

MARSHALL COUNTY MINNESOTA



2023

Hazard Mitigation Plan



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MARSHALL COUNTY MINNESOTA

HAZARD MITIGATION PLAN

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Section 1 – Introduction

1.1 Introduction

Hazard mitigation is defined as any sustained action to reduce or eliminate long-term risk to human life and property from hazard events. The Federal Emergency Management Agency (FEMA) has made reducing hazards one of its primary goals, and a primary mechanism in achieving this goal is both the hazard mitigation planning process and the subsequent implementation of resulting projects, measures, and policies (FEMA, 2015).

Since 1980, damages due to natural disasters in the U.S. exceeded \$2.195 trillion. 2017 was the costliest year on record with \$306 billion in damage, and while the costliest disasters may occur in coastal states, in 2020, wildfires, hailstorms, drought, and tornadoes caused a record amount of billion-dollar disasters across the nation (Smith, 2022). Hazard mitigation planning is an effective process to prepare communities and lessen the impact of loss of life and property from future disasters. Although mitigation efforts will not eliminate all disasters, government at all levels should strive to be as prepared as possible for a disaster for the wellbeing of its residents.

The Hazard Mitigation Plan (HMP) is a requirement of the Federal Disaster Mitigation Act of 2000. The development of a local government plan is required to maintain eligibility for federal hazard mitigation grant funding programs. For communities to be eligible for future mitigation funds, they must adopt an HMP.

Researchers at the National Institute of Building Sciences looked at the results of 23 years of federally funded mitigation grants provided by FEMA, the U.S. Economic Development Administration (EDA), and the U.S. Department of Housing and Urban Development (HUD). Their findings revealed that for every \$1 spent on hazard mitigation funding in the nation, \$6 is saved in future disaster costs (Multi-Hazard Mitigation Council, 2019).

Marshall County is vulnerable to a variety of natural hazards that threaten the loss of life and property in the county. Hazards such as tornadoes, flooding, wildfires, blizzards, straight-line winds, and droughts have the potential for inflicting vast economic loss and personal hardship.

This HMP represents the efforts of Marshall County and its local governments to fulfill the responsibility of hazard mitigation planning. The intent of the plan is to limit the damages and losses caused by specific hazards.

This written plan is accompanied by a website that allows for easy stakeholder and community engagement, as well interactive maps, dashboards, and infographics.

[Marshall County HMP website](#)

A broad overview of this companion website's features are as follows:

- About HMP Planning
- County Profile
- Natural Hazard Profiles
- Climate Change
- Mitigation Actions

1.1.1 SCOPE

U-Spatial, University of Minnesota, was contracted by Minnesota Homeland Security and Emergency Management using FEMA Pre-Disaster Mitigation (PDM) grant funds to work with Marshall County Emergency Management to facilitate an update to the 2016 Marshall County HMP. U-Spatial brings extensive geographic data analysis skills and hazard risk assessment expertise to the process. U-Spatial also employed the services of Hundrieser Consulting LLC for county and stakeholder outreach as well as mitigation action development related to this plan.

This HMP evaluates and prioritizes the major natural hazards affecting Marshall County as determined by frequency of event, economic impact, deaths, and injuries. Mitigation recommendations are based on input from state and local agencies, the public, and national best practices.

This is a multi-jurisdictional plan that covers Marshall County, including the cities of Alvarado, Argyle, Grygla, Holt, Middle River, Newfolden, Oslo, Stephen, Strandquist, Viking, and Warren. The Marshall County mitigation activities identified in this plan also incorporate the concerns and needs of townships, school districts, and other participating entities.

Members from each of these jurisdictions actively participated in the planning process by assisting with public outreach, attending planning team meetings, providing local information, identifying mitigation actions, and reviewing the plan document (see Appendix C). The information in these forms was used to help identify mitigation actions for local implementation (see also Section 2.2). Each jurisdiction will adopt the plan by resolution after the plan is approved by FEMA. County and local city resolutions will be added by Marshall County after final approval by FEMA (see Appendix B).

Marshall County has specified the following goals for this plan update:

- Include more recent data documenting the critical infrastructure and hazards faced by Marshall County.
- Reformat and reorganize the plan to reflect definitions of hazards as expressed in the 2019 Minnesota State Hazard Mitigation Plan.
- Reflect current hazard mitigation priorities in Marshall County.
- Encourage recipients and sub-recipients of hazard mitigation grants to consider climate change adaptation and resiliency in their planning efforts.

1.1.2 HAZARD MITIGATION DEFINITION

Hazard mitigation may be defined as any action taken to eliminate or reduce the long-term risk to human life and property from natural hazards. The benefits of hazard mitigation planning include the following:

- saving lives, protecting the health of the public, and reducing injuries
- preventing or reducing property damage
- reducing economic losses
- minimizing social dislocation and stress
- reducing agricultural losses
- maintaining critical facilities in functioning order
- protecting infrastructure from damage
- protecting mental health
- reducing legal liability of government and public officials

1.2 State Administration of Mitigation Grants

FEMA currently has three mitigation grant programs that are administered by the State of Minnesota: the Hazard Mitigation Grant Program (HMGP), the Building Resilient Infrastructure and Communities (BRIC) program, and the Flood Mitigation Assistance (FMA) program. The HMGP, BRIC, and FMA programs are administered through the state of Minnesota Department of Public Safety Homeland Security Emergency Management (HSEM) Division. All applicants must have or be covered under an approved Hazard Mitigation Plan. Eligible applicants include state and local governments, certain private non-profit organizations or institutions, and tribal communities.

Section 2 – Public Planning Process

2.1 Planning Team Information

The Marshall County HMP planning team is headed by the Marshall County emergency manager, who is the primary point of contact. Members of the Marshall County HMP planning team include representatives from the public and governmental sectors. Table 1 identifies the planning team individuals and the organizations they represent.

[Find the planning team members on the Marshall County HMP website](#)

Jurisdictional representatives were contacted throughout the HMP process to help facilitate local participation and provide feedback on the hazards of concern to their communities. This feedback was used to develop local mitigation actions that they would seek to implement upon plan adoption (see Section 5.3 and Appendix H).

Table 1. Hazard Mitigation Planning (HMP) Team

Name	Agency/Organization	Participant Title
Josh Johnston	Marshall County Emergency Management	Emergency Management Director
Scott Jorgenson	Marshall County Emergency Management	Deputy Emergency Management Director
Lon Aune	Marshall County Highway Dept.	County Engineer
Liz Dustin	Marshall County GIS Dept.	GIS Administrator
Chris Kujava	Marshall County Social Services Dept.	Director
Jim Duckstad	Marshall County Commission	County Commissioner / Board Chair
Dave Clark	Marshall County Ag Services	Ag Services Coordinator
Nick Syverson	City of Alvarado	City Superintendent
Tamara Benitt	City of Argyle	City Clerk
Rose Aune	City of Grygla	City Clerk/Treasurer
Devin Ruud	City of Grygla	Mayor
Rachel Bukowski	City of Middle River	City Administrator/City Clerk-Treasurer
Tammy Hansen	City of Newfolden	City Administrator
Debbie Goschke	City of Oslo	City Clerk
Nancy McCullough	City of Strandquist	City Clerk
Shannon Mortenson	City of Warren	City Administrator
Roger Tulibaski	Alma Township	Chairman
Kevin Maurstad	Foldahl Township	Supervisor
Cindy Anderson	McCree Township	Clerk
Greg Sparby	Veldt Township	Township Clerk
Britni Gajeski	Donnelly Township	Township Clerk-Treasurer
Tiffany Larson	East Valley Township	Township Clerk
Rodney Teigen	Oak Park Township	Township Clerk
Jared Anderson	Linsell Township	Township Chairman

Name	Agency/Organization	Participant Title
Darren Carlson	Marshall Soil and Water Conservation District	District Manager
Matt Waterworth	Natural Resources Conservation Service	District Conservationist
Frances Tougas	North Valley Public Health	Public Health Director
Jennifer Olson	Northwest Regional Development Commission	Emergency Operations Planning Director
Kirk Thorstenson	Warren Alvarado Oslo Public School District	Superintendent
Jeffrey Lund	Marshall County Central Schools	Superintendent
Drew Kjono	Steven-Argyle Central School District	Superintendent
Christopher Muller	Beltrami County Emergency Management	Emergency Management Director

2.2 Review of Existing Plans, Capabilities & Vulnerabilities

Marshall County and its local communities utilized a variety of planning documents to direct plan development. These documents included a Comprehensive/Master Plan, Emergency Operations Plan, Transportation Plan, etc. (see Section 5.1.3 and Appendix D). The planning process also incorporated the existing natural hazard mitigation elements from previous planning efforts. In addition, the 2019 Minnesota All-Hazard Mitigation Plan was consulted.

In the development of the Marshall County HMP, U-Spatial consultants reviewed and incorporated a variety of planning documents that direct community development and influence land use decisions for the county and its jurisdictions. In addition, U-Spatial consultants worked closely with the Marshall County emergency management director and other key county staff and local city officials to collect feedback on local mitigation capabilities and vulnerabilities that either support or hinder the ability to mitigate against natural hazards countywide and at the local level. Following is a summary of the assessment tools used to gather information on local capabilities and vulnerabilities during the planning process:

Capabilities Assessment (hazard-specific): In this assessment, detailed information was collected from Marshall County on current plans and programs in place (i.e., existing programs, plans, or policies) as well as program gaps or deficiencies that currently exist to mitigate against damages caused by each natural hazard addressed in the plan. Section 4 identifies current gaps and deficiencies for mitigation and Section 5.3 describes the mitigation capabilities that are in place by Marshall County to support mitigation.

Local Mitigation Surveys: As part of Marshall County's 2023 HMP update, participating jurisdictions and key county personnel were asked to fill out a Local Mitigation Survey (LMS) form. Questions in the LMS form addressed the following:

- Part A: Hazard Identification, Risk Assessment & Vulnerability Analysis
- Part B: Local Mitigation Capabilities Assessment
- Part C: Local Mitigation Projects
- Part D: Survey Participants

The purpose of the survey was to gather jurisdictionally specific information needed to support the update of the plan and to help inform development of local-level mitigation actions for the next five-year planning cycle (for the full Marshall County LMS report, see Appendix C).

2.3 Planning Process Timeline and Steps

In order to update the 2016 Marshall County HMP, U-Spatial consultants worked in coordination with Marshall County Emergency Management and members of the planning team. The updated plan includes new data documenting the types of hazards faced by Marshall County residents and emergency planning officials as well as new thinking on how to address these hazards.

2.3.1 MARSHALL COUNTY STAKEHOLDER COORDINATION

Two planning team meetings took place via Zoom video conference hosted by U-Spatial. Meeting participants included representatives from Marshall County, city and township governments, neighboring jurisdictions, and other key stakeholders. Appendix F provides documentation of stakeholder outreach and participation in the plan update.

Survey forms to acquire mitigation ideas and feedback remain available on the HMP website

To provide opportunity for public input, Marshall County issued two news releases announcing the plan update and inviting public review and feedback on the draft plan. The news release provided information on where to view the plan and submit comments. The County HMP website, hosted by U-Spatial, and the feedback and mitigation action ideas survey will remain available through the five-year planning period to foster public engagement.

Table 2 documents dates of Hazard Mitigation update meetings and public outreach. The public feedback period for the draft plan was open from 10/25/23 to 11/8/23, for a period of 15 days. Appendix G provides documentation of the public outreach for feedback on the draft plan by Marshall County and jurisdictions.

At the close of the public outreach period, the U-Spatial consultants worked with the Marshall County Emergency Manager and members of the planning team to incorporate feedback from the public into the HMP.

For more information on the planning process, see Sections 5 and 6.

Table 2. Marshall County hazard mitigation update meetings and public outreach

Event	Date	Appendix
Kickoff Webinar	7/19/22	Appendix F, Planning Team Meetings
News Release #1	8/8/22	Appendix G, Public Outreach & Engagement Documentation
Planning Team Meeting #1	9/30/22	Appendix F, Planning Team Meetings
Planning Team Meeting #2	9/27/23	Appendix F, Planning Team Meetings
News Release #2	10/25/23	Appendix G, Public Outreach & Engagement Documentation

2.3.2 OVERVIEW OF JURISDICTIONAL PARTICIPATION

Throughout the planning process, Marshall County and the U-Spatial team worked to engage representatives from the county and each city in the update of the plan. Key activities for jurisdictions included assisting with public outreach, participating in planning team meetings, providing local-level information, reviewing and providing feedback to the plan update.

U-Spatial and Marshall County actively used the following methods to engage jurisdictions in the HMP plan update process:

- **Zoom Video Conferencing:** Planning team meetings were conducted via Zoom video conferencing hosted by U-Spatial. Virtual meetings proved to be a beneficial addition to the planning process, resulting in a high turnout from jurisdictional representatives and other stakeholders, as well as providing the ability for presenters to collect, respond to, and document feedback from participants through Zoom functions such as surveys, chat, and Q&A.
- **Email Correspondence:** Email was a primary tool used to communicate with representatives from Marshall County, municipal governments, and other stakeholders. Emails were used to distribute news releases for public outreach, to invite participation in meetings and to share meeting summaries, as well as to request local information and final review of the draft plan. Email proved to be an effective tool that resulted in increased jurisdictional participation and collection of locally specific information. Email was also used by the public to submit feedback to Marshall County following news releases on the HMP.
- **Phone Calls:** Phone calls were frequently used to conduct direct outreach or follow-up to jurisdictions to ensure participation or to collect information via one-on-one interviews. Phone calls proved to be an effective tool that resulted in increased jurisdictional participation and collection of quality information. Phone calls were especially useful in engaging very small communities that had limited staff or technological capabilities.

Cities participating in Marshall County HMP update varied by population and associated government resources to participate in the planning process (e.g., personnel, time, and technology). Rural communities with smaller populations (under 500) typically had part-time elected officials, limited-to-no city staff, and reduced city hall hours in which to conduct business. Marshall County and U-Spatial were sensitive to these local challenges and worked to help these local governments to participate using the methods that worked best to accommodate them, such as phone interviews to complete local mitigation survey forms (see Appendix C).

Table 3 provides an overview of the participation of each city that took part in the Marshall County HMP update planning process, with reference to the location of supporting documentation.

Table 3. Jurisdictional participation in planning process

Jurisdiction (2022 Est. Population, Esri)	News Release #1	Planning Team Mtg. #1	Local Mitigation Survey	Mitigation Action Charts	Planning Team Mtg. #2	News Release #2 & Plan Review
Supporting Documentation	App. G	App. F	App. C	Sec. 5.3 App. H	App. F	App. G
Marshall County (8,908)	X	X	X	X	X	X
City of Alvarado (375)	X	X	X	X	X	
City of Argyle (522)	X	X	X	X		X
City of Grygla (108)	X	X	X	X	X	X
City of Holt (87)	X		X	X		X
City of Middle River (294)	X	X	X	X		X
City of Newfolden (340)	X		X	X	X	X
City of Oslo (231)	X		X	X	X	
City of Stephen (593)	X		X	X		
City of Strandquist (70)	X	X	X	X		
City of Viking (78)	X		X	X		
City of Warren (1,480)	X	X	X	X	X	X
Neighboring Jurisdictions:						
Kittson County						
Roseau County						
Beltrami County		X			X	
Pennington County						
Polk County						
Walsh County, ND						

Section 3 – Risk Assessment and Vulnerability Analysis

The goal of mitigation is to reduce or eliminate the future impacts of a hazard, including loss of life, property damage, disruption to local and regional economies, and the expenditure of public and private funds for recovery. Sound mitigation practices must be based on sound risk assessment. A risk assessment involves quantifying the potential loss resulting from a disaster by assessing the vulnerability of buildings, infrastructure, and people.

[See a list of all natural hazards covered in the 2023 HMP](#)

The risk assessments in this plan are based on widely accepted tools and databases as well as consultation with hazard mitigation planning expertise at FEMA and HSEM as well as technical guidance from the MN DNR State Climatology Office. Geographic Information System (GIS) tools are used throughout to demonstrate geographically based risk and vulnerabilities.

This assessment identifies the characteristics of natural hazard events, the severity of the risk, the likelihood of these events occurring, and the vulnerability of each jurisdiction's population and assets.

3.1 Hazard Identification and Prioritization

The cornerstone of the risk assessment is identification of the hazards that affect jurisdictions. Listed below are the natural hazards addressed in the 2019 Minnesota State Hazard Mitigation Plan:

Flooding	Lightning	Drought
Dam/Levee Failure	Winter Storms	Extreme Heat
Wildfires	Landslides (Erosion and	Extreme Cold
Windstorms	Mudslides)	Earthquakes
Tornadoes	Land Subsidence (Sinkholes	Coastal Erosion & Flooding
Hail	and Karst)	

3.1.1 HAZARD PRIORITIZATION

As part of the plan update process, the planning team reviewed, updated, and prioritized the hazards faced by residents of Marshall County, updated the existing mitigation actions published in the 2014 HMP, and proposed new mitigation actions.

The team examined the hazards identified in the 2016 HMP and adjusted to reflect the definitions of natural hazards used in the 2019 Minnesota State Hazard Mitigation Plan.

While the focus of this HMP is on natural hazards, planning took place with the understanding that many non-natural hazards could occur as a result of natural disasters (e.g., disruption in electrical service due to downed powerlines from heavy snow, ice storms, or high wind events).

The prioritization of hazards for the Marshall County HMP Update (Table 4) was based upon group review and discussion of the natural hazards that pose risk to the county during the HMP Planning Team Meeting #1. In the review of each hazard, the group was asked to consider if the risk to severe natural hazards had increased or decreased since the last plan, and if this affected their priority level to mitigate against that hazard. Appendix F provides the discussion notes from the meeting.

Table 4. Prioritization of hazards for 2023 Marshall County HMP Update

Natural Hazards Addressed in the Last Plan	Current Priority
Flooding	High
Winter Storms	Moderate
Extreme Cold	Moderate
Windstorms	Moderate
Tornadoes	Moderate
Drought	Moderate
Landslides	Moderate
Hail	Low
Lightning	Low
Extreme Heat	Low
Wildfire	Low
Subsidence	Low
Dam/Levee Failure	Low

3.1.2 FEMA- AND MINNESOTA-DECLARED DISASTERS AND ASSISTANCE

Another historical perspective is derived from FEMA-declared disasters. Twenty-four major disasters and five emergency declarations in Marshall County have been made between 1957 and December 2022; details of these 29 incidents can be viewed on the [Marshall County HMP website](#).

Minnesota Statutes Chapter 12A established a framework for state agencies to help communities recover from disaster. In 2014, Governor Mark Dayton signed legislation establishing the state's Disaster Assistance Contingency Account to assist local communities after a natural disaster when federal aid is not available. Damage required to declare a disaster is half the threshold of the federal/FEMA public assistance (only) program threshold (MN HSEM, 2019). Marshall County was included in six State Disaster Declarations.

The Hazard Mitigation Grant Program (HMGP), Building Resilient Infrastructure and Communities (BRIC), and Flood Mitigation Assistance (FMA) Program are FEMA-administered hazard mitigation assistance programs which provide funding for eligible mitigation planning and projects which reduce disaster losses and protect life and property from future disaster damages (FEMA, 2021). Table 5 lists the projects in the county funded by a hazard mitigation assistance program.

Table 5. Historical hazard mitigation funding awarded in Marshall County

Project Identifier	Sub-Grantee	Project Type	Project Total	Federal Share
DR-4069-0007-P	Marshall County	91.1: Local Multihazard Mitigation Plan	\$36,068	\$26,768
DR-1830-0019-F	Oslo	601.1: Generators	\$205,300	\$153,975
DR-1288-0005-R	Warren	400.1: Utility Protective Measures (Electric, Gas, etc.)	\$393,750	\$295,313
DR-1175-0023-R	Stephen, City of	300.3: Vegetation Management - Wind	\$38,873	\$29,154
DR-1175-0032-R	Marshall County	204.3: Dry Floodproofing Public Structures - Riverine	\$57,929	\$43,447
DR-1175-0013-R	Warren	200.1: Acquisition of Private Real Property (Structures and Land) - Riverine	\$126,059	\$66,406
DR-1175-0008-R	Marshall County	200.1: Acquisition of Private Real Property (Structures and Land) - Riverine	\$1,518,886	\$614,260
DR-0993-0019-R	Marshall	403.4: Stormwater Management - Detention/Retention Basins	\$2,237,873	\$1,678,405
DR-1175-0030-F	Warren, City of	401.1: Water and Sanitary Sewer System Protective Measures	\$183,587	\$137,690
DR-1370-0009-P	Northwest Regional Development Comm	91.1: Local Multihazard Mitigation Plan	\$106,666	\$80,000
PDMC-PL-05-MN-2009-008	City Of Warren	91.1: Local Multihazard Mitigation Plan	\$40,000	\$21,503

SOURCE: (FEMA, 2023B)

3.2 Population Vulnerability

The degree to which a person is vulnerable to the impacts of a hazard depends on how well they can react before, during, and after a hazardous event. The Centers for Disease Control and Prevention (CDC)

Agency for Toxic Substances & Disease Registry (ATSDR) defines social vulnerability as “...the resilience of communities when confronted by external stresses on human health, stresses such as natural or human-caused disasters, or disease outbreaks” (ATSDR, 2020). Exacerbating these stressors are the increasing number of extreme weather events attributed to Minnesota’s changing climate (MPCA, 2018).


[Explore population vulnerability on the Marshall County HMP Website](#)

The ATSDR created the CDC Social Vulnerability Index (SVI) to help identify vulnerable communities who may need support in preparing for hazardous or recovering from disaster. The CDC SVI is created at the census tract level using American Community Survey (ACS) five-year data.

The SVI is included in the FEMA National Risk Index (NRI) and presented on the webpage for each hazard. Additionally, at-risk populations are summarized for each jurisdiction in the county profile page. Vulnerable attributes of a population are addressed with each natural hazard.

3.3 Climate Change

Minnesota's climate is currently changing in ways that are pushing us to adapt to weather patterns and extreme events that pose major threats to our health, homes, environment, and livelihoods. These events cost our state millions in property loss, damaged infrastructure, disrupted business, medical care, and support services, and put residents and responders at risk. Understanding how our weather is changing now and into the future will help planners and decision-makers in emergency management and supporting fields extend our progress in climate adaptation and lead to more resilient communities (MDH, 2018).



Climate Change and Natural Hazards

The National Climate Assessment suggests that infrastructure planning (particularly water resources infrastructure) should “be improved by incorporating climate change as a factor in new design standards and asset management and rehabilitation of critical and aging facilities, emphasizing flexibility, redundancy, and resiliency” (Georgakakos, et al., 2014).

Federal, state, and tribal governments are increasingly integrating climate change adaptation into existing decision-making, planning, or infrastructure-improvement processes (Georgakakos, et al., 2014). Definite predictions are difficult to make, as changes may vary depending on geographical location, even within Minnesota. Intense study of these topics is ongoing.

Rural communities are particularly vulnerable to climate change, due to their dependence upon natural resources, physical isolation, limited economic diversity, higher poverty rates and aging populations. According to *Climate Change Impacts in the United States: The Third National Climate Assessment*,

Warming trends, climate volatility, extreme weather events, and environmental change are already affecting the economies and cultures of rural areas. Many rural communities face considerable risk to their infrastructure, livelihoods, and quality of life from observed and projected climate shifts. These changes will progressively increase volatility in food commodity markets, shift the ranges of plant and animal species, and, depending on the region, increase water scarcity, exacerbate flooding and coastal erosion, and increase the intensity and frequency of wildfires across the rural landscape (Hales et al., 2014).

The Assessment also notes that transportation systems in rural areas are more vulnerable to risks such as flooding since there are typically fewer transportation options and infrastructure redundancies. In addition, power and communication outages due to severe weather events typically take longer to repair in rural areas, which can increase the vulnerability of elderly populations. Rural area populations are also

more vulnerable since they typically have limited financial resources to deal with the effects of climate change.

The composition of the region's forests is expected to change as increasing temperatures shift tree habitats northward. While forests in the Midwest are currently acting as a net absorber of carbon, this could change in the future due to projected increases in insect outbreaks, forest fires, and drought, which will result in greater tree mortality and carbon emissions (Pryor et al., 2009).

3.4 Jurisdictional Change in Risk or Vulnerability Assessment

Jurisdictions in Marshall County have varying vulnerabilities to and concerns about impacts to their communities. Interviews with jurisdictional representatives in addition to the Local Mitigation Survey resulted in some specific concerns (see Appendix C). Participants were asked to provide feedback on how their community's vulnerability to natural hazards had either increased (due to changes such as development) or decreased (due to local mitigation efforts) over the past five years.

At the local jurisdictional level, several communities did note an increase in development over the last five years as a factor for an increase in vulnerability to severe weather or disaster events.

3.4.1 JURISDICTIONAL RESPONSES

As part of the Local Mitigation Survey form, Marshall County Emergency Management and each city jurisdiction were asked to provide a vulnerability assessment that described what structures, systems, populations, or other community assets were susceptible to damage and loss from specific hazard events. Following are examples of common responses related to noted local vulnerabilities (as preserved in Appendix C: Part A, Question 3) for each jurisdiction. This information was used to help tie local vulnerability back to the exposure of people, buildings, infrastructure, and the environment to the natural hazards listed in Table 4 and to assist local governments in development of related local mitigation actions to reduce risk.

Marshall County

Blizzards, Ice Storms: Most of our County Courthouse (including our EOC) does not have any backup power.

Tornadoes, Windstorms: We have 1 mobile home park within the county that does not have a storm shelter and residents are vulnerable to high wind and tornado events.

Most of our County Courthouse (including our EOC) does not have any backup power.

Our county campground is active during summer and fall months with RVs and campers but does have an outdoor warning siren.

Extreme Cold: Residents are susceptible to dangers from extreme cold, especially if the power goes down during winter storm events. We have a high population of senior citizens and low-income residents who are more vulnerable during these events.

The shelter for the City of Warren and most of our County Courthouse (including our EOC) does not have any backup power.

Flooding: Many of our culverts, road crossing and road shoulders have washed out repeatedly in the past. These areas could be hardened by paving the embankments and shoulders. This practice has been done in some areas to great effect. We have also had excessive ditch slumping in our county ditch systems.

City of Alvarado

Flooding: Alvarado's largest vulnerability is in a large flood event with severe rain, we risk overloading the sanitary sewer system.

City of Argyle

Winter Storm, Extreme Cold: Ice storms and heavy snow may bring down trees, branches, and overhead power lines. If the electricity goes out, there is no heat for many residents and businesses. Due to the frost, many areas suffer from frost boils.

Windstorms: The city is always susceptible to damage of branches and trees due to high winds.

Flooding: Flooding causes our storm water pumping hours to increase significantly. There is debris cleanup. One of the nearby fields flows into the city storm sewer system and since the system cannot keep up, it causes street flooding.

City of Grygla

Extreme Cold: Residents are susceptible to dangers from extreme cold, especially if the power goes down during winter storm events. Damage to roads and gate valves, sewer & storm drains. We had the water tower freeze up before.

We have a high population of senior citizens and low-income residents who are more vulnerable during these events.

In the past we have experienced frozen & broken water services and some residential homes experienced burst pipes from extended extreme cold.

City of Holt

Tornadoes, Windstorms: We do not have an outdoor warning siren installed to help warn residents. We also do not have a storm shelter to offer our city residents.

Multiple homes are built on slabs, or small crawl spaces with no basements. These residents are at greater risk during severe wind events.

City of Middle River

Winter Storm, Extreme Cold: Ice storms and heavy snow may bring down trees, branches, and overhead power lines. If the electricity goes out, there is no heat for many residents and businesses. Due to the frost, many areas suffer from frost boils.

Windstorms: The city is always susceptible to damage to branches and trees due to high winds.

Flooding: Flooding causes our storm water pumping hours to increase significantly. There is debris cleanup. Damage to roads, yards. The city has experienced damages to roads from spring frost heaves, frozen culverts that cause localized flooding.

City of Newfolden

Blizzards, Ice Storms: Much of the city's municipal electrical service consists of overhead power lines and electrical poles. Those overhead lines and power poles are prone to failure in ice storms and blizzards with heavy snowfall and high winds that may bring down trees and branches.

Windstorms: Our municipal campground is active during summer and fall months with RVs and campers and does not have a storm shelter. Many homes in new developments are built on slab with no basement. These residents are at greater risk during severe wind events.

Extreme Cold: Residents are susceptible to dangers from extreme cold, especially if the power goes down during winter storm events. We have a high population of senior citizens and also low-income residents who are more vulnerable during these events.

In the past we have experienced frozen water and sewer services and some residential homes experienced burst pipes from extended extreme cold.

The city has experienced damages to roads from spring frost heaves, frozen culverts that cause localized flooding.

Flooding: The portion of Newfolden that lies east of U.S. Highway 59 has been recently mapped as being within the 100-year floodplain. A railroad track/culvert system acts as a dam across the Middle River. This risks several households, the Cooperative Elevator, a city park and rental property. Any sanitary and wastewater infrastructure that are located in the 100-year floodplain are susceptible to flooding as well as any other structures in the same areas.

City of Oslo

Ice Storms: The city's electrical services are overhead power and electrical poles. There can be failure of the services when there are ice storms and blizzards with heavy snowfall, ice or high winds.

Windstorms: There is a mobile home area that does not have a storm shelter. The only storm shelter that the city has is the public restrooms at the park. There is no storm shelter at our city's boat ramp.

Extreme Cold: All of our residents will be susceptible to the extreme cold if the power goes out during a storm event.

Flooding: Our sanitary sewer system can get overwhelmed in high rain events. The south side of the city's levee gets erosion during flooding when there is a south wind. The city has to lay down poly and sandbags to mitigate some of the damage. The gate-wells all have to be closed and the storm water pumps are used to get the storm water out of the levee.

City of Stephen

Tornadoes, Windstorms: Our municipal campground is active during summer and fall months with RVs and campers. Also, our swimming pool is over by the campground area and we only have a storm shelter on the other end of town for all these people in an emergency. Our city is susceptible to damage from trees and branches due to high wind events.

Extreme Cold: Residents are susceptible to dangers during extreme cold events. If the power were to go down for long periods of time during winter storms many residents would not have heat during time of need. We have a lot of senior citizens in the city and low-income residents who are more vulnerable during these times. We also must worry about our underground infrastructure (water pipes) freezing up or breaking from long periods of extreme cold.

Flooding: Flooding causes our storm water pumping hours to increase significantly. This puts a lot more stress on our lift stations and pumps, which could cause backup issues if they break down.

City of Strandquist

Blizzards, Ice Storms: We have mostly older homes and trailer houses. Many people run the water in the winter to keep pipes from freezing. In years when the frost goes deep our streets get many frost boils in the springtime.

Flooding: Some of the properties in the city do not have very good drainage. Nothing has been done for 50+ years to try to fix the problem.

Drought: We pull our water from a drilled well in times of drought. This is a concern.

City of Viking

No vulnerabilities to report. We have limited infrastructure and a small population of 78.

City of Warren

Flooding: In May, 2022 city lift stations were damaged from a high rain event and many area homes had basement flooding.

Drought: The city water supply comes from an underground source with the pump located about 3 miles from the city. There are irrigation wells that take from the same underground source which compromises the water supply for the entire city of Warren.

3.4.2 FUTURE DEVELOPMENT

Because Marshall County is vulnerable to a variety of natural hazards, the county government—in partnership with the state government—must make a commitment to prepare for the management of these events. Marshall County is committed to ensuring that county elected and appointed officials become informed leaders regarding community hazards so that they are better prepared to set and direct policies for emergency management and county response.

As part of the vulnerability assessment conducted for the Marshall County HMP update, jurisdictions were asked to describe if there were any factors related to population growth, zoning, or development they felt have increased their community’s vulnerability to future severe weather or disaster events. Following is a compilation of common responses as noted in Appendix C: Part A, Question 5.

Marshall County

New technology in the agricultural sector has allowed more precise ditching which has caused water to runoff the land a lot faster than it had in the past. This has caused our ditch systems and rivers to become inundated at a much quicker pace than in the past.

City of Strandquist

Decrease in population has put strain on revenue and city bill income streams for the city. We also have many nonresident landowners that do not pay any utility bills such as garbage water sewer and upkeep on city buildings.

In the development of local mitigation actions, all jurisdictions were encouraged to consider hazard mitigation strategies that would reduce risk in relation to future development, such as the update of local comprehensive plans, enforcement of ordinances, and incorporation of infrastructure improvements to reduce local vulnerabilities (see Appendix H).

The Marshall County emergency management director will work to keep the jurisdictions covered by the HMP engaged and informed during the plan’s cycle. By keeping jurisdictional leaders involved in the monitoring, evaluation, and update of the HMP, they will keep their local governments aware of the hazards that face their communities and how to mitigate those hazards through planning and project implementation.

Section 6 of this plan further outlines the process by which Marshall County will address the maintenance of this plan, including monitoring, evaluation, and update of the plan, as well as implementation and continued public involvement.

Section 4 – Hazards

As part of the risk assessment, each natural hazard that poses risk to the county was independently reviewed for its past hazard history, relationship to future trends, and jurisdictional vulnerability to future events. A capabilities assessment was also conducted by the county to review the plans and programs that are in place or that are lacking (program gaps or deficiencies) for the implementation of mitigation efforts, as related to each natural hazard. An assessment was also conducted for local jurisdictions to identify the plans, policies, programs, staff, and funding they have in place in order to incorporate mitigation into other planning mechanisms (see Section 5.1 and Appendix C).

[Read more about natural hazard prioritization and view interactive information on all hazards](#)

Hazards that were deemed by Marshall County to be of moderate to high risk are addressed in the following hazard profiles. Hazards that were determined to be of low risk or without substantive mitigation actions to address them are not required to be included.

4.1 Flooding

Flooding is the most significant and costly natural hazard in Minnesota. Eighteen of the 29 federal disaster declarations in Marshall County included flooding.

On June 23, 2022, Governor Tim Walz requested a major disaster declaration in Minnesota due to severe storms, straight-line winds, and flooding during the period of May 22 to June 15, 2022, including Marshall County. A federal disaster (FEMA-4659-DR) was declared by President Biden on July 13, 2022 (FEMA, 2022).

4.1.1 PROBABILITY OF OCCURRENCE

From 1997 to 2023, the NCEI Storm Events Database has recorded 29 flood and flash flood events. Marshall County has experienced one flash flood event every 1.7 years and one riverine flood event every year on average during this period.

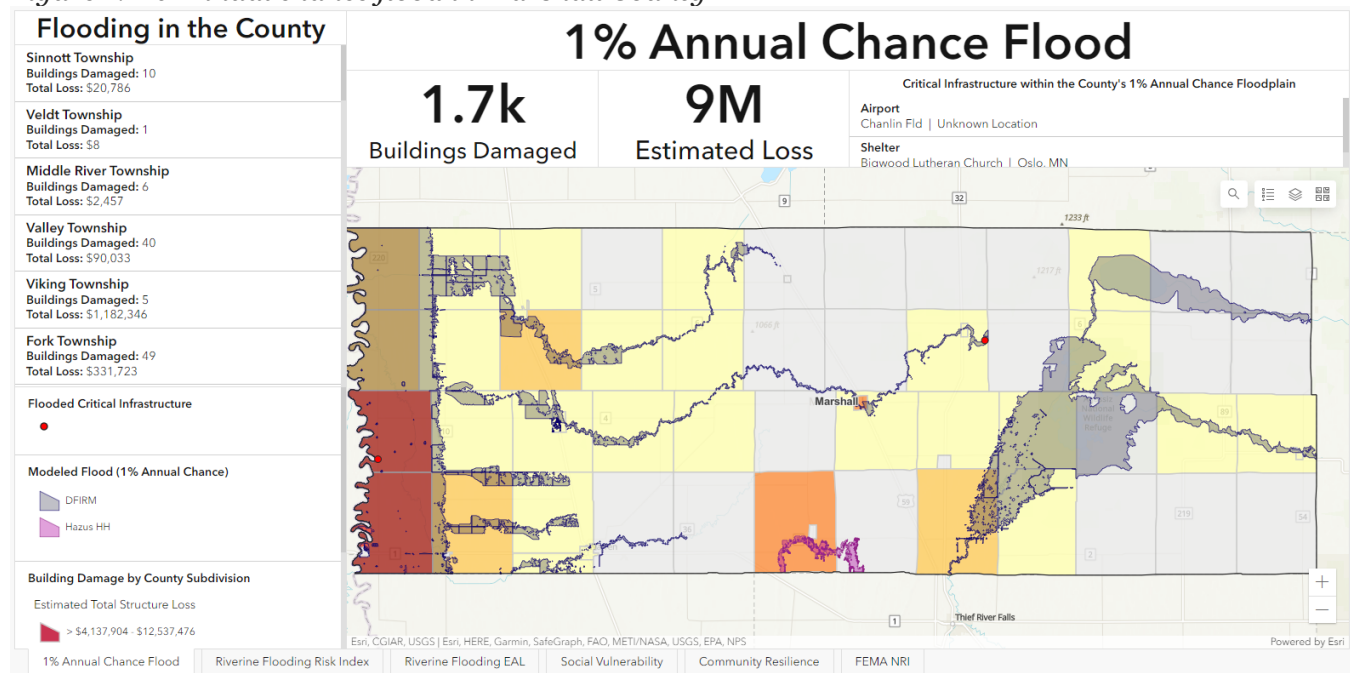
Minnesota HSEM has encouraged a potential risk and economic loss analysis for a 1% annual chance flood using the FEMA tool, Hazus for ArcGIS. A Digital Flood Insurance Rate Map (DFIRM) defined the

[View interactive maps and see information about flooding history, risk, and vulnerability](#)

1% annual chance flood boundary. Flood cross-section and base flood elevation data were used to generate depth grids where available. The remainder of the county's depth grids were modeled in HAZUS using the EQL method. Areas where no DFIRM exists were analyzed using a hydraulics and hydrology model. The resulting Hazus 1% annual chance floodplain is shown in the Flood Vulnerability dashboard on the Marshall

County HMP website (Figure 1), where it is available in an interactive form.

Figure 1. 1% Annual chance flood in Marshall County



4.1.2 VULNERABILITY

Potential economic loss estimates were based on county-specific building data. Marshall County provided parcel tax and spatial databases that included building valuations, occupancy class, square footage, year built, and number of stories. The quality of the inventory is the limiting factor to a Hazus flood model loss estimation. Best practices were used to use local data and assumptions were made to populate missing (but required) values.

[View at-risk populations in Marshall County](#)

Hazus reports the percent damage of each building in the floodplain, defined by the centroid of each building footprint. After formatting the tax and spatial data, 13,032 points were input to Hazus to represent buildings with a total estimated building plus contents value of \$1.2 billion. Approximately 46% of the buildings (and 43% of the building value) are associated with residential housing. The estimated loss by occupancy class for the entire county is shown in Table 6.

The distinction between building attributes within a parcel was not known, so the maximum percent damage to a building in that parcel was used to calculate loss estimates for the entire parcel. The sum of all the losses in each census block were aggregated for the purposes of visualizing the loss (see map [here](#)). Please note: It is possible for a building location to report no loss even if it is in the flood boundary. For example, if the water depth is minimal relative to 1st-floor height, there may be 0% damage.

Table 6. Summary of 1% annual chance flood loss estimation by occupancy class

General Occupancy	County Total Buildings	County Building and Contents Value	Floodplain Total Buildings	Floodplain Building + Contents Value	Buildings with damage	Building + Contents Loss
Residential	5,972	\$478,502,830	309	\$20,814,900	305	\$3,604,977
Commercial	444	\$102,568,296	23	\$4,284,800	21	\$284,354
Other	6,616	\$540,412,124	558	\$39,272,900	532	\$5,148,315
Totals	13,032	\$1,121,483,250	890	\$64,372,600	858	\$9,037,646

SOURCE: (FEMA, 2023A)

Hazus Critical Infrastructure Loss Analysis

Critical facilities and infrastructure are vital to the public and their incapacitation or destruction would have a significant negative impact on the community. These facilities and infrastructure were identified on the [HMP website](#) and verified by Marshall County.

Buildings identified as essential facilities for the Hazus flood analysis include hospitals, police and fire stations, and schools and churches (often used as shelters). Loss of essential facilities are vulnerable to structural failure, extensive water damage, and loss of facility functionality during a flood, thereby negatively impacting the communities relying on these facilities' services. The Bigwood Lutheran Church in Oslo, which is used as a shelter, was shown to fall within 1% annual chance floodplain. These local sites should be reviewed to determine actual vulnerability.

Extreme precipitation resulting in flooding may overwhelm water infrastructure, disrupt transportation and cause other damage. Particularly where stormwater, sewage and water treatment infrastructure is aging or undersized for more intense rainstorms, extreme rain events may pose both health and ecological risks in addition to costly damage (USGCRP, 2018).

It is important to identify any critical infrastructure within the 1% annual chance floodplain, given the higher risk of the facility or infrastructure being incapacitated or destroyed during a flood. In Marshall County, one airport was found to be at risk in the 1% annual chance flood. The Chanlin Field airport is a privately owned turf airport and is mapped in the [Marshall County HMP website](#). No other critical infrastructure was determined to be in the 1% chance flood boundary using the available facility data.

Community Vulnerability

Potential economic losses were estimated by Census Minor Civil Division. The City of Newfolden and the Townships of Big Woods, Oak Park, and Viking would have significant estimated losses in the 1% annual chance flood. All jurisdictions with buildings identified in the 1% annual chance flood zone can also be viewed on the Marshall County HMP website.

The status of jurisdictional participation in the National Flood Insurance Program and any repetitive loss properties are detailed in Section 5.1.1. National Flood Insurance Program (NFIP).

Section 3.4 provides jurisdictional responses of localized vulnerabilities to specific hazards.

4.1.3 PROGRAM GAPS AND DEFICIENCIES

Marshall County Emergency Management identified that there are existing program gaps and deficiencies that make its residents more vulnerable to flooding. The following gaps and deficiencies should be addressed with new mitigation efforts to reduce that vulnerability:

Increasing Culverts and Raising Roads: Some roads, bridges, and culverts within Marshall County continue to need improvements as they are impacted by annual high rain events. The county needs funding assistance to improve roads and culverts that experience repetitive flooding.

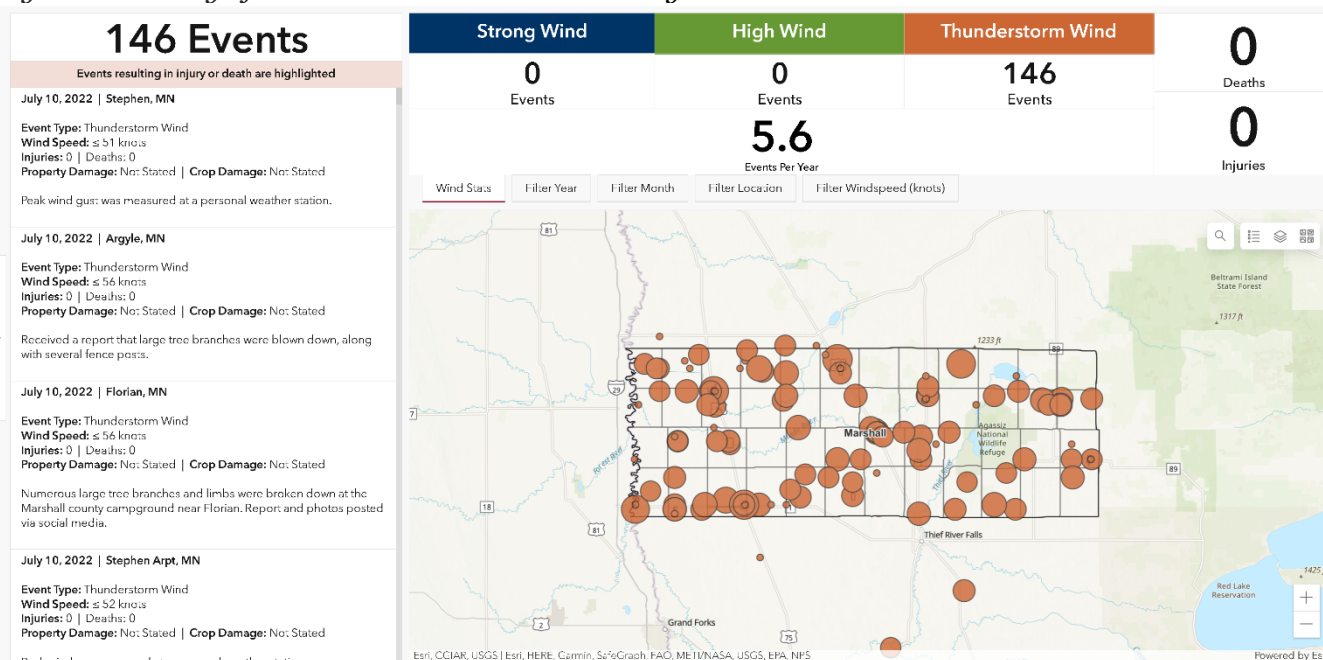
Road Infrastructure: There is countywide interest in hardening public roads, bridges, and culverts to mitigate recurring flood damages. Such projects include paving shoulders of roads, paving or adding riprap around culverts, and adding riprap to the banks of ditches and streams. The county and many of our townships have limited funding for road infrastructure projects. Marshall County continues to provide assistance on road infrastructure mitigation projects to reduce the impacts of localized flooding.

