#### **Maries County Hazard Mitigation Planning Committee**

The individuals who participated in the Maries County hazard mitigation planning committee are as follows:

#### **Jurisdictional Representatives**

Name	Title	Department	Jurisdiction/Agency/Organization
Vic Stratman	Presiding Commissioner	Administration	Maries County
Ed Fagre	District Commissioner	Administration	Maries County
Michael French	Supervisor	Road and Bridge	Maries County
Ashley Campbell	Administrator	Public Health	Maries County
Jordan Dillion	Environmental Specialist	Public Health	Maries County
Scott John	Director	Emergency Management	Maries County Sheriff
Brent Fulle	Road Worker	Road and Bridge	Maries County Road District 1
Tommie Roberds	Road Worker	Road and Bridge	Maries County Road District 1
Ryan Stumpe	Road Worker	Road and Bridge	Maries County Road District 1
Carla Butler	Director	EMS	Maries-Osage Ambulance District
Amanda Reichel	EMT	EMS	Maries-Osage Ambulance District
Clayton Bruno	EMT	EMS	Maries-Osage Ambulance District
Richie Hinz	EMT	EMS	Maries-Osage Ambulance District
Nakkita Johnson	EMT	EMS	Maries-Osage Ambulance District
Richard Reinkemeyer	EMT	EMS	Maries-Osage Ambulance District
Mike Smith	Chief	Fire	Vienna Fire Protection District
Shon Westart	Director	Public Works	City of Vienna
Shannon Thompson	Chief	Police Department	City of Vienna
Karen Dudenhoeffer	City Clerk	Administration	City of Vienna
Jim Sandbothe	Supervisor	Public Works	City of Vienna
Dwight Francis	Chief/Director	Fire/ Emergency Management	City of Belle
Teresa Messersmith	Superintendent	Administration	Maries County R-I
Joe Edwards	Principal	Administration	Maries County R-I

<sup>\*</sup>Sign in sheets from planning meetings are included in Appendix B.

The individuals who represented stakeholders on the Maries County hazard mitigation planning committee are as follows:

### Participating Stakeholder Representatives

Name	Title	Agency/Organization
Brett Hendrix	Region I Coordinator	SEMA
Blake Rowden	Trooper	MO State Highway Patrol
Wendy Squires	Emergency Management	Phelps Health
	Coordinator	
Michael Elliot		Public
Steve Vogt		Public

# **TABLE OF CONTENTS**

CONTRIBUTORS	i
Maries County Hazard Mitigation Planning Committee	ii
Stakeholder Representatives	ii
TABLE OF CONTENTS	
EXECUTIVE SUMMARY	<b>v</b> i
PREREQUISITES	
Model Resolution	
1 Introduction and Planning Process	
1.1 Purpose	
1.2 Background and Scope	
1.3 Plan Organization	1.2
1.4 Planning Process	1.3
1.4.1 Multi-Jurisdictional Participation	1.7
1.4.2 The Planning Steps	1.9
2 Planning Area Profile and Capabilities	2.1
2.1 Maries County Planning Area Profile	2.2
2.1.2 Geography, Geology, and Topography	2.3
2.1.3 Climate	2.7
2.1.4 Population/Demographics	2.8
2.1.5 History	2.12

2.1.6 Occupations	2.12
2.1.7 Agriculture	2.13
2.1.8 FEMA Hazard Mitigation Assistance Grants in Planning Area	2.14
2.1.9 FEMA Public Assistance (PA) Grants in Planning Area	2.14
2.2 Jurisdictional Profiles and Mitigation Capabilities	2.18
Unincorporated Maries County	2.18
City of Belle	2.22
City of Vienna	2.26
Public School District Profiles and Mitigation Capabilities	2.33
3 Risk Assessment	3.1
3.1 Hazard Identification	3.4
3.1.1 Review of Existing Mitigation Plans	3.4
3.1.2 Review Disaster Declaration History	3.7
3.1.3 Research Additional Sources	3.9
3.1.4 Hazards Identified	3.12
3.1.5 Multi-Jurisdictional Risk Assessment	3.13
3.2 Assets at Risk	3.13
3.2.1 Total Exposure of Population and Structures	3.13
3.2.2 Critical and Essential Facilities and Infrastructure	3.16
3.2.3 Other Assets	3.21
3.3 Future Land Use and Development	3.24
3.4 Hazard Profiles, Vulnerability, and Problem Statements	3.25
3.4.1 Dam Failure	3.29
3.4.2 Drought	3.45
3.4.3 Earthquakes	3.59
3.4.4 Extreme Temperatures	3.74
3.4.5 Flooding (Flash and River)	3.90

