety routes, emergency responder access, evacuation corridors, and critical infrastructure access. Transportation coordination includes route selection, traffic management, fuel availability, and communication of road conditions and closures to responders and the public.

Donation and Volunteer Management

Spontaneous donations and volunteer offers frequently occur following disasters. The Cass County Emergency Management Agency coordinates with municipalities and voluntary organizations to manage donations and volunteers effectively:

Donation Management: Procedures are established to receive, sort, store, and distribute donated goods while directing cash donations to established disaster relief funds. Unsolicited donations of goods can overwhelm storage capacity and divert resources from response operations. Public information emphasizes that cash donations provide flexibility and reduce logistical burdens.

Volunteer Coordination: Spontaneous volunteers are screened, registered, and assigned to appropriate activities through coordination with established volunteer organizations. Volunteer assignments consider skills, qualifications, liability protection, and operational needs. Volunteers operating under official direction receive liability protection under Missouri emergency management statutes.

Coordination with Voluntary Organizations: Established voluntary organizations including American Red Cross, Salvation Army, and faith-based groups are integrated into response operations through liaison relationships and coordination protocols. These organizations provide mass care, sheltering, feeding, distribution, and recovery services that complement government capabilities.

Communication of Needs: Public information channels communicate specific donation and volunteer needs as they are identified, helping to match community support with actual requirements and reducing unwanted or inappropriate donations.

Donation and volunteer management balances the genuine desire of communities to help with the practical requirements of maintaining operational focus and accountability during emergency operations.

9 Plan Development and Maintenance

This section establishes procedures for maintaining, reviewing, updating, and distributing the Cass County Emergency Operations Plan to ensure it remains current, effective, and operationally relevant.

9.1 Plan Development Process

This Emergency Operations Plan was developed through a collaborative process involving:

- Cass County Emergency Management Agency coordination and facilitation
- Input from county departments and offices with emergency responsibilities
- Coordination with municipal emergency management coordinators and officials
- Review of federal planning guidance (FEMA CPG 101 Version 3.1)
- Integration of National Incident Management System (NIMS) principles
- Compliance with Missouri State Emergency Management Agency (SEMA) planning requirements
- Analysis of hazards, risks, and capabilities documented in the Mid-America Regional Council Hazard Mitigation Plan
- Lessons learned from exercises, actual incidents, and after-action reviews

The plan is designed to be scalable and flexible, accommodating the varying capabilities and authorities of municipalities within Cass County while providing a comprehensive framework for coordinated emergency operations.

9.2 Plan Review and Update Cycle

Biennial Review

The Cass County Emergency Operations Plan undergoes formal review at least biennially (every two years) to ensure continued accuracy and relevance. The Emergency Management Director coordinates the review process and solicits input from:

- County departments and offices assigned responsibilities under the plan
- Municipal emergency management coordinators
- Fire districts, law enforcement agencies, and emergency medical services
- Public health, public works, and other support agencies
- State Emergency Management Agency Region A staff
- Regional planning and coordination partners

The biennial review assesses whether:

- Organizational structures and contact information remain current
- Roles and responsibilities accurately reflect current capabilities and authorities
- Procedures align with current operational practices and best practices
- Hazard analysis and capability assessments reflect current conditions
- Legal authorities and references remain valid and current
- Annexes and supporting documents require updates

Interim Updates

Between formal biennial reviews, the plan may be updated to address:

- Significant organizational changes affecting emergency management structure or responsibilities
- New or amended laws, regulations, or authorities
- Lessons learned from exercises or actual incidents that require procedural changes
- Changes in hazards, risks, or community vulnerability
- New or modified mutual-aid agreements and coordination protocols
- Technological advances or new capabilities affecting emergency operations
- Changes in state or federal planning guidance or requirements

The Emergency Management Director is authorized to coordinate interim updates to annexes and appendices without full plan re-promulgation when changes do not affect the base plan's fundamental structure or authority provisions.

9.3 Update Coordination Process

Initiating Updates

Plan updates may be initiated by:

- The Emergency Management Director based on identified needs
- County departments recommending changes to their assigned responsibilities
- Municipal officials requesting modifications or clarifications
- State or Federal Emergency Management Agency guidance or requirements
- After-action reviews identifying necessary improvements
- Regulatory or legal changes requiring compliance updates

Proposed updates are submitted to the Emergency Management Agency with supporting justification and recommended language when appropriate.

Review and Approval

Proposed updates are reviewed by the Emergency Management Director in coordination with affected agencies and stakeholders. Significant changes affecting multiple agencies or fundamental plan structure are circulated for broader review and comment.

Updates requiring re-promulgation are submitted to the County Commission for approval and signature. Updates to annexes, appendices, and supporting documents that do not affect base plan authorities or structure may be approved by the Emergency Management Director and distributed with notification to the County Commission.

Distribution of Updates

When plan updates are approved, the Emergency Management Agency:

- Distributes updated sections or complete revised plans to all plan holders
- Makes appropriately redacted copies available to the public upon request in accordance with applicable public records exemptions
- Notifies municipalities and partner agencies of changes affecting their operations
- Provides guidance on incorporating updates into local procedures and training
- Updates electronic versions maintained in WebEOC and planning systems
- Submits updated plans to SEMA as required for compliance and coordination

9.4 Training and Familiarization

County departments, municipal agencies, and partner organizations are responsible for ensuring their personnel are familiar with:

- Overall plan structure and emergency management framework
- Specific roles and responsibilities assigned to their organization
- Activation and notification procedures
- EOC organization and coordination processes
- Documentation and reporting requirements
- Access to the plan and supporting resources

Training may be conducted through:

- Department briefings and orientation sessions
- Tabletop exercises walking through plan procedures
- Functional exercises testing coordination and communication
- Full-scale exercises simulating actual emergency operations
- Online training modules and reference materials, if available
- Pre-incident planning and coordination meetings

EOC Position Training

Personnel assigned to EOC positions receive training appropriate to their assigned roles, including:

- EOC organization and operational procedures
- ICS/NIMS principles and applications
- Position-specific responsibilities and coordination requirements
- Information management and documentation procedures
- WebEOC and other systems used for coordination and tracking
- Resource ordering and mutual-aid coordination
- Interaction with state and federal partners

EOC position training is coordinated by the Emergency Management Agency and may be delivered through state-sponsored courses, regional training opportunities, or county-developed programs.

9.5 Exercise and Validation

Exercise Program

Cass County participates in regional and state exercise programs coordinated through the Mid-America Regional Council and Missouri State Emergency Management Agency Region A to validate plan procedures, test coordination mechanisms, and identify improvement opportunities.

Exercise programs include:
Discussion-Based Exercises: Seminars, workshops, and tabletop exercises that facilitate discussion of plans, policies, procedures, and coordination without deploying resources. These exercises are useful for familiarizing personnel with plans, exploring coordination issues, and developing shared understanding.

Operations-Based Exercises: Drills, functional exercises, and full-scale exercises that involve actual deployment of resources and execution of procedures. These exercises test operational capabilities, coordination systems, and the ability to execute plans under realistic conditions. The Cass County Emergency Management Agency coordinates local participation in regional and state exercises with county departments, municipal agencies, and partner organizations.

Exercises are designed to:

- Test specific plan elements or operational capabilities
- Involve appropriate agencies and jurisdictions based on scenario
- Provide realistic challenges that stress coordination and decision-making
- Incorporate access and functional needs considerations
- Include evaluation and documentation of performance
- Generate actionable improvement recommendations

Exercise Frequency

Cass County participates emergency management exercises consistent with state and federal grant requirements. For jurisdictions receiving Emergency Management Performance Grant (EMPG) funding, SEMA requires that EMPG-funded personnel participate in two exercises per grant year (July 1 through June 30):

- One operations-based exercise (drill, functional, or full-scale)
- One discussion-based or operations-based exercise (seminar, workshop, tabletop, game, drill, functional, or full-scale)

Exercise sign-in sheets and after-action reports must be completed and submitted to SEMA to demonstrate compliance. Real-world incidents and the Statewide Severe Weather Drill do not count toward meeting exercise requirements.

Cass County may conduct additional exercises beyond the minimum requirements to support training objectives, validate plan procedures, and maintain operational readiness.

After-Action Review Integration

Findings from exercises and actual incidents are incorporated into plan updates through the after-action process described in Section 8.1.4. The Emergency Management Agency tracks improvement recommendations and coordinates implementation of corrective actions with responsible agencies.

Validated improvements are incorporated into:

- Plan revisions and procedural updates
- Training programs and orientation materials
- Future exercise scenarios and objectives
- Resource and capability assessments
- Coordination protocols and agreements

9.6 Plan Availability and Distribution

Official Distribution

The official distribution list for this plan is maintained in Section 1.8, Record of Distribution. Copies of the plan are provided to:

- County departments and offices with assigned responsibilities
- Municipal governments within Cass County
- Fire districts, law enforcement agencies, and emergency medical services
- Hospitals and public health agencies
- American Red Cross and other key voluntary organizations
- Missouri State Emergency Management Agency Region A
- Regional coordination and planning partners

Plan holders are responsible for maintaining current versions and incorporating approved updates as they are distributed.

Public Access

The base plan and non-sensitive annexes are public documents available for review by citizens, businesses, and community organizations. Public versions are available through:

- Cass County Emergency Management Agency
- Public records requests processed through established procedures

Certain annexes or appendices containing sensitive security information, critical infrastructure details, or law enforcement sensitive material may be withheld from public distribution in accordance with applicable public records exemptions under RSMo Chapter 610 (Missouri Sunshine Law)

Electronic and Print Versions

The Emergency Management Agency maintains both electronic and print versions of the plan. Electronic versions are considered the official record and are updated as changes are approved. Print versions may be generated as needed by plan holders, who should verify they are working from the current version.

Electronic versions are maintained in formats that support:

- Accessibility for individuals with disabilities
- Search and reference capabilities
- Integration with emergency operations systems
- Distribution through secure and public channels as appropriate

9.7 Supporting Plans and Procedures

This Emergency Operations Plan is supported by various functional plans, standard operating procedures, and agreements maintained by county departments, municipal agencies, and partner organizations:

- Emergency Support Function (ESF) annexes describing specific functional areas
- Support annexes addressing common operational requirements
- Hazard-specific annexes for particular threats and scenarios
- Departmental standard operating procedures and emergency procedures
- Municipal emergency operations plans and procedures
- Mutual-aid agreements and memoranda of understanding
- Continuity of Operations (COOP) plans
- Specialized plans (hazardous materials, mass fatality, evacuations, etc.)

Supporting plans and procedures are maintained by the responsible agencies and coordinated with the Emergency Management Agency to ensure consistency and integration with the countywide emergency management framework.

9.8 Plan Maintenance Responsibilities

Cass County Emergency Management Agency:

- Serve as plan custodian and maintain official versions
- Coordinate biennial review and update processes
- Facilitate collaboration among agencies and jurisdictions
- Incorporate lessons learned from exercises and incidents
- Ensure compliance with state and federal planning requirements
- Distribute updates and maintain distribution records
- Provide training and orientation on plan content and procedures

County Departments and Partner Agencies:

- Review assigned responsibilities and recommend updates
- Maintain departmental procedures consistent with the plan
- Participate in plan reviews, exercises, and training
- Submit updated contact information and capability assessments
- Coordinate with Emergency Management on changes affecting their roles

Municipal Governments:

- Review plan provisions affecting municipal operations
- Recommend updates based on local needs and capabilities
- Maintain municipal emergency plans in coordination with county framework
- Participate in coordination, training, and exercise activities
- Provide feedback on plan effectiveness and needed improvements

Collaborative maintenance ensures the plan remains a living document that accurately reflects current capabilities, authorities, and operational practices across Cass County's diverse emergency management community.

10 Authorities and References

This section identifies the legal authorities, statutes, regulations, and reference documents that provide the foundation for emergency management operations in Cass County, Missouri.

10.1 Legal Authorities

Local Authorities

Cass County Code, Chapter 215 Emergency Management (2025): Establishes the Cass County Emergency Management Agency and assigns responsibility for preparation and implementation of emergency functions required to prevent, minimize, and repair injury and damage due to disasters, including emergency management of resources and administration of economic controls as needed for public welfare.

Municipal Ordinances: Incorporated municipalities within Cass County maintain independent legal authority for emergency management within their jurisdictions through locally adopted ordinances and resolutions.