4.2 Windstorms

A windstorm is a wind strong enough to cause damage to trees and buildings and typically exceeding 34 mph (Pielke, 2012). Windstorm events encompass a variety of types of damaging wind. The history of windstorms in Marshall County is shown in Figure 2; an interactive version of this map can be found on the Marshall County HMP website.

[View interactive maps and see information about windstorm history, risk, and vulnerability](#)

Figure 2. History of windstorms in Marshall County



4.2.1 PROBABILITY OF OCCURRENCE

To determine the probability of future wind-related events in Marshall County, records of previous wind-related events (strong wind, high wind, and thunderstorm wind) in Marshall County were examined since 1996, the period of record all wind events have in common. The relative frequency of all wind-related events since January of 1996 is 5.6 per year. These relative frequencies can be used to infer the probability of these events occurring in the future.

4.2.2 VULNERABILITY

The likelihood of a windstorm event does not vary geographically within the county, but the vulnerability of its residents is not constant. Vulnerability to injury from all kinds of windstorms decreases with adequate warnings, warning time, and sheltering in a reinforced structure. Therefore, residents living in rural areas, living alone or with limited mobility, or living in a manufactured home may be more vulnerable. Also at a higher risk to windstorms are those who work outdoors or do not have permanent housing.

Structural vulnerability depends in part upon the construction of a building and its infrastructure. Residents of mobile homes are more vulnerable to fatality or injury from windstorms because mobile homes are not able to withstand high winds as well as other structural dwellings, with 50 mph (43.4 knots) being the lower limit of wind speeds capable of damaging mobile homes (AMS, 2004). Steps to mitigate these vulnerabilities have been taken by the state, requiring all mobile home parks to provide an evacuation plan, and parks with at least 10 homes licensed after March 1, 1988 to provide a storm shelter (MDH, 2020). However, mobile home parks often do not provide the required storm shelters (Sepic, 2017). Building codes have also changed to improve the strength of new mobile home construction but there are still many older mobile homes in use that do not meet these new standards.

Section 3.4 provides jurisdictional responses of localized vulnerabilities to specific hazards.

4.2.3 PROGRAM GAPS AND DEFICIENCIES

Marshall County Emergency Management identified several program gaps and deficiencies that make its residents more vulnerable to summer storms, including windstorms, that should be addressed with new mitigation efforts to reduce vulnerability. These include:

Outdoor Warning Sirens & Storm Shelters: The cities of Holt and Strandquist do not have warning sirens. The Marshall County Park/Campground does not have a siren, safe room, or storm shelter. The Marshall County Fairgrounds does not have a tornado safe room or storm shelter. In addition, not all sirens are tied into the county's remote activation system. The sirens in Alvarado, Argyle, Stephen, and Warren can be remotely activated by the Marshall County Sheriff's Office. The sirens in Grygla, Middle River, Newfolden, Oslo, and Viking must be manually activated by local fire departments. Obtaining funding to upgrade all sirens to be tied into the county system is a financial barrier for both the county and local communities.

Above-Ground Power Lines: Most powerlines throughout Marshall County are above ground, exposing them to potential damage from high wind events. The county and local jurisdictions continue to work

with utility providers to convert overhead powerlines to underground or to implement other measures to reduce risk of power failure.

Public Education: Ongoing public education is needed during tornado season to inform the public on what is a tornado watch/warning and what to do when outdoor warning sirens are activated. Marshall County and local jurisdictions also need to continue to encourage residents to be aware of and ready for severe storm events that can lead to long-term power outages.

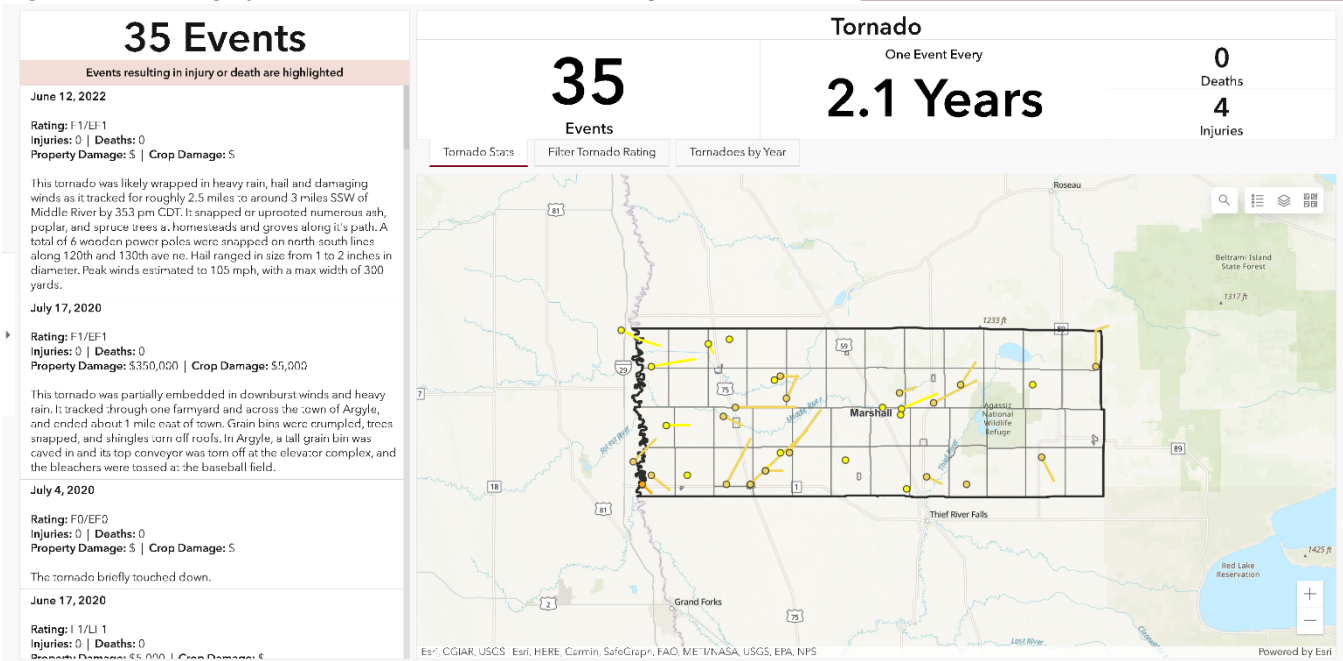
Storm Shelters and Tornado Safe Rooms: There are areas throughout Marshall County without viable storm shelters or tornado safe rooms where there are populations vulnerable to high wind and storm events, such as campgrounds, resorts, mobile home parks, schools, and other seasonal gathering locations. A coordinated approach is needed to identify where storm shelters or tornado safe rooms are needed and to evaluate whether new construction or a retrofit of facilities is appropriate. Finding funding for the implementation of such construction projects is also a barrier.

4.3 Tornadoes

With wind speeds reaching up to 300 mph, tornadoes are one of nature’s most violent storms (Hogeback, 2020). The history of tornadoes in Marshall County is shown in Figure 3; an interactive version of this map can be found on the Marshall County HMP website.

View interactive maps and see information about tornado history, risk, and vulnerability

Figure 3. History of tornadoes in Marshall County



4.3.1 PROBABILITY OF OCCURRENCE

Estimating the probability of future tornadoes in Marshall County was done using two methods. The first method summed the total number of tornadoes which either touched down in or traveled through the county. This sum was divided by the number of years tornado data was recorded, resulting in the annual relative frequency of tornado occurrences in the county. Based on records in the NCEI Storm Events Database through May 2023, there has been one tornado every 2.1 years in Marshall County. These 35 tornadic events occurred in 15 of the 72 years on record.

Because tornadoes often cross county lines and tornadic frequency may be better understood using events from a larger area, a second method was used to describe the frequency of tornadic events within a 50-mile radius of any location within the county. A grid of 900 square-meter cells was used to cover Minnesota and 50 miles beyond its border. From the center of each cell, the number of tornadoes that intersected a 50-mile radius was counted. Each cell was assigned a total tornado line count, which was then divided by the tornado dataset's period of record, resulting in the annual relative frequency of tornadoes occurring within 50 miles of the respective cell.

For any location in Marshall County, there was an annual frequency of 1–3 tornadoes within a 50-mile radius. The historical frequency was only slightly higher in the central part of the county versus the western and northeastern parts. These relative frequencies can be used to infer the probability of these events occurring in the future.

4.3.2 VULNERABILITY

The likelihood of a tornado does not vary significantly across geography within Marshall County; however, certain populations may be more vulnerable and less resilient to the impacts of a tornado. In general, tornado casualties decrease when people receive adequate warnings with sufficient time to seek shelter in a reinforced structure. Because communication is critical before a tornadic event, certain residents may be more negatively impacted by a tornado, including those living in rural areas, individuals with limited mobility, people who do not live near an outdoor warning siren, or those who do not use social media. Section 3.4 provides jurisdictional responses of localized vulnerabilities to specific hazards.

[*View at-risk populations in Marshall County*](#)

People living in mobile homes are particularly vulnerable to tornadoes due to them not being able to withstand the strong winds produced by a tornado. An analysis by the Associated Press of NOAA storm data found that since 1996, 53% of tornado fatalities in the United States were people who remained within or attempted to flee from mobile homes (Borestein et al., 2023). While Minnesota law requires most mobile home parks to have storm shelters, many do not (Raiche, 2022).

4.3.3 PROGRAM GAPS AND DEFICIENCIES

Marshall County Emergency Management identified that there are several program gaps and deficiencies that make its residents more vulnerable to summer storms, including tornadoes, that should be addressed with new mitigation efforts to reduce vulnerability. These include:

Outdoor Warning Sirens & Storm Shelters: The cities of Holt and Strandquist do not have warning sirens. The Marshall County Park/Campground does not have a siren, safe room, or storm shelter. The Marshall County Fairgrounds does not have a tornado safe room or storm shelter. In addition, not all sirens are tied into the county's remote activation system. The sirens in Alvarado, Argyle, Stephen, and Warren can be remotely activated by the Marshall County Sheriff's Office. The sirens in Grygla, Middle River, Newfolden, Oslo, and Viking must be manually activated by local fire departments. Obtaining funding to upgrade all sirens to be tied into the county system is a financial barrier for both the county and local communities.

Above-Ground Power Lines: Most powerlines throughout Marshall County are above ground, exposing them to potential damage from high wind events. The county and local jurisdictions continue to work with utility providers to convert overhead powerlines to underground or to implement other measures to reduce risk of power failure.

Public Education: Ongoing public education is needed during tornado season to inform the public on what is a tornado watch/warning and what to do when outdoor warning sirens are activated. Marshall County and local jurisdictions also need to continue to encourage residents to be aware of and ready for severe storm events that can lead to long-term power outages.

Storm Shelters and Tornado Safe Rooms: There are areas throughout Marshall County without viable storm shelters or tornado safe rooms where there are populations vulnerable to high wind and storm events, such as campgrounds, resorts, mobile home parks, schools, and other seasonal gathering locations. A coordinated approach is needed to identify where storm shelters or tornado safe rooms are needed and to evaluate whether new construction or a retrofit of facilities is appropriate. Finding funding for the implementation of such construction projects is also a barrier.

4.4 Winter Storms

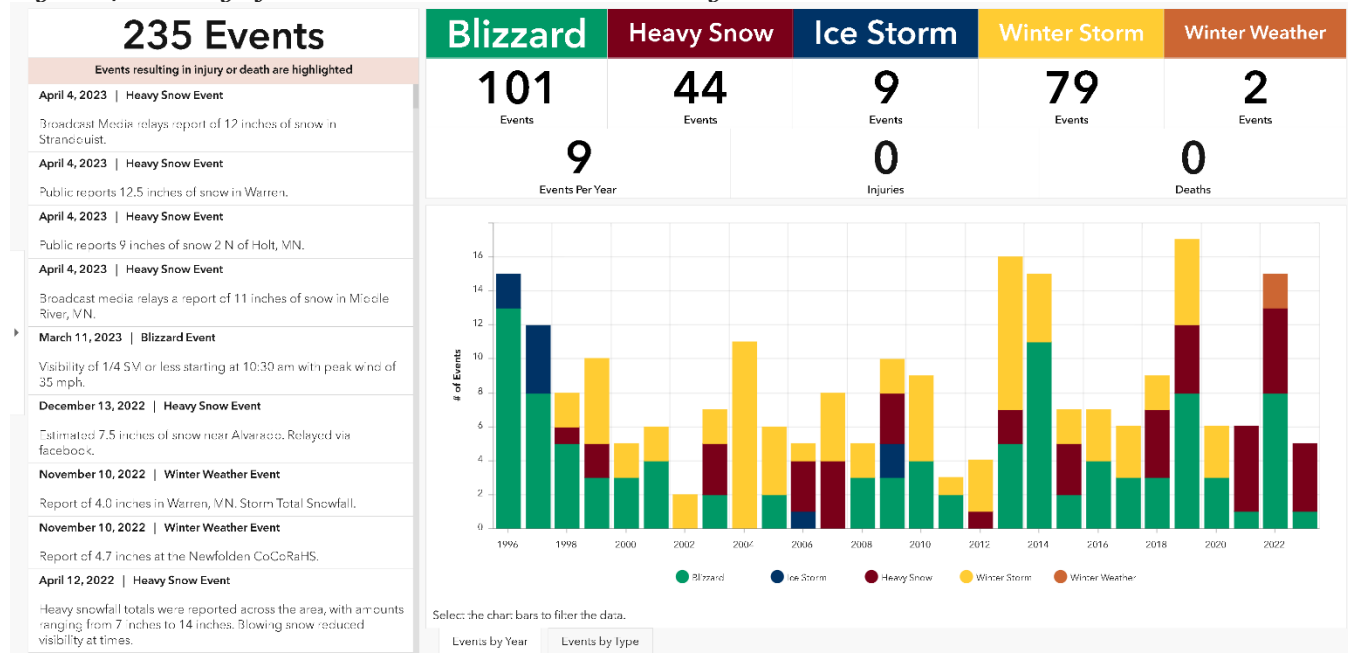
Winter storms encompass a number of winter weather events which the National Weather Service (NWS) organizes into the following categories: blizzard, heavy snow, ice storm, winter storm, and winter

[View interactive maps and see information about winter storm history, risk, and vulnerability](#)

weather. Winter weather events are common in Minnesota and can be costly. According to the Spatial Hazard Events and Losses Database (SHELDUS), winter weather events in Minnesota have cost more than \$1.02 billion dollars in damages since 1960 (CEMHS, 2023). The history of winter storms in Marshall County is shown in Figure 4; an interactive version of this map

can be found on the Marshall County HMP website.

Figure 4. History of winter storms in Marshall County



4.4.2 PROBABILITY OF OCCURRENCE

To determine the probability of future winter-related storm events in Marshall County, records of previous events (blizzards, heavy snows, ice storms, winter storms, and winter weather) were summed and divided by the dataset's period of record, resulting in the annual relative frequency of winter-related storms. Based on records in the NCEI Storm Events Database through May 2023, the relative frequency of winter-related storm events in Marshall County is 9 per year. This relative frequency can be used to infer the probability of these events occurring in the future.

4.4.3 VULNERABILITY

Transportation systems, electrical distribution systems, and structures are vulnerable to winter storms throughout the county. These events do not vary geographically within the county; all jurisdictions are equally vulnerable. While it is highly likely these events will continue occurring annually, the amount of snow and ice and number of winter-related storm events to occur each year are unpredictable. Citizens living in climates such as these must always be prepared for situations that put their lives or property at risk. It is important that extra consideration be given to the vulnerable populations discussed in Section 3.2. Section 3.4 provides jurisdictional responses of localized vulnerabilities to specific hazards.

4.4.4 PROGRAM GAPS AND DEFICIENCIES

Marshall County Emergency Management identified several program gaps and deficiencies that make its residents more vulnerable to severe winter storms. The following gaps and deficiencies should be addressed with new mitigation efforts to reduce that vulnerability:

Above-Ground Power Lines: Most powerlines throughout Marshall County are above ground, exposing them to impacts/damage from winter high wind and ice events, potentially leading to localized or

extensive power outages.

Public Education: Ongoing public education is needed to encourage residents to be ready for long-term power outages or to be snowed in during dangerous winter events such as ice storms and blizzards.

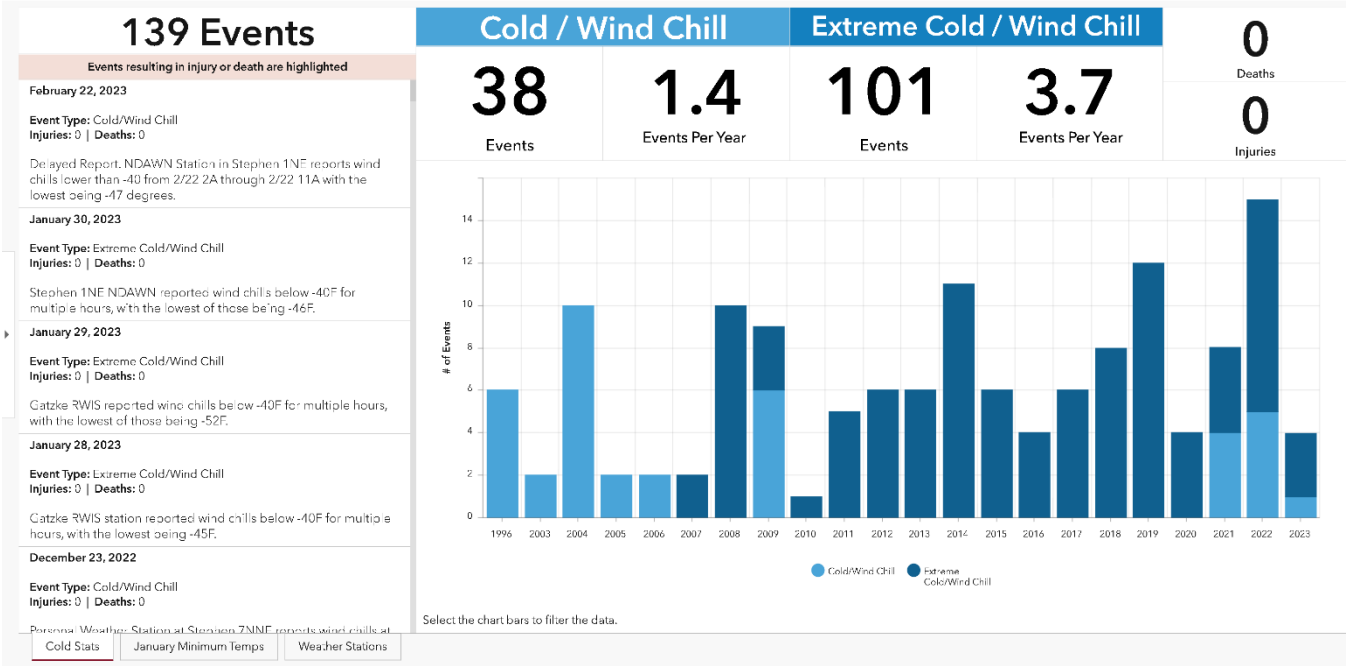
Backup Power: Not all designated shelter facilities have generator back-up power to provide the ability to care for residents if displaced during a severe winter event coupled with an extended power outage.

4.5 Extreme Cold

Due to Minnesota’s position in the middle of the continent and subsequent climate, the state may experience extremely frigid temperatures in winter. Winter in Marshall County can be especially dangerous when low temperatures and wind create arctic-like wind chills. The history of extreme cold in Marshall County is shown in Figure 5; an interactive version of this dashboard can be found on the Marshall County HMP website.

[View interactive maps and see information about extreme cold history, risk, and vulnerability](#)

Figure 5. History of extreme cold in Marshall County



4.5.1 PROBABILITY OF OCCURRENCE

To determine the probability of future cold-related events in Marshall County, records of previous cold/wind chill and extreme cold/wind chill events were summed and divided by the dataset’s period of record, resulting in the annual relative frequency. Based on records in the NCEI Storm Events Database through May 2023, the relative frequency of extreme cold/wind chill events in Marshall County is 3.7 per year. (NCEI, 2023). This relative frequency can be used to infer the probability of these events occurring in the future.

4.5.2 VULNERABILITY

The risk of extreme cold does not vary geographically within the county. Citizens living in climates such as these must always be prepared for situations that put their lives or property at risk. The youngest and more elderly residents, homeless persons, individuals with chronic medical conditions, and those who are working or recreating outdoors are most at risk for frostbite and hypothermia (MDH, 2021)

[*View at-risk populations in Marshall County*](#)

It is not always the depth of the cold that poses a threat but rather unpreparedness for the cold, such as an individual with a vehicle breakdown who lacks a personal winter safety kit in the vehicle. The cost of propane can make rural residents more vulnerable to issues with extreme cold. A propane shortage and resulting crisis, such as that which occurred in 2014, may increase the cost of heating homes and farms to a prohibitive amount (Eaton, 2014). The Minnesota Department of Commerce presents options and suggestions for homeowners who use propane [on their website](#).

The CDC publication “Extreme Cold: A Prevention Guide to Promote Your Personal Health and Safety” outlines preparation measures that individuals can take to reduce their vulnerability to extreme cold. Highlights in this document include advice about travel preparations, securing your home water supply, and safety during recreation (CDC, 2021).

Section 3.4 provides jurisdictional responses of localized vulnerabilities to extreme cold.

4.5.3 PROGRAM GAPS AND DEFICIENCIES

Marshall County Emergency Management identified several program gaps and deficiencies that make its residents more vulnerable to extreme cold. The following gaps and deficiencies should be addressed with new mitigation efforts to reduce that vulnerability:

Generators for Backup Power to Critical Facilities & Shelters: Not all healthcare and other critical facilities utilized for the care of residents & visitors, including designated severe weather/emergency shelters (schools, churches, etc.) have backup power to run heating systems in the event of a power outage.

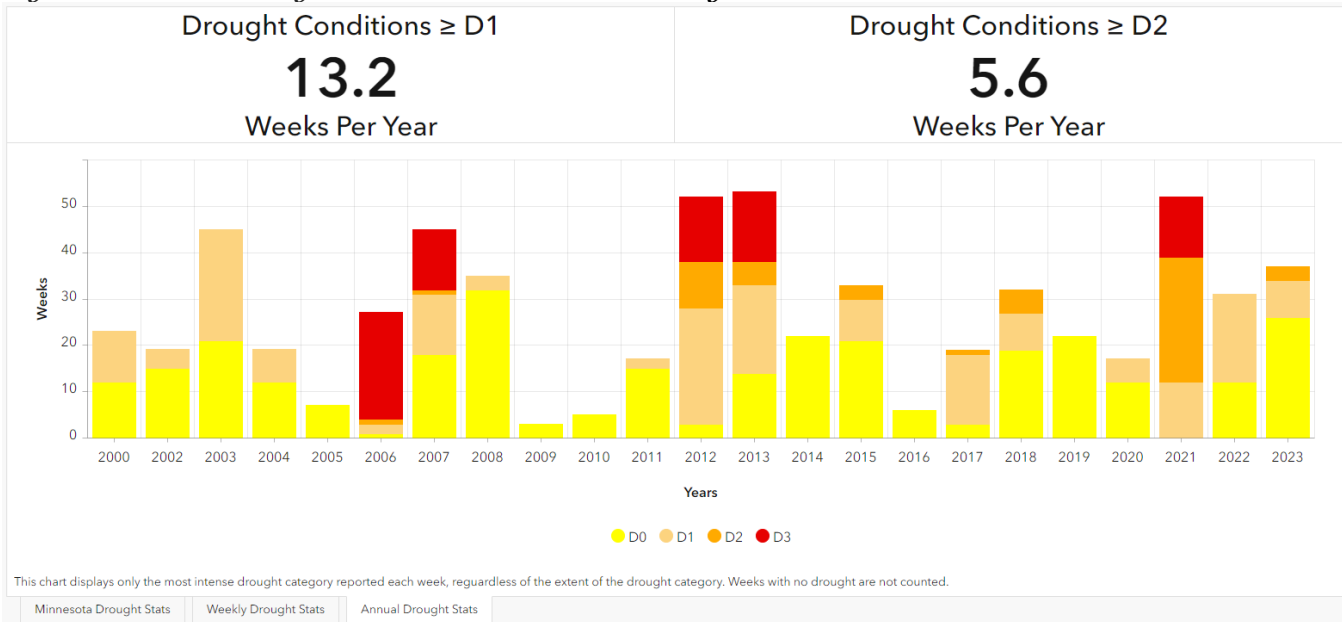
Public Education: Ongoing public education is needed to encourage residents to be prepared for extreme weather, including power outages during periods of extreme cold.

4.6 Drought

There are numerous approaches to assessing drought conditions. The current gold standard for accurate drought conditions in the United States is the United States Drought Monitor (USDM). Annual drought statistics since 2000 can be seen in Figure 6; an interactive version of this dashboard can be found on the Marshall County HMP website.

[*See interactive information about drought, including history and the USDM Dashboard, on the Marshall County HMP website*](#)

Figure 6. Annual drought statistics in Marshall County since 2000



4.6.1 PROBABILITY OF OCCURRENCE

To determine the probability of future droughts in Marshall County, records of previous droughts were summed and divided by the dataset’s period of record, resulting in the annual relative frequency of droughts. The USDM database was examined from January 2000–September 12, 2023 for any occurrence of drought \geq D1 in Marshall County, regardless of the duration of the drought. According to the weekly reported data, the relative frequency of the county experiencing drought conditions \geq D1 is 13.2 weeks per year, and the relative frequency of drought conditions \geq D2 is 5.6 weeks per year (NDMC et al., 2021). The relative frequency of past droughts can be used to infer the probability of similar droughts occurring in the future.

4.6.2 VULNERABILITY

One way to identify county assets vulnerable to drought is by examining the impacts of previous droughts. Overseen by the National Drought Mitigation Center (NDMC), the Drought Impact Reporter (DIR) is a comprehensive database that gathers drought-related reports from a variety of sources and identifies the sector(s) impacted by each drought. The NDMC (NDMC et al., 2021) defines a drought impact as “[a]n observable loss or change that occurred at a specific place and time because of drought.” A drought meeting this definition is categorized based on the sector(s) the drought impacts; therefore, a single drought affecting multiple sectors will be counted once for each respective sector it impacted.

DIR records show 11 reported drought incidents in Marshall County between 2000 and 2022, impacting six sectors with greatest impacts to the following sectors: fire; plants & wildlife; and relief, response & restrictions (NDMC, 2023). Since droughts are regional in nature, jurisdictions within Marshall County do not vary in their vulnerability to drought; however, the impact from droughts are not equal.

Drought conditions may impact soil moisture reserves, groundwater supplies, lake levels and stream flows. Water-dependent industries that experience the greatest impacts include: agriculture, public

utilities, forestry and tourism (MN DNR, 2021). In addition, droughts may negatively affect an individual's health by contributing to poor air quality caused by wildfire smoke and particulate, or a dusty environment. The 2021 drought resulted in elevated fire danger in roughly the northern two-thirds of the state, and record high particulate readings across Minnesota due to the Canadian wildfires (Huttner, 2021). [Populations vulnerable](#) to these conditions include children, older adults, and those with respiratory issues.

According to the DIR, Marshall County's agriculture sector has been impacted by drought more than once, and with 59.5% of Marshall County's land devoted to cultivated crops, the county's agriculture community is also vulnerable to the economic impact a drought may have on crops. From 1989–2012, Marshall County received \$84,146,401 (2018 ADJ) in crop indemnity payments due to drought, placing it as the 3rd-highest-paid county in Minnesota (CEMHS, 2023).

Section 3.4 provides jurisdictional responses of localized vulnerabilities to specific hazards.

4.6.3 PROGRAM GAPS AND DEFICIENCIES

Marshall County Emergency Management identified several program gaps and deficiencies that make its residents more vulnerable to drought. The following gaps and deficiencies should be addressed with new mitigation efforts to reduce that vulnerability:

Recharge of Ground Water: With changes in the weather, it is predictable to see drought years more frequently. In Marshall County, drinking water is mostly dependent on ground water, through the Middle-Snake-Tamarac Rivers (MSTR) Watershed One Watershed One Plan (1W1P), we learned there has been a significant drop in the ground water elevation in the last several years. On the other hand, with increasing number of drain tile installations on farmlands, we are decreasing the chance of water to penetrate and recharge the ground water. Although it may take years to get to the point that farmers decide to install irrigation systems, it is better to be proactive and plan for that day. Impoundment sites would be an ideal location to plan for recharge of ground waters, for which the MSTR Watershed District is working toward, however, funding is an issue on that end as well.

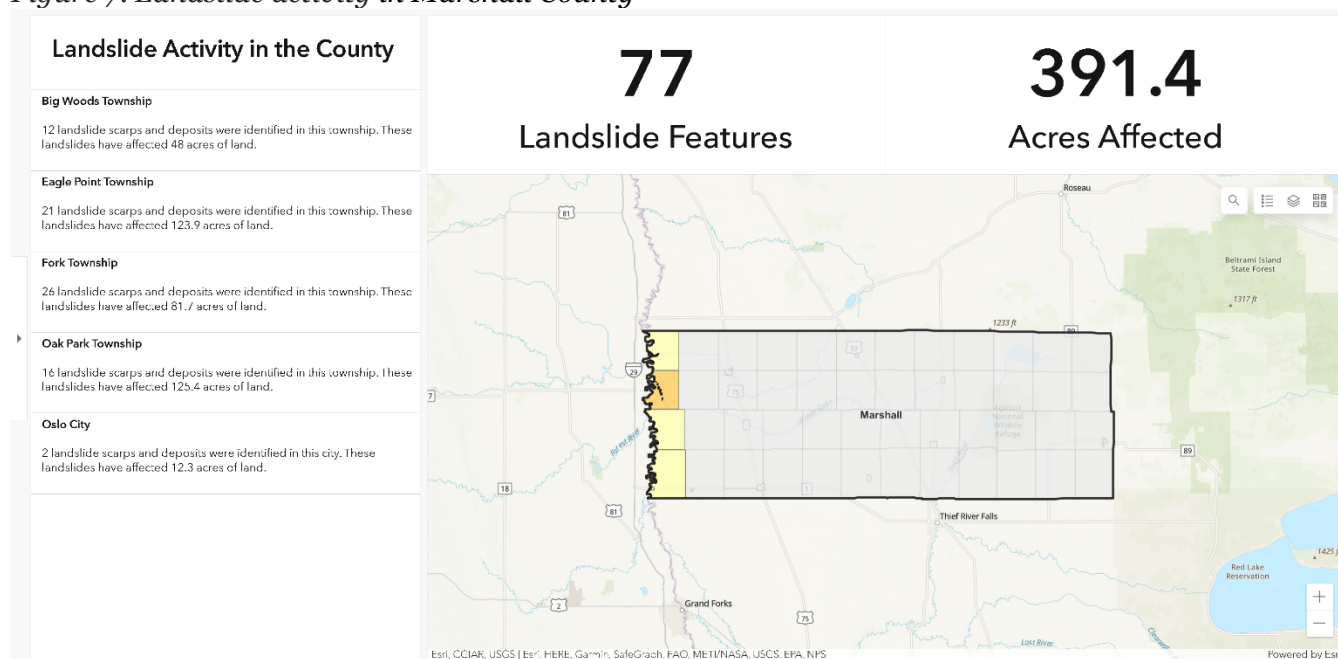
4.7 Landslides

The movement of a mass of rock, debris, or earth down a slope by the force of gravity is considered a landslide. They occur when the slope or soil stability changes from stable to unstable, which may be caused by earthquakes, storms, erosion, fire, or additional human-induced activities. Floods and

[See interactive information about landslides, including history, on the Marshall County HMP website](#)

landslides are closely related, and both involve precipitation, runoff, and ground saturation that may be the result of severe thunderstorms; however, landslides also take place over time and often take place when no natural disaster is evident. Landslide features in Marshall County are shown in Figure 7; an interactive version of this map can be found on the Marshall County HMP website.

Figure 7. Landslide activity in Marshall County



4.7.1 PROBABILITY OF OCCURRENCE

Researchers from eight colleges and universities across Minnesota examined the prevalence of landslides across the state and compiled an inventory of geological activity. This historical landslide inventory was published by USGS (DeLong, et al., 2022)

The research found that west Marshall County, specifically along the North Dakota border, is most susceptible to landslides. This includes the townships of Eagle Point, Fork, Big Woods, and Oak Park. These areas of east Marshall County show a low to moderately low susceptibility to landslides. Areas susceptible to erosion are found in the river valleys of the Red River of the North, Snake River, and Tamarac River.

To determine the frequency of landslides in Marshall County, we require records of previous landslides and the period in which they occurred. Comprehensive data for historical landslide events are not available. Statewide and national maps suggest that landslide risk in Marshall County is relatively low; however, anecdotal evidence does indicate that there is a risk of landslides in bluff areas and areas of lakeshore development. There is a documented increase in frequency of the heaviest 1% of extreme precipitation events (Climate Adaptation Partnerships, 2022). These extreme rain events are the most likely to cause landslides. Although the risk to infrastructure and property in Marshall County is low, landslides remain a concern to Marshall County Emergency Management.

4.7.2 VULNERABILITY

Given the lack of data on landslide incidents in Minnesota, the locations of Best Management Practices (BMPs) reported to the MN Board of Soil and Water Resources (BWSR) were used to identify areas in the State which may be more susceptible to landslides. BMPs are ways to manage land and activities to protect water quality and promote soil conservation, they can be a structure or part of a process. The

BWSR identifies four BMP categories which may be implemented to mitigate against erosion and slope failure issues that may result in landslides. Descriptions of these BMPs and the number of them installed in Marshall County are in Table 7.

Marshall County contains a total of 74 best management practices, including 70 grade stabilization structures, three streambank & shoreline protections, and one water & sediment control basin. Most grade stabilization structures can be found in eastern and southeastern Marshall County. Specifically, these structures exist along the Thief River, with the rest evenly distributed across southeast Marshall County. There are infrequent grade stabilization structures in western Marshall County along the Middle River. Two streambank & shoreline protections are located in similar areas adjacent to the Thief River, while the third is located along the Middle River in western Marshall County. The sole water & sediment control basin is located along the Middle River in central Marshall County.

Table 7. Best Management Practices (BMP) affiliated with erosion, slope failure, and landslides

Practice Name	Code	Description	Count in County
Grade Stabilization Structure	410	A structure used to control the grade and head cutting in natural or artificial channels. Includes side-inlet controls for existing drainage ditches and/or streams.	8
Streambank and Shoreline Protection	580	Treatment(s) used to stabilize and protect banks of streams or constructed channels, and shorelines of lakes, reservoirs, or estuaries.	9
Stream Channel Stabilization	584	Measures used to stabilize the bed or bottom of a channel.	1
Water and Sediment Control Basin	638	An earth embankment, or combination ridge and channel, generally constructed across the slope and minor watercourses to form a sediment trap and water detention basin.	73

SOURCE: (MN BWSR, 2023)

4.7.3 PROGRAM GAPS AND DEFICIENCIES

Marshall County Emergency Management identified several program gaps and deficiencies that make its residents more vulnerable to landslides. The following gaps and deficiencies should be addressed with new mitigation efforts to reduce that vulnerability:

Funding: Local funding is inadequate for the scale of projects that currently need to be addressed. Finding outside grant funding for implementation is necessary.

4.8 Dam Failure

The MN DNR Dam Safety Program has the mission of protecting the life and safety of people by ensuring that dams are safe. Minnesota's Dam Safety Program sets minimum standards for dams and regulates the design, construction, operation, repair, and removal of both privately and publicly (non-federal) owned dams (MN DNR, 2020). The federal government is responsible for regulating and maintaining dam safety of federally owned dams. No single agency regulates all federally owned dams. 42% of federal

dams are owned and managed by the U.S. Army Corp of Engineers (USACE) and the Bureau of Reclamation. The remaining federal dams are owned and managed by other federal agencies, including the Fish and Wildlife Service, Forest Service, the Department of Defense, and the Bureau of Indian Affairs, among others (Normand, 2019). The Federal Energy Regulatory Commission (FERC) Dam Safety Program is the largest dam safety program in the U.S. The Commission works with federal and state agencies to ensure and promote dam safety of over 3,000 dams across the U.S. The Commission inspects projects on an unscheduled basis to investigate potential dam safety problems; complaints about constructing and operating a project; safety concerns related to natural disasters; and issues concerning compliance with the term and conditions of a license (FERC, 2020).

Similar to dams, levees in Minnesota are regulated by various federal, state, and local entities that own the levee. While the USACE has designed and built many of the levees in the U.S., the USACE is only responsible for the maintenance of federally owned levees in the USACE system.

[View interactive maps and see information about dam failure history, risk, and vulnerability](#)

Dam Inventory: There are 25 dams in Marshall County, three of which are classified as “significant hazard” dams.

4.8.1 PROBABILITY OF OCCURRENCE

Extreme precipitation is only one factor contributing to dam failure, and the possibility of failure is dam-specific, relating to both environmental and structural conditions. There are few incidents of dam failure in Minnesota and the likelihood of a dam failure in Marshall County is very low. Dam failures are extremely unlikely if the dam is maintained in compliance with Minnesota’s Dam Safety Program. The majority of dams in Marshall County are of low hazard potential, and the likelihood of failure in Marshall County is also extremely low.

4.8.2 VULNERABILITY

Although dam regulatory authorities differ between various federal and state agencies, all authorities attempt to classify dams according to the potential impacts from a dam failure or mis-operation. In response to the numerous classification systems, FEMA’s Interagency Committee on Dam Safety created a downstream hazard potential classification system that is adaptable to any agency’s current system. Table 8 provides an overview of the main criteria agencies consider when determining a dam’s downstream hazard potential. This classification system does not imply that the dam is unsafe, but rather categorizes dams based on the probable loss of human life and the impacts on economic, environmental, and lifeline interests (FEMA, 2004).

Dams for which a hazard potential has not been designated, or is not provided, are classified as “Undetermined.” An Emergency Action Plan (EAP) is a document which identifies potential emergency conditions at a dam and specifies preplanned actions to be followed during a dam failure to minimize property damage or loss of life. An EAP is required for Class I dams and strongly recommended for Class II dams (MN DNR, 2020).

Table 8. Downstream hazard potential classification criteria

Hazard Potential Classification	Loss of Human Life	Economic, Environmental, Lifeline Losses
Class III (Low)	None expected	Low and generally limited to owner
Class II (Significant)	None expected	Yes
Class I (High)	Probable - one or more expected.	Yes (but not necessary for this classification)

SOURCE: (USACE, 2008)

While there are no high hazard dams in Marshall County, there are three significant hazard dams. The first is the McCrea Township 12 Dam, an earthen dam, which is located on the Snake River-TR. The second significant hazard dam is the Warren Diversion Dam on the Snake River, a buttress dam constructed for flood risk reduction. The third is the Warren Storage Dam, another earthen dam on the Snake River. The nearest community downstream from all three dams is Warren, Minnesota, and all three were constructed for the purposes of flood risk reduction. These dams are regulated by the DNR Ecological and Water Resources Division, and an EAP is not required. (USACE, 2023)

4.8.3 PROGRAM GAPS AND DEFICIENCIES

Marshall County Emergency Management did not identify any program gaps or deficiencies that make its citizens more vulnerable to dam failure.

Section 5 – Mitigation Strategy

The goal of mitigation is to protect lives and reduce the impacts of future hazard events including property damage, disruption to local and regional economies, the amount of public and private funds spent to assist with recovery, and to build disaster-resistant communities. Mitigation actions and projects should be based on a well-constructed risk assessment, provided in Section 3 of this plan. Mitigation should be an ongoing process adapting over time to accommodate a community's needs.

5.1 Community Capability Assessments

The capability assessment identifies current activities and existing planning tools used to mitigate hazards. The capability assessment identifies the policies, regulations, procedures, programs and projects that contribute to the lessening of disaster damages. The assessment also provides an evaluation of these capabilities to determine whether the activities can be improved in order to more effectively reduce the impact of future hazard events. The following sections identify existing plans and mitigation capabilities within all of the communities:

- Appendix D: Lists the plans and programs in place in Marshall County as related to hazard mitigation.
- Appendix C: As part of the Marshall County HMP update, the county and city governments were asked to participate in filling out a “Local Mitigation Survey” (LMS) form to report on their current mitigation capabilities and program gaps. Appendix C provides the LMS reports gathered for Marshall County.

Information from the capability assessments was used to support development of local mitigation actions for implementation over the next five years (see column *Comments on Implementation & Integration*).

5.1.1 NATIONAL FLOOD INSURANCE PROGRAM (NFIP)

The NFIP is a federal program created by Congress to mitigate future flood losses nationwide through sound, community-enforced building and zoning ordinances and to provide access to affordable, federally backed flood insurance protection for property owners. The NFIP is designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods. Participation in the NFIP is based on an agreement between local communities and the federal government that states that if a community will adopt and enforce a floodplain management ordinance to reduce future flood risks to new construction in Special Flood Hazard Areas (SFHAs), the federal government will make flood insurance available within the community as a financial protection against flood losses.

Table 9 lists and describes jurisdictional participation in the National Flood Insurance Program (NFIP).