3.4.6 Land Subsidence/Sinkholes	3.114
3.4.7 Severe Thunderstorms Including High Winds, Hail, and Lightning	3.125
3.4.8 Severe Winter Weather	3.146
3.4.9 Tornado	3.157
3.4.10 Wildfires	3.170
4 Mitigation Strategy	4.1
4.1 Goals	4.1
4.2 Identification and Analysis of Mitigation Actions	4.2
4.3 Implementation of Mitigation Actions	4.4
5 Plan Maintenance Process	
5.1 Monitoring, Evaluating, and Updating the Plan	5.1
5.1.1 Responsibility for Plan Maintenance	5.1
5.1.2 Plan Maintenance Schedule	5.2
5.1.3 Plan Maintenance Process	5.2
5.2 Incorporation into Existing Planning Mechanisms	5.3
5.3 Continued Public Involvement	5.6
6 Appendix	6.1
A: References	
B: Planning Process Documentation	6.7
C: Public Survey	6.35
D: Adoption Resolutions	
E: Critical/Essential Facilities	6 <b>.</b> 56
F: MDC Wildfire Data Search	6 58

The purpose of hazard mitigation is to reduce or eliminate long-term risk to people and property from hazards. Maries County and participating cities and school districts developed this multi-jurisdictional local hazard mitigation plan update to reduce future losses from hazard events to the county and its communities and school districts. The plan is an update of the original plan that was approved on September 5, 2019. The plan and the update were prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 and to achieve eligibility for the Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance Grant Programs.

The county Multi-Hazard Mitigation Plan is a multi-jurisdictional plan that covers the following 5 jurisdictions that participated in the planning process:

- Maries County
- City of Belle
- City of Vienna
- Maries County R-I School District
- Maries County R-II School District

Maries County and the jurisdictions listed above have developed a multi-jurisdictional Hazard Mitigation Plan that was originally approved by FEMA in 2018. This current planning effort serves as an update (hereafter referred to as the 2024 Hazard Mitigation Plan.)

The plan update process followed a methodology in accordance with FEMA guidance, which began with the formation of a Mitigation Planning Committee (MPC) comprised of representative from Maries County and participating jurisdictions. The MPC updated the risk assessment that identified and profiled hazards that pose a risk to Maries County and analyzed the jurisdictional vulnerability to these hazards. The MPC also examined the capabilities in place to mitigate the hazard damages, with emphasis on changes that have occurred since the previously approved plan was adopted. The MPC determined that the planning area is vulnerable to several hazards that are identified, profiled and analyzed in this plan. Riverine and flash flooding, winter storms, severe thunderstorms/hail/ lightning/high winds and tornadoes are among the hazards that historically have had a significant impact.

Based upon the risk assessment, the MCP revised goals for reducing risk from hazards. The goals are listed below:

**Goal 1:** Reduce the potential impact of natural disasters on the lives and livelihoods of the citizens of the county.

**Goal 2:** Reduce the potential impact of natural disasters to [property, infrastructure, and the local economy.

**Goal 3:** Reduce the potential impact of natural disasters on the continuity of government and essential services.

To advance the identified goals, the MPC developed recommended mitigation actions, as summarized in the table on the following pages. The MPC developed an implementation plan for each action, which identifies priority level, responsible agency, timeline, cost estimate, potential funding sources and progress to date. These additional details are provided in Chapter 4.



Table I. Mitigation Action Matrix

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
1.1	Local Fire Departments and Emergency Management Director will provide CERT training and distribute information on the benefits of the CERT and VOAD programs.	Belle, Maries County, Vienna	Medium	1	All	<b>√</b>	<b>√</b>	
1.2	Construct storm shelters or tornado safe rooms near schools and large employment centers as funding allows.	Belle, Maries County, Vienna, Maries Co. R-I, Maries Co. R-II	Medium	1	Tornado, Severe Thunderstorm		<b>~</b>	
1.3	County health department will implement publicity campaigns that make residents aware of proper measures to take during times of threatening conditions (e.g. drought, heat wave)	Belle, Maries County, Vienna	High	1	All			
1.4	Annually assess public and private locations as potential shelters from storms or extreme temperatures; designate suitable shelters, establish MOU's, and develop accessibility plans for the public during times of need.	Belle, Maries County, Vienna	High	1	Extreme Temperature, Severe Thunderstorm, Tornado, Severe Winter Weather	<b>✓</b>		
1.5	Distribute information on dam safety and self-inspection programs to all dam owners, explore funding opportunities for dam repair.	Belle, Maries County, Vienna	High	1	Dam Failure	<b>√</b>	<b>√</b>	
2.1	Upgrade roads and bridges that would improve drainage, reduce flooding, and reduce the risk to residents and property as funding allows.	Belle, Maries County, Vienna	High	2	Flooding	<b>√</b>	<b>√</b>	