State Authorities

- RSMo Chapter 44 — Emergency Management
- RSMo § 49.010 - County court to be known as county commission
- RSMo § 49.270 - County commission to control county property
- RSMo Chapter 205 - County Health Center Law
- RSMo § 537.600 - Sovereign immunity in effect — exceptions
- RSMo Chapter 610 - Missouri Sunshine Law (open meetings and public records)
- Missouri Secretary of State Local Records Retention Schedules
- 11 CSR 20-1 - Department of Public Safety, State Emergency Management Agency (Missouri Emergency Response Commission, EPCRA/hazardous materials emergency planning and reporting)
- 19 CSR 20-20 - Department of Health and Senior Services, Division of Community and Public Health, Chapter 20 - Communicable Diseases (disease reporting requirements, quarantine/isolation authorities, public health emergency response)

Federal Authorities

- 42 U.S.C. § 5121 et seq. Robert T. Stafford Disaster Relief and Emergency Assistance Act: Federal disaster assistance authorization
- Public Law 107-296 Homeland Security Act of 2002: Establishes Department of Homeland Security and defines federal homeland security missions
- Homeland Security Presidential Directive 5 (HSPD-5) Management of Domestic Incidents: Establishes NIMS as the national incident management framework
- Public Law 109-295 Title VI Post-Katrina Emergency Management Reform Act of 2006: Reorganizes FEMA and establishes enhanced disaster preparedness and response authorities
- 42 U.S.C. § 11001 et seq. Superfund Amendments and Reauthorization Act (SARA) Title III: Emergency Planning and Community Right-to-Know Act (EPCRA) requiring hazardous materials planning and reporting
- 42 U.S.C. § 12101 et seq. Americans with Disabilities Act (ADA): Accessibility and nondiscrimination requirements
- Section 504 Rehabilitation Act: Program accessibility requirements
- Title VI, 42 U.S.C. § 2000d et seq. Civil Rights Act of 1964: Prohibits discrimination on the basis of race, color, or national origin in programs receiving federal financial assistance
- 42 U.S.C. § 6101 et seq. Age Discrimination Act of 1975: Prohibits discrimination on the basis of age in programs receiving federal financial assistance
- Public Law 109-308 Pets Evacuation and Transportation Standards (PETS) Act: Pet and service animal evacuation and sheltering
- 42 U.S.C. § 14501 et seq. Volunteer Protection Act: Liability protection for volunteers serving governmental entities
- Public Law 104-321 Emergency Management Assistance Compact (EMAC): Interstate mutual aid during emergencies

10.2 Plans and Frameworks

Federal Planning Guidance

- National Response Framework (NRF): Establishes a comprehensive national approach to domestic incident response across all levels of government and the private sector.
- National Incident Management System (NIMS): Provides a systematic, proactive approach to guide departments and agencies at all levels of government to work together to prevent, protect against, mitigate, respond to, and recover from incidents.
- Comprehensive Preparedness Guide (CPG) 101 Version 3.1 (2025): FEMA guidance for developing and maintaining emergency operations plans.
- Emergency Support Function (ESF) Annexes: Federal coordination structure for organizing response capabilities and resources.

State Plans and Programs

- Missouri State Emergency Operations Plan: Establishes state-level coordination framework for emergency operations and describes how state agencies support local jurisdictions during emergencies.
- Missouri State Hazard Mitigation Plan (2023): Identifies Missouri's hazards, risks, and vulnerabilities and establishes state mitigation goals, objectives, and initiatives.
- SEMA All-Hazard Emergency Planning Guidance - State planning standards for local jurisdictions
- Missouri Emergency Response Commission (MERC) Hazardous Materials Planning: Coordinates hazardous materials emergency planning under SARA Title III and EPCRA requirements.

Regional Plans

- Mid-America Regional Council Hazard Mitigation Plan: Multi-jurisdictional hazard mitigation plan covering the Kansas City metropolitan area, including hazard identification, risk assessment, and mitigation strategies for participating jurisdictions.
- Mid-America HazMat and Emergency Preparedness Alliance: Regional coordination framework serving as the Local Emergency Planning Committee (LEPC) for the Kansas City metropolitan area.
- Mid-America Regional Council Tactical Interoperability Communications (TIC) Plan: describes how interoperable communications will be accomplished in accordance with the communications resources available in the region and what agencies maintain these resources.

- Mid-America Regional Council Regional Coordination Guide: An all-hazard, capabilities based guide designed to address any of the hazards potentially affecting the metro area.
- Plan Bulldozer: A regional mutual aid agreement with the heavy contractors in the metropolitan area.
- Greater Kansas City Volunteer Reception Center Plan

Supporting Plans and Agreements

- Emergency Support Function (ESF) Annexes: Functional annexes describing coordination and resource support for specific emergency functions.
- Support Annexes: Annexes addressing common operational processes including debris management, evacuations, sheltering, donations management, and public information.
- Hazard-Specific Annexes: Annexes addressing particular threats including severe weather, flooding, hazardous materials, and other identified hazards.
- Continuity of Operations (COOP) Plans: County and municipal plans ensuring continuity of essential government functions during emergencies.
- Mutual Aid Agreements: Local, regional, and interstate agreements enabling resource sharing during emergencies, including MOSCOPE and EMAC.

10.3 Standards and Best Practices

- FEMA Incident Command System (ICS) Resources: Training materials and position-specific guidance for incident command system implementation.
- FEMA National Preparedness Goal: Identifies core capabilities required for preparedness across prevention, protection, mitigation, response, and recovery mission areas.
- FEMA Community Lifelines: Operational framework for stabilizing essential services during incident response.
- FEMA National Qualification System: Establishes standards for personnel qualifications and credentialing.
- NIMS Resource Typing Library Tool: Standardized resource definitions enabling clear communication of capabilities during mutual aid operations.

10.4 Training and Exercise References

- FEMA Emergency Management Institute (EMI) Independent Study Courses: Self-paced online training courses covering ICS, NIMS, National Response Framework, and emergency management fundamentals.
- SEMA Training and Exercise Management System (STEMS): State platform for emergency management training registration and exercise coordination.
- Homeland Security Exercise and Evaluation Program (HSEEP): National framework for designing, developing, conducting, and evaluating exercises.
- 2025 Missouri EMPG Program Manual: State guidance on Emergency Management Performance Grant requirements, including training, exercise, and compliance standards.

10.5 Additional Resources

- National Weather Service (NWS) Pleasant Hill: Regional forecast office providing weather forecasts, warnings, and decision support services for Cass County and surrounding areas.
- Missouri Department of Transportation (MoDOT) Traveler Information: Real-time road condition information and travel advisories.
- Missouri WebEOC: State information sharing and resource request tracking system for emergency operations.
- FEMA Disaster Assistance Programs: Information on Individual Assistance, Public Assistance, and Hazard Mitigation Grant Program application processes and requirements.
- Small Business Administration (SBA) Disaster Loan Program: Low-interest disaster loans for homeowners, renters, businesses, and nonprofit organizations.
- USDA Agricultural Census (2022): Detailed, quinquennial (every 5 years) count of all U.S. farms and ranches, covering land, operators, production, income, and expenses by county.

10.6 Amendments and Updates

Legal authorities, regulations, and reference documents are subject to periodic amendment and update. The Cass County Emergency Management Agency monitors changes to applicable authorities and incorporates updates into the Emergency Operations Plan through the plan maintenance process described in Section 9.

When federal, state, or local authorities are amended or new authorities are enacted, the Emergency Management Director coordinates review and revision of affected plan sections to ensure continued compliance and operational effectiveness.

Plan holders are encouraged to monitor changes to authorities and references relevant to their assigned responsibilities and recommend updates through the Emergency Management Agency.

10.7 Extent and Limits of Emergency Authorities

- Emergency actions are limited to lawful measures necessary to preserve public safety and are subject to subsequent review by the governing body.
- All emergency measures are discretionary governmental functions undertaken in good faith and subject to available resources.

End of Base Plan

Certified Copy of Record

STATE OF MISSOURI,
County of Cass, } *ss.*

In the County Commission of Cass County, Missouri, at the January Term, 2026, held on the 4th day of February 2026 amongst others, were the following proceedings:

RESOLUTION NO. 26-10
OF THE CASS COUNTY COMMISSION

APPROVING A SERVICES AGREEMENT WITH GRAVES GARRETT GREIM LLC

BE IT HEREBY RESOLVED AND ORDERED BY THE COUNTY COMMISSION OF CASS COUNTY, MISSOURI, THAT, the Cass County Commission hereby approves the Agreement, attached hereto and incorporated herein with Graves Garrett Greim LLC. The Presiding Commissioner and/or his designee is hereby authorized to sign the agreement on behalf of Cass County, Missouri, and all other documents necessary to facilitate this order.

ADOPTED BY THE COUNTY COMMISSION OF CASS COUNTY, MISSOURI, THIS 4TH DAY OF FEBRUARY 2026.

Bob Huston Presiding Commissioner	Mike Moreland Associate Commissioner Dist. 1	Jeff Fletcher Associate Commissioner Dist. 2

ATTEST:

COUNTY SEAL
CASS COUNTY MISSOURI

Kathy Lambertz
County Clerk

Dated:_____

Todd P. Graves
Direct Dial: (816) 256-3173
tgraves@gravesgarrett.com

January 20, 2026

Via Electronic Mail
Paul Campo, Cass County Counselor
pcampo@publiclawfirm.com

Re: Provide counsel regarding potential civil litigation related to blowing trash.

Dear Mr. Campo:

We appreciate the decision of Cass County ("you) to engage Graves Garrett Greim LLC (the "Firm") as legal counsel in connection with the above-referenced matter. We understand the scope of the engagement to include providing legal counsel regarding a potential civil litigation. This letter memorializes and is a complete expression of the terms and conditions of the agreement under which the Firm will provide services to you.

I. Your and Our Responsibilities and Limitations

Although we cannot guarantee the success of our efforts, we will strive vigorously to represent your interests effectively. In any event, we will keep you advised of significant developments in the course of this engagement. You agree to fully disclose all relevant information to us upon request, to promptly notify us of any change in address or telephone number, and to pay bills on time. You also agree to make any documents or things under your control available to us at reasonable times and places for such conferences as may be necessary from time to time. In the event of your failure to comply with the above, we reserve the right to withdraw as counsel in this matter. We anticipate that our relationship will be mutually satisfactory and urge you to notify us immediately if, at any time and for any reason, our professional services do not fulfill your expectations.

II. Basis of Fees and Expenses – Typical Services

Our fees and expenses will be billed on a monthly basis. The Firm will provide you with statements that will show, for the period designated on the statement, the costs advanced and the attorneys' fees calculated as a multiple of hourly rates. The

statements will be reviewed before they are issued to ensure that the amount charged is appropriate. My normal hourly rate is $865. However, as a government entity, you will be billed at a blended hourly rate of $495 per hour for work performed by Todd Graves and all other attorneys. To the extent practicable, paralegals will be utilized at lower hourly rates. Additionally, you will be billed for all expenses incurred on your behalf above and beyond our general office related expenses. These expenses include travel, express shipping, and photocopying. Extraordinary expenses, such as investigators, court reporter fees and expert witness fees, generally are billed directly and separately to you. A late charge at the rate of one (1) percent per month is charged on billings outstanding more than thirty (30) days from the date invoiced.

III. Client Documents

Our Firm will maintain the case file for six years after this matter is concluded. You may request the file at any time during, upon conclusion of, or after conclusion of this matter. Six years after the conclusion of this matter, the file will be destroyed without further notice.

IV. Questions and Termination

Although we are confident that you will be satisfied with our representation, please inform us if at any time you are not completely satisfied with our professional services. We recognize that you have come to this Firm and have decided to retain us because of your desire to have the benefits of this Firm's expertise. If, during this representation, you feel that any of this Firm's relationships or other representations may be adverse to our representation of you, you agree to inform us immediately so we may discuss and hopefully resolve such concerns.

Both you and Graves Garrett LLC have the right to end this representation at any time by giving reasonable advance written notice. All outstanding bills must be paid promptly in accordance with the terms of this Agreement.

V. Modification and Applicable Law

This Agreement constitutes the sole agreement of the parties and supersedes any and all prior understandings or written or oral agreements between the parties hereto respecting the subject matter herein. Furthermore, any modification of this Agreement will be of no effect unless it is written and executed by both you and our Firm. This Agreement shall be construed under and in accordance with the laws of the State of Missouri. In the event one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any of the other

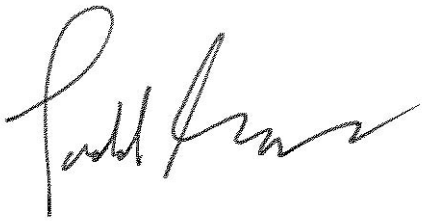
provisions thereof, and this Agreement shall be construed as if the invalid, illegal, or unenforceable provision has never been contained herein.

VI. Conclusion

We look forward to working with you not only in connection with this matter, but also with respect to any other matter for which you may have need of our services. Please be assured that we will do our utmost in representing your interests. In conclusion, it is my understanding that you consent to this Firm's representation as counsel in this matter on the terms and conditions set forth above. By signing your name below, you acknowledge that: (1) you have received a copy of this Agreement; (2) you have had an opportunity to discuss the contents with us; and (3) you understand, accept, and agree to abide by the terms of the Agreement.

If you have any questions or comments regarding any of these matters, please do not hesitate to call. Thank you again for the trust you have expressed in this law firm.

Sincerely,



Todd P. Graves

AGREED to and ACCEPTED this 4th day of February, 2026.