Table 9. NFIP participation in Marshall County

FEMA Plan Requirements Plan Review Tool, Section C2		Description
Name of Community		MARSHALL COUNTY
Participation in the NFIP		Participating – entry date 8/18/83
FEMA Map		FEMA Mapped High Risk Areas
Current Effective Map Date		3/23/21
Total # of Buildings within Floodplain (including all townships and cities)		868
1. Adoption of NFIP minimum floodplain management criteria via local regulation		Adoption of current floodplain ordinance: 3/2/21
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable		3/2/21
3. Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs		Marshall County enforces requirements of the NFIP through the county's current floodplain ordinance adopted 3/2/21 and published publicly 3/11/21. This ordinance establishes the floodplain district and zoning regulations and conditional uses permitted within the floodway, flood fringe, and general floodplain districts of Marshall County. The Environmental Services Department maintains and enforces the floodplain management ordinance for the county.
4. Appointment of a designee or agency to implement the addressed commitments and requirements of the NFIP		Floodplain Administrator: Josh Johnston, Marshall County Environmental Services Director / Emergency Management Director
5. Description of how participant implements the substantial improvement / substantial damage provisions of their floodplain management regulations after an event.		Following a flood event, the county would work with the MN DNR to use a form to track cumulative improvements and repetitive losses in the floodplain. The county would also review the MN DNR Minnesota Post-Flood Substantial Damage Playbook for Local Officials.
Name of Community		CITY OF ALVARADO
Participation in the NFIP		Participating – entry date 01/16/81
FEMA Map		FEMA Mapped High Risk Areas
Current Effective Map Date		3/23/21
Total # of Buildings within Floodplain		0

FEMA Plan Requirements Plan Review Tool, Section C2		Description
1. Adoption of NFIP minimum floodplain management criteria via local regulation		Adoption of current floodplain ordinance: 1/19/21
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable		1/19/21
3. Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs		The city of Alvarado enforces requirements of the NFIP through the city's current floodplain ordinance, adopted 1/19/21 and published publicly 1/27/21. This ordinance regulates development in the flood hazard areas of the city.
4. Appointment of a designee or agency to implement the addressed commitments and requirements of the NFIP		Floodplain Administrator: Nick Syverson, Utilities Superintendent
5. Description of how participant implements the substantial improvement / substantial damage provisions of their floodplain management regulations after an event.		Following a flood event, the city would work with the MN DNR to use a form to track cumulative improvements and repetitive losses in the floodplain. The city would also review the MN DNR Minnesota Post-Flood Substantial Damage Playbook for Local Officials.
Name of Community		CITY OF ARGLYE
Participation in the NFIP		Participating – entry date 12/15/82
FEMA Map		FEMA Mapped High Risk Areas
Current Effective Map Date		3/23/21
Total # of Buildings within Floodplain		17
1. Adoption of NFIP minimum floodplain management criteria via local regulation		Adoption of current floodplain ordinance: 3/3/21
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable		3/3/21
3. Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs		The city of Argyle enforces requirements of the NFIP through the city's current floodplain ordinance, adopted 3/3/21 and published publicly 3/11/21. This ordinance regulates development in the flood hazard areas of the city.
4. Appointment of a designee or agency to implement the addressed commitments and requirements of the NFIP		Floodplain Administrator: Tamara Benitt, City Clerk/Treasurer

FEMA Plan Requirements Plan Review Tool, Section C2	Description
5. Description of how participant implements the substantial improvement / substantial damage provisions of their floodplain management regulations after an event.	Following a flood event, the city would work with the MN DNR to use a form to track cumulative improvements and repetitive losses in the floodplain. The city would also review the MN DNR Minnesota Post-Flood Substantial Damage Playbook for Local Officials.
Name of Community	CITY OF GRYGLA
Participation in the NFIP	Participating – entry date 9/30/82
FEMA Map	FEMA Mapped High Risk Areas
Current Effective Map Date	3/23/21
Total # of Buildings within Floodplain	9
1. Adoption of NFIP minimum floodplain management criteria via local regulation	Adoption of current floodplain ordinance: 2/8/21
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable	2/8/21
3. Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs	The city of Grygla enforces requirements of the NFIP through the city's current floodplain ordinance, adopted 2/8/21 and published publicly 3/10/21. This ordinance regulates development in the flood hazard areas of the city.
4. Appointment of a designee or agency to implement the addressed commitments and requirements of the NFIP	Floodplain Administrator: Rose Aune, Clerk-Treasurer Additional Contact: Rocky Hagen, Maintenance Supervisor
5. Description of how participant implements the substantial improvement / substantial damage provisions of their floodplain management regulations after an event.	Following a flood event, the city would work with the MN DNR to use a form to track cumulative improvements and repetitive losses in the floodplain. The city would also review the MN DNR Minnesota Post-Flood Substantial Damage Playbook for Local Officials.
Name of Community	CITY OF HOLT
Participation in the NFIP	NOT Participating
FEMA Map	No FEMA Mapped High Risk Areas
Name of Community	CITY OF MIDDLE RIVER
Participation in the NFIP	Participating – entry date 2/1/84
FEMA Map	FEMA Mapped High Risk Areas
Current Effective Map Date	3/23/21

FEMA Plan Requirements Plan Review Tool, Section C2		Description
Total # of Buildings within Floodplain		7
1. Adoption of NFIP minimum floodplain management criteria via local regulation	Adoption of current floodplain ordinance: 3/10/21	
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable	3/10/21	
3. Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs	The city of Middle River enforces requirements of the NFIP through the city's current floodplain ordinance, adopted 3/10/21 and published publicly 3/13/21. This ordinance regulates development in the flood hazard areas of the city.	
4. Appointment of a designee or agency to implement the addressed commitments and requirements of the NFIP	Floodplain Administrator: Teresa Anderson, City Clerk / Administrator	
5. Description of how participant implements the substantial improvement / substantial damage provisions of their floodplain management regulations after an event.	Following a flood event, the city would work with the MN DNR to use a form to track cumulative improvements and repetitive losses in the floodplain. The city would also review the MN DNR Minnesota Post-Flood Substantial Damage Playbook for Local Officials.	
Name of Community		CITY OF NEWFOLDEN
Participation in the NFIP		Participating – entry date 6/22/84
FEMA Map		FEMA Mapped High Risk Areas
Current Effective Map Date		3/23/21
Total # of Buildings within Floodplain		53
1. Adoption of NFIP minimum floodplain management criteria via local regulation	Adoption of current floodplain ordinance: 2/16/21	
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable	2/16/21	
3. Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs	The city of Newfolden enforces requirements of the NFIP through the city's current floodplain ordinance, adopted 2/16/21 and published publicly 3/6/21. This ordinance regulates development in the flood hazard areas of the city.	
4. Appointment of a designee or agency to implement the addressed commitments and requirements of the NFIP	Floodplain Administrator: Tammy Hansen, City Administrator	

FEMA Plan Requirements Plan Review Tool, Section C2	Description
5. Description of how participant implements the substantial improvement / substantial damage provisions of their floodplain management regulations after an event.	Following a flood event, the city would work with the MN DNR to use a form to track cumulative improvements and repetitive losses in the floodplain. The city would also review the MN DNR Minnesota Post-Flood Substantial Damage Playbook for Local Officials.
Name of Community	CITY OF OSLO
Participation in the NFIP	Participating – entry date 9/16/82
FEMA Map	FEMA Mapped High Risk Areas
Current Effective Map Date	3/23/21
Total # of Buildings within Floodplain	0
1. Adoption of NFIP minimum floodplain management criteria via local regulation	Adoption of current floodplain ordinance: 12/8/20
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable	12/8/20
3. Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs	The city of Oslo enforces requirements of the NFIP through the city's current floodplain ordinance, adopted 12/8/20 and published publicly 12/16/20. This ordinance regulates development in the flood hazard areas of the city.
4. Appointment of a designee or agency to implement the addressed commitments and requirements of the NFIP	Floodplain Administrator: Debbie Goschke, City Clerk
5. Description of how participant implements the substantial improvement / substantial damage provisions of their floodplain management regulations after an event.	Following a flood event, the city would work with the MN DNR to use a form to track cumulative improvements and repetitive losses in the floodplain. The city would also review the MN DNR Minnesota Post-Flood Substantial Damage Playbook for Local Officials.
Name of Community	CITY OF STEPHEN
Participation in the NFIP	Participating – entry date 9/16/82
FEMA Map	FEMA Mapped High Risk Areas
Current Effective Map Date	3/23/21
Total # of Buildings within Floodplain	9

FEMA Plan Requirements Plan Review Tool, Section C2		Description
1. Adoption of NFIP minimum floodplain management criteria via local regulation		Adoption of current floodplain ordinance: 3/1/21
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable		3/1/21
3. Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs		The city of Stephen enforces requirements of the NFIP through the city's current floodplain ordinance, adopted 3/1/21 and published publicly 3/11/21. This ordinance regulates development in the flood hazard areas of the city.
4. Appointment of a designee or agency to implement the addressed commitments and requirements of the NFIP		Floodplain Administrator: Brett Kuznia, City Clerk
5. Description of how participant implements the substantial improvement / substantial damage provisions of their floodplain management regulations after an event.		Following a flood event, the city would work with the MN DNR to use a form to track cumulative improvements and repetitive losses in the floodplain. The city would also review the MN DNR Minnesota Post-Flood Substantial Damage Playbook for Local Officials.
Name of Community		CITY OF STRANDQUIST
Participation in the NFIP		NOT Participating
FEMA Map		No FEMA Mapped High Risk Areas
Name of Community		CITY OF VIKING
Participation in the NFIP		NOT Participating
FEMA Map		No FEMA Mapped High Risk Areas
Name of Community		CITY OF WARREN
Participation in the NFIP		Participating – entry date 2/18/81
FEMA Map		FEMA Mapped High Risk Areas
Current Effective Map Date		3/23/21
Total # of Buildings within Floodplain		3
1. Adoption of NFIP minimum floodplain management criteria via local regulation		Adoption of current floodplain ordinance: 1/26/21
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable		1/26/21

FEMA Plan Requirements Plan Review Tool, Section C2		Description
3.	Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs	The city of Warren enforces requirements of the NFIP through the city's current floodplain ordinance, adopted 1/26/21 and published publicly 2/3/21. This ordinance regulates development in the flood hazard areas of the city.
4.	Appointment of a designee or agency to implement the addressed commitments and requirements of the NFIP	Floodplain Administrator: Shannon Mortenson, City Administrator
5.	Description of how participant implements the substantial improvement / substantial damage provisions of their floodplain management regulations after an event.	Following a flood event, the city would work with the MN DNR to use a form to track cumulative improvements and repetitive losses in the floodplain. The city would also review the MN DNR Minnesota Post-Flood Substantial Damage Playbook for Local Officials.

SOURCE: (CEIL STRAUSS, MN FLOODPLAIN MANAGER, PERSONAL COMMUNICATION, SEPTEMBER 22, 2023)

Repetitive loss properties are defined as properties that have had two or more flood insurance claims of \$1,000 or more in any rolling 10-year period. Property owners are asked to consider mitigation activities such as acquisition, relocation, or elevation, among other options. FEMA's Repetitive Loss (RL) properties strategy is to eliminate or reduce the damage to property and the disruption to life caused by repeated flooding of the same properties. Property owners are notified of their status by FEMA.

A Severe Repetitive Loss (SRL) property is defined as a residential property that is covered under an NFIP flood insurance policy and:

- a) That has at least four NFIP claim payments (including building and contents) over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or
- b) For which at least two separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building.
- c) For both (a) and (b) above, at least two of the referenced claims must have occurred within any 10-year period and must be greater than 10 days apart.

Marshall County has 104 NFIP repetitive loss properties. Most of the properties are single-family homes. The City of Warren has the most RL and SRL properties of any community in the county. See Table 10 for a break-out of these properties. For more on the areas that flood repeatedly in Marshall County, see the [Marshall County Flooding page](#).

Table 10. NFIP Repetitive Loss Properties in Marshall County

Community	Total	Repetitive Loss		Severe Repetitive Loss	
		Residential	Non-Res	Residential	Non-Res
Alvarado	1	1			
Bigwoods Township	2	2			
Marshall County	2	2			
Oslo	9	5	3	1	
Stephen	5	4		1	

		Repetitive Loss		Severe Repetitive Loss	
West Oslo	1		1		
Warren	84	64	2	15	3
Totals	104	78	6	17	3

5.1.2 PLANS AND ORDINANCES

Marshall County and its incorporated communities have a number of plans and ordinances in place to ensure the safety of residents and the effective operation of communities including a Zoning Ordinance, Floodplain Ordinance, Emergency Operations Plan, and Wellhead Protection Plan.

5.1.3 PLANS AND PROGRAMS IN PLACE TO ADDRESS NATURAL HAZARDS

Marshall County has numerous plans and programs in place to address natural hazards. Some of these programs are specific to a hazard and others address impacts and human safety for many types of events (“All-Hazards”). For the purpose of grouping related natural hazards, “Summer Storms” encompasses Tornadoes, Windstorms, Lightning, and Hail. Following is a description of the plans and programs in place by Marshall County to support mitigation for the hazards addressed in this plan.

All Hazards

All Hazards Emergency Operations Plan: Marshall County Emergency Management maintains an all-hazards Emergency Operations Plan (EOP) which lays out concepts and operating guidelines for all incident management and support functions that may be needed to ensure life safety, incident stabilization, and property preservation during an incident and the transition to recovery.

CodeRED Emergency Notification System: Marshall County maintains the CodeRED Emergency Notification System which allows residents and visitors to sign up (“opt-in”) to receive severe weather alerts targeted to their location, along with other local emergency alerts. A link to sign up for the system is located on the Marshall County Emergency Management website page. Marshall County has purchased the fully automated CodeRED Weather Warning, which increases the speed at which residents are notified.

Relationship with National Weather Service: Marshall County has a strong relationship with the Grand Forks National Weather Service (NWS) Forecast Office, having access to all live and on-demand briefings, announcements, and educational opportunities, and contact information for direct collaboration as needed. The county also receives all products/statements issued by the NWS, and in turn shares or incorporates these into its community outreach and public education. Marshall County Emergency Management has partnered with the NWS to receive spot forecasts for large events.

Preparedness Outreach & Public Education: Marshall County utilizes the Marshall County Website and Emergency Management website page, Marshall County Emergency Management Facebook page, and local news media to communicate with residents, visitors, schools, and long-term care facilities on emergency preparedness, severe weather, and other hazard conditions throughout the year.

Mass Care Sheltering: In the event of a disaster or other hazardous situation where temporary housing and basic human services are needed, Marshall County Emergency Management works in coordination with local Fire and EMS, Marshall County Public Health, Marshall County Social Services, and the American Red Cross to provide mass care services as needed. The Marshall County EOP includes plans, procedures and resources available for mass care sheltering, including identified shelters in each community.

NOAA Weather Radios: Marshall County Emergency Management promotes the use of NOAA Weather Radios by local residents, businesses, schools, long term care facilities, government buildings, faith communities, and other places of common gathering. NOAA Weather Radios broadcast continuous weather information directly from the nearest National Weather Service office, including warnings, watches, forecasts, and other hazard information 24 hours a day, 7 days a week. They are an important tool to be able to receive information, particularly in the event of extended power outages where updates from local media and cell phone apps may not be available.

Weather-Ready Nation Ambassador / StormReady Community: Marshall County is a registered NOAA and NWS Weather-Ready Nation Ambassador and StormReady Community, supporting initiatives to improve readiness, responsiveness, and overall resilience to weather, water, and climate events. As an ambassador, the county promotes weather-ready messages and themes to our stakeholders, engages with NOAA personnel on collaborative opportunities, shares success stories of preparedness and resiliency, and educates employees, partners, and the public on preparedness actions. As a StormReady Community, the county meets specific guidelines on how to improve hazardous weather operations.

Backup Power: Marshall County works to ensure the continuity of operations of county government services and critical infrastructure in the event of an extended power outage. Marshall County maintains a cache of portable generators and pumps for use on public infrastructure. Generator back-up power is in place for the Marshall County Sheriff's Office, jail, and the new courtroom. Marshall County Emergency Management also has a Memorandum of Understanding with the Warren Volunteer Fire Department to use the Fire Hall if need be, as it has generator back-up power.

Schools Support: Marshall County Emergency Management coordinates with local school districts as needed on related emergency planning and preparedness, including support for specific trainings, exercises, equipment, and relay of county-level emergency notifications. School districts have their own policies, decision-making protocols, and communications plans in place to determine the need to close school and to notify targeted audiences in the event of severe weather, extreme temperatures, or other events that pose risk to students and staff.

Regional Collaboration: Marshall County Emergency Management works closely with the MN HSEM Region 3 regional program coordinator and county emergency managers on a range of planning, training, and exercises to support all-hazards preparedness, mitigation, response, and recovery capabilities. Marshall County is also a party of the Region 3 HSEM Joint Powers Board Mutual Aid Agreement, allowing equipment, personnel, and other resources available to each Party upon request.

Severe Winter Storms

Winter Weather Statements (Watch, Advisory, Warning, etc.): Marshall County works to relay winter weather statements received from the NWS via the Marshall County Emergency Management Facebook page and by CodeRED emergency notifications as necessary to help alert residents and visitors to hazardous conditions.

Winter Hazard Awareness Week: Marshall County participates in the Winter Hazard Awareness Week campaign sponsored by MN HSEM and the NWS each November. The week-long effort provides specific information each day covering the topics of winter weather, outdoor winter safety, indoor winter safety, and winter driving safety. Marshall County Emergency Management promotes and shares information during the week via social media which communities, schools, churches or other civic programs are encouraged to share locally.

Snow Removal & Ice Control: The Marshall County Highway Department is responsible for the removal of snow and ice control for county roads, as well as some city and township roads based upon agreement. The department completes its snow removal process in accordance with the Marshall County Hwy Department Snow Removal Policy. MNDOT removes snow from State Highways as well as disperses salt/sand as needed.

Severe Summer Storms

Severe Weather Statements (Watch, Advisory, Warning, etc.): Marshall County works to relay severe spring and summer weather statements (such as for thunderstorms, windstorms, or tornadoes) received from the NWS via the Marshall County Emergency Management Facebook page and by CodeRED emergency notifications as necessary to help alert residents and visitors to hazardous conditions.

Outdoor Warning Sirens: Outdoor warning sirens are located in the following cities within the county: Alvarado (1), Argyle (1), Grygla (1), Middle River (1), Newfolden (1), Oslo (1), Stephen (1), Viking (1), and Warren (5). Marshall County Emergency Management and Marshall County Sheriff's Office work in conjunction with communities where sirens are located to test them and ensure they are functioning properly.

Skywarn Program: Marshall County Emergency Management works with the National Weather Service to offer Storm Spotter training on an annual basis to local fire and law enforcement departments and local residents that wish to be trained as spotters. SkyWarn Storm Spotters help

to keep their local communities safe by providing timely and accurate reports of severe weather to their local NWS office.

Severe Weather Awareness Week: Marshall County participates in the Severe Weather Awareness Week campaign sponsored by MN HSEM and the NWS each April. The week-long effort provides specific information each day covering the topics of severe weather alerts and warnings, lightning, hail, floods, tornadoes (with statewide drills), and extreme heat. Each topic covered includes factsheets, checklists, data, and other resources. Marshall County Emergency Management promotes and shares information during the week via social media which communities, schools, churches or other civic programs are encouraged to share locally.

Vegetation Management: The Marshall County Highway Department regularly conducts vegetation management along county roads to reduce the risk of downed trees or branches resulting from severe spring and summer storm events. They are also the Ditch Authority for Marshall County, conducting the management, repair, and maintenance of public ditches. Local utility providers also work to manage vegetation near power lines to reduce the risk of downed lines and power outages.

Manufactured Home Parks Shelters & Evacuation Plans: Marshall County Public Health works in coordination with the Minnesota Department of Health (MDH) to ensure that licensed manufactured home parks within the county meet the requirements of MN Statute 327.20 for shelters and evacuation plans. Shelter and evacuation plans must be approved by the city or township in which they are located and submitted to the Minnesota Department of Health.

Extreme Cold

Emergency Notifications: Extreme cold temperature warnings are issued by the National Weather Service. Marshall County Emergency Management assists with sharing this information with the public.

Extreme Cold Safety Awareness: Marshall County Emergency Management and Marshall County Public Health promote public awareness of personal safety measure to take during periods of extreme cold, such as minimizing exposure and being prepared with survival kits in vehicles during winter.

Extreme Cold Emergency Sheltering: In the event of an extended power outage coupled with a period of extreme cold, Marshall County Emergency Management works with local Fire or EMS locations as needed to assist vulnerable residents such as the elderly who may need temporary sheltering. Marshall County maintains a small cache of portable cots at the Courthouse and has access to a larger regional cache.

Drought

Public Awareness & Outreach: In the event of drought conditions, Marshall County works in concert with the NWS, MN DNR, and local communities to raise public awareness of dry

conditions and increased danger of wildfire, and recommended water use restrictions, if needed.

Marshall Soil and Water Conservation District: The Marshall SWCD helps to connect agricultural landowners and local jurisdictions in Marshall County to educational and other technical resources for issues associated with managing drought. The SWCD also administers a rainfall monitoring program throughout the county that works with trained residents to record rainfall in the county on a daily basis. The SWCD reports data on rainfall to the Minnesota State Climatology Office in order to monitor the amount of moisture received in the county.

Middle-Snake-Tamarac Rivers Watershed District (MSTRWD): Through operation and maintenance of the existing impoundments, the MSTRWD can provide emergency management measures through drought conditions (i.e. water augmentation to keep rivers alive).

Landslides

Marshall County Soil and Water Conservation District: The Marshall County Soil & Water Conservation District provides access to natural resource management and conservation services and provides technical, financial, and educational assistance to landowners to address natural resource concerns. The Marshall SWCD applies for Federal and State grant dollars every year to address erosion and water quality issues throughout the county. This money is used to provide cost-share to landowners with erosion problems that otherwise would not be addressed due to the high cost of the projects.

Setback Requirements: Marshall County maintains and enforces Shoreland and Floodplain Ordinances that include setbacks from water sources and areas where flooding or erosion could occur. Within the Shoreland Ordinance, development is regulated in bluff impact zones.

Flooding

National Flood Insurance Program (NFIP): Marshall County has FEMA Mapped High Risk Areas and participates in the NFIP. Initial entry date into the program was 07/18/1983.

Floodplain Administrator: The Marshall County Environmental Services Administrator is the county's designated Floodplain Administrator, who is responsible to implement the requirements of the NFIP.

Floodplain Ordinance: The Marshall County Floodplain Ordinance (03-02-2021) establishes the flood plain district and zoning regulations and conditional uses permitted within the floodway, flood fringe, and general floodplain districts. The Environmental Services Department maintains and enforces the floodplain management ordinance for the county.

Flood Hazard Mitigation: The Red Lake River Watershed District and Middle Snake Tamarac Rivers Watershed District are local units of government established under Minnesota Statutes 103D and are designated to address water quantity issues as it relates to reducing flood damages within their jurisdictional boundaries of Marshall County.

Floodplain Mapping: Marshall County's current effective FEMA flood map date is 03/23/2021. The county's Environmental Services Department is the repository for the floodplain maps for the county. Environmental Services assists county residents in determining whether their property is affected by an officially mapped flood area. Official flood insurance rate maps for eastern and western Marshall County are provided on the Environmental Services Department website page.

Shoreland Ordinance: The Marshall County Shoreland Ordinance (10-19-2017) establishes policies for the wise subdivision, use and development of shorelands of public waters within the county, including policies that support flood mitigation, such as establishing requirements for new development in accordance with floodplain regulations. Conditional uses allowable within shoreland areas are subject to review and approval procedures by the Marshall County Environmental Services Department.

Comprehensive Land Use Plan: The Marshall County Comprehensive Land Use Plan (September, 2000) outlines the major development policies for the county. Policy 4, Natural Resources Management addresses continuation of Floodplain Management for the county.

Subdivision Ordinance: Marshall County Floodplain Ordinance includes Section 8.0 – Subdivision Standards. This section of the ordinance addresses review criteria for subdivision of land within flood plain districts. Manufactured homes and manufactured home parks are subject to applicable standards for each floodplain district.

Five Year Transportation Plan: The Marshall County Highway Department is responsible for the survey, design, construction, inspection, maintenance and repair of roads and bridges throughout the county. The Highway Department updates the county's Five-Year Construction Plan annually. This update involves adding a year to the program as well as updating or revising the other years within the program.

Emergency Evacuation Flood Plans: Marshall County Emergency Management and the Marshall County Highway Department continue to work with the City of Oslo and the Border Township Associative Group to address road access and emergency routes for periods of flooding.

Minnesota Buffer Law: Marshall County adopted the requirements of the Minnesota Buffer Law as is part of the Marshall County ordinances (adopted 03/06/2018). The Two Rivers Watershed District has also adopted the requirements of the MN Buffer Law on legal ditches for which they are the ditch authority. The purpose and intent of the law is to protect state water resources from erosion and runoff pollution; to stabilize soils, shores and banks; and to protect or provide riparian corridors. The Buffer Law is enforced by the Marshall County Highway Department in coordination with the Marshall Soil and Water Conservation District.

Thief River One-Watershed One Plan (1W1P): The Thief River 1W1P was approved by the Board of Water and Soil Resources on March 25, 2020, and adopted locally. The Marshall SWCD was appointed Plan Coordinator and the Red Lake Watershed District was appointed the fiscal agent for implementing the plan. Local units of government participating in the Thief River

Comprehensive Watershed Management Plan include: Marshall, Beltrami, and Pennington Counties; Marshall, Beltrami, and Pennington SWCDs; and the Red Lake Watershed District. The plan includes considerations for flood risk areas within the regional watershed planning area.

Middle Snake Tamarac Rivers One Watershed One Plan: The Middle Snake Tamarac Rivers 1W1P was approved by the Board of Water and Soil Resources on August 25, 2022, and adopted locally. The Marshall SWCD was appointed Plan Coordinator and the Middle Snake Tamarac Rivers Watershed District was appointed the fiscal agent for implementing the plan. Local units of government participating in the MSTR Comprehensive Watershed Management Plan include: Marshall, Polk, Pennington, Kittson, and Roseau Counties; Marshall, West Polk, Pennington, Kittson, and Roseau SWCDs; and the Middle Snake Tamarac Rivers Watershed District. The plan includes considerations for flood risk areas within the regional watershed planning area.

Border Township Associative Group: The BTAG consists of area townships in Minnesota and North Dakota and the City of Oslo, MN. The group's mission is to mitigate flooding in the valley by removing flow restrictions, modifying bridges, and raising roads and levees.

Dam Failure

No noted plans or programs in place.

5.2 Mitigation Goals

The goals and strategies for natural hazards in the 2019 Minnesota State Hazard Mitigation Plan were adopted for use in the Marshall County Plan. This framework, as outlined below, will allow for integration of the mitigation actions that are listed by Marshall County and its jurisdictions into the state plan. The state will then be able to develop a statewide strategy that will benefit all of Minnesota.

Flooding Goal: Reduce deaths, injuries, property loss and economic disruption due to all types of flooding (riverine, flash, coastal, dam/levee failure).

Wildfire Goal: Reduce deaths, injuries, property loss, natural resource and economic disruption due to wildfires (forest, prairie, grass, and peat bogs).

Windstorms Goal: Reduce deaths, injuries, property loss, and economic disruption due to windstorms.

Hail Goal: Reduce deaths, injuries, property damage, and economic disruption due to hailstorms.

Winter Storms Goal: Reduce deaths, injuries, property loss, and economic disruption due to winter storms (blizzard, ice, and ice storm).

Lightning Goal: Reduce deaths, injuries, property losses, loss of services, and economic disruption due to lightning.

Tornado Goal: Reduce deaths, injuries, property loss, and economic disruption due to tornadoes.

Drought Goal: Reduce economic loss and environmental impacts due to drought.

Extreme Heat Goal: Reduce deaths, injuries, and economic disruption due to extreme heat.

Extreme Cold Goal: Reduce deaths, injuries, and economic disruption due to extreme cold.

Dam/Levee Failure Goal: Reduce deaths, injuries, property loss, natural resource and economic disruption due to dam/levee failure.

Erosion/Landslide/Mudslide Goal: Reduce deaths, injuries, property loss, and economic disruption due to hillside, coastal, bluff: caused primarily by oversaturation of soil.

5.3 Mitigation Action and Project Strategies

The mitigation actions in this plan are summarized into four main strategy types, as described in the FEMA publications *Local Mitigation Planning Handbook* (2013) and *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards* (2013). A fifth strategy type was determined by Minnesota HSEM for use within the state: Mitigation Preparedness and Response. The strategies and example actions are listed in Table 11 below:

Table 11. Mitigation strategies and action types

Mitigation Strategy	Description	Example Mitigation Actions
Local Plans and Regulations	These actions include government authorities, policies, or codes, that influence the way land and buildings are developed and built.	<ul style="list-style-type: none">• Comprehensive plans• Land use ordinances• Planning and zoning• Building codes and enforcement• Floodplain ordinances• NFIP Community Rating System• Capital improvement programs• Open space preservation• Shoreline codes• Stormwater management regulations and master plans
Structure and Infrastructure Projects	<p>These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure.</p> <p>This type of action also involves projects to construct manmade structures to reduce the impact of hazards.</p>	<ul style="list-style-type: none">• Acquisitions and elevations of structures in flood prone areas• Utility undergrounding• Structural retrofits• Floodwalls and retaining walls• Detention and retention structures• Culverts• Safe rooms

Mitigation Strategy	Description	Example Mitigation Actions
	Many of these types of actions are projects eligible for funding through the FEMA Hazard Mitigation Assistance program.	
Natural Systems Protection	These are actions that minimize damage and losses and also preserve or restore the functions of natural systems.	<ul style="list-style-type: none"> • Sediment and erosion control • Stream corridor restoration • Forest management • Conservation easements • Wetland restoration and preservation
Education and Awareness Programs	These are actions to inform and educate residents, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady or Firewise Communities. Although this type of mitigation reduces risk less directly than structural projects or regulation, it is an important foundation. A greater understanding and awareness of hazards and risk among local officials, stakeholders, and the public is more likely to lead to direct actions.	<ul style="list-style-type: none"> • Radio or television spots • Websites with maps and information • Real estate disclosure • Presentations to school groups or neighborhood organizations • Mailings to residents in hazard-prone areas. • StormReady Certification • Firewise Communities
Mitigation Preparedness and Response	This is a State of Minnesota mitigation strategy with the intent of covering preparation and actions that protect life and property during a natural disaster.	<ul style="list-style-type: none"> • Emergency operations plan • Flood fight plans and preparedness • Dam emergency action plans • Warning • Backup power • Emergency capabilities

Local leaders work together with the Marshall County emergency management director to assure that the hazards and mitigation actions included in this plan are accurate and addressed in their jurisdictions. Development of mitigation actions for the county and each city was informed by a community's hazard and risk assessment; identification of local vulnerabilities, and review of capabilities in place to address mitigation. Planning team members, local elected officials and staff from Marshall County and each city actively participated in the development and review of mitigation action charts for implementation through participation in planning team meetings (see Appendix F) and development of Local Mitigation Surveys (see Appendix C). Additional jurisdictional and public feedback was incorporated following news releases inviting public input to the planning process (see Appendix G).

The Marshall County risks and mitigation activities identified also incorporate the concerns and needs of townships, school districts, and other entities participating in this plan. Appendix H contains the jurisdictional mitigation action charts for the cities of Alvarado, Argyle, Grygla, Holt, Middle River, Newfolden, Oslo, Stephen, Strandquist, Viking, and Warren.

Following is an overview the mitigation action charts and description of each element of the chart.

Number (#)

Each mitigation action is identified by a number.

Hazard

Each mitigation action is identified by the natural hazard that it relates to. Actions that fall under “All-Hazards” relate to both natural and non-natural hazards.

Mitigation Strategy

Each mitigation action is identified by one of the following five mitigation strategies.

- Local Planning and Regulations
- Structure and Infrastructure Projects
- Natural Systems Protection
- Education and Awareness Programs
- Mitigation Preparedness and Response Support

See Table 11 for a description of each mitigation strategy and related types of actions.

Mitigation Action

Each mitigation action provides a concise, action-oriented description of the action or project to be undertaken. If a mitigation action reduces risk to new or existing buildings/infrastructure it is noted.

Status

The status of each mitigation action is indicated by one of the following categories:

- New – New actions that have been identified since the last plan.
- Existing – Actions that are carried over from the last plan or have been updated.
- In Progress – Actions from the last plan that are currently being acted upon.

Mitigation actions that have been completed or deleted from the 2016 Marshall County Hazard Mitigation Plan are identified and reported on in Appendix H. Completed and deleted mitigation actions are not carried over into the updated mitigation action chart.

Priority

In the review and discussion of selected mitigation strategies and actions, the planning team ranked mitigation actions by priority for implementation. Table 12 provides criteria that were taken into consideration in the process.

Table 12. Criteria for Mitigation Action Priority Ranking

Ranking	Criteria
High Priority	<ul style="list-style-type: none"> • Methods for reducing risk from the hazard are technically reliable. • The County has experience in implementing mitigation measures. • Mitigation measures are eligible under federal grant programs. • There are multiple mitigation measures for the hazard. • The mitigation measure(s) are known to be cost effective. • The mitigation measures protect lives and property for a long period of time, or are permanent risk reduction solutions.
Moderate Priority	<ul style="list-style-type: none"> • Mitigation methods are established. • The County has limited experience with the kinds of measures that may be appropriate to mitigate the hazard. • Some mitigation measures are eligible for federal grants. • There is a limited range of effective mitigation measures for the hazard. • Mitigation measures are cost-effective only in limited circumstances. • Mitigation measures are effective for a reasonable period of time.
Low Priority	<ul style="list-style-type: none"> • Methods for reducing risk from the hazard are not well-established, are not proven reliable, or are experimental. • The State or Counties have little or no experience in implementing mitigation measures, and/or no technical knowledge of them. • Mitigation measures are ineligible under federal grant programs. • There is a very limited range of mitigation measures for the hazard, usually only one feasible alternative. • The mitigation measure(s) have not been proven cost effective and are likely to be very expensive compared to the magnitude of the hazard. • The long-term effectiveness of the measure is not known or is known to be relatively poor.

Time frame

Each mitigation action identifies the anticipated timeframe for implementation of the action within the next five-year planning cycle.

- Ongoing – Implementation of the action will require continued application.
- Defined (year) – Implementation of the action will occur within a defined time frame that is noted.
- TBD – The anticipated time frame for implementation of an action is to be determined.

Responsibility

Each mitigation action identifies what personnel, department or agency will be lead for the administration or implementation of the action.

Comments on Implementation & Integration

Each mitigation action provides a description of how the jurisdiction will work to implement the mitigation action and incorporate the activity into other existing planning mechanisms.

Possible Funding

Each mitigation action identifies where potential funding may come from to support implementation of the mitigation activity, such as existing county or city funding, state or federal funding. Projects that may be eligible for future FEMA Hazard Mitigation Assistance grant funding are noted.

The Marshall County Mitigation Action Chart is provided in Table 13. Appendix H provides the mitigation action charts developed for each city participating in the HMP update.

Table 13. Marshall County Mitigation Action Chart (2023–2027)

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
1	All-Hazards	Education & Awareness Programs	EMERGENCY NOTIFICATION Encourage all county residents to sign-up for the county's CodeRED Emergency Notification System.	Existing High Ongoing	Marshall County Emergency Management (MCEM)	Marshall County maintains the CodeRED Emergency Notification System which allows residents and visitors to sign up ("opt-in") to receive severe weather alerts targeted to their location, along with other local emergency alerts. A link to sign up for the system is located on the Marshall County website.	Marshall County
2	All-Hazards	Mitigation Preparedness & Response Support	EOP PLANNING Ensure the county's Emergency Operations Plan (EOP) is updated and addresses policies & procedures needed to support EM functions prior to, during, and following a disaster.	Existing High Ongoing	MCEM	The Marshall County EOP is updated on a regular basis and addresses functions that dually support mitigation and response for natural disasters, including public information and warning, operational coordination, mass care sheltering, evacuation, and access to resources.	Marshall County
3	All-Hazards	Local Planning & Regulations	PLANS, POLICIES & CODES Adopt and enforce plans, policies, and building codes that reduce risk against future natural hazard events.	Existing High Ongoing	MC Envr. Services, SWCD, MC Hwy. Dept, County Board	Marshall County departments continue to implement and enforce plans, policies, and codes that address risk reduction for natural hazards, including the Marshall County floodplain ordinance, subdivision ordinance, Comprehensive Land Use Plan, 5-year Transportation Plan, Local Water Management Plan, building permits and codes for new development, and the Minnesota State Buffer Law.	Marshall County
4	All-Hazards	Local Planning & Regulations	REGIONAL PLANNING Participate in regional planning and project efforts that address risk reduction to natural hazard events and improve shared mitigation capabilities.	Existing High Ongoing	MCEM, other county depts.	Marshall County continues to work with key partners on shared efforts that help to mitigate damage from future hazard events, such as flood risk reduction projects, public outreach and education, and regional watershed planning. Long-term active partnerships are in place with the Grand Forks, ND NWS, Marshall SWCD, NRCS, area watershed organizations, as well MN HSEM Region 3 Emergency Managers.	Marshall County, other agencies & organizations

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
5	All-Hazards	Mitigation Preparedness & Response Support	<p>VULNERABLE POPULATIONS Work in partnership with key partners on efforts to reduce risk to and benefit underserved communities or socially vulnerable populations within the county from the impacts of future natural hazard events.</p>	Existing High Ongoing	MCEM, MC Public Health, MC Social Services, MK Envir. Services/GIS in coord with others	<p>MCEM, MC Public Health (North Valley Health Center), and MC Social Services continue to work with local governments, school districts, hospitals, mobile home park (MHP) operators, long-term care and childcare facilities, MN Dept. of Health, American Red Cross, and the Salvation Army on emergency preparedness efforts that benefit those considered to be more vulnerable in the county from severe weather or extreme temperature events. This includes the elderly, disabled, students, and low-income residents. Example efforts include provision of energy assistance programs during periods of extreme cold, evacuation & shelter planning for long-term care facilities and MHP's, and delivery of education and awareness information in different formats. MCEM and GIS maintain data on location of vulnerable facilities which is incorporated in EM planning.</p> <p>Marshall County utilizes the MCEM website page and MCEM Facebook page and local news media to communicate with residents, visitors, schools, and long-term care facilities on emergency preparedness, severe weather conditions, and safety information throughout the year. Marshall County also participates in the NWS annual Winter Hazard Awareness Week and Severe Weather Awareness Week each November and April. Marshall County is a registered NOAA Weather-Ready Nation Ambassador and StormReady Community.</p>	Marshall County, other agencies & organizations
6	All-Hazards	Education & Awareness Programs	<p>OUTREACH & EDUCATION Inform and educate residents through outreach and education programs to increase awareness and preparedness for severe weather events, periods of extreme cold, and extended power outages.</p>	Existing High Ongoing	MCEM	<p>Marshall County utilizes the MCEM website page and MCEM Facebook page and local news media to communicate with residents, visitors, schools, and long-term care facilities on emergency preparedness, severe weather conditions, and safety information throughout the year. Marshall County also participates in the NWS annual Winter Hazard Awareness Week and Severe Weather Awareness Week each November and April. Marshall County is a registered NOAA Weather-Ready Nation Ambassador and StormReady Community.</p>	Marshall County

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
7	Severe Winter Storms	Local Planning & Regulations	SNOW & ICE CONTROL Implement snow removal and ice control to ensure the safety of county roads impacted by winter storms.	Existing High Ongoing	Marshall County Hwy. Dept.	The MC Highway Dept. is responsible for the removal of snow and ice control for county roads, as well as some city and township roads based upon agreement. The department completes its snow removal process in accordance with the Marshall County Hwy Department Snow Removal Policy.	Marshall County
8	Severe Summer Storms	Education & Awareness Programs	SKYWARN TRAINING Work with the National Weather Service (NWS) to provide SkyWarn training and develop a network of trained Storm Spotters throughout the county.	Existing High Ongoing	MCEM in coord with NWS	MCEM works with the NWS to offer this training on an annual basis to local fire and law enforcement departments and local residents that wish to be trained as spotters.	National Weather Service
9	Severe Summer Storms	Mitigation Preparedness & Response Support	OUTDOOR WARNING SIRENS Ensure outdoor warning sirens are located where needed and functioning properly.	Existing High Ongoing	MCEM in coord with local jurisdictions	Marshall County Emergency Management and Marshall County Sheriff's Office work in conjunction with communities where sirens are located to test them and ensure they are functioning properly. The cities of Holt and Strandquist do not have warning sirens, nor does the Marshall County Fairgrounds. In addition, not all sirens are tied into the county's remote activation system. MCEM will work to close these gaps in warning siren coverage. Grant funding may be available for warning sirens from the USDA Rural Development Community Facilities Grant Program.	Marshall County & local jurisdictions
10	Severe Summer Storms	Structure & Infrastructure Projects	STORM SHELTERS / TORNADO SAFE ROOMS Coordinate with local jurisdictions to address the need for the construction of storm shelters or tornado safe rooms in areas where residents or visitors are vulnerable to high wind events, such as mobile home parks and campgrounds.	Existing High Ongoing	MCEM in coord with local jurisdictions	MCEM will assist any communities in their effort to assess and address the need for construction of a storm shelter or tornado safe room. Grant funding may be available for tornado safe rooms from FEMA Hazard Mitigation Assistance (HMA) grant program funding, based on application approval.	Marshall County, Local Gov't, FEMA HMA

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
11	Severe Summer Storms	Local Planning & Regulations	MHP SAFETY Ensure that licensed manufactured home parks (MHP's) within the county meet the requirements of MN Statute 327.20 for shelters and evacuation plans.	Existing High Ongoing	Marshall County Public Health	Marshall County Public Health works in coordination with the Minnesota Department of Health (MDH) on this effort. Shelter and evacuation plans must be approved by the city or township in which they are located and submitted to the MDH.	Marshall County, MDH
12	Severe Winter & Summer Storms	Structure & Infrastructure Projects	POWERLINE RETROFITS Encourage municipal and rural electric coops to address burying powerlines or strengthening power poles to avoid power outages from high wind events and storms.	Existing High Ongoing	MCEM, local jurisdictions in coord with electric utility providers	MCEM works with our utility coops and local governments on these efforts as needed. FEMA HMA grant funding may be a source for powerline infrastructure retrofits that eligible rural and municipal electric coops can apply for.	Electric Coops, FEMA HMA
13	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	GENERATOR BACKUPS Work with county departments and local jurisdictions to obtain generator backup power where needed for extended power outages due to storms.	Existing Moderate Ongoing	MCEM in coord with county depts and local jurisdictions	MCEM continues to work with county departments and local jurisdictions to secure portable or permanent backup generators to power critical facilities during extended power outages. Most of our County Courthouse (including our EOC) does not have any backup power, so this is a priority for the county. Where applicable, FEMA HMA grant funding may be applied for generators.	Marshall County, Local Gov't, FEMA HMA
14	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	SEVERE WEATHER PLANS Encourage schools and other facilities that house senior citizens or other vulnerable populations to have emergency plans in place to deal with severe weather, extreme temperatures, and extended power outages.	Existing Moderate Ongoing	MCEM in coord with local jurisdictions	MCEM continues to work with local jurisdictions provide outreach to and support to schools and other facilities on emergency planning. Schools and long-term care (LTC) facilities are required to have such plans in place. MCEM provides direct training or planning assistance as requested.	Marshall County, Schools, LTC Facilities

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
15	Severe Winter & Summer Storms	Local Planning & Regulations	BUILDING SAFETY Ensure that new development projects follow state building codes in order to withstand the impacts of severe weather events, including roof collapse from heavy snow or damages from high wind events.	Existing Moderate Ongoing	Marshall County Envr. Services	Marshall County Environmental Services Dept. oversees permits for new development. Marshall County recommends building to the specifications as provided by the State of Minnesota's Department of Labor and Industry in order to minimize financial burdens and potential safety hazards which can arise from poorly constructed buildings.	Marshall County
16	Severe Winter & Summer Storms	Natural Systems Protection	VEGETATION MANAGEMENT Manage trees and other vegetation along roads from severe storm events to reduce risk to passing motorists.	Existing Moderate Ongoing	MC Highway Dept., Local Utility Providers	Marshall County Highway Dept. regularly conducts vegetation management along county roads to reduce the risk of downed trees or branches resulting from severe spring and summer storm events. Local utility providers also work to manage vegetation near power lines to reduce the risk of downed lines and power outages.	County, Utilities
17	Extreme Cold Temps	Education & Awareness Programs	EXTREME COLD PUBLIC OUTREACH Conduct public outreach and provide information to residents on safety measures when there are periods of extreme cold.	Existing High Ongoing	MCEM	MCEM works to share information received from the National Weather Service when periods of extreme cold are forecast and occurring. MCEM utilizes the county EM website page, and EM Facebook. Local radio and TV stations also provide this information to the public. School Districts have plans and policies in place for delaying or closing school to protect students from extreme temps.	Marshall County
18	Landslides	Natural Systems Protection	SETBACK REQUIREMENTS Enforce Shoreland and Floodplain ordinances that include setbacks to reduce risk where flooding or erosion could occur and increase risk for landslides.	New Moderate 2024 - 2029	MC Highway Dept. in coor with MC Envr. Services and Davis Township	MC Environmental Services maintains and enforces Shoreland and Floodplain Ordinances that include setbacks from water sources and areas where flooding or erosion could occur. Within the Shoreland Ordinance, development is regulated in bluff impact zones.	Marshall County

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
19	Landslides	Local Planning & Regulations	MN STATE BUFFER LAW Enforce requirements of the MN State Buffer Law to help reduce impacts of erosion in areas that may be susceptible to landslides.	Existing Moderate Ongoing	MC Hwy. Dept. in coord with TRWD and SWCD	Marshall County adopted the requirements of the Minnesota Buffer Law as part of the Marshall County ordinances (adopted 03/06/2018). The Two Rivers Watershed District has also adopted the requirements of the MN Buffer Law on legal ditches for which they are the ditch authority. The purpose and intent of the law is to protect state water resources from erosion and runoff pollution; to stabilize soils, shores and banks; and to protect or provide riparian corridors. The Buffer Law is enforced by the Marshall County Highway Dept. in coordination with the Marshall Soil and Water Conservation District.	Marshall County, TRWD, SWCD
20	Flooding	Local Planning & Regulations	NATIONAL FLOOD INSURANCE PROGRAM Participate in the National Flood Insurance Program and enforce policies that address development in high-risk flood areas.	Existing High Ongoing	Marshall County Environmental Services	Marshall County participates in the NFIP and enforces requirements of the program. The Marshall County Floodplain Ordinance (03-02-2021) establishes the flood plain district and zoning regulations and conditional uses permitted within the floodway, flood fringe, and general floodplain districts. The Environmental Services Department maintains and enforces the floodplain management ordinance for the county.	Marshall County
21	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	LOCALIZED FLOOD RISK REDUCTION Plan for and implement measures to address localized flood reduction projects for roads, bridges, and culverts throughout the county.	Existing High Ongoing	MC Hwy. Dept.	The Marshall County Highway Department is responsible for the survey, design, construction, inspection, maintenance and repair of roads and bridges throughout the county. The Highway Department updates the county's Five-Year Construction Plan annually. This update involves adding a year to the program as well as updating or revising the other years within the program.	Marshall County

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
22	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	FLOOD MITIGATION & EMERGENCY PLANNING Work with communities at risk of large-scale flooding on evacuation plans and targeted flood risk reduction projects.	Existing High Ongoing	MCEM, MC Hwy. Dept, in coord with BTAG	MCEM and the MC Highway Dept. continue to work with the Border Township Associative Group (BTAG) to address road access and emergency routes for periods of flooding. The BTAG consists of area townships in Minnesota and North Dakota and the City of Oslo, MN. The group's mission is to mitigate flooding in the valley by removing flow restrictions, modifying bridges, and raising roads and levees.	Marshall County, BTAG
23	Flooding	Local Planning & Regulations	WATERSHED PLANNING Work with area watershed organizations to address mitigation plans and projects that address risk reduction for localized flooding and erosion.	Existing High Ongoing	MCEM, MC Envr. Services in coord with TRWD	MC Environmental Services participates in two regional, multi-county watershed planning efforts (Thief River 1W1P and Middle Snake Tamarack Rivers 1W1P). Both plans include considerations for flood risk areas within the regional watershed planning area.	Marshall County, TRWD, MSTRWD, SWCD
24	Flooding	Local Planning & Regulations	PROPERTY BUYOUTS Conduct property buyouts to acquire homes affected by repetitive flooding and physically relocate or remove those homes to eliminate future flood damages.	Existing Moderate Ongoing	MCEM	There are currently no potential property buyout projects identified by Marshall County. The county will continue to evaluate and assist with potential future property acquisition projects and application to FEMA or MN DNR for grant funding to conduct buyouts.	Marshall County, FEMA HMA
25	Flooding	Natural Systems Protection	RESTORATION PROJECTS Conduct floodplain and stream corridor restoration in areas that are impacted by high rain events.	Existing Moderate Ongoing	MC Envr. Services in coord with SWCD and other watershed groups	This is an ongoing effort of MC Environmental Services in coord with watershed district partners (TRWD, MSTWD), NRCS, and Marshall SWCD as projects are identified in the 1W1P regional plans. FEMA HMA grant funding may be sought for future eligible projects in the future.	TRWD, MSTWD, NRCS, SWCD, FEMA HMA
26	Flooding	Structure & Infrastructure Projects	FLOOD DIVERSION & STORAGE PROJECTS Construct flood diversion and storage projects as needed to reduce the impacts of high rain events on streams, rivers, or drainage systems which may result in localized or downstream flooding.	Existing Moderate 2023-2028	MC Envr. Services in coord with others	Marshall County Environmental Services is working with the City of Newforlden and the Middle Snake Tamarac Rivers Watershed District on the current flood mitigation diversion channel and impoundment project. The goal of the project is to provide flood protection to the City of Newforlden above the 1% flood threshold.	TRWD, City of Newforlden

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
27	Drought	Education & Awareness Programs	DROUGHT OUTREACH & EDUCATION Provide outreach and education to residents to be aware of watering restrictions, water conservation tips, and fire safety during periods of severe drought.	Existing High Ongoing	MCEM	MCEM continues to provide public outreach and education during heightened drought periods using the county website and social media platforms. MCEM encourages city and townships to promote drought awareness to residents at the local level.	Marshall County
28	Drought	Local Planning & Regulations	WATERING RESTRICTIONS Implement watering restrictions during periods of drought as per MN DNR guidance.	Existing High Ongoing	MCEM in coord with MN DNR and local jurisdictions	Marshall County and local jurisdictions will establish and enforce watering restrictions as per MN DNR guidelines during periods of severe drought.	Marshall County, Local Gov'ts
29	Dam/Levee Failure	Structure & Infrastructure Projects	DAM & LEVEE SAFETY Work with the MN DNR Dam Safety program to address any dams or levees that require repair.	Existing Low Ongoing	MN DNR	Marshall County continues to be available to work with the MN DNR on any issues that may arise with these structures within the county. There are no high hazard potential dams within the county.	MN DNR

Section 6 – Plan Maintenance

6.1 Monitoring, Evaluation, and Updating the Plan

The Marshall County Hazard Mitigation Plan (HMP) should be considered a living document. The plan should be updated and approved by FEMA at a minimum of every five years. The guidance in this section will function as the primary tool when reviewing progress on the implementation of the Marshall County HMP.