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
2.2	Distribute FEMA brochures and factsheets about the National Flood Insurance Program (NFIP) at public offices and community events.	Maries County, Vienna	High	2	Flooding	<b>√</b>	<b>√</b>	<b>✓</b>
2.3	Update floodplain management ordinances to implement regulations to securely attach manufactured homes and fuel tanks to an adequately anchored foundation system to resist floatation, collapse, and lateral movement.	Maries County, Vienna	Medium	2	Flooding	<b>√</b>	<b>√</b>	<b>✓</b>
2.4	Continue to enforce flood damage prevention/floodplain management ordinances in compliance with NFIP requirements.	Maries County, Vienna	High	2	Flooding	<b>√</b>	<b>√</b>	✓
2.5	Local governments and school districts will distribute press releases, brochures, and digital content on the benefits of hazard mitigation projects and adopted mitigation efforts to help the public stay abreast of changes and/or new regulations.	Belle, Maries County, Vienna, Maries Co. R-I, Maries Co. R-II	High	2	All	<b>√</b>	<b>√</b>	
2.6	Purchase properties in the floodplain to convert land into public space/recreation area as funding allows.	Maries County, Vienna	Medium	2	Flooding	✓		
2.7	Cities and counties will implement cost-share programs with private property owners for hazard mitigation projects that benefit the jurisdiction as a whole.	Belle, Maries County, Vienna	Medium	2	All	<b>√</b>	<b>√</b>	
2.8	Purchase appropriately sized generators for all critical facilities in the planning area as funding allows	Belle, Maries County, Vienna, Maries Co. R-I, Maries Co. R-II	High	2	All	<b>√</b>	<b>✓</b>	
2.9	Assist in the formation and training of a prescribed burn association to reduce the incidence of wildfire.	Belle, Maries County, Vienna	High	2	Wildfire	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
3.1	Distribute materials to local businesses, governments, and schools to assist in the creation and update of emergency operations plans.	Belle, Maries County, Vienna	High	3	AII	<b>√</b>		
3.2	Distribute information to critical facilities on the benefits of building infrastructure improvements to lessen the potential impacts of natural disasters.	Belle, Maries County, Vienna	Medium	3	Earthquake, Tornado	<b>√</b>	✓	
3.3	Organize an annual meeting between EMD's, city/county/school officials, and SEMA to familiarize officials with mitigation planning, implementation, budgeting, and to facilitate coordination of mitigation efforts in the planning area.	Belle, Maries County, Vienna, Maries Co. R-I, Maries Co. R-II	Medium	3	All			
3.4	City of Vienna will research options to reduce its wastewater facility's vulnerability to flood events.	Vienna	High	3	Flooding	✓		

44 CFR requirement 201.6(c)(5): The local hazard mitigation plan shall include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan. For multi-jurisdictional plans, each jurisdiction requesting approval of the plan must document that it has been formally adopted.

This plan has been reviewed by and adopted with resolutions or other documentation of adoption by all participating jurisdictions and school districts. The documentation of each adoption is included in Appendix D, and a model resolution is included on the following page.

The following jurisdictions participated in the development of this plan and have adopted the multi-jurisdictional plan.

- Maries County
- City of Belle
- City of Vienna
- Maries County R-I School District
- Maries County R-II School District

## **Model Resolution**

Certifying Official

Witness

Agency officials to enable the plan's final approval.

RESOLUTION NO
A RESOLUTION TO ADOPT THE MARIES COUNTY MULTI-JURISDICTION NATURAL HAZARDS MITIGATION PLAN
<b>WHEREAS,</b> (Government/District) recognizes the threat that natural hazards pose to people and property within our community; and
<b>WHEREAS</b> , undertaking hazard mitigation actions will reduce the potential for harm to people and property from future hazard occurrences; and
<b>WHEREAS</b> , the U.S. Congress passed the Disaster Mitigation Act of 2000 emphasizing the need for predisaster mitigation of potential hazards and made available hazard mitigation grants to state and local governments; and
<b>WHEREAS</b> , an adopted Multi-Jurisdiction Natural Hazards Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre-and post-disaster mitigation grant programs; and
<b>WHEREAS</b> , (Government/District) fully participated in the FEMA prescribed mitigation planning process to prepare this Mitigation Plan; and
WHEREAS, (Government/District) desires to comply with the requirements of the Disaster Mitigation Act and to augment its emergency planning efforts by formally adopting the Maries County Multi-Jurisdiction Natural Hazards Mitigation Plan; and
WHEREAS, adoption by the governing body of (Government/District) demonstrates the jurisdiction's commitment to fulfilling the mitigation goals and objectives outlined in this Mitigation Plan; and
<b>WHEREAS</b> , adoption of this legitimizes the plan and authorizes responsible agencies to carry out their responsibilities under the plan;
<b>NOW, THEREFORE BE IT RESOLVED,</b> that (Government/District) adopts the Maries County Multi-Jurisdictional Natural Hazards Mitigation Plan as an official plan and will submit this Adoption Resolution to the Missouri Emergency Management Agency and the Federal Emergency Management

Date

Date