_____

On behalf of Cass County

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STATE OF MISSOURI,
County of Cass, } *ss.*

In the County Commission of Cass County, Missouri, at the January Term, 2026, held on the 4th day of February 2026 amongst others, were the following proceedings:

RESOLUTION NO. 26-11
OF THE CASS COUNTY COMMISSION

APPROVING PARTICIPATION IN THE MISSOURI HIGHWAY SAFETY PROGRAM

BE IT HEREBY RESOLVED AND ORDERED BY THE COUNTY COMMISSION OF CASS COUNTY, MISSOURI, THAT, the Cass County Commission hereby approves the County's participation in the Missouri Highway Safety Program. The Presiding Commissioner and/or his designee is hereby authorized to sign the attached authorization on behalf of Cass County, Missouri, and all other documents necessary to facilitate this order.

ADOPTED BY THE COUNTY COMMISSION OF CASS COUNTY, MISSOURI, THIS 4TH DAY OF FEBRUARY 2026.

Bob Huston Presiding Commissioner	Mike Moreland Associate Commissioner Dist. 1	Jeff Fletcher Associate Commissioner Dist. 2

ATTEST:

COUNTY SEAL
CASS COUNTY MISSOURI

Kathy Lambertz
County Clerk

Dated:_____

Highway Safety and Traffic Division
P.O. Box 270
Jefferson City, MO 65102
1-800-800-2358 or 573-751-4161

COUNTY AUTHORIZATION

On _____, 20__ the County Commission of _____

_____

County discussed participation in Missouri's Highway Safety Program.

It is agreed the County should participate in Missouri's Highway Safety Program. It is further agreed the County Sheriff will investigate the possibilities of attaining financial assistance from the Highway Safety Division.

When funding from the Highway Safety Division is no longer available, the local government entity agrees to make a dedicated attempt to continue support for this traffic safety effort.

_____ County Commissioner

_____ County Commissioner

_____ Presiding Commissioner

Certified Copy of Record

STATE OF MISSOURI,
County of Cass, } ***ss.***

In the County Commission of Cass County, Missouri, at the January Term, 2026, held on the 4th day of February 2026 amongst others, were the following proceedings:

CASS COUNTY, MISSOURI
ORDINANCE NO. 26-03

AN ORDINANCE AMENDING COUNTY CODE CHAPTER 700, ARTICLE I RELATED TO WASTEWATER TREATMENT SYSTEMS.

BE IT ORDAINED BY THE COUNTY COMMISSION OF CASS COUNTY, MISSOURI, AS FOLLOWS:

Section 1. That Chapter 700, Article I, Section 700.010 of the Code of Ordinances of Cass County, Missouri is hereby amended to read as follows:

SECTION 700.010 WASTEWATER TREATMENT SYSTEMS

This Article contains the Cass County Wastewater Treatment Systems Ordinance, which provides as follows:

RULES and REGULATIONS
CASS COUNTY MISSOURI
WASTEWATER TREATMENT
SYSTEMS ORDINANCE

As provided in Section 192.300, RSMO 1986
Revised March 20, 2006
Revised July 5, 2023
Revised February 4, 2026

INTRODUCTION

There is an ever-increasing demand from those who live in rural areas where public sewers are not available, for modern plumbing and the convenience of the toilet, bathtub and sink.
With the addition of these modern sanitary facilities comes the problem of satisfactory disposal of human waste. The improper design, location, installation, use and maintenance of individual sewage treatment systems adversely affects the public health, safety and general welfare by discharge of inadequately treated sewage to surface and ground waters. In many cases, the spread of typhoid fever, dysentery, diarrhea. hookworm and other so-called filth-borne diseases have been traced directly to sewage contamination. Also, the improper disposal of sewage may become a nuisance and prevent the greatest enjoyment of all, the environment.

These Rules and Regulations in accordance with the authority granted in Missouri statutes, Chapter 644, the Missouri Clean Water Commission do hereby provide the minimum standards and criteria for the design, location, installation, use and maintenance of individual sewage treatment systems to protect the surface and ground waters of the state and promote the public health and general welfare. And as provided in Section 192.300, R.S.Mo.

GENERAL POLICY

Every effort shall be made to secure sewer extensions.
When installation of a private residential sewage disposal system cannot be avoided, requirements of the *Cass County Building Codes, Environmental Health and Zoning Department, 'Rules and Regulations'* as contained herein shall be followed.

The design, construction, operation and maintenance of sewage treatment and disposal systems shall be the responsibility of the designer, owner, developer, installer or user of the system. Actions of representatives of the administrative authority engaged in the evaluation and determination of measures required to effect compliance with the provisions of this rule shall in no way be taken as a guarantee or warranty that sewage treatment and disposal systems approved and permitted will function in a satisfactory manner for any given period of time. Due to the development of clogging mats, which adversely impact the life expectancy of normally functioning ground absorption sewage treatment and disposal systems and variables influencing system function which are beyond the scope of this rule, no guarantee or warranty is implied or given that a sewage treatment and disposal system will function in a satisfactory manner for any specific period of time.

The entire sanitary sewage system shall be on the property in which it serves.

SECTION 1 - REQUIREMENTS

1. GENERAL

A. Scope

These standards apply to all wastewater treatment systems located within unincorporated areas of Cass County, Missouri, which utilize soil absorption for final treatment and disposal of wastewater. These standards provide the minimum requirements for the design and construction of on-site wastewater treatment systems. These standards do not provide detailed designs or recommendations for any particular site and may not be construed for such use.

The purpose of these regulations is to protect the health and welfare of the citizens of Cass County by preventing discharge of improperly treated wastewater onto the surface or into groundwater, to the greatest extent possible. In the event that conditions on any particular site warrant, the administrative authority may require additional tests, or design exceeding the minimum requirements.

B. Authority

These standards have been adopted by the Cass County Commission to monitor and upgrade wastewater systems within Cass County as needed or required.

Violations of the requirements set forth herein shall constitute a violation of the Cass County Sewage Treatment Systems Ordinance and shall be subject to enforcement procedures and penalties as set forth in the ordinance.

Appeals shall be made in writing to the Administrator of the Cass County Environmental Health Department.

Where situations arise which are not specifically addressed herein the Administrative Authority may, at their discretion, vary the requirements stated herein or impose additional requirements if deemed necessary to ensure that systems are designed and constructed with reasonable assurance that they will function as intended and at a reasonable cost.

C. Severability

If any section, clause, provision or portion of these regulations is adjudged to be unconstitutional or invalid by a court of competent jurisdiction, the remainder of these regulations shall not be affected thereby.

2. REQUIRED PERMITS

For any property in the unincorporated areas of Cass County a permit is required before construction, modification or repair of the on-site sewage disposal system. The fee for the permit shall be **three hundred dollars ($300.00).** However, as the construction, modification, or-repair creates an on-site sewage disposal system that is substantially different than was previously inspected or evaluated, a request for a follow-up inspection or evaluation will incur a fee is **fifty dollars ($50.00** as provided in section 701.051, RSMo). Any person engaged in the construction or renovation of an on-site wastewater system shall obtain a construction permit from the *Cass County Building Codes, Environmental Health & Zoning Department.* The following must be submitted in order to obtain a permit:

A. Construction of new systems.

1) A certified soil morphology evaluation, site review, construction plans and application completed by the owner or installer shall be submitted along with appropriate fee at the time of permit application.

B. Residential Accessory Structures

1) Bathrooms in residential accessory structures shall discharge into an adequately designed on site wastewater treatment system or be connected to the dwelling unit system.

2) Connections to the dwelling unit system shall be made prior to the septic tank by means of a wye or combination wye-45 fitting.

3) Cleanouts shall be installed as per this code.

4) Limitations to the site may require the use of a separate septic tank or lift station to be

utilized.

a) The use of a separate septic tank shall follow design requirements as listed elsewhere in this code.

b) A grinder pump station may be used provided the following criteria is met.

(1) The grinder pump vault shall be watertight.

(2) The grinder pump vault shall have a storage volume of at least seventy (70) gallons.

(3) A shutoff valve accessible from the ground surface shall be installed.

(4) A check valve shall be installed to prevent backflow.

(5) An anti-siphon valve shall be installed if siphoning may occur.

(6) An audio-visual alarm shall be installed as required elsewhere in this code.

C. Modifying or replacing existing systems

1) Replacing tank and absorption field or relocating absorption field: The installer shall submit a site sketch including soils morphology test, construction plans and information required on application form.

2) Replacing tank only: The installer shall submit a site sketch indicating the existing tank(s) location, either the removal or crushing of the existing tank, the proposed tank location, all piping information, and including information required on application form.

3) Adding or replacing absorption field lines: The installer shall submit a soil morphology test, construction plans and information required on application form.

D. Rebuilding and replacing structures.

1) In the case where a home or other structure is destroyed by fire or other cause and the owner wishes to rebuild; the existing on-site wastewater system may be used to serve the replacement structure provided the number of bedrooms and use of the structure or home is not changed and the existing system is functioning properly. If the existing on-site wastewater system is not functioning properly, the Department may require the system to be repaired or replaced.

3. FEES

A. Permit for construction of new residential system, commercial system under 3000gallons per day flow or complete renovation of existing system: **$300.00**

B. Permit for new commercial system under 3000 gallons per day flow: **$300.00** .

C. Permit for modifying or replacing the existing system (partial): **$300.00** (NOTE: THE INSTALLER WILL BE CHARGED **$150.00** FOR FAILURE TO SUBMIT PLANS IF THE APPLICATION IS NOT MADE BEFORE CONSTRUCTION!)

D. Permit to add bath for an accessory building to an existing residence system: **$75.00**

E. Repair permits for commercial systems less than 3,000 gpd: **$300.00**

F. Reinspection fee: **$100.00**

4. REQUIRED PLANS & DATA

All plans and data must be prepared on, or in substantially the same format as Cass County standard forms.

Site evaluations/soil morphology test are considered valid indefinitely, provided the soil properties at the site are not altered by excavating, filling, tilling, compacting of the soil in place by operation of heavy equipment; provided no dumping of chemicals or other compounds has occurred at the site; and provided the surface of the site has not been altered by construction of pavements.

The Department may require additional data if site conditions warrant.

A. New construction

The following items shall be submitted for new construction permits:

1) Site evaluation form and soil morphology as performed by a soil scientist.

2) Details showing the typical cross section dimensions of the absorption trench including depth; width; size, type, and depth of gravel; size, type, and depth of pipe or chamber; depth of fill; type of restrictive layer (landscaping fabric, fiberglass, paper, etc.)

3) Site plan: A site plan must be prepared by the installer or engineer showing the following minimum information.
   a) Lot lines, dimensions, and total lot area, or acres.
   b) North arrow.
   c) Location of proposed dwelling or building (show distance from at least two property lines).
   d) Location of proposed septic tank and absorption field or other proposed system.
   e) Location of soil morphology pits.
   f) Slope of ground surface across absorption field area. Spot elevations or topographic contours may be used. Show grade to nearest ½ percent.
   g) Arrows showing direction of surface drainage.
   h) Flowing or intermittent streams or watercourses, ponds, lakes, and floodplain boundaries.
   i) Location of proposed and/or existing wells (in use or abandoned) located within proximity to the required setback distances of the proposed system.
   j) Location and distance of springs, sinkholes**, and caves** located within proximity to the proposed system.
   k) Existing utility lines and easements.
   l) Existing or proposed swimming pools.
   m) Existing or proposed drives, parking lots, or other paved or gravel surfaced areas.
   n) Any other conditions which may affect the design or performance of the system.
   o) If a lagoon or evaporation pond is being installed, the distance of neighboring residences must be indicated.

B. Repair or replacement of existing system.

The following items shall be submitted for repair/replacement permits:

1) Replacing tank and absorption field or relocating absorption field: The installer shall submit a site sketch including soils morphology test, construction plans and information required on application form.
2) Replacing tank only: The installer shall submit a site sketch indicating the existing tank(s) location, either the removal or crushing of the existing tank, the proposed tank location, all piping information, and including information required on application form.
3) Adding or replacing absorption field lines: The installer shall submit a soils morphology test, construction plans and information required on application form.

C. Commercial Property- Less than 3000 gal/day flow.

Any business requesting a construction permit must provide the following information to the Department at the time of permit application:

1) A statement as to the type of business to be conducted, including number of employees, if public restrooms are provided, anticipated number of customers per day, Building Occupancy type and number.
2) Engineering plans for the proposed sewage disposal system to be installed and shall include soil evaluation.
3) Detailed plans of the water system to be used, including a detailed drawing of all water lines and distance to sewer lines.

D. Existing Subdivisions.

The following items must be provided to the Department before construction permit is issued for on-site wastewater system will be approved in any subdivision:

1) A copy of DNR/DHSS approval of the subdivision to use on-site septic systems and design criteria.
2) A plat of the subdivision showing the following:
3) all existing homes or structures
4) all we1ls in the subdivision and location of water lines.

5) all streets names shall be noted.

6) Lot number and address will be required at time of permit application.

5. PROFESSIONAL QUALIFICATIONS

A. All Advanced on-site wastewater systems shall be designed by a registered installer or professional engineer. Site evaluations shall be done by a State certified Soil Scientist.