The Marshall County emergency management director (EMD) is the individual responsible for leading all efforts to monitor, evaluate, and update the hazard mitigation plan within the five-year window. Throughout the five-year planning cycle, the Marshall County EMD will work with an emergency managers group to help monitor, review, evaluate, and update the HMP. The group will include township representatives and designated city emergency managers from the cities of Alvarado, Argyle, Grygla, Holt, Middle River, Newfolden, Oslo, Stephen, Strandquist, Viking, and Warren, and include other city elected officials or staff as needed. Representatives from agencies or organizations that are involved with related mitigation work in the county as well as those that work with underserved communities or socially vulnerable populations will also be invited to participate in the group. The Marshall County EMD will conduct outreach to and communicate with the group on a quarterly basis on emergency management matters regarding severe weather awareness, local preparedness, mitigation, and response & recovery as needed. Additional stakeholders will be added based on need or in response to severe weather events.

If necessary, the Marshall County EMD will convene the group to meet on a more regular basis to monitor plan implementation progress and reassess needs and opportunities. This could be done in response to funding cycles of programs that provide resources for hazard mitigation activities. If there is a need for a special meeting due to new developments or a declared disaster occurring in the county, the group will meet to update pertinent mitigation strategies. Depending on Marshall County opportunities and fiscal resources, mitigation projects may be implemented independently by individual communities or through local partnerships.

The group will continue to review the HMP goals and objectives to determine their relevance to changing situations in Marshall County. In addition, state and federal policies will be reviewed to ensure they are addressing current and expected conditions. The group will also review the risk assessment portion of the plan to determine if this information should be updated or modified. The parties responsible for the various implementation actions will report on the status of their projects, and will include which implementation processes worked well, any difficulties encountered, how coordination efforts are proceeding, and which strategies should be revised.

Updates or modifications to the HMP during the five-year planning process will require a public notice and a meeting prior to submitting revisions to the individual jurisdictions for approval. The plan will be updated via written changes, submissions as the group deems appropriate and necessary, and as approved by county commissioners.

Throughout the five-year window of the plan, each respective county department and jurisdiction will be required to report on the status of mitigation actions in their charts to the Marshall County EMD so that progress notes may be maintained for the next plan update.

6.2 Implementation

Marshall County and its included municipalities share a common HMP and work together closely to develop, revise, and implement it. This HMP provides a comprehensive chart of mitigation actions for Marshall County and its jurisdictions (see Appendix H and Section 5.3). The cities of Alvarado, Argyle, Grygla, Holt, Middle River, Newfolden, Oslo, Stephen, Strandquist, Viking, and Warren participated in the HMP planning process and identified the specific mitigation strategies that they would seek to implement in their communities during the five-year planning cycle. These mitigation actions are provided in Appendix H.

A number of implementation tools are available to address hazards. Many of these tools are below; however, in some cases additional discussion is needed in order to identify what strategies are most appropriate to use. This will be part of an ongoing discussion as Marshall County looks for opportunities for plan implementation. The following tools will be considered:

Education: In many cases, education of residents has been identified as one of the most effective mitigation strategies.

Capital Investments: Capital investments such as fire and ambulance equipment, sprinkler systems, and dry hydrants are tools that can limit risks and impacts of natural and manmade hazards.

Data Collection and Needs Assessments: Data collection and needs assessments can aid in gaining a better understanding of threats and allow planning for mitigation strategies accordingly. As resources are limited for this part of the planning process, additional data collection is likely to be an ongoing activity as resources become available.

Coordination: Responsibilities for mitigation strategies run across various county departments, local fire and ambulance departments, city and township governments, and a host of state and federal agencies. Ongoing coordination is an important tool to ensure resources are used efficiently. Coordination can also avoid duplication of efforts or prevent gaps that are created because of unclear roles and responsibilities. The mitigation plan review process can function as a tool to have an ongoing discussion of roles, responsibilities, and opportunities for coordination.

Regional Cooperation: Counties and public safety services providers throughout the region often share similar challenges and concerns. In some cases, a regional approach may be warranted as a mitigation strategy in order to save resources. Mutual aid agreements are a tool already in use for a number of services. Needs assessments for fire and ambulance services and development of assistance for volunteer recruiting, training, and retention could benefit from a regional approach. Cooperation among counties could also help in lobbying for certain funding priorities that address concerns relating to challenges in service delivery in rural areas. Organizations such as FEMA Region 5 and the Minnesota Division of Homeland Security and Emergency Management (HSEM) through the Regional Program Director can offer tools and resources to assist in these cooperative efforts.

Regulation: Regulation is an important mitigation tool for Marshall County. Regulation plays a particularly important role for land use, access to structures, and the protection of water resources and public health.

6.3 Continued Public Involvement

Continued public involvement is critical to the successful implementation of the Hazard Mitigation Plan. The Marshall County Emergency Management Director and the emergency managers group will continue to engage new public stakeholders in planning discussions and project implementation during the five-year cycle of this plan.

To seek continued public participation after the plan has been approved and during the five-year window of implementation for this plan, Marshall County will take the following measures:

The Marshall County HMP website provides opportunities for continued public involvement and feedback

- The Marshall County HMP website link will be posted on the Marshall County Emergency Management website. The website provides a PDF of the plan for download and an interactive experience for the public to understand the planning process, where county-specific vulnerabilities lie, national best practices, as well as a chance to submit feedback. Collected feedback will be reviewed during the five-year plan cycle and will be noted for future update of the plan or addressed as necessary.
- Following any major storms or natural disasters, Marshall County Emergency Management will seek to gather concerns and new ideas for mitigation from local residents to include in the next update of the plan. This may be done through public meetings, outreach via social media, or news releases via local media.
- Each community participating in the plan will be responsible for keeping their local government, schools, and community members updated and engaged in the implementation of their respective mitigation action charts (see Appendix H or the Marshall County HMP website). Each respective jurisdiction will be required to report on the status of mitigation actions in their charts to the Marshall County EMD.
- Marshall County and its jurisdictions will use numerous means of public outreach to engage new public stakeholders in providing input on mitigation concerns, including those from underserved communities or socially vulnerable populations. Outreach methods may include presentations at city council or township board meetings, sharing information at special events, working with local schools and partner organizations, and posting information in areas that are used to communicate with the public (bulletin boards, websites, social media, and local media sources that communities use to inform and engage the public). As mitigation projects are implemented, jurisdictions will work to keep the public updated and engaged in those local efforts.

APPENDICES

Appendix A – References

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Appendix B – Adopting Resolutions

Appendix C – Local Mitigation Survey Report



Marshall County

Local Mitigation Survey Report

Overview

As part of Marshall County's 2023 Hazard Mitigation Plan update, participating jurisdictions and county personnel were asked to fill out a Local Mitigation Survey (LMS) form. The purpose of the survey was to gather jurisdictionally-specific information needed to support update of the plan and to help inform development of local-level mitigation actions for the next five-year planning cycle.

Following is a list of the jurisdictions that participated in the survey.

LMS Forms

Marshall County	Yes
City of Alvarado	Yes
City of Argyle	Yes
City of Grygla	Yes
City of Holt	Yes
City of Middle River	Yes
City of Newfolden	Yes
City of Oslo	Yes
City of Stephen	Yes
City of Strandquist	Yes
City of Viking	Yes
City of Warren	Yes

The following LMS Survey Report includes a copy of each jurisdiction's completed survey.

Marshall County

LOCAL MITIGATION SURVEY

Please fill out the Jurisdiction and Point of Contact information and Parts A, B, C, D, and E of this survey. Please be as specific as possible in your responses with information as it relates to your jurisdiction. It is strongly recommended to include government officials and staff to help provide detailed feedback.

Name of Jurisdiction: MARSHALL COUNTY

Point of Contact:

Name: Josh Johnston
Job Title: Marshall County Emergency Management Director
Phone: 218-745-5841
Email: josh.johnston@co.marshall.mn.us

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

HAZARD IDENTIFICATION

In the chart below, please identify the natural hazards that pose the greatest risk to your community. Consider past damaging events, likelihood of future events, and impacts to community assets. Rank the prioritization of hazards as high, moderate, or low. Only put an "X" next to those hazards that are of moderate to high priority. These will be addressed with localized mitigation actions.

Natural Hazard	Use an "X" to select the natural hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Note if you feel the risk has increased, decreased, or had no change over the last 5 years.
Winter Storms (Blizzards, Ice Storms)	X	Moderate	
Tornadoes	X	Moderate	Increased
Windstorms	X	Moderate	Increased
Lightning		Low	
Hail		Low	
Flooding	X	High	
Extreme Cold	X	Moderate	
Extreme Heat		Low	
Drought	X	Moderate	Increased
Wildfire		Low	
Landslides	X	Moderate	
Dam Failure		Low	

RECENT HAZARD EVENTS

Please describe any severe weather or disaster events that have occurred over the last 5 years that caused damages in your community or resulted in a state or federal disaster declaration.

Over the last five years Marshall County has experienced 8 State and Federal Disaster Declarations. High wind events caused local damages in 2020 and 2021 with both declared as State Disasters. State Disasters were declared for spring flooding in 2018, 2019, and 2020. In 2019 we had excessive rain events in the fall which caused another state disaster flood event. In 2022 we had wide spread flooding throughout the entire county, which was declared a Federal Disaster. It is looking like 2023 spring flooding is going to end up being another Federal Disaster.

LOCAL VULNERABILITIES

Use the chart below to identify what specific community assets are vulnerable to damages or loss from the hazards that pose risk to your community.

Natural Hazard (please list)	Vulnerability Assessment Describe <u>specific</u> community assets (infrastructure, systems, or populations) that are susceptible to damage or loss from hazard events.
Flooding	Many of our culverts, road crossing and road shoulders have washed out repeatedly in the past. These areas could be hardened by paving the embankments and shoulders. This practice has been done in some areas to great effect. We have had excessive ditch slumping in our county ditch systems.
Ice Storms, Blizzards	Most of our County Courthouse (including our EOC) does not have any backup power.
Windstorms and Tornadoes	We have 1 mobile home park within the county that does not have a storm shelter and residents are vulnerable to high wind and tornado events. Most of our County Courthouse (including our EOC) does not have any backup power. Our county campground is active during summer and fall months with RVs and campers but does have an outdoor warning siren.
Extreme Cold	Residents are susceptible to dangers from extreme cold, especially if the power goes down during winter storm events. We have a high population of senior citizens and low-income residents who are more vulnerable during these events. The shelter for the City of Warren and most of our County Courthouse (including our EOC) does not have any backup power.

REDUCTION IN VULNERABILITY

Please describe any actions your community has taken to reduce vulnerability against future severe weather or disaster events. This can include examples of any work that has been completed or is underway that reduces future risk.

Marshall County has paved shoulders of roads and around culverts to prevent erosion during flood events. We have used riprap, installed rock drop structures, and armor coated our ditch system to try mitigate further damages to the ditches in the future. In the past Marshall County has been involved with buying out flood prone structure in the floodplain.

INCREASE IN VULNERABILITY

Please describe any current conditions or changes you feel have increased your community's vulnerability to future severe weather or disaster events. Consider factors such as recent population growth or new development.

New technology in the agricultural sector has allowed more precise ditching which has caused water to runoff the land a lot faster then it had in the past. This has caused our ditch systems and river to become inundated at a much quicker pace then in the past.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

PUBLIC OUTREACH

Please describe what capabilities you have in place to communicate with those in your community to share information about severe weather events and personal preparedness. Please include any considerations for underserved communities or socially vulnerable populations within your jurisdiction.

Marshall County utilizes the Marshall County Website and Emergency Management website page, Marshall County Emergency Management Facebook page, and local news media to communicate with residents, visitors, schools, and long-term care facilities on emergency preparedness, severe weather, and other hazard conditions throughout the year.

EMERGENCY NOTIFICATION SYSTEM

Do you encourage residents in your community to sign up for the county's emergency notification system and/or a local emergency alert system? If yes, how? If not, is this something you would do?

Marshall County maintains the CodeRED Emergency Notification System which allows residents and visitors to sign up ("opt-in") to receive severe weather alerts targeted to their location, along with other local emergency alerts. A link to sign up for the system is located on the Marshall County Emergency Management website page. Marshall County has purchased the fully automated CodeRED Weather Warning, which increases the speed at which residents are notified.

LOCAL PLANS & AUTHORITIES

Please describe any local plans, authorities or policies in place that help to reduce risk from natural hazards in your community. Please make note of enforcement of existing building codes and land use and development ordinances or regulations as they apply to your community. Please also note if your community has any plans or policies in place related to resilience and adaptation for climate change.

All Hazards Emergency Operations Plan: Marshall County Emergency Management maintains an all-hazards Emergency Operations Plan (EOP) which lays out concepts and operating guidelines for all incident management and support functions that may be needed to ensure life safety, incident stabilization, and property preservation during an incident and the transition to recovery.

Snow Removal & Ice Control: The Marshall County Highway Department is responsible for the removal of snow and ice control for county roads, as well as some city and township roads based upon agreement. The department completes its snow removal process in accordance with the Marshall County Hwy Department Snow Removal Policy. MNDOT removes snow from State Highways as well as disperses salt/sand as needed.

Manufactured Home Parks Shelters & Evacuation Plans: Marshall County Public Health works in coordination with the Minnesota Department of Health (MDH) to ensure that licensed manufactured home parks within the county meet the requirements of MN Statute 327.20 for shelters and evacuation plans. Shelter and evacuation plans must be approved by the city or township in which they are located and submitted to the Minnesota Department of Health.

Building Code Enforcement: Marshall County Environmental Services adheres to the MN State Building Code and encourages other cities to enforce the code.

National Flood Insurance Program (NFIP): Marshall County has FEMA Mapped High Risk Areas and participates in the NFIP. Initial entry date into the program was 07/18/1983.

Floodplain Ordinance: The Marshall County Floodplain Ordinance (03-02-2021) establishes the flood plain district and zoning regulations and conditional uses permitted within the floodway, flood fringe, and general floodplain districts. The Environmental Services Department maintains and enforces the floodplain management ordinance for the county.

Shoreland Ordinance: The Marshall County Shoreland Ordinance (10-19-2017) establishes policies for the wise subdivision, use and development of shorelands of public waters within the county, including policies that support flood mitigation, such as establishing requirements for new development in accordance with floodplain regulations. Conditional uses allowable within shoreland areas are subject to review and approval procedures by the Marshall County Environmental Services Department.

Comprehensive Land Use Plan: The Marshall County Comprehensive Land Use Plan (September, 2000) outlines the major development policies for the county. Policy 4, Natural Resources Management addresses continuation of Floodplain Management for the county.

Subdivision Ordinance: Marshall County Floodplain Ordinance includes Section 8.0 – Subdivision Standards. This section of the ordinance addresses review criteria for subdivision of land within flood plain districts. Manufactured homes and manufactured home parks are subject to applicable standards for each floodplain district.

Five Year Transportation Plan: The Marshall County Highway Department is responsible for the survey, design, construction, inspection, maintenance and repair of roads and bridges throughout the county. The Highway Department updates the county's Five-Year Construction Plan annually. This update involves adding a year to the program as well as updating or revising the other years within the program.

Emergency Evacuation Flood Plans: Marshall County Emergency Management and the Marshall County Highway Department continue to work with the City of Oslo and the Border Township Associative Group to address road access and emergency routes for periods of flooding.

Minnesota Buffer Law: Marshall County adopted the requirements of the Minnesota Buffer Law as is part of the Marshall County ordinances (adopted 03/06/2018). The Two Rivers Watershed District has also adopted the requirements of the MN Buffer Law on legal ditches for which they are the ditch authority. The purpose and intent of the law is to protect state water resources from erosion and runoff pollution; to stabilize soils, shores and banks; and to protect or provide riparian corridors. The Buffer Law is enforced by the Marshall County Environmental Services Department in coordination with the Marshall Soil and Water Conservation District.

Setback Requirements: Marshall County maintains and enforces Shoreland and Floodplain Ordinances that include setbacks from water sources and areas where flooding or erosion could occur. Within the Shoreland Ordinance, development is regulated in bluff impact zones.

Thief River One-Watershed One Plan (1W1P): The Thief River 1W1P was approved by the Board of Water and Soil Resources on March 25, 2020, and adopted locally. The Marshall SWCD was appointed Plan Coordinator and the Red Lake Watershed District was appointed the fiscal agent for implementing the plan. Local units of government participating in the Thief River Comprehensive Watershed Management Plan include: Marshall, Beltrami, and Pennington Counties; Marshall, Beltrami, and Pennington SWCDs; and the Red Lake Watershed District. The plan includes considerations for flood risk areas within the regional watershed planning area.

Middle Snake Tamarac Rivers One Watershed One Plan: The Middle Snake Tamarac Rivers 1W1P was approved by the Board of Water and Soil Resources on August 25, 2022, and adopted locally. The Marshall SWCD was appointed Plan Coordinator and the Middle Snake Tamarac Rivers Watershed District was appointed the fiscal agent for implementing the plan. Local units of government participating in the MSTR Comprehensive Watershed Management Plan include: Marshall, Polk, Pennington, Kittson, and Roseau Counties; Marshall, West Polk, Pennington, Kittson, and Roseau SWCDs; and the Middle Snake Tamarac Rivers Watershed District. The plan includes considerations for flood risk areas within the regional watershed planning area.

STAFF & PARTNERSHIPS

Please describe what staff or partnerships are in place to help accomplish mitigation in your community. This can include specific department staff or outside agencies that have a role with mitigation-related planning.

Marshall County staff partner together to help accomplish mitigation goals, these staff include the Emergency Management Director, Sheriff's Office administrative staff, Marshall County Highway Department, Marshall County Public Health (North Valley Health Center), Marshall County Environmental Services, Marshall County SWCD, and Marshall County GIS.

Marshall County has a strong relationship with the Grand Forks National Weather Service (NWS) Forecast Office, having access to all live and on-demand briefings, announcements, and educational opportunities, and contact information for direct collaboration as needed. The county also receives all products/statements issued by the NWS, and in turn shares or incorporates these into its community outreach and public education. Marshall County Emergency Management has partnered with the NWS to receive spot forecasts for large events.

Marshall County is a registered NOAA and NWS Weather-Ready Nation Ambassador and StormReady Community, supporting initiatives to improve readiness, responsiveness, and overall resilience to

weather, water, and climate events. As an ambassador, the county promotes weather-ready messages and themes to our stakeholders, engages with NOAA personnel on collaborative opportunities, shares success stories of preparedness and resiliency, and educates employees, partners, and the public on preparedness actions. As a StormReady Community, the county meets specific guidelines on how to improve hazardous weather operations.

Marshall County Emergency Management coordinates with local school districts as needed on related emergency planning and preparedness, including support for specific trainings, exercises, equipment, and relay of county-level emergency notifications.

Marshall County Emergency Management works closely with the MN HSEM Region 3 regional program coordinator and county emergency managers on a range of planning, training, and exercises to support all-hazards preparedness, mitigation, response, and recovery capabilities. Marshall County is also a party of the Region 3 HSEM Joint Powers Board Mutual Aid Agreement, allowing equipment, personnel, and other resources available to each Party upon request.

In the event of a disaster or other hazardous situation where temporary housing and basic human services are needed, Marshall County Emergency Management works in coordination with local Fire and EMS, Marshall County Public Health, Marshall County Social Services, and the American Red Cross to provide mass care services as needed.

Marshall County works with the Border Township Associative Group (BTAG) on flood mitigation emergency planning. The BTAG consists of area townships in Minnesota and North Dakota and the City of Oslo, MN. The group's mission is to mitigate flooding in the valley by removing flow restrictions, modifying bridges, and raising roads and levees.

The Marshall County Soil & Water Conservation District provides access to natural resource management and conservation services and provides technical, financial, and educational assistance to landowners to address natural resource and mitigation concerns for flooding and erosion.

PROGRAMS IN PLACE

Describe any programs in place that to help reduce risk from natural hazards in your community.

NOAA Weather Radios: Marshall County Emergency Management promotes the use of NOAA Weather Radios by local residents, businesses, schools, long term care facilities, government buildings, faith communities, and other places of common gathering. NOAA Weather Radios broadcast continuous weather information directly from the nearest National Weather Service office, including warnings, watches, forecasts, and other hazard information 24 hours a day, 7 days a week. They are an important tool to be able to receive information, particularly in the event of extended power outages where updates from local media and cell phone apps may not be available.

Weather-Ready Nation Ambassador / StormReady Community: Marshall County is a registered NOAA and NWS Weather-Ready Nation Ambassador and StormReady Community, supporting initiatives to improve readiness, responsiveness, and overall resilience to weather, water, and climate events. As an ambassador, the county promotes weather-ready messages and themes to our stakeholders, engages with NOAA personnel on collaborative opportunities, shares success stories of preparedness and resiliency, and educates employees, partners, and the public on preparedness actions. As a StormReady Community, the county meets specific guidelines on how to improve hazardous weather operations.

National Weather Service – Severe Weather Awareness Weeks: Marshall County participates in the annual Winter Hazard Awareness Week and Severe Weather Awareness Week campaigns sponsored by MN HSEM and the NWS each November and April. Each week-long effort provides specific information each day covering the topics of severe weather winter weather, outdoor winter safety, indoor winter safety, and winter driving safety. Marshall County Emergency Management promotes and shares information during the week via social media which communities, schools, churches or other civic programs are encouraged to share locally.

SkyWarn Storm Spotter Training: Marshall County works with the NWS to offer Storm Spotter training on an annual basis to local fire and law enforcement departments and local residents that wish to be trained as spotters. SkyWarn Storm Spotters help to keep their local communities safe by providing timely and accurate reports of severe weather to their local NWS office.

Vegetation Management: The Marshall County Highway Department regularly conducts vegetation management along county roads to reduce the risk of downed trees or branches resulting from severe spring and summer storm events. They are also the Ditch Authority for Marshall County, conducting the management, repair, and maintenance of public ditches. Local utility providers also work to manage vegetation near power lines to reduce the risk of downed lines and power outages.

FUNDING & OTHER RESOURCES

Please describe what sorts of funding or other resources are available to help accomplish mitigation in your community. Please make note of any work with outside organizations or agencies or municipal/rural electrical coop providers.

The Marshall SWCD applies for Federal and State grant dollars every year to address erosion and water quality issues throughout the county. This money is used to provide cost-share to landowners with erosion problems that otherwise would not be addressed due to the high cost of the projects.

The Marshall County Highway Department has received hazard mitigation funds post disasters from FEMA and HSEM to mitigate road and ditch flooding impacts.

PART C: LOCAL MITIGATION PROJECTS

LOCAL MITIGATION PROJECTS

Please describe mitigation actions that would help to reduce risk to your community from future natural hazards events. The development of mitigation actions must emphasize activities that reduce risk to existing buildings, structures, and infrastructure as well as limit risk to new development and redevelopment. The range of actions should also include activities that benefit any underserved communities or socially vulnerable populations within your community.

- Encourage all county residents to sign-up for the county's emergency notification alert system.
- Provide ongoing education and outreach to residents on personal preparedness for severe weather, extreme temperatures, and extended power outages. Coordinate with local jurisdictions to share information locally.

- Ensure the county's Emergency Operations Plan (EOP) is updated and addresses policies & procedures needed to support EM functions prior to, during, and following a disaster.
- Ensure designated facilities are in place and prepared for providing mass care sheltering and county staff are trained in sheltering operations.
- Work with municipalities / rural electric coops to encourage them to address burying powerlines or strengthening power poles to avoid power outages from high wind events and storms.
- Address the safety of county, city, and township roads in winter through snow removal and ice control.
- Ensure there is a network of trained Storm Spotters throughout the county to support situational awareness of and public notification for dangerous storms such as severe thunderstorms and tornadoes.
- Work with county departments and local jurisdictions to acquire generator backup power to support critical infrastructure and delivery of essential services during an extended power outage due to storms.
- Encourage schools and long-term facilities that house senior citizens or other vulnerable populations to have emergency plans and generators in place to deal with severe weather, extreme temperatures and power outages.
- Work with owners of mobile home parks (MHP's) to ensure they are in compliance with Minnesota Department of Health (MDH) requirements for evacuation plans and storm shelters.
- Work with local governments to ensure the functionality of outdoor warnings sirens to warn residents of dangerous high wind or tornado events.
- Provide assistance to local jurisdictions that require purchase & installation of new outdoor warning sirens and ensure they are connected to the county's remote activation system.
- Work in coordination with local jurisdictions to address the need for the construction of storm shelters or tornado safe rooms in locations where residents and visitors are vulnerable to high wind events, such as mobile home parks, municipal campgrounds, and other public areas.
- Conduct outreach to residents to be aware of water restrictions, water conservation tips, and fire safety during periods of severe drought.
- Continue to participate in the National Flood Insurance Program and enforce policies that address development in high-risk flood areas.
- Continue to enforce ordinances and policies within the county's code of ordinances to support reduction of risk to existing buildings, structures, and infrastructure as well as to limit risk to new development and redevelopment. This includes shoreland regulations, setback limits, and floodplain regulations.

- Plan for and implement measures to address localized flood reduction projects for roads, bridges, and culverts throughout the county such as hardening public roads, bridges, and installing high-flow culverts to mitigate recurring flood damages. Additional projects may include paving shoulders of roads, paving or adding rip-rap around culverts, and adding rip-rap to the banks of ditches and streams. These projects may be in coordination between the county, SWCD, and other area watershed districts and in accordance with other existing plans.
- Continue to work in partnership with the Soil & Water Conservation District and other watershed partners to address mitigation plans, policies, and projects that address risk reduction for localized flooding and erosion.
- Continue to address shoreland zoning regulations and stormwater management to mitigate impacts from high rain events, especially for areas of new development and population growth within the county.
- Conduct property buyouts to acquire homes affected by repetitive flooding and physically relocate or remove those homes to eliminate future flood damages.
- Conduct soil stabilization and slope management projects in unstable areas for sediment and erosion control resulting from high rain events.
- Conduct floodplain and stream corridor restoration in areas that are impacted by high rain events.
- Construct flood diversion and storage projects were identified as needed to reduce the impacts of high rain events on streams, rivers, or drainage systems which may result in localized or downstream flooding.
- Work with the City of Newfolden and the Middle Snake Tamarac Rivers Watershed District on the current flood mitigation diversion channel and impoundment project.
- Work with the City of Oslo and the Border Township Associative Group (BTAG) on projects to mitigate flooding and allow access to the City of Oslo during flooding events along the Red River.

GAPS OR DEFICIENCIES

Please describe any specific gaps or deficiencies that are a barrier to implementing local mitigation measures.

Communications: Not all Marshall County residents are signed up for our CodeRED Emergency Notification System, have NOAA weather radios, or use social media to follow our EM Facebook page to receive important messages. Ongoing continued public education needs to be done to encourage people to utilize these resources.

Backup Power: Not all county, city, and other incident support facilities (e.g., public safety/emergency services stations, designated mass care shelters, etc.) have generator backup power in the event of

extended power outages. County and local government funding to purchase generators is limited and obtaining generators can be a slow process.

Project Funding: Finding funding for the implementation of mitigation projects is a barrier. The county, townships, and cities have limited funding for mitigation activities such as infrastructure improvements for flood mitigation, updating outdoor warning sirens, or constructing storm shelter or tornado safe rooms in areas where people are vulnerable to high wind events. Outside grant funding is necessary and can be difficult to obtain.

PART D: NATIONAL FLOOD INSURANCE PROGRAM (NFIP) INFORMATION

Does your community participate in the NFIP?

Yes, Marshall County participates in the NFIP.

If NO, and your community is in a FEMA mapped area, please describe why the community does not participate in the NFIP.

N/A

If YES (your community participates NFIP), please provide descriptive information on how your community works to meet NFIP requirements below:

1. NFIP. Adoption of NFIP minimum floodplain management criteria via local regulation.

- Provide the **original date of a floodplain ordinance adoption** for NFIP enrollment. [for implementation and enforcement of local floodplain management regulations to regulate and permit development in Special Flood Hazard Areas]

July 19, 1983

- Provide the adoption date of your **current** floodplain ordinance.

March 2nd, 2021

- Provide the effective date of your **current** floodplain ordinance (usually when it has been published publicly).

March 3rd, 2021

2. Contacts. Please provide names and emails for your:

- Floodplain Administrator – Josh Johnston, josh.johnston@co.marshall.mn.us
- Engineering Contact – Lon Aune, lon.aune@co.marshall.mn.us

3. As part of the new hazard mitigation plan requirements, your community must demonstrate that you know the process to implement substantial improvement/substantial damage provisions of their floodplain management regulations after an event. These questions will help us meet those requirements.

- Do you know of any existing buildings in the FEMA mapped floodplain?

Yes

- Does your community use a form to track cumulative improvements and repetitive losses in the floodplain (for example see Evaluating Cumulative Improvements and Cumulative Damages section in the DNR sample form) -please attach or link the form.

Yes

- Have you reviewed the Local Official Playbook substantial improvement/substantial damage ?

Yes

PART E: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey. Also provide an approximate amount of time of their participation.

Josh Johnston, Emergency Management Director, 6 hours

Scott Jorgenson, Emergency Management Deputy Director, 2 hours

Lon Aune, County Engineer, 1 hour

Marshall County

LOCAL MITIGATION SURVEY

Please fill out the Jurisdiction and Point of Contact information and Parts A, B, C, D, and E of this survey. Please be as specific as possible in your responses with information as it relates to your jurisdiction. It is strongly recommended to include government officials and staff to help provide detailed feedback.

Name of Jurisdiction: CITY OF ALVARADO

Point of Contact:

Name: Nick Syverson
Job Title: Utilities Superintendent
Phone: 218-965-4501
Email: alvarado@wiktel.com

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

HAZARD IDENTIFICATION

In the chart below, please identify the natural hazards that pose the greatest risk to your community. Consider past damaging events, likelihood of future events, and impacts to community assets. Rank the prioritization of hazards as high, moderate, or low. Only put an "X" next to those hazards that are of moderate to high priority. These will be addressed with localized mitigation actions.

Natural Hazard	Use an "X" to select the natural hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Note if you feel the risk has increased, decreased, or had no change over the last 5 years.
Winter Storms (Blizzards, Ice Storms)	X	Moderate	No change
Tornadoes	X	Moderate	No change
Windstorms	X	Moderate	No change
Lightning	X	Low	No change
Hail	X	Low	No change
Flooding	X	High	No change
Extreme Cold	X	Low	No change
Extreme Heat			
Drought			
Wildfire			
Landslides			
Dam Failure			

RECENT HAZARD EVENTS

Please describe any severe weather or disaster events that have occurred over the last 5 years that caused damages in your community or resulted in a state or federal disaster declaration.

On May of 2022 we experienced high rain fall and spring flooding.

LOCAL VULNERABILITIES

Use the chart below to identify what specific community assets are vulnerable to damages or loss from the hazards that pose risk to your community.

Natural Hazard (please list)	Vulnerability Assessment Describe <u>specific</u> community assets (infrastructure, systems, or populations) that are susceptible to damage or loss from hazard events.
Flooding	Alvarado's largest vulnerability is in a large flood event with severe rain, we risk overloading the sanitary sewer system.

REDUCTION IN VULNERABILITY

Please describe any actions your community has taken to reduce vulnerability against future severe weather or disaster events. This can include examples of any work that has been completed or is underway that reduces future risk.

In May 2022, we purchased an additional floating pump, and an inline plug for the pond discharge to prevent river back flow.

INCREASE IN VULNERABILITY

Please describe any current conditions or changes you feel have increased your community's vulnerability to future severe weather or disaster events. Consider factors such as recent population growth or new development.

No increase in vulnerability.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

PUBLIC OUTREACH

Please describe what capabilities you have in place to communicate with those in your community to share information about severe weather events and personal preparedness. Please include any considerations for underserved communities or socially vulnerable populations within your jurisdiction.

Information is posted at City Hall.

EMERGENCY NOTIFICATION SYSTEM

Do you encourage residents in your community to sign up for the county's emergency notification system and/or a local emergency alert system? If yes, how? If not, is this something you would do?

Our city currently does not, but could post a flyer at City Hall.

LOCAL PLANS & AUTHORITIES

Please describe any local plans, authorities or policies in place that help to reduce risk from natural hazards in your community. Please make note of enforcement of existing building codes and land use and development ordinances or regulations as they apply to your community. Please also note if your community has any plans or policies in place related to resilience and adaptation for climate change.

We enforce the clearance of the dike and prevent people from unauthorized use.

STAFF & PARTNERSHIPS

Please describe what staff or partnerships are in place to help accomplish mitigation in your community. This can include specific department staff or outside agencies that have a role with mitigation-related planning.

The fire department has a new warning siren. We have a city engineer and a public works supt. and assistant to address new emergencies.

PROGRAMS IN PLACE

Describe any programs in place that to help reduce risk from natural hazards in your community.

The city uses the national weather service to forecast the river height to determine what steps need to be taken to prevent flooding in the city.

FUNDING & OTHER RESOURCES

Please describe what sorts of funding or other resources are available to help accomplish mitigation in your community. Please make note of any work with outside organizations or agencies or municipal/rural electrical coop providers.

The city primarily uses our own budget to address mitigation projects. We are also a member of MnWARN.

PART C: LOCAL MITIGATION PROJECTS

LOCAL MITIGATION PROJECTS

Please describe mitigation actions that would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address the local vulnerabilities you have identified.

- Continue to address stormwater management to prevent river backflow and other localized flooding.
- Encourage residents to sign up for the county's CodeRED emergency notification system and to be prepared for severe weather events. (we feel that several residents use this already)
- Maintain the city's outdoor warning siren (Fire Dept).

GAPS OR DEFICIENCIES

Please describe any specific gaps or deficiencies that are a barrier to implementing local mitigation measures.

We are a small city with limited financial and staff resources to address local mitigation projects.

PART D: NATIONAL FLOOD INSURANCE PROGRAM (NFIP) INFORMATION

Does your community participate in the NFIP?

Yes

If NO, and your community is in a FEMA mapped area, please describe why the community does not participate in the NFIP.

N/A

If YES (your community participates NFIP), please provide descriptive information on how your community works to meet NFIP requirements below:

1. NFIP. Adoption of NFIP minimum floodplain management criteria via local regulation.

- Provide the **original date of a floodplain ordinance adoption** for NFIP enrollment. [for implementation and enforcement of local floodplain management regulations to regulate and permit development in Special Flood Hazard Areas]

March 12, 1996

- Provide the adoption date of your **current** floodplain ordinance.

January 19, 2021

- Provide the effective date of your **current** floodplain ordinance (usually when it has been published publicly).

January 27, 2021

2. Contacts. Please provide names and emails for your:

- Floodplain Administrator: Nick Syverson, Utilities Supt., alvarado@wiktel.com
- Engineering Contact (optional): Dustin Fanfulik, Widseth, Dustin.Fanfulik@widseth.com
- Additional Floodplain Contact (optional)

3. As part of the new hazard mitigation plan requirements, your community must demonstrate that you know the process to implement substantial improvement/substantial damage provisions of their floodplain management regulations after an event. These questions will help us meet those requirements.

- Do you know of any existing buildings in the FEMA mapped floodplain?

None

- Does your community use a form to track cumulative improvements and repetitive losses in the floodplain (for example see Evaluating Cumulative Improvements and Cumulative Damages section in [the DNR sample form](#)) -please attach or link the form.

No

- Have you reviewed the [Local Official Playbook](#) substantial improvement/substantial damage ?

No

PART E: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey. Also provide an approximate amount of time of their participation.

Nick Syverson, Utilities Superintendent, 3 hours

Jill Fanfulik, Clerk-Treasurer, 2 hours

Marshall County

LOCAL MITIGATION SURVEY

Please fill out the Jurisdiction and Point of Contact information and Parts A, B, C, D, and E of this survey. Please be as specific as possible in your responses with information as it relates to your jurisdiction. It is strongly recommended to include government officials and staff to help provide detailed feedback.

Name of Jurisdiction: CITY OF ARGYLE

Point of Contact:

Name: Tamara Benitt
Job Title: City Clerk
Phone: 218-437-6621
Email: argyle@wiktel.com

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

HAZARD IDENTIFICATION

In the chart below, please identify the natural hazards that pose the greatest risk to your community. Consider past damaging events, likelihood of future events, and impacts to community assets. Rank the prioritization of hazards as high, moderate, or low. Only put an "X" next to those hazards that are of moderate to high priority. These will be addressed with localized mitigation actions.

Natural Hazard	Use an "X" to select the natural hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Note if you feel the risk has increased, decreased, or had no change over the last 5 years.
Winter Storms (Blizzards, Ice Storms)	X	Low	No change
Tornadoes			
Windstorms	X	Moderate	No change
Lightning			
Hail			
Flooding	X	Moderate	No change
Extreme Cold	X	Low	No change
Extreme Heat			
Drought			
Wildfire			
Landslides			
Dam Failure			

RECENT HAZARD EVENTS

Please describe any severe weather or disaster events that have occurred over the last 5 years that caused damages in your community or resulted in a state or federal disaster declaration.

May 19 & 20 – 2021 Heavy Rain/Flash Flood

The event caused our sanitary sewer lift station by-pass system pumps to break and resulted in major pump repairs. We had to purchase a new pump. There was storm drain washouts and manhole washouts. There was quite a bit of debris (leaves, cat tails, sand, & grass) cleanup for plugged storm sewers and hauling away.

Spring 2022 Flood/Heavy Rain

The event caused extreme pumping hours on our storm water system. There was damage to the main lift controllers. We had to put to wastewater ponds on emergency by-pass. There were potholes and washouts by storm drains. There was extensive tree debris cleanup of tree trimming and stump grinding from the fallen trees at the parks and streets. The Argyle Volunteer Fire Department had to sandbag some areas of town. Our gravel street was closed due to major washouts.

LOCAL VULNERABILITIES

Use the chart below to identify what specific community assets are vulnerable to damages or loss from the hazards that pose risk to your community.

Natural Hazard (please list)	Vulnerability Assessment Describe <u>specific</u> community assets (infrastructure, systems, or populations) that are susceptible to damage or loss from hazard events.
Windstorm	The city is always susceptible to damage of branches and trees due to high winds.
Winter Storm/ Extreme Cold	Ice storms and heavy snow may bring down trees, branches, and overhead power lines. If the electricity goes out, there is no heat for many residents and businesses. Due to the frost, many areas suffer from frost boils.
Flooding	Flooding causes our storm water pumping hours to increase significantly. There is debris cleanup. One of the nearby fields flows into the city storm sewer system and since the system cannot keep up, it causes street flooding.

REDUCTION IN VULNERABILITY

Please describe any actions your community has taken to reduce vulnerability against future severe weather or disaster events. This can include examples of any work that has been completed or is underway that reduces future risk.

Increased Facebook usage and made many repairs to storm drains.

INCREASE IN VULNERABILITY

Please describe any current conditions or changes you feel have increased your community's vulnerability to future severe weather or disaster events. Consider factors such as recent population growth or new development.

No increases.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

PUBLIC OUTREACH

Please describe what capabilities you have in place to communicate with those in your community to share information about severe weather events and personal preparedness. Please include any considerations for underserved communities or socially vulnerable populations within your jurisdiction.

We post information on our city website and Facebook page. We also post information on bulletin boards in the Bank, Mall, and Post Office. We also send a monthly newsletter with reminders.

EMERGENCY NOTIFICATION SYSTEM

Do you encourage residents in your community to sign up for the county's emergency notification system and/or a local emergency alert system? If yes, how? If not, is this something you would do?

No, our city does not do this currently, but we could post flyers at the City Hall, Bank, Senior Center, Mall, and Post Office. We could put the link to the county website on our city website.

LOCAL PLANS & AUTHORITIES

Please describe any local plans, authorities or policies in place that help to reduce risk from natural hazards in your community. Please make note of enforcement of existing building codes and land use and development ordinances or regulations as they apply to your community. Please also note if your community has any plans or policies in place related to resilience and adaptation for climate change.

The city does enforce the City Code zoning requirements for new developments.

STAFF & PARTNERSHIPS

Please describe what staff or partnerships are in place to help accomplish mitigation in your community. This can include specific department staff or outside agencies that have a role with mitigation-related planning.

Our utility superintendent is the city's director of Emergency Management. Our City Council includes a Public Safety Committee. Our County Engineer conducts bridge inspections. Also, our city utility superintendent addresses road maintenance. The Argyle Fire Department is available to assist with sandbagging.

PROGRAMS IN PLACE

Describe any programs in place that to help reduce risk from natural hazards in your community.

Our elementary school practices tornado drills on an annual basis. We have replaced our siren with a multi-directional one to warn surrounding area of tornadoes. Each spring and winter we do encourage residents to maintain their sump pumps to reduce the chances of basement flooding. We have an Emergency Preparedness policy in effect.

FUNDING & OTHER RESOURCES

Please describe what sorts of funding or other resources are available to help accomplish mitigation in your community. Please make note of any work with outside organizations or agencies or municipal/rural electrical coop providers.

The city primarily uses its own budget to address mitigation projects. We are a member of MnWARN.

PART C: LOCAL MITIGATION PROJECTS

LOCAL MITIGATION PROJECTS

Please describe mitigation actions that would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address the local vulnerabilities you have identified.

- Windstorm/Tornadoes – We could advertise better that the school is the public storm shelter. Also have a plan established to have this area available and open during the extreme events.
- Flooding – We could purchase additional pumps in the event of flooding. Enforce city's sump pump ordinance to minimize impacts on city stormwater system.
- Summer Storm- Install a permanent generator for fast, easy access when electricity goes out during storm events so the lift station can still run and prevent backups.
- Encourage residents to sign up for county's emergency notification system by posting the information so all residents can be informed of upcoming weather events.

GAPS OR DEFICIENCIES

Please describe any specific gaps or deficiencies that are a barrier to implementing local mitigation measures.

Not all our residents are signed up for the county's emergency notification system. We are a small city with limited financial and staff resources to address local mitigation projects like a nearby field's grade. A nearby field's runoff runs into the city storm water system. The grade of the field also floods adjacent property.

PART D: NATIONAL FLOOD INSURANCE PROGRAM (NFIP) INFORMATION

Does your community participate in the NFIP?

Yes

If NO, and your community is in a FEMA mapped area, please describe why the community does not participate in the NFIP.

N/A

If YES (your community participates NFIP), please provide descriptive information on how your community works to meet NFIP requirements below:

1. NFIP. Adoption of NFIP minimum floodplain management criteria via local regulation.

- Provide the **original date of a floodplain ordinance adoption** for NFIP enrollment. [for implementation and enforcement of local floodplain management regulations to regulate and permit development in Special Flood Hazard Areas]

8/16/1985

- Provide the adoption date of your **current** floodplain ordinance.

3/3/21

- Provide the effective date of your **current** floodplain ordinance (usually when it has been published publicly).