6. INSTALLER QUALIFICATIONS

A. Any person, with the exception of a homeowner meeting the requirements of section 701.055, RSMo, engaging in the installation, construction, or maintenance of any on-site wastewater system shall be registered by the Missouri Department of Health and Senior Services. Only installers registered as advanced OWTS installers shall install systems listed by the department as advanced OWTS.

7. REVIEW AND INSPECTION PROCEDURES

A. Plan Review

1) New Systems:

Submit Permit Application with plans, Site Review, soil morphology test and appropriate Fee to the Department. The Administrative Authority will review the information submitted and determine if a pre-construction review is necessary. A review for conformity to standards set forth in this manual will be completed. The Department is allowed five (5) days in which to inform the owner/applicant/installer of approval or modifications deemed necessary. Once all the plans have been approved a construction permit will be granted and construction may begin.

No excavation/or construction of the on-site system may be started until review of the plans are complete and approval from the Department is granted. Any construction occurring before the plans are approved may be subject to rejection or violation fees.

2) Repair of existing systems:

Submit Permit Application with site sketch showing existing system, construction plans for proposed system for modifications to be made along with appropriate permit fee to the Department for review. If there is to be a replacement of the field a soil morphology test will be required. The Department will then review plans and inform the owner, applicant or installer of necessary modifications or approval within five (5) days. Once a construction permit is issued and approval granted construction may begin.

B. Construction Inspection

An inspection of the septic tank and absorption field by the Department shall be conducted before any of the system is covered. Requests and inspections shall be requested and performed during normal office hours. The request for an inspection shall be made with **at least 24-hour notice.** Please keep in mind the inspectors work many different programs. **If 24-hour notice is given and the inspector has not arrived at the inspection site by 3:00 p.m. on the day scheduled for inspection, the site may be covered. Inspections shall not be requested or performed over County Holidays or weekends.**

The inspector will note any items which need correction. Any items noted for correction must be re-inspected. Re-inspections must be scheduled in the same manner as the first inspection. Once the inspector has approved the construction, the system may be backfilled/covered.

SECTION 2-REGULATIONS

1. DEFINITIONS

The following words and terms, when used, shall have the following meaning, unless the context clearly indicates otherwise.

Absorption system. The final treatment and disposal of the septic tank effluent. The absorption system includes the distribution box, the perforated pipe and gravel or other gravelless distribution pipe, the filter materials and the trenches.

Aeration unit. Any sewage tank which utilizes the principle of oxidation in the decomposition of sewage by the introduction of air into the sewage.
Alternative system. A means by which septic tank effluent is disposed of other than the conventional absorption system. Examples of alternative systems are wetlands, intermittent sand filters, and low-pressure pipe.
Baffle. A device installed in a septic tank for proper operation of the tank and to provide maximum retention of solids. This includes vented sanitary tees and submerged pipes in addition to those devices normally called baffles.
Bedrock. That layer of parent material which is consolidated and unweathered.
Bedroom. Any room within a dwelling that is used as a sleeping room.
Black water. Liquid waste from a dwelling or other establishment produced by toilet waste, or culinary operations and specifically excluding laundry.
Building sewer. That part of the drainage system which extends from the end of the building drain and conveys its discharge to an individual sewage treatment system.
Business. Any building used for any purpose other than as a single-family dwelling.
Capacity. The liquid volume of a sewage tank
using inside dimensions below the outlet.
Commercial System. An on-site sewage disposal system used for disposing of wastewater from a commercial establishment or subdivision.
Department with administrative authority. The governing body, Cass County Environmental Health Department.
Distribution pipes. Perforated pipes or agricultural drain tiles used to distribute sewage tank effluent in soil treatment systems.
Distribution box. A water-tight box that receives the discharge or effluent from the septic tank and equalizes the flow of sewage to each individual line of the absorption system. All gravity fed outlets are required to have flow equalization devices.
Dosing chamber (or pump pit or wet well). A tank or separate compartment following the sewage tank which serves as a reservoir for the dosing device.
Dosing device. A pump, siphon or other device that discharges sewage tank effluent from the dosing chamber to the soil treatment system.
Dwelling. Any building or place used or intended to be used by human occupants as a single family or two (2) family unit.
Geologist. A person that meets the requirements of chapter 256 of the Missouri State Statutes.
Gravelless system. An absorption system comprised of large diameter, eight (8)- and ten (10)-inch corrugated plastic pipe, perforated with holes on a one hundred twenty-degree (120) arc centered on the bottom, wrapped in a sheath of spun bonded nylon filter wrap and installed level in a trench without gravel bedding.
Gray water. Liquid waste from a dwelling produced by bathing, laundry, culinary operations, from floor drains and specifically excluding toilet waste.
Grease interceptor or grease trap. A device to catch or trap grease that is in suspension or solution in liquid waste and to retain the grease solids separated in the trap receptacle.
Holding tank. A watertight tank for storage of sewage until it can be transported to a point of approved treatment and disposal.
Impermeable. With regard to bedrock, a bedrock having very few cracks or crevices and having a vertical permeability less than one-inch (1") in twenty-four (24) hours shall be considered impermeable. Regarding soils, a soil horizon or layer having a vertical permeability less than one-inch (l") in twenty-four (24) hours shall be considered impermeable.
Individual sewage treatment system. A sewage treatment system, or part of a system, serving a dwelling(s) or other establishment(s), which utilizes subsurface soil treatment and disposal.

Intermittent sand filters. Intermittent Sand filters are beds of granular materials twenty- four to thirty-six inches (24-36") deep underlain by graded gravel and collecting tile. Wastewater is applied intermittently to the surface of the bed through distribution pipes or troughs and the bed is under-drained to collect and discharge the final effluent. Uniform distribution is normally obtained by dosing so as to flood the entire surface of the bed. Filters may be designed to provide free access (open filters) or may be buried in the ground (buried filters) shall be discharged to a soil absorption system.

Limiting Condition. A flow restrictive soil layer, bedrock, a water table, seasonal water table, groundwater or highly permeable material that limits or precludes the treatment of or dispersal of effluent in the soil of a property where an onsite wastewater treatment system will be/is located.

Manufactured Home Park. Any single parcel of land with more than two manufactured homes used as full-time residences.

Mottling. A zone of chemical oxidation and reduction activity appearing as splotchy patches of red, brown, orange and gray in the soil.

Mound system. A system where the soil treatment area is built above the ground to overcome limits imposed by proximity to water table or bedrock or by rapidly or slowly permeable soils.

Other establishment. Any public or private structure other than a dwelling which generates sewage.

Plastic limit. A soil moisture content below which the soil may be manipulated for purposes of installing a soil treatment system and above which manipulation will cause compaction and puddling.

Professional engineer. An engineer holding a current license to practice from the Missouri Board for Architects, Professional Engineer, and Land Surveyors, having a background in soils, wastewater, and geology.

Rock fragments. The percentage of rock fragments in soil that are greater than two millimeters (2 mm) in diameter or retained on a No. 10 sieve which may include chert, sandstone, shale, limestone, or dolomite. The amount of rock fragments in soil is of concern in areas of residual soils overlying highly permeable bedrock.

Sanitarian. A person registered as a sanitarian by the National Environmental Health Association or employed as a sanitarian by the state or local health department. Also known as Environmental Public Health Specialist or Public Health Specialist.

Septage. Those solids and liquids removed during periodic maintenance of a septic or aeration unit tank, or those solids and liquids removed from a holding tank.

Septic tank. Any watertight, covered receptacle designed and constructed to receive the discharge of sewage from a building sewer, separate solids from liquid, digest organic matter, store liquids through a period of detention and allow the clarified liquids to discharge to a soil treatment system

Setback. A separation distance measured horizontally.

Sewage. Any water carried domestic waste, exclusive of footings and roof drainage, from any industrial, agricultural, or commercial establishment or any other structure. Domestic waste includes, but is not limited to, liquid waste produced by bathing, laundry, culinary operations, liquid wastes from toilets and floor drains and specifically excludes animal waste and commercial process water.

Sewage flow. Flow as determined by measurement of actual water use or, if actual measurements are unavailable, as estimated by the best available data provided by 19 CSR 20-3.060 Small Sewage Works Design Guide.

Sewage tank. A watertight tank used in the treatment of sewage which includes, but is not limited to septic tanks and aeration units.

Sewage tank effluent. That liquid which flows from a septic or aeration unit under normal operation.

Single Family Dwelling wastewater stabilization pond. A sealed earthen basin which uses natural unaided biological processes to stabilize wastewater and used on large lots.

Sinkhole. Any natural depression in the surface of the ground with or without collapse of adjacent rock, that provides a means through which surface water can come into contact with subsurface water. Sinkhole depression may be gradual or abrupt; they may or may not have a well-defined eye. While most sinkholes can be defined as the area with a "closed contour", some sinkholes, such as those located on the sides of hills and in stream valleys, may not. All sinkholes provide discreet points of recharge to groundwater.
Site. The area bounded by the dimensions required for the proper location of the soil treatment system.
Slope. The ratio of vertical rise or fall to horizontal distance.
Soil characteristics- limiting. Those soil characteristics which preclude the installation of a standard system, including, but not limited to, evidence of water table or bedrock closer than three feet (3') to the ground surface and percolation rates slower than one hundred twenty (120) minutes per inch. Also the amount of rock fragments in areas of significant potential for groundwater contamination.
Soil Morphology. The method of testing absorption qualities of the soil by physical examination of the soils' color, mottling, texture, structure, topography and hillslope position.
Soil scientist. A person who is qualified by the Missouri Department of Health as a soil scientist.
Soil textural classification. Soil particle sizes or textures specified in this rule refer to the soil textural classification in the Soil Survey Manual Handbook No. **18,** U.S. Department of Agriculture, 1951.
Soil treatment area. That area of trench or bed bottom which is in direct contact with the trench rock of the soil treatment system.
Soil treatment system. A system where sewage tank effluent is treated and disposed of below ground surface by filtration and percolation through the soil. It includes those systems commonly known as seepage bed, trench, drain field, disposal field and includes mound arid low pressure pipe systems.
Standard system. An individual sewage treatment system employing a building sewer, sewage tank and the soil treatment system commonly known as seepage bed or trenches, drain field or leach field.
Trench rock. Clean rock washed creek gravel or similar insoluble, durable and decay- resistant material free from dust, sand, silt or clay. The size shall range from one- and one-half inches to three inch rock (1 ½" to 3").
Toilet waste. Fecal matter, urine, toilet paper and any water used for flushing.
Valve box. Any device which can stop sewage tank effluent from flowing to a portion of the soil treatment area. This includes, but is not limited to, caps or plugs on distribution or drop box outlets, divider boards, butterfly valves, gate valves or other mechanisms.
Water table. The highest elevation in the soil where all voids are filled with water, as evidenced by presence of water or soil mottling or other information. This includes perched and zones of saturation for long periods of time.
Watertight. Constructed so that no water can get in or out below the level of the outlet.

2. APPLICABILITY

For these standards, on-site wastewater treatment and disposal system means all equipment and devices necessary for proper conduction, collection, storage, treatment and disposal of wastewater from a dwelling or other facility serving the equivalent of fifteen (15) persons, three thousand (3000) gallons per day, or less. **Included** within the scope of this definition are building sewers, septic tanks, subsurface absorption systems, mound systems, intermittent sand filters, gravelless systems, single family wastewater stabilization ponds and aeration unit wastewater treatment systems.
Not included within the scope of this definition are building sewers, septic tanks subsurface absorption systems, mound systems, intermittent sand filters, gravelless systems, or aeration unit wastewater treatment systems that serve any facility serving more than the equivalent of fifteen (15) persons or more than three thousand (3000) gallons per day or any commercial or industrial wastewater stabilization ponds or any community collection or treatment system. For systems of this nature contact the Missouri Department of Natural Resources , the Missouri Department of Health and Senior Services and or the Missouri Public Service Commission accordingly.

3. MINIMUM SET BACK DISTANCE

All on-site wastewater treatment and disposal systems shall be located in accordance with the distances shown below.

TABLE I			
	Sewage	Disposal	Lagoons
Minimum Distance in Feet From	Tanks (1)	Area (2)	
Private water supply well	50	100	100
Public water supply well (3) Community or Non-Community	300	300	300
Classified stream, lake or impoundment	50	50	50
Stream or open ditch	25	25	25
Property lines or Public Right of Way	10	10	100
Building foundation (including slab on grade and pole/post frame)	5	15	50
Basement	15	25	50
Water line under pressure	10	10	10
Suction water line	50	100	100
Upslope interceptor drains	-	10	10
Downslope interceptor drains	-	25	25
Top of slope of embankments or cuts of 2 feet or more vertical height	-	20	20
Other soil absorption system except repair area	-	20	20
Swimming pools	15	15	15
Springs and caves	50	100	100
Sinkhole rim (4)	50	100	500
Flood Zone	50	50	50

FOOTNOTES TO TABLE I

(1) Includes sewage tanks, intermittent sand filters and dosing chambers.

(2) Includes subsurface absorption systems. Does not include wastewater stabilization ponds.

(3) State regulations require a minimum of 100 feet but recommend 300 feet. For newly developed areas, 300 feet will be the required minimum. Where there are existing lots which were subdivided in accordance with Cass County Planning and Zoning regulations in effect at the time of subdivision and which cannot attain the 300 ft. setback, the setback can be reduced to the 100 ft. minimum. The maximum attainable setback will be required.