3/6/21

2. Contacts. Please provide names and emails for your:

- Floodplain Administrator : Tamara Benitt – argyle@wiktel.com
- Engineering Contact (optional)
- Additional Floodplain Contact (optional): Tony Safranski – argyleshop@wiktel.com

3. As part of the new hazard mitigation plan requirements, your community must demonstrate that you know the process to implement substantial improvement/substantial damage provisions of their floodplain management regulations after an event. These questions will help us meet those requirements.

- Do you know of any existing buildings in the FEMA mapped floodplain?

Yes

- Does your community use a form to track cumulative improvements and repetitive losses in the floodplain (for example see Evaluating Cumulative Improvements and Cumulative Damages section in [the DNR sample form](#)) -please attach or link the form.

No

- Have you reviewed the [Local Official Playbook](#) substantial improvement/substantial damage ?

No

PART E: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey. Also provide an approximate amount of time of their participation.

Tamara Benitt, City Clerk, 3 hours

Marshall County

LOCAL MITIGATION SURVEY

Please fill out the Jurisdiction and Point of Contact information and Parts A, B, C, D, and E of this survey. Please be as specific as possible in your responses with information as it relates to your jurisdiction. It is strongly recommended to include government officials and staff to help provide detailed feedback.

Name of Jurisdiction: CITY OF GRYGLA

Point of Contact:

Name: Rose Aune
Job Title: Clerk/Treasurer
Phone: 218-689-0416
Email: roseaune16@gmail.com

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

HAZARD IDENTIFICATION

In the chart below, please identify the natural hazards that pose the greatest risk to your community. Consider past damaging events, likelihood of future events, and impacts to community assets. Rank the prioritization of hazards as high, moderate, or low. Only put an "X" next to those hazards that are of moderate to high priority. These will be addressed with localized mitigation actions.

Natural Hazard	Use an "X" to select the natural hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Note if you feel the risk has increased, decreased, or had no change over the last 5 years.
Winter Storms (Blizzards, Ice Storms)	X	High	No change
Tornadoes	X	Moderate	No change
Windstorms	X	Moderate	No change
Lightning	X	Moderate	No change
Hail	X	Moderate	No change
Flooding	X	High	No change
Extreme Cold	X	High	No change
Extreme Heat		Low	No change
Drought	X	Moderate	No change
Wildfire	X	Moderate	No change
Landslides		Low	No change
Dam Failure		Low	No change

RECENT HAZARD EVENTS

Please describe any severe weather or disaster events that have occurred over the last 5 years that caused damages in your community or resulted in a state or federal disaster declaration.

In April/May, 2022 we experienced a major rain event that caused street flooding and flooding along the south side of the dike by the Mud River.

LOCAL VULNERABILITIES

Use the chart below to identify what specific community assets are vulnerable to damages or loss from the hazards that pose risk to your community.

Natural Hazard (please list)	Vulnerability Assessment Describe <u>specific</u> community assets (infrastructure, systems, or populations) that are susceptible to damage or loss from hazard events.
Extreme Cold	<p>Residents are susceptible to dangers from extreme cold, especially if the power goes down during winter storm events. Damage to roads and gate valves, sewer & storm drains. We had the water tower freeze up before.</p> <p>We have a high population of senior citizens and also low-income residents who are more vulnerable during these events.</p> <p>In the past we have experienced frozen & broken water services and some residential homes experienced burst pipes from extended extreme cold.</p>

REDUCTION IN VULNERABILITY

Please describe any actions your community has taken to reduce vulnerability against future severe weather or disaster events. This can include examples of any work that has been completed or is underway that reduces future risk.

There was a dike built along Mud River 20+ years ago. All of the storm sewers along Hwy 89 will be fixed in 2024. We have requested bigger flood pumps from the county in the past, but haven't received those yet. The city has also increased use of our website and Facebook page to communicate with residents on emergency preparedness.

INCREASE IN VULNERABILITY

Please describe any current conditions or changes you feel have increased your community's vulnerability to future severe weather or disaster events. Consider factors such as recent population growth or new development.

It would help if the retention pond was drained more in the fall. It would help if debris was removed in the ditches, to help prevent ice jams.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

PUBLIC OUTREACH

Please describe what capabilities you have in place to communicate with those in your community to share information about severe weather events and personal preparedness. Please include any considerations for underserved communities or socially vulnerable populations within your jurisdiction.

We post information on our Facebook page and use the PublicAlert system. We also post information on bulletin boards at the Café, bank, store and at the Post Office. We also make special announcements at City Council meetings.

EMERGENCY NOTIFICATION SYSTEM

Do you encourage residents in your community to sign up for the county's emergency notification system and/or a local emergency alert system? If yes, how? If not, is this something you would do?

No, our city does not do this currently, but we could post a flyer on it at City Hall, the Senior Center, and put a link to the county website on our city website.

LOCAL PLANS & AUTHORITIES

Please describe any local plans, authorities or policies in place that help to reduce risk from natural hazards in your community. Please make note of enforcement of existing building codes and land use and development ordinances or regulations as they apply to your community. Please also note if your community has any plans or policies in place related to resilience and adaptation for climate change.

The city has a sump pump ordinance in place to minimize impacts to the city's stormwater system.

STAFF & PARTNERSHIPS

Please describe what staff or partnerships are in place to help accomplish mitigation in your community. This can include specific department staff or outside agencies that have a role with mitigation-related planning.

Our Asst Fire Chief is the city's designated Emergency Manager. Our City Council includes a Public Safety Committee. We have a city engineer and a public works director that address road maintenance issues for flooding (culverts, repetitive flooding). We have our own municipal utility that is responsible for mitigating against power outages. We have worked with MN DNR Forestry to implement wildfire mitigation measures to reduce risk of fire in woodland areas adjacent to residential areas. We have worked with the county emergency manager to address upgrade of our warning siren and local flooding issues. We just purchased a new siren and waiting for it to get installed.

PROGRAMS IN PLACE

Describe any programs in place that to help reduce risk from natural hazards in your community.

Our city works with the county to participate in the National Weather Service's annual Severe Winter/Spring Weather Awareness Week by posting severe weather awareness information out on our city Facebook page. Our local school practices tornado drills on an annual basis.

FUNDING & OTHER RESOURCES

Please describe what sorts of funding or other resources are available to help accomplish mitigation in your community. Please make note of any work with outside organizations or agencies or municipal/rural electrical coop providers.

The city primarily uses its own budget to address mitigation projects. We have also worked closely with the county highway engineer on local flood mitigation projects for roads and the county zoning department when we updated our local floodplain ordinance. We are applying for grant funds from the USDA Community Development Grant Program to install a new water tower, well house, and repairs at the lift station. We are a member of MnWARN. We received funds from FEMA for the 2022 flood. We received funds to purchase a new flood pump. Roseau Electric cut trees out of the path of the powerlines.

PART C: LOCAL MITIGATION PROJECTS

LOCAL MITIGATION PROJECTS

Please describe mitigation actions that would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address the local vulnerabilities you have identified.

- Windstorms and Tornadoes - We just purchased a new siren and waiting for it to get installed. Our existing warning siren is outdated and needs to be connected to the county system. Work with the local mobile home park owner to address the need for a storm shelter or tornado safe room. Right now the trailer court residents and the campers need to go to the school, a few blocks away.
- Flooding - Update and enforce our floodplain ordinance to address areas of new development. Implementing new storm sewer upgrades as construction projects in 2024. Purchase additional pumps in the event of flooding. Work with the city and county engineer on local flood reduction measures. Enforce the city's sump pump ordinance to minimize impacts to the city's stormwater system.
- Drought – Establish and enforce watering use restrictions when in periods of severe drought.
- Severe Winter / Summer Storms – Post information on the city's website and local bulletin boards to encourage residents to sign up for the county's emergency notification system. Participate in the National Weather Service's – Severe Weather Awareness Weeks. The fire department has a generator to be used at the Community Center, which is our designated community mass care shelter.
- Extreme Cold – Encourage local residents to be prepared for periods of extreme cold and potential power outages. Alert residents to the dangers of extreme cold and freezing pipes. Work with the local apartments to be prepared with emergency plans for extended power outages or other emergencies.

GAPS OR DEFICIENCIES

Please describe any specific gaps or deficiencies that are a barrier to implementing local mitigation measures.

Not all our residents are signed up for the county's emergency notification system. . We have poor bandwidth on cell service for pagers during hunting, Fall Fest, and Indy 500 race and notifications on severe weather can be delayed. We need to update our city's long-range Comprehensive Plan to address considerations for future hazard events such as flooding. We are a small city with limited financial and staff resources to address local mitigation projects.

PART D: NATIONAL FLOOD INSURANCE PROGRAM (NFIP) INFORMATION

Does your community participate in the NFIP?

Yes

If NO, and your community is in a FEMA mapped area, please describe why the community does not participate in the NFIP.

N/A

If YES (your community participates NFIP), please provide descriptive information on how your community works to meet NFIP requirements below:

1. NFIP. Adoption of NFIP minimum floodplain management criteria via local regulation.

- Provide the **original date of a floodplain ordinance adoption** for NFIP enrollment. [for implementation and enforcement of local floodplain management regulations to regulate and permit development in Special Flood Hazard Areas]

Not sure

- Provide the adoption date of your **current** floodplain ordinance.

11/19/20

- Provide the effective date of your **current** floodplain ordinance (usually when it has been published publicly).

2/8/21

2. Contacts. Please provide names and emails for your:

- Floodplain Administrator Josh Johnston & Scott Jergenson
- Engineering Contact (optional)

- Additional Floodplain Contact (optional)

3. As part of the new hazard mitigation plan requirements, your community must demonstrate that you know the process to implement substantial improvement/substantial damage provisions of their floodplain management regulations after an event. These questions will help us meet those requirements.

- Do you know of any existing buildings in the FEMA mapped floodplain?

No

- Does your community use a form to track cumulative improvements and repetitive losses in the floodplain (for example see Evaluating Cumulative Improvements and Cumulative Damages section in [the DNR sample form](#)) -please attach or link the form.

No

- Have you reviewed the [Local Official Playbook](#) substantial improvement/substantial damage ?

No

PART E: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey. Also provide an approximate amount of time of their participation.

Rose Aune, City Clerk/Treasurer, 5.5 hours

Devin Ruud, Mayor, 2.5 hours

Rocky Hagen, Public Works Director, 3 hours

Brad Monson, City Emergency Manager/Asst Fire Chief, 2.5 hours

Marshall County

LOCAL MITIGATION SURVEY

Please fill out the Jurisdiction and Point of Contact information and Parts A, B, C, D, and E of this survey. Please be as specific as possible in your responses with information as it relates to your jurisdiction. It is strongly recommended to include government officials and staff to help provide detailed feedback.

Name of Jurisdiction: CITY OF MIDDLE RIVER

Point of Contact:

Name: Teresa Anderson
Job Title: City Administrator / Clerk
Phone: 218-222-3608
Email: citymiddleriver@wiktel.com

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

HAZARD IDENTIFICATION

In the chart below, please identify the natural hazards that pose the greatest risk to your community. Consider past damaging events, likelihood of future events, and impacts to community assets. Rank the prioritization of hazards as high, moderate, or low. Only put an "X" next to those hazards that are of moderate to high priority. These will be addressed with localized mitigation actions.

Natural Hazard	Use an "X" to select the natural hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Note if you feel the risk has increased, decreased, or had no change over the last 5 years.
Winter Storms (Blizzards, Ice Storms)	X	Low	No change
Tornadoes	X	Moderate	
Windstorms	X	Moderate	No change
Lightning	X	Moderate	No change
Hail	X	Moderate	No change
Flooding	X	Moderate	No change
Extreme Cold	X	Moderate	No change
Extreme Heat		Low	No change
Drought	X	Moderate	No change
Wildfire	X	Moderate	No change
Landslides		Low	No change
Dam Failure			

RECENT HAZARD EVENTS

Please describe any severe weather or disaster events that have occurred over the last 5 years that caused damages in your community or resulted in a state or federal disaster declaration.

Spring 2022 Flood/Heavy Rain/Snow Melt

The event caused extreme pumping hours on our storm water system. The Middle River Volunteer Fire Department / local schools had to sandbag some areas of town. Our gravel street was closed due to major washouts. Manholes gave way, due to the flooding. Many people had water in their basements.

LOCAL VULNERABILITIES

Use the chart below to identify what specific community assets are vulnerable to damages or loss from the hazards that pose risk to your community.

Natural Hazard (please list)	Vulnerability Assessment Describe <u>specific</u> community assets (infrastructure, systems, or populations) that are susceptible to damage or loss from hazard events.
Windstorm	The city is always susceptible to damage of branches and trees due to high winds.
Winter Storm/ Extreme Cold	Ice storms and heavy snow may bring down trees, branches, and overhead power lines. If the electricity goes out, there is no heat for many residents and businesses. Due to the frost, many areas suffer from frost boils.
Flooding	Flooding causes our storm water pumping hours to increase significantly. There is debris cleanup. Damage to roads, yards. The city has experienced damages to roads from spring frost heaves, frozen culverts that cause localized flooding.

REDUCTION IN VULNERABILITY

Please describe any actions your community has taken to reduce vulnerability against future severe weather or disaster events. This can include examples of any work that has been completed or is underway that reduces future risk.

We are planning to make repairs to storm drains this fall.

INCREASE IN VULNERABILITY

Please describe any current conditions or changes you feel have increased your community's vulnerability to future severe weather or disaster events. Consider factors such as recent population growth or new development.

No increases.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

PUBLIC OUTREACH

Please describe what capabilities you have in place to communicate with those in your community to share information about severe weather events and personal preparedness. Please include any considerations for underserved communities or socially vulnerable populations within your jurisdiction.

We post information on our city website and Facebook page. We also post information on bulletin boards in the Legacy Center, the Bank, and the Post Office. We also send a quarterly newsletter with reminders. The Fire Department will host weather warning classes.

EMERGENCY NOTIFICATION SYSTEM

Do you encourage residents in your community to sign up for the county's emergency notification system and/or a local emergency alert system? If yes, how? If not, is this something you would do?

No, our city does not do this currently.

LOCAL PLANS & AUTHORITIES

Please describe any local plans, authorities or policies in place that help to reduce risk from natural hazards in your community. Please make note of enforcement of existing building codes and land use and development ordinances or regulations as they apply to your community. Please also note if your community has any plans or policies in place related to resilience and adaptation for climate change.

The City of Middle River does enforce the City Code zoning requirements for new developments.

STAFF & PARTNERSHIPS

Please describe what staff or partnerships are in place to help accomplish mitigation in your community. This can include specific department staff or outside agencies that have a role with mitigation-related planning.

The City of Middle River participates in the Life in the Wild Regional Safety Group. Our City Council includes a Public Safety Committee. Our County Engineer conducts bridge inspections. We have Council Members, who address road maintenance. The Middle River Fire Department is available to assist with sandbagging. The city works with the Fire Department Chief in case of any emergency.

PROGRAMS IN PLACE

Describe any programs in place that to help reduce risk from natural hazards in your community.

Each spring and winter we encourage residents to maintain their sump pumps to reduce the chances of basement flooding.

FUNDING & OTHER RESOURCES

Please describe what sorts of funding or other resources are available to help accomplish mitigation in your community. Please make note of any work with outside organizations or agencies or municipal/rural electrical coop providers.

The city primarily uses its own budget to address mitigation projects. We are a member of MnWarn. We received funds from FEMA for the 2022 flood. We received funds to repair damaged roadways and storm drain covers. Ottertail Electric has cut trees out of the path of the powerlines.

PART C: LOCAL MITIGATION PROJECTS

LOCAL MITIGATION PROJECTS

Please describe mitigation actions that would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address the local vulnerabilities you have identified.

- Windstorm/Tornadoes – We could research to see if the Legacy Center could be a public storm shelter. Also have a plan established to have this area available and open during the extreme events.
- Summer Storm- Install a permanent generator for fast, easy access when electricity goes out during storm events so the lift station can still run and prevent backups.
- Encourage residents to sign up for county's emergency notification system by posting the information so all residents can be informed of upcoming weather events.

GAPS OR DEFICIENCIES

Please describe any specific gaps or deficiencies that are a barrier to implementing local mitigation measures.

Not all our residents are signed up for the county's emergency notification system. We are a small city with limited financial and staff resources to address local mitigation projects.

PART D: NATIONAL FLOOD INSURANCE PROGRAM (NFIP) INFORMATION

Does your community participate in the NFIP?

Yes.

If NO, and your community is in a FEMA mapped area, please describe why the community does not participate in the NFIP.

N/A

If YES (your community participates NFIP), please provide descriptive information on how your community works to meet NFIP requirements below:

1. NFIP. Adoption of NFIP minimum floodplain management criteria via local regulation.

- Provide the **original date of a floodplain ordinance adoption** for NFIP enrollment. [for implementation and enforcement of local floodplain management regulations to regulate and permit development in Special Flood Hazard Areas]

1/5/1984

- Provide the adoption date of your **current** floodplain ordinance.

3/13/2021

- Provide the effective date of your **current** floodplain ordinance (usually when it has been published publicly).

3/13/2021

2. Contacts. Please provide names and emails for your:

- Floodplain Administrator: Teresa Anderson – citymiddleriver@wiktel.com
- City Engineer: Joel Paulson – japengineer@gmail.com
- Fire Chief: Nathan Bukowski

3. As part of the new hazard mitigation plan requirements, your community must demonstrate that you know the process to implement substantial improvement/substantial damage provisions of their floodplain management regulations after an event. These questions will help us meet those requirements.

- Do you know of any existing buildings in the FEMA mapped floodplain?

No

- Does your community use a form to track cumulative improvements and repetitive losses in the floodplain (for example see Evaluating Cumulative Improvements and Cumulative Damages section in [the DNR sample form](#)) -please attach or link the form.

No

- Have you reviewed the [Local Official Playbook](#) substantial improvement/substantial damage ?

No

PART E: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey. Also provide an approximate amount of time of their participation.

Teresa Anderson, City Administrator / Clerk, 3 hours
Dave Casanova, Mayor, 1.5 hours

Marshall County

LOCAL MITIGATION SURVEY

Please fill out the Jurisdiction and Point of Contact information and Parts A, B, C, D, and E of this survey. Please be as specific as possible in your responses with information as it relates to your jurisdiction. It is strongly recommended to include government officials and staff to help provide detailed feedback.

Name of Jurisdiction: CITY OF NEWFOLDEN

Point of Contact:

Name: Tammy Hansen
Job Title: City Administrator
Phone: 218-874-7135
Email: newfolden@wiktel.com

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

HAZARD IDENTIFICATION

In the chart below, please identify the natural hazards that pose the greatest risk to your community. Consider past damaging events, likelihood of future events, and impacts to community assets. Rank the prioritization of hazards as high, moderate, or low. Only put an "X" next to those hazards that are of moderate to high priority. These will be addressed with localized mitigation actions.

Natural Hazard	Use an "X" to select the natural hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Note if you feel the risk has increased, decreased, or had no change over the last 5 years.
Winter Storms (Blizzards, Ice Storms)	X	Moderate	No change
Tornadoes			
Windstorms	X	Moderate	No change
Lightning			
Hail			
Flooding	X	High	No change
Extreme Cold	X	High	No change
Extreme Heat			
Drought			
Wildfire			
Landslides			
Dam Failure			

RECENT HAZARD EVENTS

Please describe any severe weather or disaster events that have occurred over the last 5 years that caused damages in your community or resulted in a state or federal disaster declaration.

Sandbagging is typically required on the East Side of Newfolden, during the spring thaw. This area is currently within the 100 year floodplain. Wind has led to downed trees and other infrastructure, which has impacted power lines and electric service to the community.

LOCAL VULNERABILITIES

Use the chart below to identify what specific community assets are vulnerable to damages or loss from the hazards that pose risk to your community.

Natural Hazard (please list)	Vulnerability Assessment Describe <u>specific</u> community assets (infrastructure, systems, or populations) that are susceptible to damage or loss from hazard events.
Flooding	The portion of Newfolden that lies East of US Highway 59 has been recently mapped as being within the 100-year floodplain. A railroad track/culvert system acts as a dam across the Middle River. This risks several households, the Cooperative Elevator, a city park and rental property. Any sanitary and wastewater infrastructure that are located in the 100-year floodplain are susceptible to flooding as well as any other structures in the same areas.
Ice Storms, Blizzards	Much of the city's municipal electrical service consists of overhead power lines and electrical poles. Those overhead lines and power poles are prone to failure in ice storms and blizzards with heavy snowfall and high winds that may bring down trees and branches.
Windstorms	Our municipal campground is active during summer and fall months with RVs and campers and does not have a storm shelter. Many homes in new developments are built on slab with no basement. These residents are at greater risk during severe wind events.
Extreme Cold	Residents are susceptible to dangers from extreme cold, especially if the power goes down during winter storm events. We have a high population of senior citizens and also low-income residents who are more vulnerable during these events. In the past we have experienced frozen water and sewer services and some residential homes experienced burst pipes from extended extreme cold. The city has experienced damages to roads from spring frost heaves, frozen culverts that cause localized flooding.

REDUCTION IN VULNERABILITY

Please describe any actions your community has taken to reduce vulnerability against future severe weather or disaster events. This can include examples of any work that has been completed or is underway that reduces future risk.

We are working with the MSTRWD on a flood mitigation project. We are anticipating to have Newfolden removed from the 100-year floodplain within the next 1 to 2 years. In 2021, the City of Newfolden adopted a Floodplain ordinance to comply with FEMA regulations and protect vulnerable properties.

INCREASE IN VULNERABILITY

Please describe any current conditions or changes you feel have increased your community's vulnerability to future severe weather or disaster events. Consider factors such as recent population growth or new development.

None.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

PUBLIC OUTREACH

Please describe what capabilities you have in place to communicate with those in your community to share information about severe weather events and personal preparedness. Please include any considerations for underserved communities or socially vulnerable populations within your jurisdiction.

We post on our city website and Facebook. We post on the Community Center and Post Office Bulletin. We also have a monthly newsletter.

EMERGENCY NOTIFICATION SYSTEM

Do you encourage residents in your community to sign up for the county's emergency notification system and/or a local emergency alert system? If yes, how? If not, is this something you would do?

Yes. We are able to access the County's Code Red Alert system in case of an emergency. We are looking into an alternative website with emergency notifications as a secondary option.

LOCAL PLANS & AUTHORITIES

Please describe any local plans, authorities or policies in place that help to reduce risk from natural hazards in your community. Please make note of enforcement of existing building codes and land use and development ordinances or regulations as they apply to your community. Please also note if your community has any plans or policies in place related to resilience and adaptation for climate change.

We have a planning and zoning ordinance for land use and construction oversight.

STAFF & PARTNERSHIPS

Please describe what staff or partnerships are in place to help accomplish mitigation in your community. This can include specific department staff or outside agencies that have a role with mitigation-related planning.

Our Fire Chief is the city's designated Emergency Manager. We have a city engineer and a public works director that address road maintenance issues for flooding (culverts, repetitive flooding). We have our own municipal utility that is responsible for mitigating against power outages. We have worked with the county emergency manager to address upgrade of our warning siren and local flooding issues.

PROGRAMS IN PLACE

Describe any programs in place that to help reduce risk from natural hazards in your community.

Our city works with the county to participate in the National Weather Service's annual Severe Winter/Spring Weather Awareness Week by posting severe weather awareness information out on our city Facebook page. Our local school practices tornado drills on an annual basis. Each spring and winter we do outreach to encourage residents to maintain their sump pumps to reduce the chances of basement flooding. We also monitor sump pump discharge to reduce the burden to our sewer system. The city has a program to manage vegetation near powerlines to reduce risk of power outages during storms.

FUNDING & OTHER RESOURCES

Please describe what sorts of funding or other resources are available to help accomplish mitigation in your community. Please make note of any work with outside organizations or agencies or municipal/rural electrical coop providers.

We are working closely with the Middle Snake Tamarac Rivers Watershed District on flood mitigation efforts. We serve as our own electric utility and work to transition from overhead to underground whenever possible. We also trim trees and debris from electric lines annually.

PART C: LOCAL MITIGATION PROJECTS

LOCAL MITIGATION PROJECTS

Please describe mitigation actions that would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address the local vulnerabilities you have identified.

- Continue working with the Middle-Snake-Two Rivers Watershed District (MSTRWD) on our flood mitigation project. We are anticipating to have Newfolden removed from the 100-year floodplain within the next 1 to 2 years.
- Work to address the need for a storm shelter at our municipal campground.
- Continue doing public outreach for severe weather awareness. Our city works with the county to participate in the National Weather Service's annual Severe Winter/Spring Weather Awareness Week by posting severe weather awareness information out on our city Facebook page.
- Continue the city's program to manage vegetation near powerlines to reduce risk of power outages during storms.

GAPS OR DEFICIENCIES

Please describe any specific gaps or deficiencies that are a barrier to implementing local mitigation measures.

None noted.

PART D: NATIONAL FLOOD INSURANCE PROGRAM (NFIP) INFORMATION

Does your community participate in the NFIP?

Yes

If NO, and your community is in a FEMA mapped area, please describe why the community does not participate in the NFIP.

N/A

If YES (your community participates NFIP), please provide descriptive information on how your community works to meet NFIP requirements below:

1. NFIP. Adoption of NFIP minimum floodplain management criteria via local regulation.

- Provide the **original date of a floodplain ordinance adoption** for NFIP enrollment. [for implementation and enforcement of local floodplain management regulations to regulate and permit development in Special Flood Hazard Areas]

February 16, 2021

- Provide the adoption date of your **current** floodplain ordinance.

February 16, 2021

- Provide the effective date of your **current** floodplain ordinance (usually when it has been published publicly).

February 21, 2021

2. Contacts. Please provide names and emails for your:

- Floodplain Administrator: Tammy Hansen, City Administrator, newfolden@wikel.com
- Engineering Contact (optional):
- Additional Floodplain Contact (optional)

3. As part of the new hazard mitigation plan requirements, your community must demonstrate that you know the process to implement substantial improvement/substantial damage provisions of their floodplain management regulations after an event. These questions will help us meet those requirements.

- Do you know of any existing buildings in the FEMA mapped floodplain?

Yes

- Does your community use a form to track cumulative improvements and repetitive losses in the floodplain (for example see Evaluating Cumulative Improvements and Cumulative Damages section in [the DNR sample form](#)) -please attach or link the form.

No

- Have you reviewed the [Local Official Playbook](#) substantial improvement/substantial damage ?

No

PART E: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey. Also provide an approximate amount of time of their participation.

Tammy Hansen, City Administrator, 2 hours

Marshall County

LOCAL MITIGATION SURVEY

Please fill out the Jurisdiction and Point of Contact information and Parts A, B, C, D, and E of this survey. Please be as specific as possible in your responses with information as it relates to your jurisdiction. It is strongly recommended to include government officials and staff to help provide detailed feedback.

Name of Jurisdiction: CITY OF OSLO

Point of Contact:

Name: Debbie Goschke
Job Title: Clerk/Treasurer
Phone: 218-695-3841
Email: cityoffice@OsloMN.com

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

HAZARD IDENTIFICATION

In the chart below, please identify the natural hazards that pose the greatest risk to your community. Consider past damaging events, likelihood of future events, and impacts to community assets. Rank the prioritization of hazards as high, moderate, or low. Only put an "X" next to those hazards that are of moderate to high priority. These will be addressed with localized mitigation actions.

Natural Hazard	Use an "X" to select the natural hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Note if you feel the risk has increased, decreased, or had no change over the last 5 years.
Winter Storms (Blizzards, Ice Storms)	X	High	No change
Tornadoes	X	Low	No change
Windstorms	X	High	No change
Lightning	X	High	No change
Hail	X	Low	No change
Flooding	X	High	Increased
Extreme Cold	X	High	No change
Extreme Heat			
Drought			
Wildfire	X	Low	No change
Landslides			
Dam Failure			

RECENT HAZARD EVENTS

Please describe any severe weather or disaster events that have occurred over the last 5 years that caused damages in your community or resulted in a state or federal disaster declaration.

In 2019 there were 3 high water events, the city's stormwater pumps ran excessively, all gatewells in the city's levee were closed. There was a lot of infiltration of the city's sanitary sewer system. In 2022 there was a flood and severe weather that came along with the flood. The city has to monitor the levee when it reaches a moderate flood stage, along with this, gate-wells closed, and the railroad stop logs have to be put into the levee.

LOCAL VULNERABILITIES

Use the chart below to identify what specific community assets are vulnerable to damages or loss from the hazards that pose risk to your community.

Natural Hazard (please list)	Vulnerability Assessment Describe <u>specific</u> community assets (infrastructure, systems, or populations) that are susceptible to damage or loss from hazard events.
Flooding	Our sanitary sewer system can get overwhelmed in high rain events.
	The south side of the city's levee gets erosion during flooding when there is a south wind. The city has to lay down poly and sandbags to mitigate some of the damage. The Gate-wells all have to be closed and the storm water pumps are used to get the storm water out of the levee.
Ice Storms	The city's electrical services are overhead power and electrical poles. There can be failure of the services when there are ice storms and blizzards with heavy snowfall, ice or high winds.
Windstorms	There is a mobile home area that does not have a storm shelter. The only storm shelter that the city has is the public restrooms at the park. There is no storm shelter at our city's boat ramp.
Extreme Cold	All of our residents will be susceptible to the extreme cold if the power goes out during a storm event.

REDUCTION IN VULNERABILITY

Please describe any actions your community has taken to reduce vulnerability against future severe weather or disaster events. This can include examples of any work that has been completed or is underway that reduces future risk.

The city uses a Public Alert System to communicate with residents.

INCREASE IN VULNERABILITY

Please describe any current conditions or changes you feel have increased your community's vulnerability to future severe weather or disaster events. Consider factors such as recent population growth or new development.

No increase in vulnerability.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

PUBLIC OUTREACH

Please describe what capabilities you have in place to communicate with those in your community to share information about severe weather events and personal preparedness. Please include any considerations for underserved communities or socially vulnerable populations within your jurisdiction.

The city has a Public Alert System.

EMERGENCY NOTIFICATION SYSTEM

Do you encourage residents in your community to sign up for the county's emergency notification system and/or a local emergency alert system? If yes, how? If not, is this something you would do?

The city has a siren for any weather emergencies and has a public alert system that can be used as well. All residents with utility accounts are signed up for the public alert system.

LOCAL PLANS & AUTHORITIES

Please describe any local plans, authorities or policies in place that help to reduce risk from natural hazards in your community. Please make note of enforcement of existing building codes and land use and development ordinances or regulations as they apply to your community. Please also note if your community has any plans or policies in place related to resilience and adaptation for climate change.

The city works with the US Corp of Engineers on anything related to the city's levee.

STAFF & PARTNERSHIPS

Please describe what staff or partnerships are in place to help accomplish mitigation in your community. This can include specific department staff or outside agencies that have a role with mitigation-related planning.

The city has an appointed Emergency Manager which is our Fire Chief. The city also has an outside engineering company that we engage if needed.

PROGRAMS IN PLACE

Describe any programs in place that to help reduce risk from natural hazards in your community.

None noted.

FUNDING & OTHER RESOURCES

Please describe what sorts of funding or other resources are available to help accomplish mitigation in your community. Please make note of any work with outside organizations or agencies or municipal/rural electrical coop providers.

City funding.

PART C: LOCAL MITIGATION PROJECTS

LOCAL MITIGATION PROJECTS

Please describe mitigation actions that would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address the local vulnerabilities you have identified.

- Flooding - The city is working with the US Corp of Engineers regarding the south side of the levee erosion problems.
- Severe Winter/Summer Storms - The city participates in the National Weather Services – Severe Weather Awareness Week.

GAPS OR DEFICIENCIES

Please describe any specific gaps or deficiencies that are a barrier to implementing local mitigation measures.

The city does not have a website or Facebook page, so the Clerk/Treasurer encourages all residents to sign up for the Public Alert system.

PART D: NATIONAL FLOOD INSURANCE PROGRAM (NFIP) INFORMATION

Does your community participate in the NFIP?

Yes

If NO, and your community is in a FEMA mapped area, please describe why the community does not participate in the NFIP.

N/A

If YES (your community participates NFIP), please provide descriptive information on how your community works to meet NFIP requirements below:

1. NFIP. Adoption of NFIP minimum floodplain management criteria via local regulation.

- Provide the **original date of a floodplain ordinance adoption** for NFIP enrollment. [for implementation and enforcement of local floodplain management regulations to regulate and permit development in Special Flood Hazard Areas]

August 25, 1982

- Provide the adoption date of your **current** floodplain ordinance.

December 8, 2020

- Provide the effective date of your **current** floodplain ordinance (usually when it has been published publicly).

December 8, 2020

2. Contacts. Please provide names and emails for your:

- Floodplain Administrator – Debbie Goschke, City Clerk, cityoffice@OsloMN.com
- Engineering Contact (optional) – Melissa Knutson – CPS Engineering
- Additional Floodplain Contact (optional)

3. As part of the new hazard mitigation plan requirements, your community must demonstrate that you know the process to implement substantial improvement/substantial damage provisions of their floodplain management regulations after an event. These questions will help us meet those requirements.

- Do you know of any existing buildings in the FEMA mapped floodplain?

No

- Does your community use a form to track cumulative improvements and repetitive losses in the floodplain (for example see Evaluating Cumulative Improvements and Cumulative Damages section in [the DNR sample form](#)) -please attach or link the form.

No

- Have you reviewed the [Local Official Playbook](#) substantial improvement/substantial damage ?

No

PART E: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey. Also provide an approximate amount of time of their participation.

Deb Goschke, City Clerk, 4 hrs.

Marshall County

LOCAL MITIGATION SURVEY

Please fill out the Jurisdiction and Point of Contact information and Parts A, B, C, D, and E of this survey. Please be as specific as possible in your responses with information as it relates to your jurisdiction. It is strongly recommended to include government officials and staff to help provide detailed feedback.

Name of Jurisdiction: CITY OF STEPHEN

Point of Contact:

Name: Brett Kuznia
Job Title: City Clerk
Phone: 218-478-3614
Email: cityclerk@stephenmn.com

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

HAZARD IDENTIFICATION

In the chart below, please identify the natural hazards that pose the greatest risk to your community. Consider past damaging events, likelihood of future events, and impacts to community assets. Rank the prioritization of hazards as high, moderate, or low. Only put an "X" next to those hazards that are of moderate to high priority. These will be addressed with localized mitigation actions.

Natural Hazard	Use an "X" to select the natural hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Note if you feel the risk has increased, decreased, or had no change over the last 5 years.
Winter Storms (Blizzards, Ice Storms)	X	High	No Change
Tornadoes	X	Moderate	No Change
Windstorms	X	Moderate	No Change
Lightning	X	Moderate	No Change
Hail	X	Moderate	No Change
Flooding	X	High	No Change
Extreme Cold	X	High	No Change
Extreme Heat		Low	No Change
Drought		Low	No Change
Wildfire		Low	No Change
Landslides		Low	No Change
Dam Failure	X	Moderate	No Change

RECENT HAZARD EVENTS

Please describe any severe weather or disaster events that have occurred over the last 5 years that caused damages in your community or resulted in a state or federal disaster declaration.

- In July 2020, we had a lightning strike that damaged property at the Tamarac Senior Living Center.
- In April 2021, our city dock at the river launch was ruined by flood/high water of the Tamarac River.
- In May 2021, we had lightning strike one of our lift stations and it damaged the pump, so we had to replace the pump.
- In May 2022, we had a windstorm event that caused damage to the roofing/shingles on our swimming pool bath house and our cemetery vault building.
- In Spring 2022, we had heavy rain events which caused us to have to do an emergency discharge at our lagoon because of the amount of water in the ponds.
- In May 2023, we had a road/culvert wash out at our city dumpsite due to overland flooding near the Tamarac River.

LOCAL VULNERABILITIES

Use the chart below to identify what specific community assets are vulnerable to damages or loss from the hazards that pose risk to your community.

Natural Hazard (please list)	Vulnerability Assessment Describe <u>specific</u> community assets (infrastructure, systems, or populations) that are susceptible to damage or loss from hazard events.
Extreme Cold	Residents are susceptible to dangers during extreme cold events. If the power were to go down for long periods of time during winter storms many residents would not have heat during time of need. We have a lot of senior citizens in the city and low-income residents who are more vulnerable during these times. We also must worry about our underground infrastructure (water pipes) freezing up or breaking from long periods of extreme cold.
Windstorms/Tornadoes	Our municipal campground is active during summer and fall months with RVs and campers. Also, our swimming pool is over by the campground area and we only have a storm shelter on the other end of town for all these people in an emergency situation. Our city is susceptible to damage from trees and branches due to high wind events.
Flooding	Flooding causes our storm water pumping hours to increase significantly. This puts a lot more stress on our lift stations and pumps, which could cause backup issues if they break down.

REDUCTION IN VULNERABILITY

Please describe any actions your community has taken to reduce vulnerability against future severe weather or disaster events. This can include examples of any work that has been completed or is underway that reduces future risk.

We have increased our usage with Facebook and our local TV channel to communicate with residents on emergency preparedness. We make sure to inform our lifeguards and campground guests where the storm shelter is in town. We have also started to convert our overhead powerlines to underground.

INCREASE IN VULNERABILITY

Please describe any current conditions or changes you feel have increased your community's vulnerability to future severe weather or disaster events. Consider factors such as recent population growth or new development.

I don't feel like any changes have increased the City of Stephen vulnerability currently. It is just the same as it has been in recent years.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

PUBLIC OUTREACH

Please describe what capabilities you have in place to communicate with those in your community to share information about severe weather events and personal preparedness. Please include any considerations for underserved communities or socially vulnerable populations within your jurisdiction.

We post information on our city website, city cable channel, and our Facebook page. We also post information on bulletin boards in our city office and Post Office. We also send out mailing reminders and information when they are needed.

EMERGENCY NOTIFICATION SYSTEM

Do you encourage residents in your community to sign up for the county's emergency notification system and/or a local emergency alert system? If yes, how? If not, is this something you would do?

No, our city does not do this currently, but we could post flyers at the City Hall, Bank, Community Center, restaurant, and Post Office. We could put the link to the county website on our city website and/or Facebook page. We would also post an ad on our city cable channel.

LOCAL PLANS & AUTHORITIES

Please describe any local plans, authorities or policies in place that help to reduce risk from natural hazards in your community. Please make note of enforcement of existing building codes and land use and development ordinances or regulations as they apply to your community. Please also note if your community has any plans or policies in place related to resilience and adaptation for climate change.

City of Stephen has a sump pump ordinance to help alleviate the infiltration in the city's storm sewer and lagoon.

STAFF & PARTNERSHIPS

Please describe what staff or partnerships are in place to help accomplish mitigation in your community. This can include specific department staff or outside agencies that have a role with mitigation-related planning.

Our mayor is our city's designated Emergency Manager. We have a city engineer and a public works superintendent that address maintenance issues when they are needed. Our county engineer conducts bridge inspections. Our fire department is available to assist with sandbagging.

PROGRAMS IN PLACE

Describe any programs in place that to help reduce risk from natural hazards in your community.

Our city works with the county to participate in the National Weather Service's annual Severe Winter/Spring Weather Awareness Week by posting severe weather awareness information out on our city Facebook page. Our local school practices tornado drills on an annual basis. We have an Emergency Plan in place, so people know where to go and who to contact in an emergency. Every spring we put ads in the local paper, Facebook page, and city cable channel reminding people to re-route sump pumps outdoors.

FUNDING & OTHER RESOURCES

Please describe what sorts of funding or other resources are available to help accomplish mitigation in your community. Please make note of any work with outside organizations or agencies or municipal/rural electrical coop providers.

The city primarily uses its own budget to address mitigation projects. We are a member of MnWARN.

PART C: LOCAL MITIGATION PROJECTS

LOCAL MITIGATION PROJECTS

Please describe mitigation actions that would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address the local vulnerabilities you have identified.

- **Flooding-** Enforce the city's sump pump ordinance to minimize impacts to the city's stormwater system. This will help with the infiltration. We could store some sandbags so that they are readily available when they are needed. We could purchase additional pumps in case we need them during a flood event.
- **Severe Winter / Summer Storms** – Post information on the city's website and local bulletin boards to encourage residents to sign up for the county's emergency notification system.
- **Windstorms and Tornadoes-** Could look in to finding a shelter closer to the pool and campground so that it is quicker to access and accommodate those that are at those locations during a storm.
- **Extreme Cold** – Encourage residents to be prepared for periods of extreme cold and potential power outages. Alert residents to the dangers of extreme cold and freezing pipes.

GAPS OR DEFICIENCIES

Please describe any specific gaps or deficiencies that are a barrier to implementing local mitigation measures.

We are a small city with limited financial and staff resources to address local mitigation projects. Not all our residents are signed up for the county's emergency notification system. Not all our residents have Facebook or access to the cable channel, so need to look to have more options available for communication and education.

PART D: NATIONAL FLOOD INSURANCE PROGRAM (NFIP) INFORMATION

Does your community participate in the NFIP?

Yes

If NO, and your community is in a FEMA mapped area, please describe why the community does not participate in the NFIP.

N/A

If YES (your community participates NFIP), please provide descriptive information on how your community works to meet NFIP requirements below:

1. NFIP. Adoption of NFIP minimum floodplain management criteria via local regulation.

- Provide the **original date of a floodplain ordinance adoption** for NFIP enrollment. [for implementation and enforcement of local floodplain management regulations to regulate and permit development in Special Flood Hazard Areas]

9-16-1982

- Provide the adoption date of your **current** floodplain ordinance.

03-01-2021

- Provide the effective date of your **current** floodplain ordinance (usually when it has been published publicly).

03-04-2021

2. Contacts. Please provide names and emails for your:

- Floodplain Administrator- Josh Johnston, Scott Jorgenson, and Brett Kuznia
- Engineering Contact (optional)
- Additional Floodplain Contact (optional) David McGlynn and Gary Mattson

3. As part of the new hazard mitigation plan requirements, your community must demonstrate that you know the process to implement substantial improvement/substantial damage provisions of their floodplain management regulations after an event. These questions will help us meet those requirements.

- Do you know of any existing buildings in the FEMA mapped floodplain?

Yes

- Does your community use a form to track cumulative improvements and repetitive losses in the floodplain (for example see Evaluating Cumulative Improvements and Cumulative Damages section in [the DNR sample form](#)) -please attach or link the form.

No

- Have you reviewed the [Local Official Playbook](#) substantial improvement/substantial damage ?

No

PART E: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey. Also provide an approximate amount of time of their participation.

Brett Kuznia, City Clerk, 3 Hours

Ruthie Forst, Deputy Clerk, 3 Hours

Marshall County

LOCAL MITIGATION SURVEY

Please fill out the Jurisdiction and Point of Contact information and Parts A, B, C, D, and E of this survey. Please be as specific as possible in your responses with information as it relates to your jurisdiction. It is strongly recommended to include government officials and staff to help provide detailed feedback.

Name of Jurisdiction: CITY OF STRANDQUIST

Point of Contact:

Name: Russell Grandstrand
Job Title: Mayor
Phone: 218-689-3517
Email: rjgrand@wiktel.com

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

HAZARD IDENTIFICATION

In the chart below, please identify the natural hazards that pose the greatest risk to your community. Consider past damaging events, likelihood of future events, and impacts to community assets. Rank the prioritization of hazards as high, moderate, or low. Only put an "X" next to those hazards that are of moderate to high priority. These will be addressed with localized mitigation actions.

Natural Hazard	Use an "X" to select the natural hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Note if you feel the risk has increased, decreased, or had no change over the last 5 years.
Winter Storms (Blizzards, Ice Storms)	X	High	No change
Tornadoes	X	Moderate	No change
Windstorms	X	Moderate	No change
Lightning	X	Moderate	No change
Hail	X	Low	No change
Flooding	X	Low	No change
Extreme Cold	X	High	increased
Extreme Heat	X	Low	No change
Drought	X	High	No change
Wildfire			
Landslides			
Dam Failure			

RECENT HAZARD EVENTS

Please describe any severe weather or disaster events that have occurred over the last 5 years that caused damages in your community or resulted in a state or federal disaster declaration.

General winter and summer storms have occurred. Power outages are a concern for the city as we do not have backup power for our water pump or pumphouse.

LOCAL VULNERABILITIES

Use the chart below to identify what specific community assets are vulnerable to damages or loss from the hazards that pose risk to your community.

Natural Hazard (please list)	Vulnerability Assessment Describe <u>specific</u> community assets (infrastructure, systems, or populations) that are susceptible to damage or loss from hazard events.
Winter Conditions	We have mostly older homes and trailer houses. Many people run the water in the winter to keep pipes from freezing. In years when the frost goes deep our streets get many frost boils in the springtime.
Flooding	Some of the properties in the city do not have very good drainage. Nothing has been done for 50+ years to try to fix the problem.
Drought	We pull our water from a drilled well in times of drought. This is a concern.

REDUCTION IN VULNERABILITY

Please describe any actions your community has taken to reduce vulnerability against future severe weather or disaster events. This can include examples of any work that has been completed or is underway that reduces future risk.

We do have generator power at the lift station. Our sewer system got back to compliance with MPCA Got the system working properly and our generator got serviced and can be put online if needed.

INCREASE IN VULNERABILITY

Please describe any current conditions or changes you feel have increased your community's vulnerability to future severe weather or disaster events. Consider factors such as recent population growth or new development.