(4) Set back distance from sinkholes refers to the horizontal distance from the rim of the sinkhole, which is defined as the perimeter of the sinkhole depression. Where the required setback distance from the sinkhole rim cannot be reasonably met on an existing tract of land which is in conformity with the Cass County zoning regulations the following shall apply:

a. The absorption field shall be located a minimum of 100 feet from the sinkhole flooding area. The sinkhole flooding area is defined as the area below the elevation of the lowest point on the sinkhole rim OR the areas inundated by runoff from a storm with an annual exceedance probability of 1% (1OO-year storm and a duration of 24 hours. Volume of runoff shall be calculated according to the methods set forth in USDA Soil Conservation Service Technical Release NO. 55 Urban Hydrology for Small Watersheds.

b. A soil morphology evaluation shall be performed.

c. The size of the absorption field shall be based upon the minimum wastewater application rate of 0.2 gallons per day per square foot of absorption area.

d. An alternative system may be required depending upon soil conditions.

e. The Department may require that absorption trenches be sand lined

4. SEWAGE FLOW RATES

A. Single family dwelling (including manufactured homes)

In determining the volume of sewage from single family dwellings, the minimum flow rate shall be one hundred twenty (120) gallons per day per bedroom. The minimum volume of sewage from each single-family dwelling shall be three hundred (300) gallons per day and each additional bedroom above two (2) bedrooms shall increase the volume of sewage by one hundred twenty (120) gallons per day. When the occupancy of a single-family dwelling exceeds two (2) persons per bedroom, the volume of sewage shall be determined by the maximum occupancy at a rate of seventy-five (75) gallons per person per day.

The maximum wastewater flow for on-site wastewater systems serving single family dwellings is 1500 gallons per day.

B. Other residential dwellings.

1) Duplexes: one hundred twenty (120) gallons per day per bedroom, minimum 300 gallons per day per unit, maximum 3000 gallons per day for two units.

2) Apartments and condominiums: one hundred twenty (120) gallons per day per bedroom, minimum 300 gallons per day per unit, maximum 3000 gallons per day per building.

C. Other establishments.

For establishments or housing developments other than a single-family residence 19 CSR 20-3.060-subsection (2)(E) shall be used to estimate the sewage flow rate. Values for estimated sewage flow derived from 19 CSR 20-3.060 for establishments having food service operations shall be increased by a factor of one and one-half (I.5) to compensate for the high organic strength. A portion of 19 CSR 20-3.060 (2)(E) is shown in Table II for convenience.

TABLE II **Type of Establishment**	**Pounds BOD per person (unless otherwise noted)**	**Gallons* per day per person**
Employee Sanitary Waste	0.05	15
(Generally means eight (8)-hour shift employees at institutions, commercial establishments, factories and similar establishments. Total employee waste figure, if applicable, must be added to the appropriate patron or residential total from the following table)		
Food or Drink Establishments (Wastes per patron) (1)		
Tavern or bar (not serving food)	0.01	2
Fast-food (paper service)	0.02	3
Cafe or restaurant	0.03	*5*
Restaurant serving alcoholic beverages	0.04	*5*
Restaurant grinding garbage	0.07	6
Schools (Waste per student)	0.02	10
Day school, no cafeteria, gym or showers with cafeteria - ADD	0.02	4
With garbage grinding - ADD	0.02	1
With gym and showers - ADD	0.01	10
Boarding schools	0.17	75
Institutions	0.22	125-200
Hospitals (per bed)	0.17	100-150
Institutions other than hospitals Nursing homes	0.17	100-125
Commercial and Recreational		
Public parks (toilets only) (2)	0.02	*5*
Public parks with bath house, showers, toilets (2)	0.06	15-25
Swimming Pools and Beaches	0.06	15-25
Country clubs (per resident member)	0.17	75-100
Country clubs (per member present)	0.06	15-25
Service stations (waste per customer) (1)	0.01	5
Laundromats (per machine)	1.25	580
Hotels	0.15	50
Motels (without restaurants)	0.1	40
Luxury resorts	0.17	75
Camper trailer	0.08	30
Work or construction camps	0.15	60
Churches (per seat)	0.01	5
Stores, malls or shopping centers (per one thousand (1000) square feet of floor area)	0.34	200
Office buildings (per employee) (3)	0.05	15
Drive-in theaters (2)	0.01	5
Stadiums, auditoriums, theaters or drive-ins (per seat)	0.01	5

Table II NOTES:

(1) Number of customers or patrons assumed in determining the daily wastewater flow will be subject to verification by the Department from use at similar facilities.

(2) Number of persons is assumed to be 3 times the number of parking spaces.

(3) Office buildings are assumed to have one employee per 300 square foot of gross floor area.

D. Gray water - Black water systems.

Separate systems may be used for gray water and black water systems. Forty percent (40%) of the average daily waste flow shall be considered black water. The remaining sixty- percent (60%) of the average waste daily the flow shall be considered gray water. Septic tank size for black water

will be as required as in part 7. Minimum size for gray water tank shall be 1000 gallons.

5. SITE EVALUATION

The Site Evaluation is to be performed by a Soil Scientist registered with the State of Missouri when the results are intended for use in determining the location, design or installation of an OWTS.

A. Procedures for Soil Morphology

1) General. The intent of this section is to provide minimum standards for site evaluations based upon evaluation of the soil characteristics, namely texture, color, structure, drainage and depth. Criteria are also given for sizing standard systems and some alternative systems.

2) Adoption and Use. Where this rule is administered by an administrative authority, those administrative authorities may adopt this section in whole or in part, as part of a local code or ordinance. Nothing in this rule or section shall require any administrative authority to allow an installation based upon the criteria contained in this section.

3) Site Evaluation. An investigation of a proposed soil absorption site shall consider the following factors:

a) Topography and landscape position.

b) Soil characteristics (morphology) which include texture, structure, porosity, consistence, color and other physical, mineral and biological properties of various horizons, and the thickness and arrangement of the horizons in the soil profile;

c) Soil drainage, which includes both external (surface) and internal (soil); D Soil depth;

d) Restrictive horizons; and

e) Available space.

4) Site evaluations shall be made in accordance with the following. Based on this evaluation, each of the factors listed above shall be classified as suitable, provisionally suitable or unsuitable.

5) Topography and Landscape Position. Uniform slopes under fifteen percent (15%) shall be considered suitable with respect to topography. When slopes are less than two percent (2%), provisions shall be made to insure adequate surface drainage. When slopes are greater than four percent (4%), the absorption lines shall follow the contour of the ground.

a) Uniform slopes between fifteen percent (15%) and thirty percent (30%) shall be considered provisionally suitable with respect to topography, if the soils are thirty-six inches (36") or thicker. Slopes within this range may require installation of interceptor drains upslope from the soil absorption system to remove all excess water that might be moving laterally through the soil during wet period. Usable areas larger than minimum are ordinarily required in this slope range.

b) Slopes greater than thirty percent (30%) shall be considered unsuitable except when a thorough study of the soil characteristics indicates that a soil absorption system will function satisfactorily and sufficient ground area is available to properly install such a system. Slopes greater than thirty percent (30%) may be classified as provisionally suitable when all of the following conditions are met:

(1) The slope can be terraced or otherwise graded or the absorption lines located in naturally occurring soil to maintain a minimum ten-foot (10') horizontal distance from the absorption trench and the top edge of the fill embankment;

(2) The soil characteristics can be classified as suitable or provisionally suitable to a depth of at least one foot (1') below the bottom of the absorption trench;

(3) Surface water runoff is diverted around the absorption field so that there will be no scouring or erosion of the soil over the field;

(4) If necessary, groundwater flow is intercepted and diverted to prevent the water from running into or saturating the soil absorption system; and

(5) There is sufficient ground area available to install the septic tank system with these modifications.

c) Complex slope patterns and slopes dissected by gullies and ravines shall be considered unsuitable to topography.

d) Areas subject to frequent flooding shall be considered unsuitable to landscape positions.

e) Depressions shall be considered unsuitable with respect to landscape positions except when the site complies essentially with the requirements of this section and is specifically approved by the administrative authority.

f) If directed by the administrative authority, the surface area on or around a ground absorption system sewage treatment and disposal system shall be landscaped to provide adequate drainage. The interception of perched or lateral groundwater movement shall be provided where necessary to prevent soil saturation on or around the ground absorption sewage treatment and disposal system.

6) Soil Characteristics (Morphology). Soil borings or pits shall be taken at the site to be used for soil absorption systems. These borings shall be taken to a depth of forty- eight inches (48") or as required to determine the soil characteristics. Soil borings or pits and core samples shall be evaluated, and a determination made on the suitability of the soil to treat and absorb septic tank effluent. The important soil characteristics, which shall be reviewed by the administrative authority, are as fo1lows:

a) The relative amounts of the different sizes of mineral particles in a soil are referred to as soil texture. All mineral soils are composed of sand, two to five hundredths millimeters (2 - .05 mm) in size; silt, which includes intermediate- sized particles that cannot be seen with the naked eye but feel like flour when pressed between the fingers, five hundredths to two thousands millimeter (0.005 - 0.002 mm) in size; or clay, which is extremely small in size and is the mineral particle that gives cohesion to a soil, less than two thousandths millimeters (0.002 mm) in size or a combination of these. The texture of the different horizons of soils may be classified into five (5) general groups and shall be used for determining the application rates.

(1) Soil Group I. Sandy texture soils contain more than seventy percent (70%) sand-sized particles in the soil mass. These soils do not have enough clay to be cohesive. Sandy soils have favorable sewage application rates but may have a low filtering capacity leading to malfunction due to contamination of groundwater. The sandy group includes the sand and loamy sand soil textural classes and shall generally be considered suitable in texture.

(a) Sand. Sand has a gritty feel, does not stain the fingers and does not form a ribbon or ball when wet or moist.

(b) Loamy sand. Loamy sand has a gritty feel, stains the fingers (silt and clay), forms a weak ball and cannot be handled without breaking.

(2) Soil Group II. Course loamy texture soils contain more than thirty percent (30%) sand-sized particles and fewer than twenty percent (20%) clay-sized particles in the soil mass. They exhibit slight or no stickiness. The coarse loamy group includes sandy loam and loam soil textural classes and shall generally be considered suitable in texture.

(a) Sandy loam. Sandy loam feels gritty and forms a ball that can be picked up with the fingers and handled with or without breaking.

(b) Loam. Loam may feel slightly gritty but does not show a fingerprint and forms only short ribbons ranging from twenty-five hundredths to fifty hundredths inch (.25 - .50") in length. Loam will form a ball that can be handled without breaking.

(3) Soil Group III. These fine loamy texture soils contain fewer than forty percent (40%) clay-sized particles and not more than thirty percent (30%) sand-sized particles in a soil mass. T his group is limited to less than thirty-five percent (35%) clay when the clay minerals exhibit high shrink/swell characteristic and exhibit slight to moderate stickiness. The fine loamy group includes sandy clay loam; silt loam; clay loam and silty clay loam textural classes and shall generally be considered provisionally suitable in texture.

(a) Silt loam. Silty loam feels floury when moist and will show a fingerprint but will not ribbon and forms only a weak ball.

(b) Silt. Silt has a floury feel when moist and sticky when wet but will not ribbon and forms a ball that will tolerate some handling.

(c) Sandy clay loam. Sandy clay loam feels gritty but contains enough clay to form a firm ball and may ribbon to form seventy-five hundredths to one inch (.75-1") pieces.

(d) Silty clay loam. Silty clay loam is sticky when moist and will ribbon from one to two inches (1-2"). Rubbing silty-clay loam with the thumbnail produces a moderate sheen. Silty clay loam produces a distinct fingerprint.

(e) Clay loam. Clay loam is sticky when moist. Clay loam forms a thin ribbon of one to two inches (1-2") in length and produces a slight sheen when rubbed with the thumbnail. C]ay loam produces a non-distinct fingerprint.

(4) Soil Group IV. These clay texture soils contain forty percent (40%) or more clay-sized particles and include sandy clay, silty clay and clay. This group may also include clay loam and silty clay loam when the clay fraction is greater than thirty-five percent (35%) and of a high shrink/swell nature. There are two (2) major types of clays-non-expandable and expandable. The non-expandable clays, when wet are slightly sticky to sticky; when most, are friable to firm; and when dry, they are slightly hard to hard. The non-expandable clays (Group IVa) shall generally be considered provisionally suitable in texture. The expandable clays, when wet are very sticky and very plastic and when moist, these clays are Very firm to extremely firm and when dry, are very hard to extremely hard. The expandable clays (Group IV b) shall be considered unsuitable in texture.

(a) Sandy Clay. Sandy clay is plastic, gritty and sticky when moist and forms a firm ball and produces a thin ribbon to over two inches (2") in length.

(b) Silty clay. Silty clay is both plastic and sticky when moist and lacks any gritty feeling. Silty clay forms a firm ball and readily ribbons to over two inches (2") in length.