Decrease in population has put strain on revenue and city bill income streams for the city. We also have many nonresident landowners that do not pay any utility bills such as garbage water sewer and upkeep on city buildings.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

PUBLIC OUTREACH

Please describe what capabilities you have in place to communicate with those in your community to share information about severe weather events and personal preparedness. Please include any considerations for underserved communities or socially vulnerable populations within your jurisdiction.

We post information for residents at the Post Office.

EMERGENCY NOTIFICATION SYSTEM

Do you encourage residents in your community to sign up for the county's emergency notification system and/or a local emergency alert system? If yes, how? If not, is this something you would do?

No. Perhaps in the future.

LOCAL PLANS & AUTHORITIES

Please describe any local plans, authorities or policies in place that help to reduce risk from natural hazards in your community. Please make note of enforcement of existing building codes and land use and development ordinances or regulations as they apply to your community. Please also note if your community has any plans or policies in place related to resilience and adaptation for climate change.

We do not have much in place. What we do have in place is hard to enforce.

STAFF & PARTNERSHIPS

Please describe what staff or partnerships are in place to help accomplish mitigation in your community. This can include specific department staff or outside agencies that have a role with mitigation-related planning.

We have a resident that helps to sample our water supply and oversees the operation of our sewer system.

PROGRAMS IN PLACE

Describe any programs in place that to help reduce risk from natural hazards in your community.

None

FUNDING & OTHER RESOURCES

Please describe what sorts of funding or other resources are available to help accomplish mitigation in your community. Please make note of any work with outside organizations or agencies or municipal/rural electrical coop providers.

Our city got a grant to fix 10 homes within the city. The grant is through Northwest Community Action. We try to budget for most projects and maintenance of city buildings.

PART C: LOCAL MITIGATION PROJECTS

LOCAL MITIGATION PROJECTS

Please describe mitigation actions that would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address the local vulnerabilities you have identified.

The city has nothing in place to address any weather-related issues. We would need help from the county on this.

GAPS OR DEFICIENCIES

Please describe any specific gaps or deficiencies that are a barrier to implementing local mitigation measures.

We have a very small population with many on the lower income range. Therefore it is hard to set up any long or even short-term plans.

PART D: NATIONAL FLOOD INSURANCE PROGRAM (NFIP) INFORMATION

Does your community participate in the NFIP?

The city does not participate. We do not have FEMA mapped high risk areas.

If NO, and your community is in a FEMA mapped area, please describe why the community does not participate in the NFIP.

N/A

If YES (your community participates NFIP), please provide descriptive information on how your community works to meet NFIP requirements below:

1. NFIP. Adoption of NFIP minimum floodplain management criteria via local regulation.

- Provide the **original date of a floodplain ordinance adoption** for NFIP enrollment. [for implementation and enforcement of local floodplain management regulations to regulate and permit development in Special Flood Hazard Areas]

N/A

- Provide the adoption date of your **current** floodplain ordinance.

N/A

- Provide the effective date of your **current** floodplain ordinance (usually when it has been published publicly).

N/A

2. Contacts. Please provide names and emails for your:

- Floodplain Administrator – N/A
- Engineering Contact (optional)
- Additional Floodplain Contact (optional)

3. As part of the new hazard mitigation plan requirements, your community must demonstrate that you know the process to implement substantial improvement/substantial damage provisions of their floodplain management regulations after an event. These questions will help us meet those requirements.

- Do you know of any existing buildings in the FEMA mapped floodplain?

N/A

- Does your community use a form to track cumulative improvements and repetitive losses in the floodplain (for example see Evaluating Cumulative Improvements and Cumulative Damages section in [the DNR sample form](#)) -please attach or link the form.

N/A

- Have you reviewed the [Local Official Playbook](#) substantial improvement/substantial damage ?

N/A

PART E: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey. Also provide an approximate amount of time of their participation.

Russell Grandstrand, Mayor, 2 hours

Marshall County

LOCAL MITIGATION SURVEY

Please fill out the Jurisdiction and Point of Contact information and Parts A, B, C, D, and E of this survey. Please be as specific as possible in your responses with information as it relates to your jurisdiction. It is strongly recommended to include government officials and staff to help provide detailed feedback.

Name of Jurisdiction: CITY OF VIKING

Point of Contact:

Name: Megan Rheault
Job Title: City Clerk/Treasurer
Phone: 218-689-5545
Email: cityofviking@gmail.com

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

HAZARD IDENTIFICATION

In the chart below, please identify the natural hazards that pose the greatest risk to your community. Consider past damaging events, likelihood of future events, and impacts to community assets. Rank the prioritization of hazards as high, moderate, or low. Only put an "X" next to those hazards that are of moderate to high priority. These will be addressed with localized mitigation actions.

Natural Hazard	Use an "X" to select the natural hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Note if you feel the risk has increased, decreased, or had no change over the last 5 years.
Winter Storms (Blizzards, Ice Storms)	X	High	No change
Tornadoes	X	Moderate	No change
Windstorms	X	Moderate	No change
Lightning			
Hail			
Flooding			
Extreme Cold	X	Moderate	No change
Extreme Heat			
Drought	X	Moderate	No change
Wildfire			
Landslides			
Dam Failure			

RECENT HAZARD EVENTS

Please describe any severe weather or disaster events that have occurred over the last 5 years that caused damages in your community or resulted in a state or federal disaster declaration.

We have not had any major storms that caused damage in the last 5 years. We experience regular winter weather and summer storms.

LOCAL VULNERABILITIES

Use the chart below to identify what specific community assets are vulnerable to damages or loss from the hazards that pose risk to your community.

Natural Hazard (please list)	Vulnerability Assessment Describe <u>specific</u> community assets (infrastructure, systems, or populations) that are susceptible to damage or loss from hazard events.
	No vulnerabilities to report. We have limited infrastructure and a small population of 78.

REDUCTION IN VULNERABILITY

Please describe any actions your community has taken to reduce vulnerability against future severe weather or disaster events. This can include examples of any work that has been completed or is underway that reduces future risk.

Nothing to report.

INCREASE IN VULNERABILITY

Please describe any current conditions or changes you feel have increased your community's vulnerability to future severe weather or disaster events. Consider factors such as recent population growth or new development.

We have not had any increase in vulnerability.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

PUBLIC OUTREACH

Please describe what capabilities you have in place to communicate with those in your community to share information about severe weather events and personal preparedness. Please include any considerations for underserved communities or socially vulnerable populations within your jurisdiction.

We are a small community and share information with residents by posting information at the city office and by making announcements at City Council meetings as needed. We also make announcements on our City's Facebook page.

EMERGENCY NOTIFICATION SYSTEM

Do you encourage residents in your community to sign up for the county's emergency notification system and/or a local emergency alert system? If yes, how? If not, is this something you would do?

We have not done anything with this to date. We look to Marshall County Emergency Management to do outreach to encourage residents to sign up for the CodeRED system.

LOCAL PLANS & AUTHORITIES

Please describe any local plans, authorities or policies in place that help to reduce risk from natural hazards in your community. Please make note of enforcement of existing building codes and land use and development ordinances or regulations as they apply to your community. Please also note if your community has any plans or policies in place related to resilience and adaptation for climate change.

None. We defer to Marshall County zoning regulations and building codes.

STAFF & PARTNERSHIPS

Please describe what staff or partnerships are in place to help accomplish mitigation in your community. This can include specific department staff or outside agencies that have a role with mitigation-related planning.

We have our City Clerk, Mayor, City Council, and a city maintenance worker that address anything that is needed for attending to the city.

PROGRAMS IN PLACE

Describe any programs in place that to help reduce risk from natural hazards in your community.

Nothing to report.

FUNDING & OTHER RESOURCES

Please describe what sorts of funding or other resources are available to help accomplish mitigation in your community. Please make note of any work with outside organizations or agencies or municipal/rural electrical coop providers.

We have limited city funding for operations and maintenance.

PART C: LOCAL MITIGATION PROJECTS

LOCAL MITIGATION PROJECTS

Please describe mitigation actions that would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address the local vulnerabilities you have identified.

Work with Marshall County to provide us with a flyer encouraging residents to sign up for CodeRED.

We have no other local mitigation actions needed.

GAPS OR DEFICIENCIES

Please describe any specific gaps or deficiencies that are a barrier to implementing local mitigation measures.

We are a small city with limited staff and funding. We have no city website.

PART D: NATIONAL FLOOD INSURANCE PROGRAM (NFIP) INFORMATION

Does your community participate in the NFIP?

No. The city does not participate in the NFIP and does not have FEMA mapped high-risk areas.

If NO, and your community is in a FEMA mapped area, please describe why the community does not participate in the NFIP.

N/A

If YES (your community participates NFIP), please provide descriptive information on how your community works to meet NFIP requirements below:

1. NFIP. Adoption of NFIP minimum floodplain management criteria via local regulation.

- Provide the **original date of a floodplain ordinance adoption** for NFIP enrollment. [for implementation and enforcement of local floodplain management regulations to regulate and permit development in Special Flood Hazard Areas]

N/A

- Provide the adoption date of your **current** floodplain ordinance.

N/A

- Provide the effective date of your **current** floodplain ordinance (usually when it has been published publicly).

N/A

2. Contacts. Please provide names and emails for your:

- Floodplain Administrator – N/A
- Engineering Contact (optional)
- Additional Floodplain Contact (optional)

3. As part of the new hazard mitigation plan requirements, your community must demonstrate that you know the process to implement substantial improvement/substantial damage provisions of their floodplain management regulations after an event. These questions will help us meet those requirements.

- Do you know of any existing buildings in the FEMA mapped floodplain?

N/A

- Does your community use a form to track cumulative improvements and repetitive losses in the floodplain (for example see Evaluating Cumulative Improvements and Cumulative Damages section in [the DNR sample form](#)) -please attach or link the form.

N/A

- Have you reviewed the [Local Official Playbook](#) substantial improvement/substantial damage ?

N/A

PART E: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey. Also provide an approximate amount of time of their participation.

Megan Rheault, City Clerk, .5 hr.

Josh Johnston, Marshall County Emergency Manager, 1 hr.

Marshall County

LOCAL MITIGATION SURVEY

Please fill out the Jurisdiction and Point of Contact information and Parts A, B, C, D, and E of this survey. Please be as specific as possible in your responses with information as it relates to your jurisdiction. It is strongly recommended to include government officials and staff to help provide detailed feedback.

Name of Jurisdiction: CITY OF WARREN

Point of Contact:

Name: Shannon Mortenson
Job Title: City Administrator
Phone: 218-745-5343
Email: shannonm@warrenminnesota.com

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

HAZARD IDENTIFICATION

In the chart below, please identify the natural hazards that pose the greatest risk to your community. Consider past damaging events, likelihood of future events, and impacts to community assets. Rank the prioritization of hazards as high, moderate, or low. Only put an "X" next to those hazards that are of moderate to high priority. These will be addressed with localized mitigation actions.

Natural Hazard	Use an "X" to select the natural hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Note if you feel the risk has increased, decreased, or had no change over the last 5 years.
Winter Storms (Blizzards, Ice Storms)			
Tornadoes	X	Moderate	No change
Windstorms	X	High	Increased
Lightning	X	Moderate	No change
Hail	X	Moderate	Increase
Flooding			
Extreme Cold			
Extreme Heat			
Drought	X	High	Increase
Wildfire			
Landslides			
Dam Failure			

RECENT HAZARD EVENTS

Please describe any severe weather or disaster events that have occurred over the last 5 years that caused damages in your community or resulted in a state or federal disaster declaration.

In the summer of 2022, the city experienced severe drought conditions and our water supply for residents was compromised. Irrigation practices contributed to the low reservoir levels. In May 2022 the city experienced a torrential rain event that damaged lift stations and caused a lot of basement flooding. The city has also been peppered with a number of straightline wind storms that have caused downed trees and damage to buildings.

LOCAL VULNERABILITIES

Use the chart below to identify what specific community assets are vulnerable to damages or loss from the hazards that pose risk to your community.

Natural Hazard (please list)	Vulnerability Assessment Describe <u>specific</u> community assets (infrastructure, systems, or populations) that are susceptible to damage or loss from hazard events.
Drought	The city water supply comes from an underground source with the pump located about 3 miles from the city. There are irrigation wells that take from the same underground source which compromises the water supply for the entire city of Warren.
Flooding	In May, 2022 city lift stations were damaged from a high rain event and many area homes had basement flooding.

REDUCTION IN VULNERABILITY

Please describe any actions your community has taken to reduce vulnerability against future severe weather or disaster events. This can include examples of any work that has been completed or is underway that reduces future risk.

The city has lowered the pumps at the water source and has a better monitoring system. There are agreements in place with the landowners to shut down the irrigation when our supply is compromised. In regards to flooding, the city has a diversion channel that was put in by a partnership of the ACOE, the Conty, Watershed District – operable in 2007. Helps to mitigate spring flooding and high rain events – diverssts any excess water from the Snake River channel community.

To help mitigate against frozen pipes during periods of extreme cold, the city has a Frozen Water Lines policy that is posted on our city website. The policy addresses that to protect city infrastructure and provide for the safety of city residents, the city may provide a service of thawing frozen service laterals to commercial businesses, owner occupied residences, owner-occupied residential condominiums and owner-occupied co-operative housing.

INCREASE IN VULNERABILITY

Please describe any current conditions or changes you feel have increased your community's vulnerability to future severe weather or disaster events. Consider factors such as recent population growth or new development.

The city has nothing to note for any increase in vulnerability.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

PUBLIC OUTREACH

Please describe what capabilities you have in place to communicate with those in your community to share information about severe weather events and personal preparedness. Please include any considerations for underserved communities or socially vulnerable populations within your jurisdiction.

Warren utilizes our city Facebook page for emergency announcements. The local newspaper also provides information and the city newsletter which is distributed with the utility bills.

EMERGENCY NOTIFICATION SYSTEM

Do you encourage residents in your community to sign up for the county's emergency notification system and/or a local emergency alert system? If yes, how? If not, is this something you would do?

Yes, we do via the newsletter and resident inquiries.

LOCAL PLANS & AUTHORITIES

Please describe any local plans, authorities or policies in place that help to reduce risk from natural hazards in your community. Please make note of enforcement of existing building codes and land use and development ordinances or regulations as they apply to your community. Please also note if your community has any plans or policies in place related to resilience and adaptation for climate change.

The city does not have any related plans or authorities to note beyond our floodplain ordinance.

STAFF & PARTNERSHIPS

Please describe what staff or partnerships are in place to help accomplish mitigation in your community. This can include specific department staff or outside agencies that have a role with mitigation-related planning.

The city of Warren works closely with Marshall County to mitigate hazards and emergencies. We have also work with the Middle Snake Tamarac River Watershed District in the past.

PROGRAMS IN PLACE

Describe any programs in place that to help reduce risk from natural hazards in your community.

The city has no related programs to note.

FUNDING & OTHER RESOURCES

Please describe what sorts of funding or other resources are available to help accomplish mitigation in your community. Please make note of any work with outside organizations or agencies or municipal/rural electrical coop providers.

Generally, the city uses its own funding for necessary projects. We will be receiving money from the MN DNR for work done to address mitigation issues to lower the pump for the water monitoring system. This helps us to be aware of low water levels during periods of drought.

PART C: LOCAL MITIGATION PROJECTS

LOCAL MITIGATION PROJECTS

Please describe mitigation actions that would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address the local vulnerabilities you have identified.

- Drought - Work with the Minnesota DNR to ensure we can stop the irrigation practices when the reservoir levels are compromised.
- Use our social media and city newsletter to encourage residents to be aware of severe storm events and to be prepared.

GAPS OR DEFICIENCIES

Please describe any specific gaps or deficiencies that are a barrier to implementing local mitigation measures.

None to note.

PART D: NATIONAL FLOOD INSURANCE PROGRAM (NFIP) INFORMATION

Does your community participate in the NFIP?

Yes

If NO, and your community is in a FEMA mapped area, please describe why the community does not participate in the NFIP.

N/A

If YES (your community participates NFIP), please provide descriptive information on how your community works to meet NFIP requirements below:

1. NFIP. Adoption of NFIP minimum floodplain management criteria via local regulation.

- Provide the **original date of a floodplain ordinance adoption** for NFIP enrollment. [for implementation and enforcement of local floodplain management regulations to regulate and permit development in Special Flood Hazard Areas]

February 18, 1981

- Provide the adoption date of your **current** floodplain ordinance.

March 23, 2021

- Provide the effective date of your **current** floodplain ordinance (usually when it has been published publicly).

March 23, 2021

2. Contacts. Please provide names and emails for your:

- Floodplain Administrator - Shannon Mortenson, City Administrator, shannonm@warrenminnesota.com
- Engineering Contact (optional)
- Additional Floodplain Contact (optional)

3. As part of the new hazard mitigation plan requirements, your community must demonstrate that you know the process to implement substantial improvement/substantial damage provisions of their floodplain management regulations after an event. These questions will help us meet those requirements.

- Do you know of any existing buildings in the FEMA mapped floodplain?

No

- Does your community use a form to track cumulative improvements and repetitive losses in the floodplain (for example see Evaluating Cumulative Improvements and Cumulative Damages section in [the DNR sample form](#)) -please attach or link the form.

No

- Have you reviewed the [Local Official Playbook](#) substantial improvement/substantial damage ?

No

PART E: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey. Also provide an approximate amount of time of their participation.

Shannon Mortenson, City Administrator, 3 hours

Appendix D – Plans & Programs in Place

Marshall County

HMP Plans & Programs in Place Form

EMERGENCY PLANNING CAPABILITIES	Yes/No	Comments
Emergency Mass Notification System	Yes	CodeRED Emergency Notification System
Outdoor Warning Sirens	Yes	Alvarado (1), Argyle (1), Grygla (1), Middle River (1), Newfolden (1), Oslo (1), Stephen (1), Viking (1), and Warren (5).
Emergency Operations Plan (EOP)	Yes	County EOP is updated annually
Mass Care Sheltering Plan / List of Shelter Facilities	Yes	Addressed in EOP
Tornado Safe Rooms / Storm Shelters	No	Local vulnerabilities are addressed in coordination with schools & jurisdictions
NWS Weather Ready Nation / StormReady Certification	Yes	Marshall County is a registered NOAA and NWS Weather-Ready Nation Ambassador and StormReady Community.
Coordination with Schools	Yes	Tornado Drills, other trainings
Coordination with Neighboring County/Tribal Jurisdictions	Yes	HSEM Region 3 regional planning & exercises annually
Coordination with Local / Regional Agencies involved in mitigation	Yes	SWCD, MN DNR, MnDOT, Rural and Municipal Electric Cooperatives
Coordination with organizations or agencies addressing disaster related issues and vulnerable populations, emergency preparedness, access and functional needs populations	Yes	Public Health, American Red Cross, Salvation Army
Hazard data and information	Yes	Damage information on file from past storm events and disaster declarations
Other (please describe)	Yes	PH has preparedness plans in place

PLANNING & REGULATORY CAPABILITIES	Yes/No	Comments
Comprehensive/Land Use Plan	Yes	Marshall County Comprehensive Land Use Plan (Sept., 2000)
Capital Improvements Plan	No	
Economic Development Plan	No	
Climate Adaptation Plan	No	
Continuity of Operations Plan (COOP)	Yes	Marshall County Emergency Management (lead)
Transportation Plan (Roads, Bridges, Culverts, Ditches)	Yes	5-Year Transportation Plan, Highway Dept.
Stormwater Management Plan / Drainage Plan	Yes	Marshall County Environmental Services Dept.
Burning Permits/Restrictions	Yes	MN DNR
Comprehensive Local Water Management Plan	Yes	Met by 1W1P
Watershed Plan (One Watershed, One Plan)	Yes	Marshall County participates in Thief River 1W1P and Middle Snake Tamarac Rivers 1W1P
Wellhead Protection Plan	No	Municipal level plans are done in coordination with MDH
Forest Management Plan	No	
Community Wildfire Protection Plan (CWPP)	No	
Participation in MN DNR Firewise Program	No	No formal participation in MN DNR program
Database of Dry Hydrants/Well Access	No	
<i>Other (please describe)</i>		

LOCAL POLICY / PROGRAM CAPABILITIES	Yes/No	Comments
Land Use, Planning, & Zoning Ordinance	Yes	Marshall County Comprehensive Land Use Plan + Marshall County Zoning Ordinances
Subdivision Ordinance	Yes	Marshall County Floodplain Ordinance, Section 8.0 – Subdivision Standards
Building Codes	Yes	Marshall County Environmental Services

		adheres to the MN State Building Code
National Flood Insurance Program (NFIP)	Yes	Marshall County NFIP entry date 07/18/1983.
Flood insurance rate maps	Yes	Marshall County Environmental Services Department
Floodplain Ordinance	Yes	Marshall County Floodplain Ordinance (03-02-2021)
Shoreland Ordinance	Yes	Marshall County Shoreland Ordinance (10-19-2017)
Minnesota Buffer Law / Soil Erosion Ordinance	Yes	MN Buffer Law is enforced by the Marshall County Environmental Services Department in coordination with the Marshall Soil and Water Conservation District.
Home Buyouts for flood or erosion mitigation	No	
Other natural hazard specific ordinance (i.e., stormwater, steep slope, wildfire)	No	
Maintenance programs to reduce risk	Yes	Highway Dept. ROW maintenance and drainage systems
<i>Other (please describe)</i>		

ADMINISTRATIVE/TECHNICAL CAPABILITIES	Yes/No	Comments
Emergency Management Director	Yes	Marshall County Emergency Management Office
Sheriff/Police Department	Yes	Marshall County Sheriff's Office
Floodplain Administrator	Yes	Marshall County Environmental Services Administrator
Chief Building Official	Yes	Marshall County Environmental Services Administrator
County Engineer	Yes	Marshall County Highway Dept.

Mapping Specialist (GIS)	Yes	Marshall County GIS Dept.
Public Health Coordinator/Department	Yes	North Valley Public Health Center
Planning Commission	Yes	Marshall County Land Use Planning Committee
Soil and Water Conservation District	Yes	Marshall SWCD
Minnesota Department of Natural Resources	Yes	MN DNR coordination as needed
Mitigation Planning Committee	Yes	2023 HMP Update Planning Team
Mutual Aid Agreements	Yes	Regional
<i>Other (please describe)</i>		

EDUCATION & OUTREACH CAPABILITIES	Yes/No	Comments
SKYWARN Program Training with NWS	Yes	Annual event
Severe Weather Awareness Week (HSEM/NWS)	Yes	Annual event
Winter Weather Awareness Week (HSEM/NWS)	Yes	Annual event
Promotion of NOAA Weather Radios	Yes	During NWS Severe Weather Weeks and Ongoing
<i>Other (please describe)</i>		

Appendix E – Past Mitigation Action Review Status Report

Marshall County

Past Mitigation Action Review Status Report

Following is a report on the status of mitigation actions related to natural hazards included in the Marshall County 2016 Hazard Mitigation Plan. This report identifies those actions that have been completed, are being deleted, or are considered as ongoing efforts. Mitigation actions that are noted as “ongoing” will be reviewed and revised as necessary for future implementation. This report covers the mitigation actions that were listed for implementation by the county and by city jurisdictions, as applicable.

Hazard	Mitigation Action	Responsibility	Status	Comments
All-Hazards	Continue Hazard Education	Marshall County and All Cities	Ongoing	Marshall County Emergency Management (MCEM) and local jurisdictions continue to do public outreach on severe weather awareness and preparedness.
All-Hazards	Communicate hazard information using multiple technologies (IPAWS)	Marshall County and All Cities	Completed	MCEM utilizes the county’s CodeRED system, the system of outdoor warning sirens, the county website and the MCEM Facebook page to communicate hazard information to the public.
All-Hazards	Increase hazard preparedness (first responders, volunteer groups jurisdictions etc.)	Marshall County and All Cities	Ongoing	MCEM and cities continue to work on emergency preparedness for severe weather events and other hazards that may occur. Marshall County is now an NWS certified Storm Ready Community.
All-Hazards	Incorporate mitigation based on the Red Lake and Middle/Snake/Tamarac Watershed's Water Management Plans, Electrical Cooperatives, City/County/Regional jurisdictions and other participating jurisdictions	Marshall County and All Cities	Ongoing	Marshall county and local cities continue to partner with the SWCD, other area watershed districts, and utility providers to address plans and projects to address risk reduction to natural hazard events.
All-Hazards	Incorporate mitigation based on private partners (nursing homes, hospitals),	Marshall County and All Cities	Ongoing	A broad range of stakeholders are included in the Marshall County HMP update including those that care for vulnerable populations.

Hazard	Mitigation Action	Responsibility	Status	Comments
All-Hazards	Upgrade emergency communication system	Marshall County and All Cities	Completed	Marshall County has an established CodeRED emergency notification system.
All-Hazards	Decrease areas with no cell phone coverage	Marshall County	Delete	This is outside of the responsibility of oversight of Marshall County.
All-Hazards	Utilize GIS technology in emergency management and hazard mitigation	Marshall County and All Cities	Ongoing	MCEM employees the use of GIS in emergency management planning and assists local governments as needed.
Severe Winter & Summer Storms	Continue working with the National Weather Service to improve storm warning and awareness	Marshall County and All Cities	Ongoing	MCEM works with the NWS to offer annual SkyWarn training and also participates in the NWS severe weather awareness weeks. MCEM has also partnered with the NWS to receive spot forecasts for large events.
Severe Winter & Summer Storms	Increase weather radio use	Marshall County and All Cities	Ongoing	MCEM continues to promote the use of NOAA weather radios. Cities are encouraged to do the same.
Severe Winter & Summer Storms	Provide severe weather information and safe travel plan	Marshall County and All Cities	Ongoing	MCEM continues to use the county website EM Facebook page to share severe weather information from the NWS. Cities also use their own communication means to help residents to be informed. Marshall County has purchased the, fully automated, CodeRED Weather Warning, which increases the speed at which residents are notified.
Severe Winter & Summer Storms	Encourage trailer courts and campgrounds to have either an on-site shelter or an evacuation plan to a nearby shelter	Marshall County and All Cities	Ongoing	MCEM and cities continue to work with mobile home parks and campgrounds to ensure there are evacuation plans and storm shelters in place.
Severe Winter & Summer Storms	Create, incorporate and update storm plans for public events, schools, hospitals nursing homes and other stakeholders	Marshall County and All Cities	Delete	Ongoing under broader emergency management planning by MCEM, cities, and private facilities.

Hazard	Mitigation Action	Responsibility	Status	Comments
Severe Winter & Summer Storms	Identify and build storm shelters in Marshall County for both tornadoes and winter storms	Marshall County and All Cities	Ongoing	MCEM works with communities and the Red Cross to plan for mass care shelters and to identify/address where storm shelters or tornado safe rooms are needed. Marshall County has identified shelters in each community attached to our EOP.
Severe Winter & Summer Storms	Encourage individuals to have a shelter plan in place.	Marshall County and All Cities	Ongoing	MCEM and cities continue to encourage residents to be aware of and prepared for severe storm events to take shelter during severe storms.
Severe Winter & Summer Storms	Create a comprehensive storm shelter plan	Marshall County and All Cities	Ongoing	MCEM address mass care shelter planning within the county's Emergency Operations Plan.
Severe Winter & Summer Storms	Identify and provide critical infrastructure that needs alternative power methods (Courthouse EOC etc.)	Marshall County and All Cities	Ongoing	Marshall County and cities continue to identify what critical infrastructure or facilities need back up power and work to obtain portable or permanent generators.
Severe Winter & Summer Storms	Maintain and provide backup generators	Marshall County and All Cities	Ongoing	Same as above.
Severe Winter & Summer Storms	Create a large outage events plan	Marshall County and All Cities	Delete	Marshall County and local jurisdictions manage power outages independently with their public works depts to ensure functionality of CI and services.
Severe Winter & Summer Storms	Mitigate at risk power lines	Marshall County and All Cities	Ongoing	Ongoing by the electric providers that provide service to Marshall County.
Severe Summer Storms (Tornados, Windstorms)	Maintain and upgrade siren warning system	Marshall County and All Cities	Ongoing	Ongoing by MCEM and Marshall County Sheriff's Office in conjunction with communities where outdoor warning sirens are located.
Severe Summer Storms (Tornados, Windstorms)	Ensure that sirens have back-up power sources	Cities of Stephen & Grygla	Ongoing	MCEM and cities continue to work to ensure there is backup power in place as needed for all outdoor warning sirens.

Hazard	Mitigation Action	Responsibility	Status	Comments
Flooding	Identify & protect areas in Strandquist that may be shelter inhibited because of a high-water table.	Strandquist	Delete	MCEM works with all cities on shelter planning.
Flooding	Mitigate repetitively damaged roads in Marshall County	Marshall County	Ongoing	Ongoing by Marshall County Hwy. Dept. and local road authorities.
Flooding	Modify, raise or install drainage upon repetitively damaged roads.	Marshall County and All Cities	Ongoing	Ongoing by Marshall County Hwy. Dept. and local road authorities
Flooding	Ensure that flood mitigation is a factor new infrastructure instruction	Marshall County and All Cities	Ongoing	Ongoing by Marshall County Hwy. Dept. and local road authorities
Flooding	Create an emergency route plan	Marshall County, Oslo, Big Woods Township	Delete	This falls under emergency operations planning.
Flooding	Create an implement an ice/log jams and water backup plan.	Marshall County and All Cities	Delete	Marshall County and cities address localized flooding issues during the spring thaw as necessary.
Flooding	Utilize the ring dike program for interested landowners.	Marshall County	Ongoing	Ongoing as applicable.
Flooding	Buyout repetitive loss property	Marshall County, City of Stephen	Ongoing	MCEM and cities continue to evaluate the potential for property buyouts for flood-prone properties.
Flooding	Update and enforce current floodplain ordinances.	Marshall County and All Cities	Ongoing	Ongoing for Marshall County and all cities with floodplain ordinances in place.
Flooding	Replace old cast iron pipes.	Marshall County and All Cities	Ongoing	Marshall County and cities continue to address stormwater infrastructure improvements as needed.
Flooding	Look into constructing storm sewers	City of Strandquist	Ongoing	Marshall County and cities continue to address stormwater infrastructure improvements as needed.
Flooding	Update Floodplain Maps in Newfolden and other pertinent areas.	MC, Newfolden	Delete	MN DNR Floodplain Program and FEMA are responsible for update of floodplain maps
Flooding	Ensure accesses to Oslo is maintained during Peak Flood	Marshall County, City of Oslo	Ongoing	MCEM continues to work with the City of Oslo and the Border Township Associative Group to address road access and emergency routes for periods of flooding.

Hazard	Mitigation Action	Responsibility	Status	Comments
Flooding	Flood proof existing and new structures.	Marshall County and All Cities	Ongoing	Ongoing as applicable.
Flooding	Inspect local properties, roads and bridges to judge which are the most at risk. Mitigate appropriately.	Marshall County	Ongoing	Marshall County and cities continue to address road and bridge infrastructure improvements to mitigate for localized flooding as needed.
Flooding	Create and implement a local eroding riverbank stabilization plan.	Marshall County	Ongoing	The Marshall Soil & Water Conservation District and Army Corps of Engineers continue to address soil stabilization and flood mitigation projects for areas of concern along the Red River in western Marshall County.
Wildfire	Utilize firebreaks around affected CRP	Marshall County	Delete	Wildfire deemed a low priority for Marshall County and not included in HMP update.
Wildfire	Utilize controlled burns.	Marshall County and All Cities	Delete	Not included in HMP update
Wildfire	Ensure that a large water supply is available to combat extensive fires for both rural and urban settings.	Marshall County, Alvarado	Delete	Not included in HMP update
Wildfire	Enforce any set fire or burning or water usage bans	Marshall County	Delete	Not included in HMP update
Wildfire	Provide protection to cities surrounded by CRP acres during periods of excessive dryness.	FD's – Holt, Strandquist, Viking	Delete	Not included in HMP update
Drought	Create and implement a water shortage plan	Marshall County and All Cities	Delete	Not included in HMP update

Appendix F – Planning Team Meetings

Marshall County HMP Update

Appendix F – Kickoff Meeting Documentation

Overview:

On July 19, 2022, U-Spatial@UMD hosted a kickoff meeting online that was attended by the Marshall County Emergency Manager. The webinar included a project overview, U-Spatial@UMD's background, the roles and responsibilities of the Emergency Manager, the contents of the Hazard Mitigation Plan, the planning process, and the projected timeline of the project.

Attached Documentation:

- **Project Handout:** "Minnesota 2022-2023 Multi-Hazard Mitigation Plan Update Project Overview"
- **Webinar Slides:** "Minnesota 2022-2023 Multi-Hazard Mitigation Plan Update Project Kickoff Orientation Webinar"

Minnesota 2022-2023 Multi-Hazard Mitigation Plan Update Project Overview

During 2022-2023, U-Spatial at the University of Minnesota Duluth (U-Spatial@UMD) will be working to update Multi-Hazard Mitigation Plans (MHMPs) for 5 counties. Our team consists of UMD staff who specialize in GIS applications and research and Hundrieser Consulting LLC, who specializes in stakeholder engagement and mitigation strategies.

Participating Jurisdictions

Jackson, Kittson, Marshall, Pope, and Red Lake counties. Cities within each county are required to participate in the planning process.

Overview of Update Process

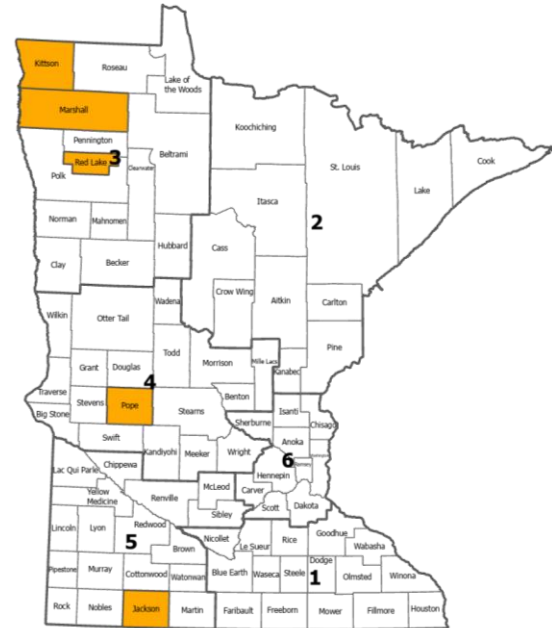
The U-Spatial@UMD team will coordinate with each Emergency Manager throughout the plan update process to engage participating jurisdictions and other stakeholders in the planning process. Following is an overview of key tasks that the U-Spatial@UMD team will facilitate to meet FEMA requirements in the update of each plan:

- Conduct 2 planning team meetings
- Conduct public outreach & engagement
- Assess Plans & Programs in Place to address natural hazards
- Conduct a Past Mitigation Action Review from past plan
- Update prioritization of natural hazards that pose risk
- Complete jurisdictional Local Mitigation Surveys (hazards, vulnerabilities & capabilities)
- Conduct hazard risk assessment for 1% annual chance floods using the Hazus GIS tool
- Inventory critical infrastructure
- Develop hazard profiles for each natural hazard (description, incident history, geographic variability, future probability, relationship to changing climate trends and local vulnerabilities) and present data in an interactive website.
- Prepare a PDF document that meets FEMA MHMP plan requirements.
- Develop 5-year jurisdictional Mitigation Action Charts

The planning process generally occurs over the course of 14-18 months from start to finish.

Contact

Stacey Stark, U-Spatial Associate Director (MHMP Project Manager)
Phone: (218) 726-7438 / Email: slstark@d.umn.edu



Overview of the MHMP Update Process

The U-Spatial@UMD team will coordinate with each Emergency Manager (EM), participating jurisdictions, and other stakeholders throughout the planning process. The plan update generally occurs over the course of 14-18 months from start to finish. Following is an overview of key tasks that will occur and the approximate timeline for completion. This list is not a complete list of what the plan update entails.

Stage 1 Tasks (4-5 months)

- HMP kickoff meeting/webinar with EM and U-Spatial@UMD
- Develop jurisdictional contact list for MHMP planning team
- Disseminate & document News Release #1 (plan update announcement)
- Complete Plans & Programs in Place Checklist
- Conduct a Past Mitigation Action Review from prior plan
- Complete Capabilities Assessment to address natural hazards
- Hold & document Planning Team Meeting #1
- Complete Local Mitigation Surveys (hazards, vulnerabilities & capabilities)
- Revisit prioritization of natural hazards that pose risk
- Assist U-Spatial@UMD with provision of key data
- Complete inventory of Critical Infrastructure

Stage 2 Tasks (5-7 months)

- Develop 5-year Jurisdictional Mitigation Action Charts
- Conduct hazard risk assessment for 1% annual chance floods using the Hazus GIS tool
- Develop hazard profiles for each natural hazard (description, incident history, geographic variability, future probability)
- Complete hazard profiles for each natural hazard
- Complete Plan Maintenance section of draft plan

Stage 3 Tasks (2-3 months)

- EM review of Draft Plan
- Hold & document Planning Team Meeting #2
- Finalize Mitigation Action Charts
- Disseminate & document News Release #2 (Public Review & Comment Period)
- EM coordination of plan review by local government(s) & other stakeholders

Stage 4 Tasks (2-3 months)

- Post-public review revisions made to plan (as necessary)
- Draft Plan sent to HSEM for review & approval
- Draft Plan sent to FEMA for review & approval
- Post FEMA review revisions made to plan (as necessary)
- FEMA to send letter stating "Approval Pending Adoption" to EM
- EM to facilitate MHMP jurisdictional adoptions (County/Tribe and cities)

Ongoing - Quarterly 25% Local Match Tracking Quarterly to HSEM

As part of the MHMP plan update, EM's are required to submit quarterly reports to HSEM on their local 25% match accrued through MHMP activities during that quarter.

Minnesota 2022-2023 Multi-Hazard Mitigation Plan Update Project Kick-off Orientation Webinar

U-SPATIAL
UNIVERSITY OF MINNESOTA DULUTH
Driven to Discover

Webinar Purpose & Goals

The purpose of this webinar is to provide an orientation for Emergency Managers participating in 2022-2023 Multi-Hazard Mitigation Plan Updates.

- Introduce the U-Spatial@UMD Team and county contacts.
- Provide an overview of the project.
- Clarify roles and responsibilities.
- Outline the planning process, discuss key tasks and timelines.
- Discuss next steps and answer your questions.

Stacey Stark

Introductions

U-Spatial@UMD Project Team



Stacey Stark
Project Manager
U-Spatial@UMD



Bonnie Hundrieser
Emergency Management Planning Consultant
Hundrieser Consulting LLC



Zach Vavra
GIS Specialist and Researcher
U-Spatial@UMD



Steve Graham
Research Associate, Flood Modeling Specialist
U-Spatial@UMD



Jane Lindelf
Project Coordinator, Communications Specialist
U-Spatial@UMD

Emergency Managers:

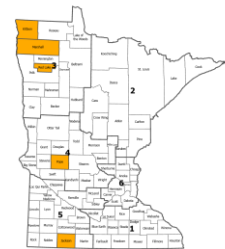
- Name, Title, and Jurisdiction
- Past Experience with MHMP?

Minnesota HSEM:

Jennifer Davis, MN HSEM
State Hazard Mitigation Officer

5 Counties:

Jackson
Kittson
Marshall
Pope
Red Lake



Project Overview

Why U-Spatial@UMD?

➤ Proven experience

Our updates of 30+ MHMPs, as well as the State MHMP, have been quickly approved by FEMA and adopted by counties.

➤ Advanced Capabilities

Expertise in the application of GIS, HAZUS, and research supports plan development and meeting all FEMA requirements.

➤ Ability to Expedite

A consistent and proven approach for multiple counties supports State & FEMA review of draft plans.

➤ Planning Team

Our project team includes advanced GIS students and Hundrieser Consulting.

Purpose

The Federal Disaster Mitigation Act of 2000 (DMA 2000) established programs and funding:

"to reduce the loss of life and property, human suffering, economic disruption, and disaster assistance costs resulting from natural disasters"

A local government plan is required in order to maintain eligibility for FEMA hazard mitigation grant programs.

MHMP's must be updated every 5 years.

Flooding	Hail	Drought
Dam/Levee Failure	Lightning	Extreme Heat
Wildfire	Winter Storms	Extreme Cold
Windstorms	Landslides	Earthquakes
Tornadoes	Sinkholes & Karst	Coastal Erosion

Natural hazard categories for Minnesota MHMPs. Hazards may be omitted if low risk is demonstrated.

Overview of MHMP Update Process

Bonnie Hundrieser

U-Spatial@UMD Team Roles & Responsibilities

- Keep you informed about the progress of your plan.
- Facilitate & document jurisdictional engagement.
- Facilitate & document public outreach.
- Work with EM and planning team to complete key tasks.
- Keep up-to-date on FEMA requirements and Minnesota guidance.
- Produce a quality plan that FEMA will approve.
- Answer questions in a timely fashion.
- Support EM's in tracking your required local 25% match.
- Provide quarterly reports to HSEM on your plan progress.

EM Roles & Responsibilities

- Act as main Point of Contact. (EM / Deputy EM)
- Report to HSEM quarterly on required local 25% match.
- Coordinate engagement of MHMP Planning Team.
- Conduct & document public outreach.
- Participate in completion of key assignments for plan update.
- Coordinate with county staff & other key stakeholders to obtain information.
- Assist in timely review of draft document.
- Facilitate completion of local adoptions.

Local 25% Match

EM's will be responsible to track and submit local match documentation to HSEM on a quarterly basis.

Notes:

- EM's are provided with a "Master Match Tracking" Excel Workbook to document match MHMP activities, participants, and amount accrued.
- Bonnie will assist with local match tracking on several task items.
- Regular reminders & guidance will be provided on tracking match.

MHMP Planning Team

In addition to jurisdictional participation, the plan must provide documentation of an **opportunity for stakeholders to be involved** in the current planning process. The MHMP Planning Team should include:

1. Local & Regional Agencies involved in hazard mitigation
2. Agencies that have the authority to regulate development
3. Neighboring communities (counties, tribes)
4. Representatives of businesses, academia, and other private organizations
5. Representatives of nonprofit organizations, including community-based organizations that work with/provide support to underserved communities and socially vulnerable populations

Key Tasks

- Develop Jurisdictional Contact List.
- Hold & document Planning Team Meeting #1 & Meeting #2.

Public Outreach

The plan update must document how the public was given the opportunity to be involved in the planning process and how their feedback was incorporated into the plan.

- Collect feedback on local-level concerns & mitigation actions.
- Use of local/social media, websites & community bulletin boards.
- Other outreach (i.e., attendance at City Council mtgs)
- Must include underserved communities and vulnerable populations within the planning area.

Key Tasks

- Distribute & document News Release #1 (start of plan)
- Distribute & document News Release #2. (public review of plan)
- Conduct additional public outreach (i.e., County Fair, other events).

Hazard Risk Assessment and Vulnerability Analysis

The U-Spatial@UMD Team will work closely with each EM and key departments to provide information as needed.

Key Tasks

- Review and contribute to critical infrastructure inventory.
- Identify specific, local-level impacts and vulnerabilities.
- Identify if and how risk priorities have changed since the last plan.
- Identify any factors (i.e., new development) that may increase the community's vulnerability to natural hazard events.
- Review social vulnerability factors.

Key Task Assignments

Bonnie Hundrieser will coordinate with each EM and participating cities on key task assignments that will provide information required for the plan update.

Key Tasks

- Complete Plans in Place Checklist.
- Complete Capabilities Assessment for Mitigation.
- Conduct Past Mitigation Action Review.
- Coordinate Local Mitigation Survey (LMS) Forms.
- NFIP Status Information and documentation program compliance

Mitigation Action Charts

Bonnie Hundrieser will also coordinate development of draft 5-year jurisdictional Mitigation Action Charts (MACs) for the county and each participating city jurisdiction.

Key Tasks

- Conduct local-level development of MACs.
- Facilitate & document jurisdictional MAC review.
- Hold Planning Team Mtg. #2 for any additional feedback.
- Complete final MAC revisions.

Draft Plan Review

The U-Spatial@UMD Team will work with each EM to conduct a review of the draft MHMP and provide an opportunity for public review & comment on the plan.

Key Tasks

- EM review of initial draft plan > Revisions made as needed.
- Distribute News Release #2 - public review & comment period.
- EM coordination of review by county & key stakeholders.
- Posting of draft plan online with comment form.
- Documentation and incorporation of public feedback.

Plan Submission

The draft MHMP will be submitted to HSEM and FEMA for review & approval. Timing for review & approval is generally within 1-2 months.

Key Steps

- U-Spatial@UMD will submit the draft plan & Plan Review Tool (PRT) to HSEM.
- HSEM will submit the draft plan & PRT to FEMA reviewer.
- FEMA may respond with requests for revisions > U-Spatial@UMD to address revisions and resubmit plan.
- FEMA will send a letter of Approval Pending Adoption (APA status)

Plan Adoption

After FEMA has provided APA status, the county and all participating cities must formally adopt the plan.

Notes

- Good jurisdictional participation will facilitate local adoptions.
- Adoption of the plan is required for HMA grant program eligibility.
- Example adoption resolutions are provided for county and city adoption. Townships may elect to adopt (not required).
- Resolutions are incorporated into the final MHMP (PDF) by the Emergency Manager or included as hard copies.

Plan format and delivery

Stacey Stark

“Next Gen” – MN Hazard Mitigation Plans

PDF document

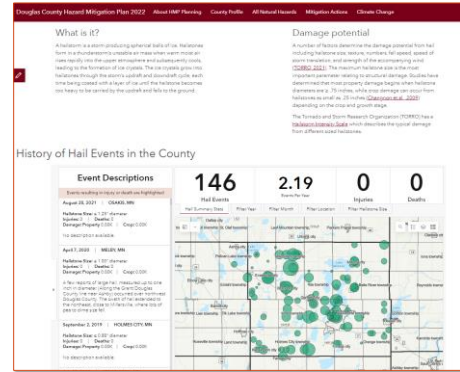
- Contains almost all required elements
- No mapping
- Community outreach/input remains the same
- Includes appendices with jurisdictional outreach

ArcGIS Hub (website) companion

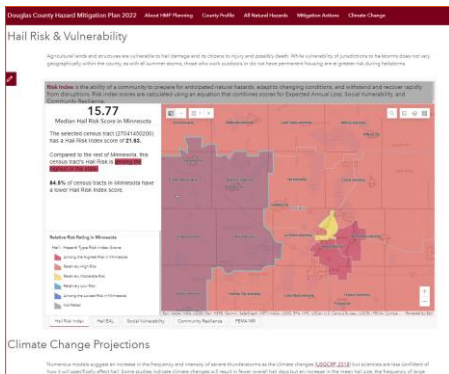
- Interactive maps and content
- Simple, concise explanations and highlights
- Multiple ways to navigate the content
- Links to PDF components and document
- Public input form on site



Example Web Site



Example Web Site



Example Web Site

Timeline Overview

- 18-Month total timeline (June 2022 – December 2023)
- Most plans take 14-18 months.
- Staggering of plans will be required to complete update of risk assessments, research of hazard histories, etc. for each jurisdiction.
- Many tasks occur concurrently, others must be done in succession.
- Work is expedited at the pace by which Emergency Managers complete tasks with Bonnie Hundrieser.

Possible timeline for your plan		Red includes county action items
Stage 1 Tasks (4-5 months)	June – November 2022	HMP kickoff meeting/webinar with U-Spatial@UMD Develop jurisdictional contact list for MHMP planning team Disseminate & document News Release #1 Hold & document Planning Team Meeting #1 Complete Plans & Programs in Place Checklist Complete Capabilities Assessment to address natural hazards Conduct a Past Mitigation Action Review from prior plan Complete Local Mitigation Surveys Revisit prioritization of natural hazards that pose risk Assist U-Spatial@UMD with provision of key data Complete inventory of Critical Infrastructure
Stage 2 Tasks (4-6 months)	December 2022 – May 2023	Develop 5-year Jurisdictional Mitigation Action Charts Hazus hazard risk assessment for flooding Develop hazard profiles for each natural hazard Complete county profile sections and maps Complete Draft Plan
Stage 3 Tasks (2-3 months)	June – August 2023	EM review of Draft Plan Hold & document Planning Team Meeting #2 Finalize Mitigation Action Charts Disseminate & document News Release #2 EM coordination of plan review by stakeholders
Stage 4 Tasks (2-3 months)	September - November 2023	Post-public review revisions made to plan (as necessary) Draft Plan sent to HSEM for review & approval Draft Plan sent to FEMA for review & approval

Next Steps

U-Spatial@UMD Team members will coordinate each EM to commence work on several tasks that will take place over the next several months.

Notes:

- We are sensitive to the workloads of EM's.
- All information requests or assignments are in prepared form.
- Please communicate your availability to complete/not complete work.
- Plans most expired are priority; however, EM's with completed tasks move up in the queue for plan development.

Questions?

What questions do you have for U-Spatial@UMD or HSEM about the MHMP update process?

Contact Information

Stacey Stark, MS, GISP

U-Spatial@UMD

slstark@d.umn.edu

218-726-7438

Example Plans:

<https://z.umn.edu/hazardmitigation>

Marshall County HMP Update

JURISDICTIONAL CONTACT LIST

COUNTY CONTACTS

Name	Title	Phone	Email
Josh Johnson	Emergency Management Director / Environmental Services Director	(218) 745-5841	josh.johnston@co.marshall.mn.us
Scott Jorgenson	Deputy EM Director	(218) 745-5841	scott.jorgenson@co.marshall.mn.us
Jason Boman	Sheriff	218-745-5411	jason.boman@co.marshall.mn.us
Russ Steer	Assessor	218-745-5331	Russ.steer@co.marshall.mn.us
Scott Peters	Auditor/Treasurer	218-745-4851	scott.peters@co.marshall.mn.us
Lon Aune	Highway Dept., County Engineer	218-745-4381	lon.aune@co.marshall.mn.us
Chris Kujava	Social Services Director	218-745-5124	chris.kujava@co.marshall.mn.us
Brett Brandon	Veteran Service Officer	218-745-4303	brett.brandon@co.marshall.mn.us
Liz Dustin	GIS Coordinator	218-745-4851	liz.dustin@co.marshall.mn.us
Jim Stafford	Florian County Park, Park Manager	218-280-2349	florianpark@wiktel.com
North Valley Health Center Public Health	Frances Tougas, Public Health Director	(218) 745-5154	Frances.Tougas@northvalleyhealth.org
Dave Clark	Ag Services Director	218-745-6904	dave.clark@co.marshall.mn.us
Jim Duckstad	District 1, Commissioner	218-201-0956	jim.duckstad@co.marshall.mn.us
Rolland Miller	District 2, Commissioner	701-739-7396	rolland.miller@co.marshall.mn.us
Larry Nybladh	District 3, Commissioner	218-597-2848	larry.nybladh@co.marshall.mn.us
Sharon Bring	District 4, Commissioner	218-874-3713	sharon.bring@co.marshall.mn.us
Gary Kiesow	District 5, Commissioner	218-378-4480	gary.kiesow@co.marshall.mn.us

CITY CONTACTS

CITY OF ALVARADO (POP. 375)

Name	Title	Phone	Email
Gary Toren	Mayor	218-965-4900	gwtoren@wiktel.com
Jill Fanfulik	Treasurer/Clerk	218-965-4911	alvarado@wiktel.com
Nick Syverson	Emergency Manager	701-741-8239	Syver2@hotmail.com

CITY OF ARGYLE (POP. 522)

Name	Title	Phone	Email
Terry Sundby	Mayor	218-201-0015	terry.sundby@rcis.com
Tamara Benitt	Treasurer/Clerk	218-437-6621	argyle@wiktel.com
Tony Safranski	Emergency Manager	218-82-8618	argyleshop@wiktel.com

CITY OF GRYGLA (POP. 108)

Name	Title	Phone	Email
Richard Moser	Mayor	218-689-1461	cityofgrygla@gvtel.com
Rose Aune	Treasurer/Clerk	218-689-0416	roseaune16@gmail.com

Brad Monson	Emergency Manager	218-689-1814	bkmonson@gvtel.com
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CITY OF HOLT (POP. 87)

Name	Title	Phone	Email
Chris Rux	Mayor	218-686-4439	
Jenny Lee	Clerk	218-688-1507	jjlee@wiktel.com

CITY OF MIDDLE RIVER (POP. 294)

Name	Title	Phone	Email
Thomas Super	Mayor	218-222-3767	citymiddleriver@wiktel.com
Teresa Anderson	Treasurer/Clerk	218-222-3608	citymiddleriver@wiktel.com
Nathan Bukowski	Emergency Manager	218-688-0058	citymiddleriver@wiktel.com

CITY OF NEWFOLDEN (POP. 340)

Name	Title	Phone	Email
Lori Warne	Mayor	218-874-7135	
Tammy Hansen	Administrator	218-874-7135	newfolden@wiktel.com

CITY OF OSLO (POP.231)

Name	Title	Phone	Email
Erika Martens	Mayor	218-695-4103	
Debbie Goschke	Treasurer/Clerk	218-695-3841	cityoffice@oslo.mn.com
Corey Jamison	Fire Chief/EM	701-170-3409	cjamieson@invisimax.com

CITY OF STEPHEN (POP. 593)

Name	Title	Phone	Email
David McGlynn	Mayor	701-270-0445	david.mcglynn@bayer.com
Brett Kuznia	Treasurer/Clerk	218-478-3614	cityclerk@stephenmn.com
Shawn Rominski	Emergency Manager	218-478-4413	stephen.volunteer.fire@gmail.com

CITY OF STRANDQUIST (POP. 70)

Name	Title	Phone	Email
Russell Grandstrand	Mayor	218-689-3517	rjgrand@wiktel.com
Jessica Grochiowski	Clerk		strandquistcityclerk@gmail.com

CITY OF VIKING (POP. 78)

Name	Title	Phone	Email
Michael Hestekind	Mayor	218-686-1145	
Meghan Rheault	Treasurer/Clerk	218-689-5545	cityofviking@gmail.com
Bryan Bolstad	Emergency Manager	218-686-6388	Byan13_b@hotmail.com

CITY OF WARREN (POP. 1,480)

Name	Title	Phone	Email
Mara Hanel	Mayor		
Shannon Mortenson	Treasurer/Clerk	218-745-5343	shannonm@warrenminnesota.com

TOWNSHIP CONTACTS

Name of Township	Name & Title	Phone	Email
Agder Township	Karen Griffin – Clerk	612-670-3747	k.l.c.griffin@gmail.com
Alma Township	Roger Tulibaski – Supervisor	218-437-8103	robert@wiktel.com
Augsburg Township	Krista Pietruszewski – Clerk	218-686-2980	kbpiet@gmail.com
Big Woods Township	Tim Osowski – Supervisor	218-437-6364	tosowski@hotmail.com
Bloomer Township	Paul Bergeron – Supervisor	701-741-6078	bergeron@invisimax.com
Boxville Township	Michael Rosendahl- Supervisor		Michael.rosendahl@gmail.com
Cedar Township	Mark Rustad – Clerk	218-686-9487	Mmrustads4@gmail.com
Como Township	Patricia Hanson - Clerk	218-222-3571	pathanson@wiktel.com
Comstock Township	Scott Sommers - Clerk	218-689-8238	scottsommers62@gmail.com
Donnelly Township	Britni Gajeski - Clerk	218-478-4476	Britann.piet@gmail.com
Eagle Point Township	Luther Anderson - Clerk	701-360-5020	candl@polarcomm.com
East Park Township	Kevin Roppe - Clerk	218-686-6679	A_roppe@hotmail.com
East Valley Township	Tiffany Larson - Clerk	218-686-5967	tiffjarson@gmail.com
Eckvoll Township	Charissa Limesand – Clerk	218-459-3322	gelimes@gvtel.com
Espelie Township	Jean Halvorson – Clerk	218-689-2649	Diamondhranch7@gmail.com
Excel Township	Joseph Ose – Clerk	218-686-0114	joeose@wiktel.com
Foldahl Township	Stacey Maurstad - Clerk	701-331-9695	foldahltownship@gmail.com
Fork Township	Cary Osowski – Supervisor	602-885-2363	Cary.osowski@hotmail.com
Grand Plain Township	Peter Nelson – Supervisor	218-684-1287	Peter.nelson@mn.nacdn.net
Holt Township	Garnette Hanson – Clerk	218-686-2406	garnette.hanson@wiktel.com
Huntly Township	Joan Dvergsten – Clerk	218-781-2819	ajdvergsten@wiktel.com
Lincoln Township	Charles Edgar – Clerk	218-597-2028	ckedgar@wiktel.com
Linsell Township	Stephanie Johnson – Clerk	218-242-2615	sjohnson@redlakeelectric.com
Marsh Grove Township	Craig Bakke – Clerk	218-688-3040	Mg.township@gmail.com
McCrea Township	Ron Leverington – Clerk	701-439-4149	Ron.jeannie@gmail.com
Middle River Township	Paul Crummy – Clerk	218-437-6330	cecil@wiktel.com
Moose River Township	Glen Orpen – Clerk	218-459-3328	glenogotonc@aim.com
Moylan Township	Carolyn Pittman – Clerk	218-378-4425	Lrf4425@gvtel.com
Nelson Park Township	Kenneth Stusynski – Clerk	218-478-3070	kentownship@gmail.com
New Folden Township	Roger Schmitz – Clerk	218-688-7700	rls@wiktel.com
New Maine Township	Heather Garthus – Clerk	218-874-4151	Bergh75@hotmail.com
New Solum Township	Jill Hall – Clerk	218-684-2186	Jillhall958@yahoo.com
Oak Park Township	Rodney Teigen – Clerk	218-745-4381	rodteigen@yahoo.com
Parker Township	Korey Sundby – Clerk	218-478-4171	Korey.sundby@gmail.com
Rollis Township	John Larson – Supervisor	218-459-3492	jlarsenfarms@gmail.com
Sinnott Township	Bruce Field – Supervisor	612-816-1420	dave.clark@co.marshall.mn.us
Spruce Valley Township	Debbie Ornquist – Clerk	218-222-3540	mornqst@wiktel.com
Tamarac Township	Derik Nelson – Clerk	218-230-9856	Derik_nelson06@hotmail.com
Thief Lake Township	Arlette Pearson – Clerk	218-222-3406	Arlettepearson14@outlook.com
Valley Township	Robbie Anderson – Clerk	218-684-1740	Robbie.anderson@asbgrygla.com
Vega Township	Harlan Boman – Supervisor	218-686-4051	hlboman@yahoo.com
Veldt Township	Greg Sparby – Clerk	218-686-7302	Greg.sparby@gmail.com

Viking Township	Bryan Bolstad – Supervisor	218-686-6388	Bryan13_b@hotmail.com
Wanger Township	Jeff Nelson – Clerk	218-478-3362	jnelson478@hotmail.com
Warrenton Township	Jeremy Solvik – Supervisor	218-242-9939	jeremysolvik@yahoo.com
West Valley Township	Beverly Rux – Clerk	218-597-2808	bevru@wiktel.com
Whiteford Township	Jerome Berg – Clerk	218-222-3593	jmbergfarms@gmail.com
Wright Township	Gregory Lubarski – Clerk	218-686-5555	wrighttownship@outlook.com

OTHER STAKEHOLDER CONTACTS

LOCAL & REGIONAL AGENCIES INVOLVED IN HAZARD MITIGATION

Name of Agency / Organization	Name & Title	Phone	Email
MN Homeland Security & Emergency Management	Andrew Tepfer, HSEM Region 3 Regional Program Coordinator	651-387-9997 cell 651-201-7491 Office	andrew.tepfer@state.mn.us
Marshall Soil & Water Conservation District	Darren Carlson, Programs Manager	218-745-5010	darren.carlson@mn.nacdnet.net
Natural Resources Conservation Service (NRCS)	Matt Waterworth, District Conservationist	218-745-5010	matt.waterworth@mn.usda.gov
Northwest Regional Development Commission	Jennifer Olson, Emergency Operations Planning Director	218-745-9114	jolson@nwrdc.org
USDA Rural Development Community Programs	Angie Bokovoy, Area Specialist	218-751-1942, ext. 116	angela.bokovoy@usda.gov
MnDOT District 2	J.T. Anderson, Transportation District Engineer	218-755-6549	j.t.anderson@state.mn.us
MN DNR Forestry – Firewise Program	Dan Carroll, Northwest MN Firewise Specialist	(218) 732-3309, ext 230	Dan.Carroll@state.mn.us
MN DNR Ecological and Water Resources Division	Stephanie Klamm, Region 1 Northwest Area Hydrologist	(651) 587-5448	Stephanie.Klamm@state.mn.us
Thief Lake Wildlife Management Area	Kyle Arola, Thief Lake Area Supervisor	(218) 633-7670	kyle.arola@state.mn.us
Red Lake Watershed District	Myron Jesme Administrator	218-686-9692	Myron.Jesme@redlakewatershed.org
Middle-Snake-Tamarac-River Watershed District	Mori Maher District Administrator	218-230-5703	morteza.maher@mstrwd.org
Agassiz National Wildlife Refuge	Jim Graham, Refuge Manager	218-449-4115	james_graham@fws.gov

REPRESENTATIVES OF BUSINESSES, ACADEMIA, AND OTHER PRIVATE ORGANIZATIONS

Name of Agency / Organization	Name & Title	Phone	Email
American Red Cross Northwestern Minnesota	Marian Jordan, Disaster Preparedness Manager	701-364-1800	marian.jordan@redcross.org

Salvation Army Marshall County	Cody Kill, Regional Service Representative	701-213-3467	cody.kill@usc.salvationarmy.org
PKM (Polk-Kittson-Marshall) Electric Co-op Warren, MN	Karen Olson, CFO and Joe Marcotte, Operational Manager	(218) 745-4711	kolson@pkmcoop.com jmarcotte@pkmcoop.com
Otter Tail Power Crookston, MN	Tom Hrdlicka, System Operations Manager	(218) 739-8200	thrdlicka@otpc.com
Roseau Electric Cooperative Inc.	Tracey Stoll, General Manager	218-463-1543	tstoll@roseauelectric.com
Red Lake Electric Cooperative	Stephanie Johnson, General Manager	(218) 253-2168	sjohnson@redlakeelectric.com
Grygla Public School District	Jamie Lunsetter	(218) 294-6155	jlunsetter@grygla.k12.mn.us
Marshall County Central Schools	Jeffrey Lund, Superintendent/Elementary Principal	(218) 874-8530	jlund@mccfreeze.org
Stephen-Argyle Central School District	Dr. Christopher Mills, Superintendent of Schools	(218) 478-3314	cmills@sac.k12.mn.us
Warren-Alvarado-Oslo School District	Kirk Thorstenson, Superintendent	(218) 745-5393	kthorstenson@wao.k12.mn.us

REPRESENTATIVES OF NONPROFIT ORGS, INCLUDING COMMUNITY-BASED ORGS THAT WORK WITH OR PROVIDE SUPPORT TO UNDERSERVED COMMUNITIES AND SOCIALLY VULNERABLE POPULATIONS

Name of Agency / Organization	Name & Title	Phone	Email
Northwest Regional Development Commission	Darla Waldner, Executive Director	218-745-6733	darla@nwrdc.org
Northwest Minnesota Foundation	Nate Dorr, VP For Advocacy and Dawn Ganje, Director for Community Philanthropy	218-759-2057	nated@nwmf.org dawng@nwmf.org
Dancing Sky Area Agency on Aging	Heather Pender, Dancing Sky Aging Director	(218) 745-6733	heather@nwrdc.org

NEIGHBORING JURISDICTIONS

Name of Jurisdiction	Name & Title	Phone	Email
Kittson County	Scot Elling Olson, Emergency Management Director	(218) 843-2113	solson@co.kittson.mn.us
Roseau County	Sue Grafstrom, Emergency Management Director	(218) 463-3375	sue.grafstrom@co.roseau.mn.us
Beltrami County	Chris Muller, Emergency Management Director	(218) 333-8386	Chris.muller@co.beltrami.mn.us
Pennington County	Erik Beitel, Emergency Management Director	(218) 683-7087	elbeitel@co.pennington.mn.us
Polk County	Jody Beauchane, Emergency Management Director	(218) 470-8263	jody.beauchane@co.polk.mn.us

Red Lake Band of Chippewa	Robert Neadeau Jr., EMD	218-679-3341	rneadeau@redlakenation.org
Walsh County, ND	Brent Nelson, Emergency Management Director	701-352-2311	banelson@nd.gov

LOCAL MEDIA CONTACTS

Name of Local Media	Media Contact	Phone	Email
Grand Forks Herald	General News	(701) 780-1170	news@gfherald.com
Thief River Falls Times and Northern Watch	David Hill, Editor	(218) 681-4450	dhill@trftimes.com
Thief River Falls Radio	Main Office	(218) 681-1230	contact@trfradio.com
Warren Sheaf	Main Office	(218) 745-5174	news@warrensheaf.com
Stephen Messenger	Main Office	(218) 478-2210	Messenger@wiktel.com
Middle River Honker	Main Office	(218) 222-3501	brianna@thehonker.com
Grygla Eagle	Main Office	(218) 487-5225	grygla.eagle@gmail.com

Marshall County MHMP Planning Team Meeting #1

9/30/2022 - Meeting Summary & Documentation

Summary: On Thursday, September 30, 2022 Marshall County Emergency Management convened key county, city, and township representatives, as well as neighboring jurisdictions and other stakeholders to participate in the 1st Planning Team Meeting for the update of the Marshall County Multi-Hazard Mitigation Plan (MHMP). The purpose of the meeting was to formally present information about the Marshall County MHMP update and to discuss key items that would inform plan development. The meeting was held via Zoom webinar video conference and was facilitated by Stacey Stark and Bonnie Hundrieser of the U-Spatial@UMD project team.

Stakeholder Invitations: Marshall County Emergency Management invited all stakeholders included on the county's MHMP Update Jurisdictional Contact List (JCL), which includes the key County Contacts, City Contacts, Township Contacts, Other Stakeholder Contacts, and Neighboring Jurisdiction Contacts identified to be invited to participate in the plan update process. Contacts were encouraged to engage additional staff or to send someone in their stead if they could not attend. A copy of the county's Jurisdictional Contact List is provided in *Appendix F Planning Team Meetings*.

Meeting Participants: A total of **22** people attended the meeting. Representation included departmental staff from Marshall County and the cities of Alvarado, Argyle, Grylga, Middle River, Strandquist, and Warren. The cities of Holt, Newfolden, Oslo, Stephen, and Viking were unable to attend due to staff capacity. Other stakeholders, including neighboring jurisdictions, participated in the meeting. A participant list is included with this meeting summary.

Presentation Overview: The Power Point presentation covered the following items. A PDF of the presentation slides is included with this meeting summary.

- Overview of Hazard Mitigation & the MHMP Update
- Who the Plan Covers & Role of the Planning Team
- Review of Hazards + Overview of Risk Assessment and Vulnerability Analysis
- Update of Risk Priorities
- Review of Mitigation Strategies & Example Actions
- Overview of FEMA HMA grant program
- Discussion of local mitigation ideas
- Discussion of next steps & answer your questions.

Participant Poll: At the start of the meeting participants were presented with an interactive poll asking "Have you participated in Hazard Mitigation Planning previously?" Following are the poll results:

- Yes, I have previously participated in in a hazard mitigation planning process. **(7/15) 47%**
- No, but I am familiar with hazard mitigation planning. **(1/15) 7%**
- No, and this is all new to me. **(7/15) 47%**

Prioritization of Natural Hazards: The planning team was presented with an overview of each of the natural hazards that were covered in the county's last plan and the risk prioritization at that time. Considerations for the current risk prioritization since the last plan was presented for each hazard, such as events recorded since the last plan, NCEI Storm Data, or known existing local vulnerabilities (i.e., number of mobile home parks). It was noted to participants that:

- Hazards deemed to be of high or moderate risk must result in mitigation actions to address them for the jurisdictions that are affected.
- Hazard prioritization may vary for jurisdictions or may not differ countywide.
- Hazards deemed to be low risk and without significant mitigation actions may be dropped from the plan. This excludes the hazard of Dam/Levee failure, which must be addressed per new FEMA guidelines, even if risk is deemed low.

Following is a chart reflecting the 2016 risk priorities for Marshall County and any changes to the current risk prioritization for the plan update. This discussion served as an introduction to updating the risk prioritization and will be followed up with further information gathered from the county and local jurisdictions during the planning process. Changes to risk prioritizations are noted in bold.

Hazard	2016 Plan	2022 Plan
Flooding	High	High
Winter Storms	Moderate	Moderate
Extreme Cold	Moderate	Moderate
Windstorms	Low	Moderate
Tornadoes	Low	Moderate
Hail	Low	Low
Lightning	Low	Low
Extreme Heat	Low	Low
Wildfire	Low	Low
Drought	Low	Moderate
Subsidence	Low	Low
Erosion	Low	(N/A – see below)
Dam/Levee Failure	Low	Low
Landslides	<i>Not addressed</i>	Combine Erosion/Landslides, Moderate

Comments, Questions or Mitigation Ideas – Following are the questions, comments or mitigation ideas that were shared by participants and how they will be addressed for the plan update.

Meeting Participant	Comment, Question or Mitigation Idea Submitted	Facilitator Feedback / How to be Addressed in Plan Update
Lon Aune, Marshall County Engineer	<i>Regarding Hazard Profile of Erosion / Landslides:</i> When addressing erosion impacts in the county, we have wind erosion, river erosion, and erosion of county ditches which is related to localized flooding. We have many cases where county ditches have sluffed in, so it is not a landslide but the stabilization of ditches is an issue. Is there a way to utilize this plan to leverage funding for that?	Stacey Stark: When referring to this type of erosion impacts for Marshall County it may be easier to address under the hazard profile of flooding. However, we can also combine erosion under landslides, so we can take a broader look at this as a combined hazard in the county. Bonnie Hundrieser: I will work with you to make sure we cover this as part of the county's risk assessment and identify potential mitigation actions that might be eligible for future FEMA HMA grant funding.

Meeting Participant	Comment, Question or Mitigation Idea Submitted	Facilitator Feedback / How to be Addressed in Plan Update
Lon Aune, Marshall County Engineer	<i>Regarding Hazard Profile of Dam/Levee Failure:</i> We have levees all along the western part of the county and ring dikes around properties - - are they incorporated into the plan?	Stacey Stark: We do show where the levees are, but MN DNR data on levees do not have the same hazard rankings like the dams do. If there is anything we can say about the condition of any levees of concern we can do so and they will likely be better addressed under flooding. FEMA HMA Hazard Potential Dam (HHPD) grant program does not apply to levees.
Tiffany Larson, East Valley Township, Township Clerk	<i>Regarding Hazard Profile of Dam/Levee Failure:</i> How is the Agassiz Refuge dams and controls relate to this plan? This affects us in East Valley Township, also cleaning of Ditch 83 - how do we go about this an bring attention to this?	Stacey Stark: Clarified that FEMA's focus is on large scale dam failure, not so much dam operation. We don't get into specifics of ditch maintenance or dam/levee maintenance.
Jeffrey Lund, Marshall County Central School District, Superintendent	<i>Regarding Mitigation Ideas:</i> One infrastructure item we (MCC Schools) could use is a propane generator big enough for essential emergency infrastructure. We've served the county as a shelter area for campgrounds and/or a central location to help with logistics. Would something like this qualify for this grant program?	Bonnie Hundrieser: Applying to FEMA HMA grant program for a generator for critical infrastructure is possibly eligible if you can conduct a benefit-cost analysis as part of the application. This is a great mitigation action to include for the county plan since the MCC Schools provide an important support function to the county during emergencies.

Following the discussion, participants were encouraged to fill out and return the "Mitigation Ideas" worksheet that they were provided with to Marshall County Emergency Management to submit any specific local concerns and related mitigation ideas. The meeting concluded with an overview of next steps and estimated timeline for completion.

Attached are the following documentation items for the Marshall County MHMP Meeting #1:

- 9-30-22 Mtg. #1 Email Invitation
- 9-30-22 Mtg. #1 List of Participants
- 9-30-22 Mtg. #1 Power Point Slides
- 9-30-22 Mtg. #1 Handouts

Meeting Summary Prepared By: Bonnie Hundrieser, U-Spatial@UMD Project Team

From: [Scott Jorgenson](#)
To: [Josh Johnston](#); [Scott Jorgenson](#); [Jason Boman](#); [Russ Steer](#); [Scott Peters](#); [Lon Aune](#); [chris.kujava@co.marshall.mn](#); [Brett Brandon](#); [Liz Dustin](#); [florianpark@wiktel.com](#); [Frances.Tougas@northvalleyhealth.org](#); [Dave Clark](#); [Jim Duckstad](#); [Rolland Miller](#); [Larry Nybladh](#); [Sharon Bring](#); [Gary Kiesow](#); [gwtoren@wiktel.com](#); [alvarado@wiktel.com](#); [Syver2@hotmail.com](#); [terry.sundby@rcis.com](#); [argyle@wiktel.com](#); [argyleshop@wiktel.com](#); [cityofgrygla@gvtel.com](#); [roseaune16@gmail.com](#); [bkmonson@gvtel.com](#); [jilee@wiktel.com](#); [citymiddleriver@wiktel.com](#); [newfolden@wiktel.com](#); [cityoffice@oslo.mn](#); [cjamieson@invisimax.com](#); [pthompson@kodabank.com](#); [cityclerk@stephenmn.com](#); [stephen.volunteer.fire@gmail.com](#); [strandquistcityclerk@gmail.com](#); [cityofviking@gmail.com](#); [Bryan13_b@hotmail.com](#); [shannonm@warrenminnesota.com](#); [k.l.c.griffin@gmail.com](#); [robert@wiktel.com](#); [kbplet@gmail.com](#); [bergeron@invisimax.com](#); [Michael.rosendahl@gmail.com](#); [mmrustads4@gmail.com](#); [pathanson@wiktel.com](#); [scottsomers62@gmail.com](#); [britann.piet@gmail.com](#); [candl@polarcomm.com](#); [A_roppe@hotmail.com](#); [tiffjarson@gmail.com](#); [gelimes@gvtel.com](#); [diamondhranch7@gmail.com](#); [joeose@wiktel.com](#); [foldahltownship@gmail.com](#); [Cary.osowski@hotmail.com](#); [Peter.nelson@mn.nacdn.net](#); [garnette.hanson@wiktel.com](#); [ajdvergsten@wiktel.com](#); [ckedgar@wiktel.com](#); [sjohnson@redlakeelectric.com](#); [mg.township@gmail.com](#); [ron.jeannie@gmail.com](#); [cecil@wiktel.com](#); [glenogotoc@aim.com](#); [lrf4425@gvtel.com](#); [kentownship@gmail.com](#); [rls@wiktel.com](#); [Bergh75@hotmail.com](#); [jillhall958@yahoo.com](#); [rodteigen@yahoo.com](#); [Korey.sundby@gmail.com](#); [jlarsonfarms@gmail.com](#); [Dave Clark](#); [mornqst@wiktel.com](#); [derik_nelson06@hotmail.com](#); [arlettepearson14@outlook.com](#); [robbie.anderson@asbgrygla.com](#); [hiboman@yahoo.com](#); [greg.sparby@gmail.com](#); [Bryan13_b@hotmail.com](#); [jjnelson478@hotmail.com](#); [jeremysolvik@yahoo.com](#); [bevrux@wiktel.com](#); [jmbergfarms@gmail.com](#); [wrighttownship@outlook.com](#); [Heather.Winkleblack@state.mn.us](#); [darren.carlson@mn.nacdn.net](#); [matt.waterworth@mn.usda.gov](#); [jolson@nwrdc.org](#); [angela.bokovoy@usda.gov](#); [j.t.anderson@state.mn.us](#); [Dan.Carroll@state.mn.us](#); [Stephanie.Klamm@state.mn.us](#); [Stephanie.Klamm@state.mn.us](#); [Myron.Jesme@redlakewatershed.org](#); [Myron.Jesme@redlakewatershed.org](#); [James_graham@fws.gov](#); [marian.jordan@redcross.org](#); [cody.kill@usc.salvationarmy.org](#); [kolson@pkmcoop.com](#); [jmarcotte@pkmcoop.com](#); [thrdlicka@otpc.com](#); [tstoll@roseaelectric.com](#); [sjohnson@redlakeelectric.com](#); [jlunsetter@grygla.k12.mn.us](#); [jlund@mccfreeze.org](#); [cmills@sac.k12.mn.us](#); [kthorstenon@wao.k12.mn.us](#); [darla@nwrdc.org](#); [jessicay@nwmf.org](#); [heather@nwrdc.org](#); [solson@co.kittson.mn.us](#); [sue.grafstrom@co.roseau.mn.us](#); [Chris.muller@co.beltrami.mn.us](#); [elbeitel@co.pennington.mn.us](#); [jody.beauchane@co.polk.mn.us](#); [banelson@nd.gov](#)
Cc: [hundrieserconsulting@outlook.com](#)
Subject: Marshall County Multi-Hazard Mitigation Plan Update - Meeting Invitation
Date: Thursday, August 18, 2022 11:16:54 AM

MARSHALL COUNTY

MULTI-HAZARD MITIGATION PLAN UPDATE – MEETING INVITATION

Greetings,

Your presence is requested at a virtual Planning Team Meeting for the update of the **Marshall County Multi-Hazard Mitigation Plan**. You are requested to participate in this vital meeting because you have a position of administrative or departmental responsibility within either the county, a municipal government, or are a key stakeholder related to the planning process. Emergency Managers from neighboring jurisdictions are also encouraged to attend so we may strengthen our shared mitigation efforts.

We will be holding the meeting virtually using Zoom video/phone conferencing:

Date: Friday, September 30, 2022

Time: 2:00 p.m. – 4:00 p.m.

Zoom Link: https://umn-private.zoom.us/webinar/register/WN_4xd7Ak-NRZSFtMOehGbew

Please Note: You must click on the link above to register. (Ctrl+Click to follow link) When you register, you will automatically be placed on an RSVP list. Please be sure to include the name, title and representation (jurisdiction/agency) for all persons planning to attend the meeting.

About the Plan

The update of the Marshall County Multi-Hazard Mitigation Plan (MHMP) is a requirement by the State of Minnesota Department of Homeland Security & Emergency Management (HSEM) as well as the Federal Emergency Management Agency (FEMA) every 5 years. Our last plan is due for an update and our planning is currently underway. The plan addresses the natural hazards that face Marshall County and will result in the identification of mitigation actions that will help to reduce or eliminate the impact of future hazard events, such as flooding and severe winter or summer storms.

Your participation in this plan update is important for several reasons:

1. You will help to identify critical mitigation projects to implement at the county / municipal level, and how they can be integrated with existing plans, policies, or project efforts.
2. Participating jurisdictions will be eligible to apply for FEMA hazard mitigation grant funding.
3. Mitigation planning is necessary to keep our communities resilient against future disasters and reduce the costs of recovery.
4. FEMA requires documentation of how local government and key stakeholders participated in the planning process.

During this meeting we will review and prioritize the natural hazards that pose risk to Marshall County and individual communities and discuss a range of mitigation measures for local implementation. The meeting will be facilitated by personnel from U-Spatial at the University of MN Duluth who are working closely with us on this project.

We look forward to you joining us for this important meeting.

Thank you,

Josh Johnston
Marshall County
Environmental Services Administrator /
Emergency Management Director
208 E Colvin Ave Ste 5
Warren, MN 56762
218-745-5841
Josh.johnston@co.marshall.mn.us

From: [Scott Jorgenson](#)
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Cc:
Subject: RE: Marshall County Multi-Hazard Mitigation Plan Update - Meeting Invitation
Date: Monday, September 26, 2022 11:37:32 AM

Greetings,

This is an important reminder to please register for the upcoming Marshall County hazard mitigation planning meeting coming up on Friday, Sept. 30th. Information on how to register is provided below. Your community / organization's representation and feedback during this meeting is critical to our plan update and meeting FEMA requirements. If you have not registered already, we hope you will do so.

Date: Friday, September 30, 2022

Time: 2:00 p.m. – 4:00 p.m.

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Thank you,

Josh Johnston
Marshall County
Environmental Services Administrator /
Emergency Management Director
208 E Colvin Ave Ste 5
Warren, MN 56762
218-745-5841
Josh.johnston@co.marshall.mn.us

Marshall County

9/30/22 MHMP Planning Team Meeting #1

List of Participants (22)

	First Name	Last Name	Organization	Job Title
1	Josh	Johnston	Marshall County Emergency Management	Emergency Management Director
2	Scott	Jorgenson	Marshall County Emergency Management	Deputy Emergency Management Director
3	Lon	Aune	Marshall County Highway Dept.	County Engineer
4	Liz	Dustin	Marshall County GIS Dept.	GIS Administrator
5	Chris	Kujava	Marshall County Social Services Dept.	Director
6	Nick	Syverson	City of Alvarado	City Superintendent
7	Tamara	Benitt	City of Argyle	City Clerk
8	Rose	Aune	City of Grylga	Clerk/Treasurer
9	Rachel	Bukowski	City of Middle River	City Administrator/Clerk-Treasurer
10	Nancy	McCullough	City of Strandquist	City Clerk
11	Shannon	Mortenson	City of Warren	City Administrator
12	Greg	Sparby	Veldt Twp	Township Clerk
13	Britni	Gajeski	Donnelly Township	Township Clerk Treasurer
14	Tiffany	Larson	East Valley Township	Township Clerk
15	Rodney	Teigen	Oak Park Township	Township Clerk
16	Jared	Anderson	Linsell Township	Township Chairman
17	Darren	Carlson	Marshall Soil & Water Conservation District	District Manager
18	Frances	Tougas	North Valley Public Health	Public Health Director
19	Jennifer	Olson	Northwest Regional Development Commission	Emergency Operations Planning Director
20	Kirk	Thorstenson	Warren Alvarado Oslo Public School	Superintendent
21	Jeffrey	Lund	Marshall County Central Schools	Superintendent
22	Christopher	Muller	Beltrami County Emergency Management	Emergency Management Director

MARSHALL COUNTY Multi-Hazard Mitigation Plan Update 2022 Planning Team Meeting #1

September 30, 2022



U-SPATIAL

UNIVERSITY OF MINNESOTA DULUTH
Driven to Discover

Welcome & Introductions

U-Spatial@UMD Project Leads



Stacey Stark
Project Manager
U-Spatial@UMD



Bonnie Hundrieser
HMP Planning Specialist
Hundrieser Consulting LLC

Marshall County Project Lead

- Jeff Johnston, Marshall County Emergency Management Director
- Scott Jorgenson, Deputy EM Director



Please type your name and jurisdiction in the CHAT – so others know who is here

PRESENTER: STACEY STARK

Zoom Logistics

If you haven't yet, please type your Marshall and jurisdiction or department in the Chat window

PLEASE REMAIN MUTED AND VIDEO OFF SO EVERYONE CAN HAVE THE BEST EXPERIENCE.

USE CHAT:

- Send a message to everyone
- Send a message to individuals or the presenters
- Send a message to host to ask for help or ask a question that isn't for the whole group. The host is Stacey Stark



ASK TO SPEAK:



PRESENTER: STACEY STARK

Meeting Purpose & Agenda



2018 spring flood road washout

The purpose of this meeting is to formally convene the **Marshall County MHMP Planning Team** for a presentation of the plan update and discussion of key items.

Agenda:

- Overview of Hazard Mitigation & the MHMP Update
- Who the Plan Covers & Role of the Planning Team
- Review of Hazards + Overview of Risk Assessment and Vulnerability Analysis
- Review of Hazard Risk Prioritization
- Review of Mitigation Strategies & Actions
- Overview of FEMA HMA grant program
- Discuss local mitigation ideas
- Discuss next steps & answer your questions.

PRESENTER: STACEY STARK

About your Project Team

U-SPATIAL
UNIVERSITY OF MINNESOTA DULUTH
Driven to Discover

U-Spatial at the University of Minnesota Duluth was contracted by MN HSEM to facilitate the development of this plan and to conduct spatial analysis, mapping and research for the plan.

Working with U-Spatial@UMD is **Bonnie Hundrieser**, who specializes in hazard mitigation planning.

We Bring:

- **Proven experience** in county/tribal plan updates and State MHMP
- **Advanced capabilities** in GIS, HAZUS, and research
- **Ability to expedite** plan development and approval through consistent & proven approach

PRESENTER: STACEY STARK

What is Hazard Mitigation?

Hazard Mitigation is any action taken to reduce or eliminate long term risk to people and property from natural disasters.



Hazard Mitigation Planning:

- identifies risks and vulnerabilities
- develops a plan of action built on capabilities and partnerships.
- breaks the cycle of disaster and reconstruction.
- builds stronger & more resilient communities.

PRESENTER: BONNIE HUNDRIESER

MHMP Overview & Timeline



2022 wall cloud, Strandquist

The Multi-Hazard Mitigation Plan (MHMP) is a requirement of the Federal Disaster Mitigation Act of 2000 (DMA 2000).

- ✓ The development of a local government plan is required in order to maintain eligibility for FEMA hazard mitigation grant programs.
- ✓ Plans must be updated every 5 years.
- ✓ Must address all jurisdictions and engage key stakeholders.
- ✓ Planning process must give an opportunity to the public to provide feedback.

Marshall County MHMP Update 2022

- Last plan adopted in 2016.
- The updated plan will cover a 5-year window for implementation.
- Documentation of county and local-level government participation is required for plan approval.

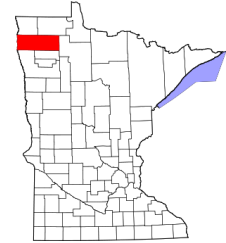
PRESENTER : BONNIE HUNDRIESER

Who the Plan Covers



The Marshall County MHMP is a multi-jurisdictional plan that covers the county as well as all city & townships within the county.

- ✓ County and city governments are required to adopt the plan.
- ✓ Townships are covered under the umbrella of the county but may elect to adopt.
- ✓ City-level participation in the plan update must be documented for local adoptions to be approved.



PRESENTER : BONNIE HUNDRIESER

MHMP Planning Team



Marshall County Planning Team

- Marshall County Emergency Management
- Key County Officials & Staff
- City & Township Officials & Staff
- Neighboring Jurisdictions
- Other Related Agency or Organizational Stakeholders

- Participate in 2 planning team meetings.
- Assist with public outreach (2 news releases) using websites, social media & bulletin boards.
- Provide information to inform plan update.
- Help develop & review local mitigation action charts.
- Review the draft plan.
- Facilitate local-level adoptions.

PRESENTER : BONNIE HUNDRIESER

What Hazards are Addressed in the Plan?



➢ Natural hazards that pose risk to the county and its jurisdictions.

➢ Manmade hazards are not required to be addressed (per the DMA 2000).

➢ Hazards that are deemed to be of low risk may be omitted from the plan.

➢ Hazard risk may differ in cities and the county overall.

Flooding	Hail	Drought
Dam/Levee Failure	Lightning	Extreme Heat
Wildfire	Winter Storms	Extreme Cold
Windstorms	Landslides	Earthquakes
Tornadoes	Sinkholes & Karst	Coastal Erosion

Natural hazard categories for Minnesota MHMPs.

PRESENTER : BONNIE HUNDRIESER

Comments and Questions?

The structure of the HMP

PDF document

- Contains almost all FEMA required elements
- Limited Figures and Images

- Summary of Hazard Identification
- Local mitigation survey report
- Plans and Programs in Place
- Past Mitigation Action Review Status Report
- Planning Team Meetings
- Public Outreach and Engagement Documentation
- Mitigation Actions by Jurisdiction

Website companion

- Interactive maps and content
- Simple, concise explanations
- Multiple ways to navigate the content
- Links to PDF components and document
- Public input form on site



Hazard Risk Assessment and Vulnerability Analysis

The U-Spatial@UMD Team will work closely with the county and each city to provide information as needed.