(c) Clay. Clay is both sticky and plastic when moist, produces a thin ribbon over two inches (2") in length, produces a high sheen when rubbed with the thumbnail and forms a strong ball resistant to breaking.

(5) Soil Group V. This soil group may be of any texture; however, the most predominant are cherty and very cherty clays, silt loams and silty clay loams. The amount of rock fragments in these soils is of a concern in areas of residual soils overlying highly permeable bedrock where groundwater could become contaminated. In general soils with less than fifty percent (50%) rock fragments will be considered suitable. In general, soils with greater than fifty percent (50%) rock fragments will be considered provisionally suitable if geological limitations are not severe.

7) Soil Drainage. Soils with seasonally high-water tables are of major concern in evaluating sites for sewage effluent disposal. These are the soil areas that give good sewage absorption rates during dry seasons of the year but force sewage effluent to the surface during the wetter seasons.

a) Any soil profile that has the grayish colors of chroma 2 or less (Munsell color chart) indicative of high-water tables, or is either subject to periodic high water, within twenty-four inches (24") of the surface, or is less than twelve inches (12") above the proposed trench bottom and the high-water table, shall be considered unsuitable as to drainage. Soils where the seasonally high-water table is less than forty-eight inches (48") and more than twenty-four inches (24") below the naturally occurring surface shall be considered provisionally suitable for soil drainage, provided there remains at least twelve inches (12") vertical of soil between the proposed trench bottom and the seasonally high-water table. Soils where the seasonally high-water table is greater than forty-eight inches (48") below the naturally occurring surface shall be considered suitable for soil drainage. Drainage systems installed for groundwater lowering shall be maintained so that a minimum vertical separation of one foot (1') occurs between the absorption trench bottom and the seasonally high-water table.

8) Soil Thickness. The thickness of soils to rock which are classified as suitable or provisionally suitable in texture and structure shall be at least forty-eight inches (48") when conventional soil absorption systems at conventional depths are to be utilized. Soil thickness greater than forty-eight inches (48") shall be considered as suitable as to soil thickness. Soil thickness less than forty-eight inches (48") and greater than thirty-six inches (36") shall be considered provisionally suitable. Where special design and installation modifications can be made to provide at least two feet (2') of

naturally occurring soil below the bottom of the absorption trench, these soils may be reclassified as provisionally suitable in thickness.

9) Restrictive Horizons. Restrictive horizons in soils are recognized by their apparent resistance in excavation or in the use of a soil auger. Restrictive horizons may occur as fragipans or claypans. The fragipan is a layer that owes its hardness mainly to extreme density or compactness as opposed to high clay content or cementation. The layer is typically dense and brittle. Although fragments are friable when removed, when in place the material is so dense that water moves through it very slowly. Unlike fragipans, the claypan is a compact, slowly permeable layer in the subsoil having a much higher clay content than the overlying material. A sharply defined boundary exists between the claypan and the overlying material. Claypans are typically hard when dry and plastic and sticky when wet.

a) Restrictive horizons that are greater than six inches (6") thick severely restrict the movement of water and sewage effluent and do not adequately respond to groundwater lowering drainage systems. Where these horizons are less than six inches (6") thick, they do not severely restrict the movement of water and sewage effluent but rather indicate the presence of a seasonally high-water table and may be modified after special investigation.

b) Soils in which restrictive horizons are six inches (6") or more in thickness and at depths greater than forty-eight inches (48") below the ground surface shall be considered suitable as to depth to restrictive horizons. Restrictive horizons six inches (6") or more in thickness and at depths between forty-eight inches and twenty-four inches (48–24") shall be considered provisionally suitable as to depth to restrictive horizons. Restrictive horizons six inches (6") or more in thickness encountered at depths less than twenty-four inches (24") below the ground surface shall be considered unsuitable as to depth to restrictive horizons.

B. Recommendations may be made as follows:

Type A - is a parcel of land which is determined by the site evaluation to be unsuitable for conventional type systems, or the required distances from wells cannot be met, greater than 45% slope or as determined by the Department.

Type A Systems - aeration and chlorination, drip irrigation, lagoon with synthetic liner.

Type B - is a parcel of land which is provisionally suitable or can be made provisionally suitable for on-site systems as determined by the site evaluation.

Type B Systems - include sand lined trenches, shallow placement and LPP or dosing systems.

Type C - is a parcel of land which is suitable for conventional on-site systems as determined by a site evaluation.

Type C Systems - include conventional systems using 4" perforated pipe and gravel, gravelless pipe, or chamber system.

C. A site evaluation may be required on a repair as determined by the Department.

6. BUILDING SEWERS

Building sewers used to convey wastewater from a building to an on-site wastewater treatment and disposal system shall be constructed of plastic pipe meeting the minimum requirements of American Society for Testing and Materials (ASTM) Standards F789-85 and D3034-81, schedule 40 PVC, cast iron or vitrified clay and all with approved type joints.

A. Size. Building sewers shall not be less than four inches (4") in diameter.

B. Slope. Building sewers shall be laid to the following minimum slope: 4-inch sewer - 12 inches per 100 feet, 6-inch sewer - 8 inches per 100 feet

C. Cleanouts. A cleanout shall be provided at least every one hundred foot (100') and within fifty (50) feet of a change in direction and slope if the change exceeds ninety (90) degrees.

D. Connection to sewage tank. The pipe going into and out of the sewage tank shall be schedule 40 PVC, cast iron or equivalent and shall extend a minimum of two feet (2') beyond the hole of excavation for the sewage tank.

E. Building sewers may be located in a common trench with the water line with a minimum separation of 2 feet.

F. Building sewers shall have a minimum of 12" of cover from the top of the pipe to finished grade.

G. Building sewers laid under drives or paved traffic areas shall either be encased in metal conduit or shall be schedule 40 PVC with a minimum of 4" of cleaned crushed rock bedding (nominal size not less than ½" or greater than 1") on all sides of the pipe; or shall be cast iron, ductile iron, or galvanized steel pipe.

7. SEWAGE TANKS

A. General.

1) All liquid waste and wash water shall be discharged into the sewage tank. Roof, garage, footing, surface water, drainage and cooling shall be excluded from the sewage tank. All sewage tank effluent shall be discharged to a soil absorption system or an evaporation pond that is designed to retain the effluent upon the property from which it originated.

2) All tanks must be constructed of concrete, or materials otherwise approved by the Department.

3) No metal or site built tanks will be considered.

4) All tanks shall be watertight and designed and constructed to withstand all lateral earth pressures under saturated soil conditions with the tank empty;

5) All Tanks shall be designed and constructed to withstand a minimum of two feet (2') of saturated earth cover above the tank top;

6) Blasting for the tank will be allowed if not in violation of any subdivision regulation and will not cause damage to existing property including homes, roads, or water lines.

7) Inspection ports shall be raised to grade.

B. Location.

Location of the sewage tank shall consider the following:

1) The sewage tank shall be placed so that it is accessible for the removal of liquids and accumulated solids;

2) The sewage tank shall be placed on three (3) inches of gravel in firm and settled soil or rock subgrade capable of bearing the weight of the tank and its contents;

3) The sewage tanks shall be set back as specified in Table I.

4) Tops and sides of sewage tanks shall be covered with earth backfill or other approved material. The top of the tank shall be covered with a minimum of 12" of earth. Where it is impractical to completely bury the tank, the sides shall be covered with a minimum of three feet (3') of earth graded to a slope not steeper than two and one-half (2-1/2) horizontal to one (1) vertical, or enclosed in a retaining wall, and insulated as required to provide the same R-value as 3 feet of earth cover.

C. Lift Station

1) Sizing requirements for lift stations shall be based upon two full day storage of residence plus dosing requirements

2) Site plan shall specify pump type, horsepower required, total system head (dynamic and static) and flow rate. · .

3) All pump inlets shall be set eight to twelve inches above the bottom of the lift station

4) Electrical Wiring Requirements

5) Electrical box shall be on the outside of pump tank with an electrical disconnect

6) Plugs with electrical tape will not be approved

7) Wiring shall be a minimum of 12-2 UF or manufactures recommendations, whichever is greater on all lift stations

8) Wiring longer than two hundred fifty feet (250) shall be a minimum of 10-2 UF or manufactures recommendation whichever is greater and shall be sized appropriately for voltage drop.

9) Wiring on all alarms shall be a minimum of 14-2 UF or manufactures recommendation whichever is greater

10) All discharge lines shall have a one-eighth (1/8) inch weep hole drilled to prevent siphoning and air lock in discharge line.

11) Administrative authority shall require pump test for final approval.

D. Solids Removal.

It is recommended that the owner of any septic tank or his/her agent shall regularly inspect and arrange for the removal and sanitary disposal of septage from the tank whenever the top of the sludge layer is less than twelve inches (12';) below the bottom of the outlet baffle or whenever the bottom of the scum layer is less than three inches (3") above the bottom of the outlet baffle. Yearly inspections of septic tanks are recommended.

E. Liquid capacity.in the dwelling served and shall be at least as large as the capacities given below:

Number of Bedrooms	Minimum Liquid Capacity Gallons
1 to 3	**1200**
4	**1500**
5	**2000**

For individual residences with more than five (5) bedrooms, multiple-family residences, or any place of business or public assembly, the liquid capacity of the septic tank shall be designed in accordance with the following: **V** = 0.75Q + 1125; where, V is the liquid capacity of the septic tank; and Q is the design daily sewage flow.

F. Aeration Units

An aeration unit wastewater treatment plant utilizes the principle of oxidation in the decomposition of sewage by the introduction of air into the sewage. An aeration unit may be used as the primary treatment unit instead of a septic tank except where special local conditions may limit their use. All aeration type treatment systems shall comply with the general requirements for sewage tanks set forth in in these regulations and with the following:

1) Limitations. Special conditions where aeration units should not be used may include, but not be limited to, the following:

a) Where intermittent use will adversely affect performance.

b) Where dependable maintenance service is not available.

c) Where electrical service is unreliable.

2) General. The aeration unit shall be located where it is readily accessible for inspection and maintenance. Setback distances for aeration units shall be in accordance with Table I.

3) Design. All aeration units shall comply with National Sanitation Foundation Standard No. 40 or as required by the Department. In addition, all aeration unit treatment plants shall comply with the requirements stipulated in this section.

a) The aeration unit shall have a minimum treatment capacity of one hundred twenty (120) gallons per bedroom per day or four hundred (400) gallons whichever is greater.

4) Effluent disposal. Effluent from an aeration unit shall be discharged into a soil absorption system or other final treatment system in accordance with section 8 Alternative Systems of these standards. **NO** reduction in the area of soil absorption systems or other final treatment systems shall be permitted because of the use of an aeration unit instead of a septic **tank.** Direct surface discharge from an aeration unit treatment plant shall not be permitted.

5) Operation and maintenance.

a) All aerobic treatment units, pump tanks, or any other serviceable equipment identified by the regulatory authority shall have a service contract maintained in accordance with the manufacturer's specifications.

b) Any individual or company providing a service shall be certified by the manufacturer of the equipment, or one of its certified agents, when such certification is offered.

c) All individuals or a company providing services provide proof of certification upon request of the Administrative Authority.

d) All aerobic treatment units shall have a total suspended solids test performed annually. This test must be performed in the mixed liquor compartment (in accordance **with** manufacture specification) with sample taken immediately after the method of agitation has stopped. The sample must be allowed to settle undisturbed for thirty (30) minutes. If the settleable solids exceed seventy-five (75%) percent, the results must be reported to the regulatory **authority,** and a licensed wastewater pump service must pump the tank.

8. ABSORPTION SYSTEMS

General The common design of absorption systems is one using absorption trenches, each separate from the other and each containing a distribution pipe. This type of system should be used whenever practical. Other types of absorption systems may be used as alternatives where the site conditions meet the specific design requirements of the alternative systems.

A. Interceptor drains can be used to improve soil drainage in areas having seasonally high-water tables or perched groundwater.

1) Interceptor drains shall consist of a perforated drainpipe meeting the same specification as set forth in Section 8 (A) and 8 (B) of these standards.

2) Coiled piping may be used for interceptor drains. The pipe shall be bedded in rock meeting the specifications set forth in Section 8 (A) 10 of these standards. There shall be a minimum of four inches (4") of gravel below the pipe, and two inches (2") of gravel above the pipe. The gravel shall be covered with a barrier material as set forth in Section 8-(A) (10) of these standards and the remainder of the trench backfilled with earth. Trenches for interceptor drains shall be excavated to a minimum width of twelve inches (12") and a maximum width of twenty-four inches (24").

3) The depth of the interceptor drains shall be set such that the top of the gravel is no higher than the bottom of the absorption trench at any point in the absorption field.

4) Vertical drains are not allowed unless there are no other means to improve soil drainage; no alternative sites are available on the property; and the property has been zoned and subdivided in accordance with Cass County regulations.

5) Diversion berms may be used to keep surface water from contributing to high soil moisture levels in the absorption field areas.

6) Diversion berms shall be located transversely in the direction of the ground slope.

7) The area where the berm is constructed shall be stripped of vegetation prior to placing fill for the berm.

8) The fill shall be good quality topsoil reasonably free of stones, roots and other debris.

9) Berms shall be a minimum of six inches (6") and a maximum of twelve inches (12") high and shall be sloped no greater than three (3) horizontal to one (]) vertical.

B. Standard Absorption Trenches

The absorption trench gives additional treatment to the sewage from the treatment tank. Regardless of its appearance of clarity or transparency, the outflow or effluent from a sewage tank is a dangerous source of contamination. The satisfactory operation of the sewage disposal system is largely dependent upon the proper site selection, design and construction of the absorption trench.

1) Standard trenches shall be constructed in accordance with section (5) of 19 CSR 20- 3.060.

2) Absorption trenches shall not be constructed in unstabilized fill or ground which has become severely compacted due to construction equipment.

3) Absorption trenches shall not be constructed in soils which are wet.

4) The minimum area in any absorption trench system shall be based on daily wastewater flow and loading rate. The minimum size system shall be four hundred (400) square feet.

5) Blasting of the rock in the area of the lateral lines is not allowed.

6) Each absorption trench system shall have a minimum of two (2) trenches with no one- (1) trench longer than one hundred feet (100'). The absorption trenches shall be separated with a minimum spacing of ten (10) feet of undisturbed earth between trenches.

7) Absorption trenches shall be at least eighteen inches (18") wide and no more than thirty-six inches (36") wide.

8) The bottom of standard absorption trenches shall be at least eighteen inches (l8") and not more than thirty inches (30") below the finished grade.

9) The pipe used between the sewage tank and the absorption system shall be a minimum of four-inch (4") inside diameter equivalent to the pipe used for the building sewer as set forth in section (6) of these standards.

10) The pipe shall have a minimum fall of not less than one-eighth inch (1/8") per foot.

11) All joints shall be of watertight construction.

12) Gravity-fed absorption field distribution lines should be at least four inches (4") in diameter. If perforated distribution lines are used, the perforation shall be at least one-half inch (1/2") and no more than three-fourths inch (3/4") in diameter.

13) All pipe used for distribution lines shall meet ASTM standard D2729 or those of an equivalent testing laboratory. ASTM 2729 is a minimum of 2500 lb. crushproof.

14) Fittings used in the absorption field shall be compatible with the materials used in the distribution lines.

15) When four (4) or six (6)-inch diameter corrugated plastic tubing is used for distribution lines, it shall be certified as complying with applicable ASTM standards. The corrugated tubing shall have three (3) rows of holes, each hole between one-half inch (1/2") and three-fourths inch (3/4") in diameter and spaced longitudinally approximately four inches (4") on centers. The rows of holes may be equally spaced one hundred twenty degrees (120) on centers around the periphery, or three (3) rows may be located in the lower portion of the tubing, the outside rows being approximately on one hundred twenty-degree (120) degree centers. Coiled tubing shall not be used**.**

16) The absorption trenches shall be constructed as level as possible but in no case shall the fall in a single trench bottom exceed one-fourth inch (1/4") in ten feet (10') as determined by an engineer's level.

17) All systems shall have a minimum of a twelve (12) inch vertical separation between any limiting condition or restrictive horizon.

18) The ends of distribution lines should be capped or plugged, or when they are at equal elevations, they shall be connected.

19) Rock used in soil absorption systems shall be clean, washed gravel or crushed stone and graded or sized between one and one half to three inches (1½"-3"). The rock shall be placed

a minimum of one foot (1') deep with at least six inches (6") below the pipe and two inches (2") over the pipe and distributed uniformly across the trench bottom and over the pipe Before placing soil backfill over the trenches, the gravel shall be covered with:

a) Unbacked, rolled three and one-half inch (3 ½") thick fiberglass insulation;

b) Untreated building paper;

c) Synthetic drainage fabric;

d) A minimum of eight inches (8") of straw for a compacted thickness of two inches (2");

e) Other material approved by the Department may be used to separate the gravel from the backfill.

20) Complex slope patterns and slopes dissected by gullies shall not be considered for installation of absorption trenches.

21) Uniform slopes under fifteen percent (15%) shall be considered suitable for installation of absorption trenches.

22) When slopes are less than two percent (2%), provisions shall be made to insure adequate surface drainage.

23) When slopes are greater than four percent (4%), the absorption trenches shall follow the contour of the ground.

24) Uniform slopes between fifteen percent (15%) and thirty percent (30%) should not be used for installation of absorption trenches unless the soils are three feet (3') or more below the trench bottom. Slopes within this range may require installation of interceptor drains upslope from the soil absorption system to remove all excess water that might be moving laterally through the soil during wet periods. Usable areas larger than minimum are ordinarily required in this slope range.

25) Slopes greater than thirty percent (30%) shall not be utilized for installation of absorption trenches unless the following requirements can be met and approval is first obtained from the Department:

a) The slope can be terraced, graded, or the absorption trenches can be located in naturally occurring soil so as to maintain a minimum ten foot (10') horizontal distance from the absorption trench and the top edge of the fill embankment;

b) The soil is permeable and no restrictive layers or water tables occur at a depth within two (2') of the trench bottom;

c) Surface water runoff is diverted around the absorption trench field so that there will be no scouring or erosion of the soil over the field;

d) If necessary, groundwater flow from heavy rainfall is intercepted and diverted to prevent that water from running into or saturating the soil absorption system; and

e) There is sufficient ground area available to install the absorption trench system with these modifications.

26) Effluent distribution devices, including distribution boxes, flow dividers and flow diversion devices, shall be of sound construction, watertight, not subject to excessive corrosion and of adequate design as approved by the Department. Effluent distribution devices shall be separated from the sewage tank and absorption trenches by a minimum of two feet (2') of undisturbed or compacted soil and shall be placed level on a solid foundation of soil or concrete to prevent differential settlement of the device.

a) Each distribution line shall connect individually to the distribution box.

b) The pipe connecting the distribution box to the distribution line shall be of a tight joint construction laid on undisturbed earth or properly bedded throughout its length.

c) No more than four (4) distribution lines should be connected to a distribution box receiving gravity flow unless the ground surface elevation of the lowest trench is below the flow line elevation of the distribution box.

d) All distribution boxes should be marked or raised to grade.

27) Dosing is recommended for all systems except serial distribution systems and shall be provided when the design sewage flow requires more than five hundred (500) lineal feet of distribution line. When the design sewage flow requires more than one thousand (1000) lineal feet of distribution line, the absorption field shall be divided into two (2) equal portions and each half dosed alternatively, not more than four (4) times per day. Dosing may be accomplished by the use of a pump. Each side of the system shall be dosed not more than four (4) times per day. The volume of each dose shall be the greater of the daily sewage value divided by the daily dosing frequency, or an amount equal to approximately three-fourths (3/4) of the internal volume of the distribution lines being dosed (approximately one-half (.5) gallon per lineal foot of four-inch (4") pipe).

28) Whenever dosed distribution box systems are utilized, the separation distance between the absorption trench bottom and limiting condition should be at least two feet (2').

29) For all serial distribution systems where design sewage flow requires more than five hundred (500) lineal feet of distribution line, the absorption field shall be divided into two (2) equal portions and each half dosed alternatively by means of flow diverted devices.

30) Gravelless subsurface absorption systems may be used as an alternative to conventional four-inch (4") pipe placed in gravel filled trenches, however, cannot be used in areas where conventional systems would not be allowed due to poor permeability, high groundwater or insufficient depth to bedrock. Design approval for these systems is required from the Department prior to installation and all manufacturing specifications and installation procedures shall be closely adhered to.

a) The four (4) inch (inner diameter) corrugated polyethylene tubing used in gravelless systems shall meet the requirements of ASTM F667, Standard Specification for Large Diameter Corrugated Polyethylene Tubing.

(1) The eight- inch (8") pipe may be considered equal to an eighteen inches (18") wide standard absorption trench.

(2) The ten-inch (10") pipe may be considered equal to a twenty-five-inch (25") wide absorption trench.

(3) Two rows of perforations shall be provided, located one hundred twenty degrees (120) apart along the bottom half of the tubing, each sixty degrees (60) from the bottom centerline.

(4) Perforations shall be cleanly cut and uniformly spaced along the length of the tubing and should be staggered so that there is only one (1) hole in each corrugation.

(5) The tubing shall be visibly marked to indicate the top of the pipe.

(6) All gravelless drain field pipe shall be encased at the point of manufacture with a spun bonded nylon filter wrap.

(7) The trench for the gravelless system shall be dug with a level bottom.

(8) On sloping ground, the trench should follow the contour of the ground to maintain a level trench bottom and to ensure a minimum backfill of six inches (6").

(9) It is recommended that minimum trench width for the gravelless system be eighteen inches (18") in friable soils to ensure proper backfill around the bottom half of the pipe.

(10) In cohesive soils, the minimum width of excavation should be twenty-four inches (24").

(11) In clay soils it is recommended that the trench be backfilled with sandy material or good topsoil.

(12) The gravelless system may be installed at a trench bottom depth of eighteen inches (18") minimum to thirty inches (30") maximum, but a shallower trench bottom depth of eighteen to twenty-four inches (18-24") is recommended. To promote equal effluent and suspended solids distribution, the slope of the drainpipe should be from zero to one-half inch (0-0.5") per one hundred (100') feet.

b) The Department may permit the use of chamber leach systems on sites where the

minimum soil-loading rate is 0.3-gpd/sq. ft. The other requirements of these standards relative to depth to restrictive horizons, maximum depth of trenches, etc. shall also be met and insta11ed according to manufacture specifications. The Department allows a reduction in square footage if indicated by the soil morphology results. Chambers must have a minimum of twelve inches (12") cover.

31) Bed systems may be used on sites where the minimum soil-loading rate is 0.4 and essentially meets the other requirements of this section and only on lots which are limited by topography, space or other site planning considerations. In these cases, the number of square feet of bottom area needed shall be increased by fifty percent (50%) over what would be required for a trench system. Distribution lines shall be at least eighteen inches **(18")** from the side of the bed and shall have lines on three-foot (3') centers. When the design volume of sewage exceeds six hundred (600) gallons per day, adequate space shall be provided to accommodate a trench system for the absorption field.

C. Modifications to Standard Absorption Systems

Modifications to standard absorption systems may be utilized to overcome selected soil and site limitations. must be approved by the Department**.** All systems shall have a minimum of a twelve (12) inch vertical separation between any limiting factor or restrictive horizon. Modifications must be approved by the Department and may include the following:

1) Shallow placement of absorption trenches shall be utilized where insufficient depth to seasonally high or perched water table or where insufficient soil thickness prevents the placement of conventional distribution lines in accordance with this section. Shallow trenches shall be designed and constructed to provide a minimum of two feet (2') of natural soil separation between the trench bottom and the uppermost elevation of the seasonally high or perched water table and rock. In areas of thin soils and potential for groundwater contamination the vertical separation between the trench bottom and bedrock shall be four feet (4') or more. Shallow trenches may be constructed by placing the top of the gravel at original ground level and covering the absorption field with loamy soil) or good topsoil to a depth of twelve to eighteen inches (12-18") at the center. The cover over the absorption field shall extend at least five feet (5') beyond the edge of any trench and have a turf grass cover established immediately after construction. If an area is to be filled and the trenches constructed in the fill with the bottom of the trenches in at least six inches (6") of natural soil, the following procedures must be followed:

a) The fill material should be of sandy texture with a maximum clay content of fifteen (15%). The fill material should not be hauled or worked wet. The area to be filled must be protected from traffic and small brush and trees removed prior to placement;

b) The soil surface must be loosened with a cultivator or garden plow. This work must be done when the soil is dry;

c) The fill is moved onto the site without driving on the loosened soil. The fill material is then tilled into the natural soil to create a gradual boundary between the two. The remaining fill is then added in layers until the desired height is obtained with each layer being tilled into the preceding layer.

d) The site is then shaped to shed water and fill all low spots before the absorption system is installed. After installation of the absorption system the site must have a turf grass cover established as soon as possible.

2) Alternating dual field absorption systems may be utilized where soils are limited by high clogging potentials, percolation rates slower than sixty (60) minutes per inch or high shrink/swell potential soils and where the potential for malfunction and need for immediate repair is required. Alternating dual field absorption systems shall be designed with two (2) complete absorption fields, each sized a minimum of seventy- five percent (75%) of the total area required for a single field and separated by an effluent flow diversion valve. The diversion valve shall be constructed to resist five hundred pounds (500 lbs.) crushing

strength, structurally sound and shall be resistant to corrosion. Valves placed below ground level shall be installed so that it may be operated from the ground surface.

3) Sand-lined trenches may be used in areas where the soil has greater than fifty percent (50%) rock fragments and there is a potential for groundwater contamination due to bedrock conditions.

a) For a maximum loading rate of forty-five hundredths gallons (0.45 gals.) per day per square foot or a minimum of two hundred sixty-five (265) square feet per bedroom the sand is not required to meet the requirements for intermittent sand filters.

b) The material must be natural or manufactured sand and have no more than fifteen percent (15%) clay content.

c) Clean "creek sand" that is screened to ¼" and smaller may be used.

d) Manufactured sand shall be chat sand produced from flint chat in the Joplin area or fines manufactured from igneous rocks or chert gravel may be used.

e) The sand used for the liner shall contain less than twenty-five percent (25%) material retained on a *No.* 10 sieve.

f) Finely crushed limestone is not acceptable. For high loading rates, the sand must meet the requirements for an intermittent sand filter.

g) In standard four-inch (4") pipe and grave) trenches the depth of liner material must be twelve inches (12") below the gravel and at least six inches (6") on the sides of the gravel up to the top of the gravel.

h) To place sand on the sides of the trenches, the trench walls may be excavated on a slope instead of vertically.

(1) The side slopes should be two to one (2:1) and in no case steeper than one to one (1:1).

(2) When it is impossible to excavate the trenches on a slope the sand may be placed on the sides of trenches by digging the trench twelve inches (12") deeper than the recommended trench depth. The sand is placed eighteen inches (18") deep in the bottom of the trench and a V-shaped form is dragged through the sand to push the sand at least six (6") up on the sides of the gravel.

(3) In gravelless pipe systems the minimum thickness of liner material is six inches (6") around the pipe.

(4) The effluent to sand-lined systems in areas of potential groundwater contamination should be equally distributed as much as practically possible. Serial and drop box systems shall not be used. As a minimum, a distribution box shall be used to evenly distribute the effluent to the trenches. Dosing is recommended to assure even more positive distribution.

(5) Sand-lined trenches may be used with the approval of the Department where the percentage of rock fragments is less than seventy percent (70%) for at least four feet (4') below the trench bottom.

(6) For sand-lined trenches to function properly, the permeability of the natural material should be like the permeability of the liner material.

(7) Sand-lined trenches must not be used over fragipans or other restrictive layers which have perched water tables and could cause saturation of the liner material.

D. Wastewater Stabilization Ponds.

Single residence wastewater stabilization ponds are NOT permitted with lots less than three **(3) acres** in **size.** Lagoon construction will not be allowed on lots less than three (3) acres in size except under certain circumstances with an approved variance from the county commission and signed off on by a licensed engineer.

1) A properly sized and constructed Class I NSF Standard 40 listed aerobic treatment unit may precede any lagoon.

2) All lagoons with an aerobic treatment unit shall be designed to operate at a minimum

depth of three (3) feet.

3) All lagoons without an aerobic treatment unit shall be designed to operate at a minimum depth of four (4) feet.

4) All lagoons shall be preceded by a tank that is properly sized per Section 2.7.E of this ordinance.

5) The pond shall be located a minimum of one hundred feet (100') from the residence in which it serves.

6) Lagoon Sizing Requirements as follows:

	3 Bedroom			4 Bedroom			5 Bedroom		
	Surface Area sq. ft.	Square Pond Dimensions	Round Pond Diameter	Surface Area sq. ft.	Square Pond Dimensions	Round Pond Diameter	Surface Area sq. ft.	Square Pond Dimensions	Round Pond Diameter
With ATU	1225	35 X 35	40'	1600	40' X 40'	45'	2000	45' X 45'	50'
W/O ATU	2000	45'X45'	50'	2500	50'X50'	55'	3000	55'X55'	60'

7) The following minimum separation distances may be modified as necessary to accommodate site requirements or local codes:

a) The pond shall be located a minimum of one hundred feet (100') from property lines as measured from the adjoining pond shoreline. However, this distance must be increased where necessary to be sure that all effluent is disposed upon the property from which it originated.

b) The pond shall be located a minimum of two hundred feet (200') from the nearest foundation of an existing neighboring residence.

c) The pond shall be located at least one hundred feet (100') from a potable water supply or pump suction line; and

d) The pond shall be located at least fifty feet (50') from a stream, watercourse, lake or impoundment.

8) Ponds may be utilized when there are no significant limitations related to groundwater from their use and the soils have been demonstrated to be very slowly permeable such as percolation rates slower than one hundred twenty minutes per inch (120 min/in.). There shall be either a minimum separation distance between the pond bottom and creviced bedrock of three feet (3') or installation of a clay liner with a minimum thickness of one foot (1') or a synthetic liner, either of which must be acceptable to the administrative authority. Percolation losses from the pond shall not exceed one-eighth inch (1/8") per day to prevent groundwater contamination or nuisance conditions. Site modifications may be accomplished to provide these soil requirements. In areas of severe geological limitations, restrictive layers such as fragipans shall be a minimum of twelve inches (12") thick and shall not be breached during construction.

9) Steeply sloping areas should be avoided.

10) Selection of the pond site should consider a clear sweep of the surrounding area by prevailing winds. Heavy timber is to be removed for a distance of fifty feet (50') from the water's edge to enhance wind action and prevent shading.

11) A single cell is generally acceptable for single residence pond systems. If multiple cells are used for further polishing or storing of the effluent, the secondary cell should be one-half (1/2) the size of the primary cell.

12) The minimum embankment top width shall be four feet (4'). The embankment slope shall not be steeper than three to one (3:1) on the inner and outer slopes. Inner embankment slopes shall not be flatter than four to one (4:1). Outer embankment slopes shall be sufficient to prevent the entrance of surface water into the pond.

13) The freeboard shall be a minimum of twenty-four inches (24") without the use of an aerobic treatment unit or eighteen inches (18”) with the use of an aerobic treatment unit. Additional freeboard may be provided.

14) To minimize erosion and facilitate weed control, embankments shall be seeded with a locally hardy grass from the outside toe to one-foot (1’) above the water line. Alfalfa or similar long -rooted crops which might interfere with the structure of the embankment, shall not be used. Rip rap may be necessary under unusual conditions to provide protection of embankments from erosion.

15) The influent line shall be of a sound durable material of watertight construction of Schedule 40 or greater. The line shall have a minimum diameter of four inches (4") and be laid on a firm foundation at a minimum grade of one-eighth inch (1/8") per foot from the point of entry into the pond. The influent line shall discharge as far as practical from the possible outlet side of the pond. A cleanout or manhole should be provided in the influent line near the pond embankment. From this point the line shall either be laid to the inner toe of the embankment and then on the bottom of the pond to the terminus point or the line shall be supported and secured every five feet (5'). A concrete splash pad three feet (3') square should be placed under the terminus of the pipe. The elevation of the cleanout or manhole bottom should be a minimum of six inches (6") above the high-water level in the pond.

16) The pond shall be shaped so there are no narrow or elongated portions. Round, square or rectangular cells are considered most desirable. Rectangular cells shall have a length no exceeding three (3) times the width. No islands, peninsulas, or coves shall be permitted. Embankments should be rounded at corners to minimize accumulation of floating materials.

17) The floor of the pond shall be stripped of vegetation and leveled to the proper elevation. Organic material removed from the pond area shall not be used in embankment construction. The wetted area of the pond must be sealed to prevent excessive exfiltration. Seals consisting of soils must be adequately compacted by the construction equipment.

18) Embankments shall be constructed of impervious materials and compacted sufficiently to form a stable structure with very little settlement.

19) The pond area shall be enclosed with a fence conforming to the following conditions:

a) The fence shall be at least four feet (4') in height.

b) The fence shall be welded, woven or chain link material with no smaller than fourteen-gauge (14ga) wire. Cattle or hog panels can be substituted with a tee post being used for a line post.

c) Fence posts shall be pressure-treated wood, galvanized and/or painted steel. Fence posts shall be driven, tamped or set in concrete. Line posts should be at least eighteen inches (18”) deep and shall be spaced no more than ten feet (10') apart. Corner posts should be at least twenty-four inches (24”) deep and properly braced;

d) The fence shall be of sound construction with no gaps or openings along the bottom;

e) The fence shall be no closer than the center of the berm to the water's edge at the operating level. Fence setbacks should not exceed thirty feet (30') from the water's edge;

f) A properly hinged four-foot **(4')** high gate or comparable materials shall be installed and provided with an effective latching device. If using cattle or hog panels the end of one panel may be wired in such a manner to easily pivot open for access for maintenance and mowing purposes provided that at all other times it is properly tied closed to restrict access to the pond area. The gate should be minimum of thirty-six inches (36) in width to accommodate maintenance and mowing equipment; and

g) The fence must be completed prior to final inspection of the system.

h) The fence shall remain in place and maintained properly until one of the following occurs, at which time the pond shall be decommissioned as required by the authority having jurisdiction.

(1) connection to a sewer utility is obtained

(2) another treatment system is installed

(3) the structure in which it serves is removed without any future plans of reconstruction

20) Effluent from a pond must be disposed of on the property from which it originated. This may be accomplished by locating an outlet as far as practical from the property line and out of any natural drainage ditches or swales. The minimum distance from the outlet to a property line shall be one hundred feet (100'). Another method is to construct a terraced swale with a minimum length of one hundred fifty feet (150'). If these methods are unsuccessful, or whenever there is less than twelve inches (12") of permeable soil over a restrictive layer, controlled surface irrigation must be used. To utilize controlled surface irrigation, the pond must be capable of operating up to five feet (5') deep with one foot (l ') of freeboard or have a second cell for storage. The administrative authority shall approve the method of effluent disposal.

21) It may be necessary to introduce water into the pond to facilitate start-up of the biological processes; however, there shall be no permanent connection of any roof drain, footing drain or nay source of rainwater to the wastewater stabilization pond.

22) Odor problems caused by spring turnover of water, temporary overloading, ice cover; atmospheric conditions or anaerobic conditions may be controlled by broadcasting sodium or ammonium nitrate over the surface of the pond. In general, the amount of sodium or ammonium nitrate should not exceed two pounds (2lbs.) per day until the odor dissipates.

23) The pond area shall be properly maintained at all times to prevent the growth or overgrowth of vegetation, cattails, trees etc. that may hinder the clear sweep of the area of prevailing winds

24) The maintenance of the encroachment area (fifty (50) feet) of water's edge shall be maintained in such a matter to not allow the growth of timber.

25) At no time shall the pond be abandoned for more than one (1) year without proper decommissioning

E. ALTERNATIVE SYSTEMS – Drip, LPP, Raised Bed Systems

Where unusual conditions exist, special systems of treatment and disposal, other than those specifically mentioned in this standard, may be employed, provided:

1) Reasonable assurance of performance of the system is presented to the Department;

2) The engineering design of the system is first approved by the Department;

3) There is no discharge to the ground surface or surface waters;

4) Adequate substantiating data to indicate that the effluent will not contaminate any drinking water or any surface water;

5) Treatment and disposal of the waste protects public health and general welfare; and

6) These systems comply with all applicable requirements of these standards and with all local codes and ordinances and all applicable requirements of Chapter 701 of the Missouri statutes.

F. ***Residential Holding Tanks.*** The use of holding tanks is generally discouraged and should be limited to situations where construction of satisfactory sewage treatment with onsite disposal systems do not meet minimum standards. And where a centralized collection system is not available. Use of a holding tank must be specifically approved by the administrative authority on a case-by-case basis which require stipulations in a signed agreement regarding the use and the length of time for use of the holding tank.

1) Should a Centralized collection system become available the Holding Tank shall be voided and connection to the Centralized system be made.

2) A holding tank shall be constructed of the materials and by the same procedures as those specified for watertight septic tanks.

3) Sizing: The minimum liquid capacity of a holding tank shall be provided for a single-family residence per the following table:

Minimum Holding Tank Capacities

No of Bedrooms	***Gallons***
1-3	2,000
4	2,500
5	3,000
6	3,500
7	4,000
8	4,500

4) Warning Device: A high-water alarm device shall be installed on holding tanks so that it activates one foot below the inlet pipe. This device shall either be an audible or illuminated alarm. If the latter, it shall be conspicuously mounted. The tank shall be regularly visually inspected to minimize the chance of accidental sewage overflows.

5) Access: An access riser shall extend up to the finish grade with a properly secured or locked lid. The access riser shall be of sufficient size to permit access to the warning device controls and for pumping of the tank. The tank shall be protected against flotation under high water table conditions. This shall be achieved by weight of the tank, earth anchors or shallow bury depths.

6) The tank shall be located in an area readily accessible to the pump truck under all weather conditions and where accidental spillage during pumping will not create a nuisance.

7) The tank shall be located no closer than twenty-five (25) feet to a property line, open ditch, waterway, crawlspace or basement or no closer than ten (10) feet to slab on grade foundations.

8) Holding Tank Agreement: A contract for disposal and treatment of the sewage wastes shall be maintained by the owner with a pumper, agency or firm which possesses a current and valid permit issued by the Department of Natural Resources for such activity. The property owner agrees to keep records of dates when the holding tank was pumped, who pumped the tank, and the name and address of an approved site where the septage was disposed.

Section 2. That this ordinance shall be in full force and effect from and after its passage and approval.

ADOPTED BY THE COUNTY COMMISSION OF CASS COUNTY, MISSOURI, THIS 4TH DAY OF FEBRUARY 2026.

_____	_____	_____
Bob Huston	Mike Moreland	Jeff Fletcher
Presiding Commissioner	Associate Commissioner Dist. 1	Associate Commissioner Dist. 2

ATTEST:

_____

Kathy Lambertz,
County Clerk
Date: _____