- Inventory of critical infrastructure.
- Identify specific, local-level impacts and vulnerabilities.
- Identify any factors (i.e., new development) that may increase the community's vulnerability.
- Review social vulnerability factors.
- Identify if and how risk priorities have changed since the last plan. (Increased / Decreased)



2021 Argyle high rain event - road damage



2020 Argyle high wind event - park damage

PRESENTER : STACEY STARK

Marshall County Review of Hazard Risk Prioritization

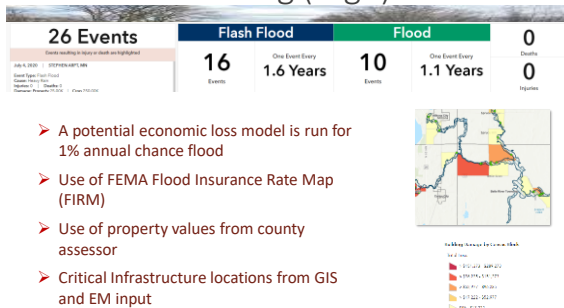
Hazard	2016 Plan
Flooding	High
Winter Storms	Moderate
Extreme Cold	Moderate
Windstorms	Low
Tornadoes	Low
Hail	Low
Lightning	Low
Extreme Heat	Low
Wildfire	Low
Drought	Low
Subsidence	Low
Erosion	Low
Dam/Levee Failure	Low
Landslides	Not addressed

Considerations for changes in hazard prioritizations since last plan:

- Increase or decrease in risk over the last 5 years (probability + severity)
- Local vulnerabilities (people, systems, infrastructure)
- New development

PRESENTER : STACEY STARK

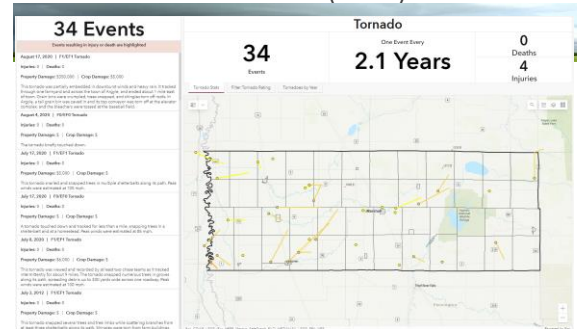
Flooding (High)



- A potential economic loss model is run for 1% annual chance flood
- Use of FEMA Flood Insurance Rate Map (FIRM)
- Use of property values from county assessor
- Critical Infrastructure locations from GIS and EM input

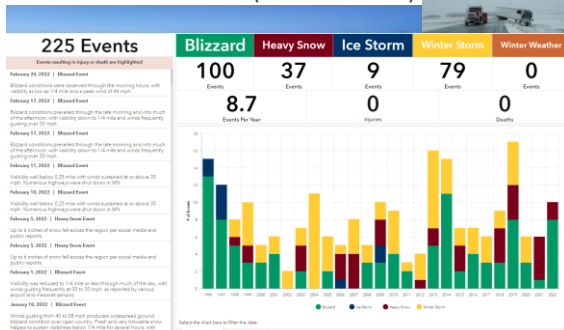
PRESENTER : STACEY STARK

Tornadoes (Low)



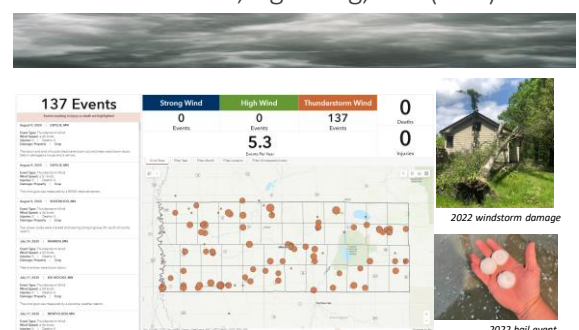
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Winter Storms (Moderate)



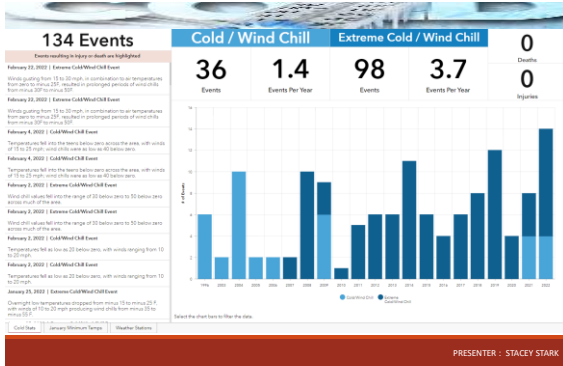
PRESENTER : STACEY STARK

Windstorms, Lightning, Hail (Low)

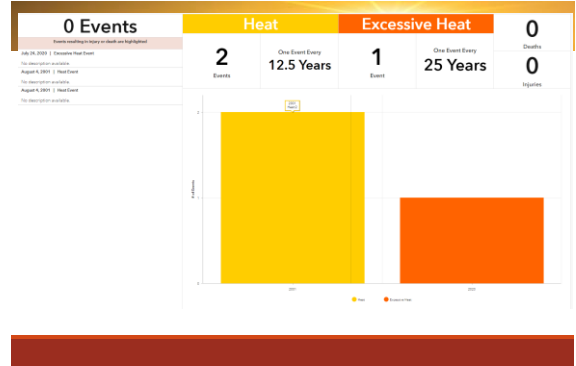


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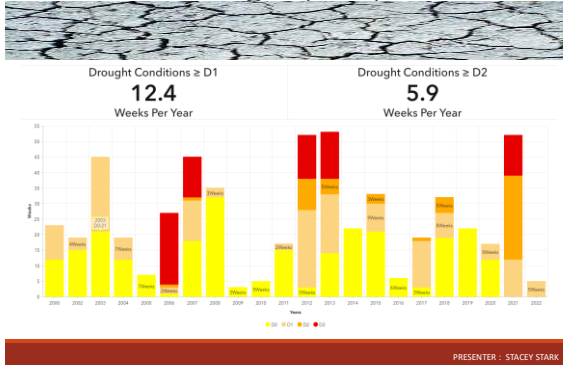
Extreme Cold (Low)



Extreme Heat (Low)



Drought (Low)



Wildfire/Wildland Fire (Low)

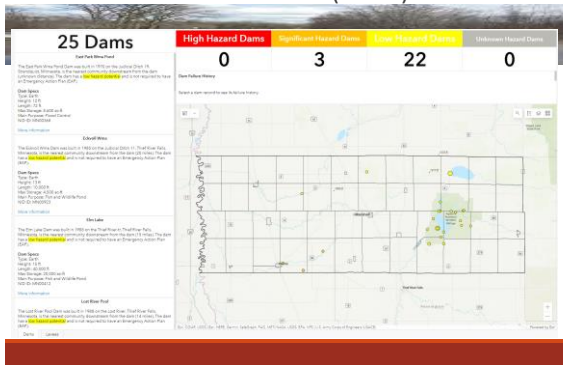


Landslides (not addressed previously)



- Hazards deemed low risk and without significant mitigation actions, can be dropped from the plan.

Dam Failure (Low)



Marshall County Review of Hazard Risk Prioritization

Hazard	2016 Plan	2022 Plan
Flooding	High	
Winter Storms	Moderate	
Extreme Cold	Moderate	
Windstorms	Low	
Tornadoes	Low	
Hail	Low	
Lightning	Low	
Extreme Heat	Low	
Wildfire	Low	
Drought	Low	
Subsidence	Low	
Erosion	Low	
Dam/Levee Failure	Low	
Landslides	Not addressed	

High to moderate priority hazards will be addressed in the 2022 plan update and will require mitigation actions.

PRESENTER : STACEY STARK

Mitigation Strategies & Example Actions



See Handout: Mitigation Strategies & Action Types

PRESENTER : BONNIE HUNDRIESER

#1 - Local Planning & Regulations



These actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.

EXAMPLES:

- Establishing & enforcing floodplain & shoreland ordinances
- Participating in the NFIP
- Developing stormwater management plans
- Long-term planning for infrastructure improvements
- Working with MHP operators to be in compliance with State statutes for storm shelters & evacuation plans.



PRESENTER : BONNIE HUNDRIESER

#2 – Structure and Infrastructure Projects



These actions involve modifying existing structures to protect them from a hazard or remove them from a hazard area. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.

EXAMPLES:

- Property acquisitions (repetitive flooding/erosion risk)
- Structural elevations (flooding)
- Constructing floodwalls & retaining walls
- Improving culverts, roads & bridges
- Green infrastructure projects
- Tornado Safe Rooms
- Utility undergrounding



PRESENTER : BONNIE HUNDRIESER

Tornado Safe Rooms

- Are eligible for FEMA HMA grant funding
- Include new construction or retrofit of existing facilities
- Should be considered for vulnerable areas such as MHPs, schools, parks, and campgrounds



1998 Tornado damage to MHP in Le Center, MN.



Warba, MN mobile home park tornado safe room, FEMA grant funded



1st School-based tornado safe room, Wadena, MN (2012) following June 17, 2010 tornado damage

PRESENTER : BONNIE HUNDRIESER

Utility Undergrounding

- Converting vulnerable overhead powerlines to underground is eligible for FEMA HMA grant funding.
- Include municipal and rural electric cooperatives in the planning process to document participation and establish eligibility for potential future project applications.



PRESENTER : BONNIE HUNDRIESER

#3 – Natural Systems Protection



These are actions that minimize damage and losses and also preserve or restore the functions of natural systems.

EXAMPLES:

- Slope management for soil stabilization
- Shoreland restoration
- "Living Fences" for wind/erosion reduction or snow buffer
- Forest management for wildfire mitigation (fuels reduction)
- Flood diversion and storage



PRESENTER : BONNIE HUNDRIESER

#4 – Education & Awareness Programs

These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them.



EXAMPLES:

- Promoting sign-up for emergency notifications
- Educate on use of outdoor warning sirens and response
- Participation in the NWS Severe Weather Awareness Weeks
- SKYWARN Storm Spotter Training
- Turn Around Don't Drown
- Promoting personal & family emergency preparedness (i.e. Ready.gov)

PRESENTER : BONNIE HUNDRIESER

#5 – Mitigation Preparedness & Response Support

These are actions that help to protect life and property prior to, during, and immediately after a disaster or hazard event.

These activities are typically not considered mitigation, but support reduction of the effects of damaging events.

EXAMPLES:

- Emergency Operations Plans
- Outdoor warning sirens
- Shelter Planning
- Flood fight plans & equipment
- Training local elected officials in EM responsibilities
- Obtaining backup generators for critical facilities



PRESENTER : BONNIE HUNDRIESER

FEMA HMA Grant Program

See Handout: HSEM HMA Grants Program Overview

- ✓ All applicants must have or be covered under an approved MHMP.
- ✓ Eligible applicants: State & local governments, Tribal Communities, and certain private non-profit organizations or institutions.
- ✓ Cost Share: Federal 75%/Applicant 25%
- ✓ Eligible projects must be identified in the local MHMP.

Examples of Eligible Activities

- Property Acquisition/Relocation
- Tornado Safe Room Construction
- Minor Localized Flood Risk Reduction
- Green Infrastructure
- Infrastructure Retrofits
- Soil Stabilization
- Wildfire Mitigation
- 5% Initiative Projects

PRESENTER : BONNIE HUNDRIESER

Mitigation Ideas

See Handout: Mitigation Ideas Worksheet

Do you have questions or ideas to share about local hazards, vulnerabilities and proposed mitigation actions?

PRESENTER : BONNIE HUNDRIESER



Oct. 2022 – Feb., 2023

Completion of EM Tasks and Local Mitigation Survey (LMS) Forms

Lead: Bonnie Hundrieser

- **EM Tasks:** Plans in Place Form, Capabilities Assessment, and Past Mitigation Action Review
- **LMS Forms (County/City)**
 - Local hazard identification & risk prioritization.
 - Local vulnerabilities (critical infrastructure, populations or assets)
 - Local-level capabilities (programs, policies, staff, funding)
 - Identify local mitigation projects.

PRESENTER : BONNIE HUNDRIESER



(Concurrent)
Oct. 2022 – Feb., 2023

Critical Infrastructure Inventory, Risk Assessment and Vulnerability Analysis

Lead: U-Spatial

- Updated risk assessment & vulnerability analysis
- Update of CI inventory
- Development of hazard profiles (history, probability, impacts of climate change)
- GIS mapping
- HAZUS analysis

PRESENTER : BONNIE HUNDRIESER



March – May, 2023

Development of Local Mitigation Action Charts

Lead: Bonnie Hundrieser

- County and City-Specific MACs
- 5-year window
- Mitigation actions must address high and moderate risk hazards.
- Mitigation actions must incorporate local capabilities & planning mechanisms.
- Include projects eligible for FEMA HMA grant funding.

PRESENTER : BONNIE HUNDRIESER



June – July, 2023

Hold Planning Team Meeting #2

Lead: U-Spatial & Bonnie Hundrieser

- **Planning Team Mtg. #2**
 - Outreach to stakeholders
 - Presentation of risk assessment & vulnerability analysis, hazards prioritizations
 - Overview of Mitigation Action Charts and FEMA grant funding.
 - Finalize draft MACs

PRESENTER : BONNIE HUNDRIESER



Aug. – Sept., 2023

EM review of Draft Plan + Public Review & Comment Period

Lead: U-Spatial & Bonnie Hundrieser

- EM initial review of draft plan
- **News Release #2**
 - Disseminate & document news release by county and jurisdictions.
 - Document and incorporate feedback as appropriate.

PRESENTER : BONNIE HUNDRIESER



Oct. – Dec., 2023

Draft Plan Submission to HSEM & FEMA for Approval

Lead: U-Spatial

- Draft plan will be submitted first to HSEM and then to FEMA for approval for meeting all Federal requirements.
- Typically requires 1-2 months.
- APA letter
- EM coordination of adopting resolutions and submission to HSEM
- Final Letter of Approval

PRESENTER : BONNIE HUNDRIESER

Questions?

What questions do you have for
U-Spatial@UMD about the MHMP
update process?

PRESENTER : STACEY STARK

Contact Information

Stacey Stark, MS, GISP

U-Spatial@UMD

slstark@d.umn.edu

218-726-7438

Bonnie Hundrieser, Consultant

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HUNDRIESER
CONSULTING LLC

PRESENTER : STACEY STARK

Mitigation Strategies & Action Types

Following are the five types of mitigation strategies that will be used in the update of the Multi-Hazard Mitigation Plan with examples of related mitigation actions. Minnesota HSEM recommends the use of these mitigation strategies to be in alignment with the State plan and those recommended by FEMA. The first four strategies listed are taken from the FEMA publications *Local Mitigation Planning Handbook* (2013) and *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards* (2013). The fifth strategy type was determined by Minnesota HSEM for use within the state.

These strategies will provide the framework for identification of new jurisdictional-level mitigation actions for implementation over the next 5-year planning cycle.

Mitigation Strategy	Description	Example Mitigation Actions
Local Planning and Regulations	These actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.	<ul style="list-style-type: none"> • Comprehensive plans • Land use ordinances • Planning and zoning • Building codes and enforcement • Floodplain ordinances • NFIP Community Rating System • Capital improvement programs • Open space preservation • Shoreline codes • Stormwater management regulations and master plans • Mobile home park compliance for storm shelters
Structure and Infrastructure Projects	<p>These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure.</p> <p>This type of action also involves projects to construct manmade structures to reduce the impact of hazards.</p>	<ul style="list-style-type: none"> • Property Acquisitions and elevations of structures in flood prone areas • Utility undergrounding • Structural retrofits (i.e., metal roofs) • Floodwalls and retaining walls • Detention and retention structures • Culvert Installation/Modification • Roads & Bridge risk reduction • Safe Room (New construction or facility retrofit) • Green Infrastructure Methods <p><i>Many of these types of actions are projects eligible for funding through FEMA HMA grant programs.</i></p>

Mitigation Strategy	Description	Example Mitigation Actions
Natural Systems Protection	<p>These are actions that minimize damage and losses and also preserve or restore the functions of natural systems.</p>	<ul style="list-style-type: none"> • Soil stabilization for sediment and erosion control • Floodplain and Stream corridor restoration • Slope management • Forest management (defensible space, fuels reduction, sprinkler systems) • Conservation easements • Wetland restoration and preservation • Aquifer Storage & Recovery • Flood Diversion and Storage <p><i>Many of these types of actions are projects eligible for funding through FEMA HMA grant programs.</i></p>
Education and Awareness Programs	<p>These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady or Firewise Communities. Although this type of mitigation reduces risk less directly than structural projects or regulation, it is an important foundation. A greater understanding and awareness of hazards and risk among local officials, stakeholders, and the public is more likely to lead to direct actions that support life safety and lessen property damage.</p>	<ul style="list-style-type: none"> • Radio or television spots • Websites with maps and information • Social media outreach • Promotion of sign-up for emergency warnings • Real estate disclosure • Promotion of NFIP insurance to property owners • Presentations to school groups or neighborhood organizations • Mailings to residents in hazard-prone areas. • NWS StormReady Program • Firewise Communities <p><i>Some of these types of actions may be projects eligible for funding through the FEMA HMA "5 Percent Initiative Program".</i></p>
Mitigation Preparedness and Response Support	<p>This is a State of Minnesota mitigation strategy with the intent of covering emergency preparedness actions that protect life and property prior to, during, and immediately after a disaster or hazard event. These activities are typically not considered mitigation, but support reduction of the effects of damaging events.</p>	<ul style="list-style-type: none"> • Emergency Operations Plan • Flood fight plans and preparedness measures • Dam emergency action plans • Emergency Warning Systems (i.e., CodeRed, warning sirens) • Generator backup power • NWS Storm Spotter Training • Training and education for local elected officials and key partners.



State of Minnesota
Department of Public Safety
Division of Homeland Security and Emergency Management
445 Minnesota Street, Suite 223
St. Paul, MN 55101-6223

HAZARD MITIGATION ASSISTANCE

Hazard Mitigation Assistance (HMA) grant programs provide funding with the aim to reduce or eliminate risk to property and loss of life from future natural disasters. HMA programs are typically a 75%/25% cost share program. The federal share is 75% of total eligible project reimbursement costs. The local applicant is responsible for 25% of the project costs. The amount of HMGP funds availability is based on a percent of Public Assistance provided by Federal Emergency Management Agency (FEMA).

- Hazard Mitigation Grant Program (HMGP) funds assists in implementing long-term hazard mitigation measures following a Presidential major disaster declaration.
- Pre-Disaster Mitigation (PDM) provides funds for hazard mitigation planning and projects on an annual basis.
- Flood Mitigation Assistance (FMA) provides funds on an annual basis to reduce or eliminate risk of flood damage to buildings that are insured under the National Flood Insurance Program (NFIP).

Who is eligible for grant funding?

All applicants must have or be covered under an approved Hazard Mitigation Plan. Eligible applicants include: State and local governments; certain private non-profit organizations or institutions; and Tribal Communities

What types of projects can be funded?

All projects must be eligible, technically feasible, and cost-effective. All projects are subject to environmental and cultural resource review. Examples of projects include:

- **Advance Assistance** may be used to develop mitigation strategies and obtain data, including for environmental and historic preservation compliance considerations, and develop complete project applications in a timely manner.
- **Aquifer Storage and Recovery** (ASR) projects serve primarily as a drought management tool, but can also be used to reduce flood risk and restore aquifers that have been subject to overdraft. The concept is to capture water when there is an abundant supply, store the water in subsurface aquifers, and recover water from the storage aquifer when needed. Storing water underground can help protect it from pollutants, evaporation, and weather events.
- **Floodplain and stream restoration** (FSR) projects are used primarily to reduce flood risk and erosion by providing stable reaches, and may also mitigate drought impacts. FSR projects restore and enhance the floodplain, stream channel and riparian ecosystem's natural function. They provide base flow recharge, water supply augmentation, floodwater storage, terrestrial and aquatic wildlife habitat, and recreation opportunities by restoring the site's soil, hydrology and vegetation conditions that mimic pre-development channel flow and floodplain connectivity.
- **Flood Diversion and Storage** (FDS) projects often are used to reduce flood risk, but also can be used to mitigate drought and improve ecosystem services. These projects involve diverting floodwaters from a stream, river, or other body of water into a conduit such as a canal, pipe, or wetland and storing them in an above-ground storage facility. Water is then slowly released, reducing flood risk.

- **Green Infrastructure Methods** are a sustainable approach to natural landscape preservation and storm water management. Include in *eligible hazard mitigation activities* as well as provide additional ecosystem benefits. Ecosystem-based approach to replicate a site's pre-development, natural hydrologic function. Benefits include: Increase water supply, improved water quality, can be scaled to size and designed to fit site conditions.
- **Property Acquisition and Structure Demolition or Relocation** – The voluntary acquisition of an existing at-risk structure and the underlying land, and conversion of the land to open space through the demolition or relocation of the structure. The property must be deed-restricted in perpetuity to open space uses to restore and/or conserve the natural floodplain functions.
- **Retrofit Flood-Prone Residential Structures** are changes made to an existing structure to reduce or eliminate the possibility of damage to that structure from flooding, erosion, or other hazards. Examples of this mitigation are primarily elevation of structures above flood levels and floodwalls.
- **Safe Room Construction** - Safe room construction projects are designed to provide immediate life-safety protection for people in public and private structures from tornado and severe wind events. Includes retrofits of existing facilities or new safe room construction projects, and applies to both single and dual-use facilities
- **Minor Localized Flood Reduction Projects** - Projects to lessen the frequency or severity of flooding and decrease predicted flood damages, such as the installation or up-sizing of culverts, and stormwater management activities, such as creating retention and detention basins. These projects must not duplicate the flood prevention activities of other Federal agencies and may not constitute a section of a larger flood control system.
- **Infrastructure Retrofit** - Measures to reduce risk to existing utility systems, roads, and bridges.
- **Soil Stabilization** - Projects to reduce risk to structures or infrastructure from erosion and landslides, including installing geotextiles, stabilizing sod, installing vegetative buffer strips, preserving mature vegetation, decreasing slope angles, and stabilizing with rip rap and other means of slope anchoring. These projects must not duplicate the activities of other Federal agencies. *New tools for Bioengineered Shoreline Stabilization, Bioengineered Streambank Stabilization.*
- **Wildfire Mitigation** - Projects to mitigate at-risk structures and associated loss of life from the threat of future wildfire through: Defensible Space for Wildfire, Application of Ignition-resistant Construction and Hazardous Fuels Reduction. *New tool for Bioengineered Wildfire Mitigation.*
- **HMGP only - 5 Percent Initiative Projects** – These projects, which are only available pursuant to an HMGP disaster, provide an opportunity to fund mitigation actions that are consistent with the goals and objectives of approved mitigation plans and meet all HMGP program requirements, but for which it may be difficult to conduct a standard Benefit-Cost Analysis (BCA) to prove cost-effectiveness.

How do I apply?

Start by submitting a Notice of Interest, available on HSEMs website at:

<https://dps.mn.gov/divisions/hsem>

Where can I obtain further information?

For additional information about the HMA grant program, you can refer to the FEMA website:

<http://www.fema.gov/hazard-mitigation-assistance>

MITIGATION IDEAS WORKSHEET

Please use the following worksheet to list your ideas for mitigation actions that you feel will help reduce the impact of future natural hazard events to the county or to your jurisdiction. Following the MHMP planning team meeting, please return this form via email to your county Emergency Manager to submit your feedback.

NAME OF JURISDICTION:

CONTACT INFORMATION

Name:

Phone:

Email:

Hazard	Description of Concern or Proposed Mitigation Action

Marshall County HMP Planning Team Meeting #2

September 27, 2023 - Meeting Summary & Documentation

Summary: On Wednesday, September 27, 2023, Marshall County Emergency Management convened key county, city, and township representatives, as well as neighboring jurisdictions and other stakeholders to participate in the 2nd and final Planning Team Meeting for the update of the Marshall County Hazard Mitigation Plan (HMP). The purpose of the meeting was to formally convene the Marshall County HMP Planning Team for a presentation on the draft plan and discussion of key items prior to public review and submission of the plan to HSEM and FEMA. The meeting was held via Zoom webinar video conference and was facilitated by Stacey Stark and Bonnie Hundrieser of the U-Spatial@UMD project team.

Stakeholder Invitations: Marshall County Emergency Management invited all stakeholders included on the county's HMP Update Jurisdictional Contact List (JCL), which includes the key County Contacts, City Contacts, Township Contacts, Other Stakeholder Contacts, and Neighboring Jurisdiction Contacts identified to be invited to participate in the plan update process. Contacts were encouraged to engage additional staff or to send someone in their stead if they could not attend. A copy of the county's Jurisdictional Contact List is provided in *Appendix F Steering Committee Meetings*.

Meeting Participants: A total of **22** people attended the meeting. Representation included elected officials and departmental staff from Marshall County and the cities of Alvarado, Grygla, Newfolden, Oslo, and Warren. The cities of Argyle, Holt, Middle River, Stephen, Strandquist, and Viking were not available to participate and were not in attendance. Other stakeholders, including neighboring jurisdictions, participated in the meeting. A participant list is included with this meeting summary.

Presentation Overview: The PowerPoint presentation covered the following items about the process and content of the plan update. A PDF of the presentation slides is included with this meeting summary.

- Meeting Purpose and Agenda
- About the Project Team
- Overview of Plan Update
- Who the Plan Covers
- Who Needs to Participate
- Overview of the Structure of the HMP (Website and PDF)
- Prioritization of Natural Hazards
- Review of Risk Assessment Factors and Hazard Profiles
- Overview of Mitigation Action Charts and FEMA HMA Grant Funding
- Review of Mitigation Strategies and Actions
- Open Discussion (Comments and Questions)
- Discussion of Next Steps & answer your questions

The opening PowerPoint presentation covered a re-cap of key points about the plan update, a review of the Risk Assessment & Vulnerability Analysis, an overview of FEMA Hazard Mitigation Assistance (HMA) grant funding; an overview of how mitigation actions are developed and an overview of the jurisdictional Mitigation Action Charts (MACs). Following the presentation, participants were provided with an opportunity to review and discuss the county and local mitigation action charts. This discussion period offered a facilitated opportunity for participants to consider any changes or new additions to the MACs prior to completion of the draft plan for public review.

Discussion Notes: Following is an overview of key discussion points, questions, or mitigation ideas that were shared during the presentation and how they will be incorporated into the plan update.

- There were no comments or questions from meeting participants either during or following the presentation.

Meeting Conclusion: The meeting concluded with an overview and timeline of the upcoming next steps for public review and submission of the draft plan to HSEM and FEMA for final review and approval.

Attached are the following documentation items for the Marshall County HMP Meeting #2:

- Meeting Invitation to Stakeholders
- List of Meeting Participants
- PowerPoint Presentation Slides
- Information Handouts

Meeting Summary Prepared By: Bonnie Hundrieser, U-Spatial@UMD Project Team

From: [Josh Johnston](#)
To: [Josh Johnston](#); [Scott Jorgenson](#); [Jason Boman](#); [Russ.steer@co.marshall.mn.us](#); [Scott Peters](#); [Lon Aune](#); [chris.kujava@co.marshall.mn](#); [Brett Brandon](#); [Liz Dustin](#); [florianpark@wiktel.com](#); [Frances.Tougas@northvalleyhealth.org](#); [Dave Clark](#); [Jim Duckstad](#); [Rolland Miller](#); [Larry Nybladh](#); [Sharon Bring](#); [Gary Kiesow](#); [gwtoren@wiktel.com](#); [alvarado@wiktel.com](#); [Syver2@hotmail.com](#); [terry.sundby@rcis.com](#); [argyle@wiktel.com](#); [argyleshop@wiktel.com](#); [cityofgrygla@gvtel.com](#); [roseaune16@gmail.com](#); [bkmonson@gvtel.com](#); [jilee@wiktel.com](#); [citymiddleriver@wiktel.com](#); [newfolden@wiktel.com](#); [cityoffice@oslo.mn](#); [cjamieson@invisimax.com](#); [pthompson@kodabank.com](#); [cityclerk@stephenmn.com](#); [stephen.volunteer.fire@gmail.com](#); [strandquistcityclerk@gmail.com](#); [rjgrand@wiktel.com](#); [cityofviking@gmail.com](#); [Bryan13_b@hotmail.com](#); [shannonm@warrenminnesota.com](#); [k.l.c.griffin@gmail.com](#); [robert@wiktel.com](#); [kbpiet@gmail.com](#); [bergeron@invisimax.com](#); [Michael.rosendahl@gmail.com](#); [mmrustads4@gmail.com](#); [pathanson@wiktel.com](#); [scottsommers62@gmail.com](#); [britann.piet@gmail.com](#); [candi@polarcomm.com](#); [a_roppe@hotmail.com](#); [tiffjlarson@gmail.com](#); [gelimes@gvtel.com](#); [diamondhranch7@gmail.com](#); [joeose@wiktel.com](#); [foldahltownship@gmail.com](#); [Cary.osowski@hotmail.com](#); [Peter.nelson@mn.nacdn.net](#); [garnette.hanson@wiktel.com](#); [ajdvergsten@wiktel.com](#); [ckedgar@wiktel.com](#); [sjohnson@redlakeelectric.com](#); [mg.township@gmail.com](#); [ron.jeannie@gmail.com](#); [cecil@wiktel.com](#); [glenogotnc@aim.com](#); [lrf4425@gvtel.com](#); [kentownship@gmail.com](#); [rls@wiktel.com](#); [Bergh75@hotmail.com](#); [jillhall958@yahoo.com](#); [rodteigen@yahoo.com](#); [korey.sundby@gmail.com](#); [jlarsonfarms@gmail.com](#); [Dave Clark](#); [mornqst@wiktel.com](#); [derik_nelson06@hotmail.com](#); [arlettepearson14@outlook.com](#); [robbie.anderson@asbgrygla.com](#); [hlboman@yahoo.com](#); [greg.sparby@gmail.com](#); [Bryan13_b@hotmail.com](#); [jnelson478@hotmail.com](#); [jeremysolvik@yahoo.com](#); [bevruux@wiktel.com](#); [jmbergfarms@gmail.com](#); [wrighttownship@outlook.com](#); [Heather.Winkleblack@state.mn.us](#); [darren.carlson@mn.nacdn.net](#); [matt.waterworth@mn.usda.gov](#); [jolson@nwrdc.org](#); [angela.bokovoy@usda.gov](#); [j.t.anderson@state.mn.us](#); [Dan.Carroll@state.mn.us](#); [Stephanie.Klamm@state.mn.us](#); [Stephanie.Klamm@state.mn.us](#); [Myron.Jesme@redlakewatershed.org](#); [Myron.Jesme@redlakewatershed.org](#); [james_graham@fws.gov](#); [marian.jordan@redcross.org](#); [cody.kill@usc.salvationarmy.org](#); [kolson@pkmcoop.com](#); [jmarcotte@pkmcoop.com](#); [thrdlicka@otpc.com](#); [tstoll@roseauelectric.com](#); [sjohnson@redlakeelectric.com](#); [jlunsetter@grygla.k12.mn.us](#); [jlund@mccfreeze.org](#); [cmills@sac.k12.mn.us](#); [kthorstenson@wao.k12.mn.us](#); [darla@nwrdc.org](#); [nated@nwmf.org](#); [dawnng@nwmf.org](#); [heather@nwrdc.org](#); [solson@co.kittson.mn.us](#); [sue.grafstrom@co.roseau.mn.us](#); [Chris.muller@co.beltrami.mn.us](#); [elbeitel@co.pennington.mn.us](#); [jody.beauchane@co.polk.mn.us](#); [banelson@nd.gov](#); [rneadeau@redlakenation.org](#)
Cc: [Bonnie K Hundrieser](#)
Subject: FW: Marshall County HMP Update Mtg. #2 Invite
Date: Tuesday, August 22, 2023 8:44:05 AM
Importance: High

MARSHALL COUNTY

HAZARD MITIGATION PLAN UPDATE – MEETING INVITATION

Greetings,

Your presence is requested at the **2nd Planning Team Meeting** for the update of the **Marshall County Hazard Mitigation Plan (HMP)**. You are requested to participate in this vital meeting because you have a position of administrative or departmental responsibility within either the county, a municipal government, or are a key stakeholder related to the planning process. Emergency Managers from neighboring jurisdictions are also encouraged to attend so we may strengthen our shared mitigation efforts. This meeting will be the final planning meeting for the HMP update process.

We will be holding the meeting virtually using Zoom webinar:

Date: Wednesday, September 27, 2023
Time: 1:00 p.m. – 2:30 p.m.
Zoom Link: https://umn-private.zoom.us/webinar/register/WN_3gmeHg3MQIuzapG6oSTjbw

Please click on the link above to register. (Ctrl + click to follow link)

The purpose of this meeting is to provide an overview of the plan and interactive website, including a review of the updated risk assessment for natural hazards that affect the county. We will also discuss the Mitigation Action Charts that will be specific to Marshall County and each city, as well as funding opportunities available under the FEMA Hazard Mitigation Assistance grant program.

Your participation in this meeting and feedback on the draft plan is important to us. The draft Marshall County HMP is nearing completion and will be ready for review by planning team members and the public this fall.

When you register, you will automatically be placed on an RSVP list. If you are not able to attend, please consider sending another representative in your stead.

Thank you,

Josh Johnston
Environmental Services Administrator/
Emergency Management Director
208 E. Colvin Ave. Ste 5
Warren, MN 56762
218-745-5841
josh.johnston@co.marshall.mn.us

Marshall County

9/27/23 HMP Planning Team Meeting #2

List of Meeting Participants (22)

	Name	Organization	Job Title
1	Josh Johnston	Marshall County Emergency Management	Emergency Management Director
2	Scott Jorgenson	Marshall County Emergency Management	Deputy Emergency Management Director
3	Jim “Ducky” Duckstad	Marshall County	County Commissioner/ Board Chair
4	Liz Dustin	Marshall County GIS	GIS Coordinator
5	Dave Clark	Marshall County Ag Services	Ag Services Coordinator
6	Frances Tougas	North Valley Public Health	Public Health Director
7	Nick Syverson	City of Alvarado	Public works Supervisor
8	Rose Aune	City of Grygla	City Clerk/Treasurer
9	Devin Ruud	City of Grygla	Mayor
10	Tammy Hansen	City of Newfolden	City Administrator
11	Debbie Goschke	City of Oslo	Clerk
12	Shannon Mortenson	City of Warren	City Administrator
13	Tiffany Larson	East Valley Township	Clerk
14	Roger Tulibaski	Alma Township	Chairman
15	Kevin Maurstad	Foldahl Township	Supervisor
16	Cindy Anderson	McCree Township	Clerk
17	Jeffrey Lund	Marshall County Central Schools	Superintendent
18	Kirk Thorstenson	Warren-Alvarado-Oslo School	Superintendent
19	Drew Kjono	Stephen-Argyle Central School District	Superintendent
20	Matt Waterworth	Natural Resources Conservation Service	District Conservationist
21	Jennifer Olson	Northwest Regional Development Commission	Emergency Operations Planning Director
22	Christopher Muller	Beltrami County Emergency Management	Emergency Management Director

MARSHALL COUNTY Hazard Mitigation Plan Update 2023 Planning Team Meeting #2

September 27, 2023



U-SPATIAL
UNIVERSITY OF MINNESOTA DULUTH
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Welcome & Introductions

U-Spatial@UMD Project Leads



Stacey Stark
Project Manager
U-Spatial@UMD



Bonnie Hundrieser
HM Planning Specialist
Hundrieser Consulting LLC

Marshall County Project Lead

- Josh Johnston, Marshall County Emergency Management Director



Please type your name and jurisdiction in the CHAT – so others know who is here

PRESENTER: STACEY STARK

Zoom Logistics

If you haven't yet, please type your name and jurisdiction or department in the Chat window

PLEASE REMAIN MUTED AND VIDEO OFF SO EVERYONE CAN HAVE THE BEST EXPERIENCE.

USE CHAT:

- Send a message to everyone
- Send a message to individuals or the presenters
- Send a message to host to ask for help or ask a question that isn't for the whole group. The host is Stacey Stark



ASK TO SPEAK:



PRESENTER: STACEY STARK

Meeting Purpose & Agenda



The purpose of this meeting is to formally convene the **Marshall County HMP Planning Team** for a presentation on the draft plan and discussion of key items prior to public review and submission of the plan to HSEM and FEMA.

Agenda

- Welcome & Introductions
- Recap of Key HMP Points
- Review of Risk Assessment & Vulnerability Analysis in Website
- Overview of FEMA HMA Funding and Mitigation Action Charts
- Review & Feedback
- Next Steps

PRESENTER: STACEY STARK

Overview of Plan Update

Marshall County is updating its **Hazard Mitigation Plan (HMP)** to fulfill a state & federal requirement. The plan must be updated every 5 years. The last plan was adopted in 2016.

The purpose of the plan is to identify & assess natural hazards that pose risk to the county and its jurisdictions and **develop long-term strategies and mitigation actions** that will help to reduce or eliminate the impact of future hazard or disaster events.



Hazard Mitigation is any action taken to reduce or eliminate long term risk to people and property from natural disasters.

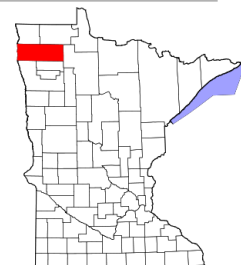
PRESENTER: BONNIE HUNDRIESER

Who the Plan Covers



This is a **multi-jurisdictional plan** that covers Marshall County, including all cities and townships within the county.

The plan also takes into consideration the needs and concerns of other stakeholders such as schools, watershed districts, and agencies or organizations involved in mitigation or services to vulnerable populations within the county.



PRESENTER: BONNIE HUNDRIESER

Who Needs to Participate



Key Stakeholders

It is required to provide an opportunity for local county & municipal government, related agency stakeholders and neighboring jurisdictions to participate in the plan update.

2 Planning Team Meetings

Local Mitigation Survey

Provision of key data

MAC Review & Feedback

Review of Draft Plan

The Public

It is required to provide an opportunity for the public to learn about the plan update, ask questions and provide input that may be incorporated into the plan update.

2 News Releases

Outreach conducted via websites, social media, bulletin boards, and local media

Online public review & comment period for draft plan

PRESENTER: BONNIE HUNDRIESER

The structure of the HMP

PDF document:

- Contains almost all FEMA required elements
- Limited figures & Images
- Summary of Hazard Identification
- Local Mitigation Summary Report
- Plans & Programs in Place
- Past Mitigation Action Review
- Planning Team Meetings
- Public Outreach & Engagement Documentation
- Mitigation Actions by Jurisdiction



Website companion:

- Interactive maps and context
- Simple, concise explanations
- Multiple ways to navigate the content
- Links to PDF components and document
- Public input form on site

PRESENTER: STACEY STARK

Hazards Risk Assessment

- Validates the prioritization of hazards
- Provides probability and severity of future events as possible
- Identifies vulnerable populations and structures at risk as possible
- Considers variable jurisdictional vulnerability
- Informs Mitigation Actions in the HMP



PRESENTER: STACEY STARK

Prioritization of Hazards for Marshall County



Prioritization of hazards by the Marshall County planning team included consideration of:

➤ Probability and Severity of natural hazard events (risk)

➤ Observed increase or decrease in risk since last plan

➤ Jurisdictional variations in risk (i.e., local vulnerabilities, changes in development)

Hazard	2023 Priority
Flooding	High
Winter Storms	Moderate
Extreme Cold	Moderate
Windstorms	Moderate
Tornadoes	Moderate
Drought	Moderate
Landslides	Moderate
Hail	Low
Lightning	Low
Extreme Heat	Low
Wildfire	Low
Dam/Levee Failure	Low

PRESENTER: BONNIE HUNDRIESER

Comments and Questions?

Overview of Mitigation Action Charts



Mitigation Action Charts identify activities to reduce future risk to natural hazard events. MAC's include:

- Hazard of Priority
- Mitigation Strategy
- Mitigation Action
- Status/Priority/Timeframe
- Responsibility
- Comments on Implementation and Integration
- Possible Funding

Mitigation Action Charts are the end product of the HMP.

Mitigation actions are specific.

Mitigation actions address known vulnerabilities.

Mitigation actions utilize capabilities to reduce risk.

★ Eligible project activities must be identified for future FEMA HMA Grants!

FEMA HMA Grant Funding



FEMA

- All applicants must be covered by an approved HMP
- Cost share: Federal 75%, Applicant 25%
- Projects must address risk reduction.
- Eligible projects must be identified in the plan of action.

Example Eligible Activities:

Property Acquisition (flooding/erosion)
Tornado Safe Rooms (new/retrofit)
Infrastructure Retrofits (utility systems, roads & bridges)
Wildfire Mitigation
Soil Stabilization
Flood Risk Reduction
Green Infrastructure
Other projects difficult to conduct a standard BCA

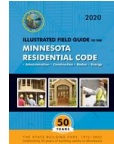
PRESENTER: BONNIE HUNDRIESER

Local Planning & Regulations



Marshall County Examples:

- Enrollment in the NFIP and enforcement of county and local floodplain ordinances.
- Participation in regional One Watershed, One Plan (1W1P) and partnership projects
- Working with mobile home parks to be in compliance with Minnesota State statutes for storm shelters & evacuation plans.
- Permitting for new development and adhering to MN state building codes to reduce impacts of severe weather to structures.



PRESENTER: BONNIE HUNDRIESER

Structure & Infrastructure Projects

Marshall County Examples:

- Installation of new outdoor warning sirens
- Construction of safe rooms / storm shelters
- Burying powerlines to reduce power failure
- Conducting property buyouts for flooding
- Addressing road, bridge, culvert, and drainage ditch improvements to reduce localized flood risks
- Protection of vulnerable critical infrastructure such as lift stations, WWTPs, Fire Halls



PRESENTER: BONNIE HUNDRIESER

Natural Systems Protection

Marshall County Examples:

- Conduct vegetation management along roads to reduce the risk of downed trees and branches resulting from severe storms. (County, Local, Electric Coop)
- Other examples:
 - Planting Living Snow Fences to reduce snow drifting
 - Installing Rain Gardens to reduce impacts of high rain events



PRESENTER: BONNIE HUNDRIESER

Education & Awareness Programs

Marshall County Examples:

- Promoting sign-up for the county's emergency notification system and EM Facebook page.
- Providing presentations and information on preparedness at schools, special facilities, and public events.
- Participation in the NWS Severe Weather Awareness Weeks and SKYWARN Storm Spotter Training
- Outreach to vulnerable populations



PRESENTER: BONNIE HUNDRIESER

Mitigation Preparedness & Response Support

Marshall County Examples:

- Acquire generators for backup power of critical infrastructure and key facilities
- Update of county EOP
- Conduct local and regional shelter planning
- Preparation for extended power outages and evacuation of vulnerable populations.
- Testing of outdoor warning sirens.
- Participate in regional EM planning, training, and exercising



PRESENTER: BONNIE HUNDRIESER

Comments and Questions?



Fall 2023

MAC Review, EM Review of Draft Plan and Public Review & Comment Period



Following Planning Team Mtg. #2

- Jurisdictional MAC Review
- EM review of draft plan
- Public review & comment period (News Release #2)
- Document public outreach
- Incorporate public feedback as appropriate.

PRESENTER: BONNIE HUNDRIESER



Winter 2023

Draft Plan Submission to HSEM & FEMA, Plan Approval, and Collection of Adopting Resolutions

- Draft plan will be submitted first to HSEM and then to FEMA for approval for meeting all Federal requirements.
- Typically requires 1-2 months.
- APA letter
- EM coordination of adopting resolutions from each city.

PRESENTER: BONNIE HUNDRIESER

Questions?

What questions do you have for U-Spatial@UMD about the draft MHMP or next steps ?

PRESENTER: STACEY STARK

Contact Information

Stacey Stark, MS, GISP

U-Spatial@UMD

slstark@d.umn.edu

218-726-7438

U-SPATIAL

UNIVERSITY OF MINNESOTA DULUTH
Driven to Discover

Bonnie Hundrieser, HM Planner

Hundrieser Consulting LLC

hundrieserconsulting@outlook.com

218-343-3468



PRESENTER: STACEY STARK



State of Minnesota
Department of Public Safety
Division of Homeland Security and Emergency Management
445 Minnesota Street, Suite 223
St. Paul, MN 55101-6223

HAZARD MITIGATION ASSISTANCE

Hazard Mitigation Assistance (HMA) grant programs provide funding with the aim to reduce or eliminate risk to property and loss of life from future natural disasters. HMA programs are typically a 75%/25% cost share program. The federal share is 75% of total eligible project reimbursement costs. The local applicant is responsible for 25% of the project costs. The amount of HMGP funds availability is based on a percent of Public Assistance provided by Federal Emergency Management Agency (FEMA).

- Hazard Mitigation Grant Program (HMGP) funds assists in implementing long-term hazard mitigation measures following a Presidential major disaster declaration.
- Pre-Disaster Mitigation (PDM) provides funds for hazard mitigation planning and projects on an annual basis.
- Flood Mitigation Assistance (FMA) provides funds on an annual basis to reduce or eliminate risk of flood damage to buildings that are insured under the National Flood Insurance Program (NFIP).

Who is eligible for grant funding?

All applicants must have or be covered under an approved Hazard Mitigation Plan. Eligible applicants include: State and local governments; certain private non-profit organizations or institutions; and Tribal Communities

What types of projects can be funded?

All projects must be eligible, technically feasible, and cost-effective. All projects are subject to environmental and cultural resource review. Examples of projects include:

- **Advance Assistance** may be used to develop mitigation strategies and obtain data, including for environmental and historic preservation compliance considerations, and develop complete project applications in a timely manner.
- **Aquifer Storage and Recovery** (ASR) projects serve primarily as a drought management tool, but can also be used to reduce flood risk and restore aquifers that have been subject to overdraft. The concept is to capture water when there is an abundant supply, store the water in subsurface aquifers, and recover water from the storage aquifer when needed. Storing water underground can help protect it from pollutants, evaporation, and weather events.
- **Floodplain and stream restoration** (FSR) projects are used primarily to reduce flood risk and erosion by providing stable reaches, and may also mitigate drought impacts. FSR projects restore and enhance the floodplain, stream channel and riparian ecosystem's natural function. They provide base flow recharge, water supply augmentation, floodwater storage, terrestrial and aquatic wildlife habitat, and recreation opportunities by restoring the site's soil, hydrology and vegetation conditions that mimic pre-development channel flow and floodplain connectivity.
- **Flood Diversion and Storage** (FDS) projects often are used to reduce flood risk, but also can be used to mitigate drought and improve ecosystem services. These projects involve diverting floodwaters from a stream, river, or other body of water into a conduit such as a canal, pipe, or wetland and storing them in an above-ground storage facility. Water is then slowly released, reducing flood risk.

- **Green Infrastructure Methods** are a sustainable approach to natural landscape preservation and storm water management. Include in *eligible hazard mitigation activities* as well as provide additional ecosystem benefits. Ecosystem-based approach to replicate a site's pre-development, natural hydrologic function. Benefits include: Increase water supply, improved water quality, can be scaled to size and designed to fit site conditions.
- **Property Acquisition and Structure Demolition or Relocation** – The voluntary acquisition of an existing at-risk structure and the underlying land, and conversion of the land to open space through the demolition or relocation of the structure. The property must be deed-restricted in perpetuity to open space uses to restore and/or conserve the natural floodplain functions.
- **Retrofit Flood-Prone Residential Structures** are changes made to an existing structure to reduce or eliminate the possibility of damage to that structure from flooding, erosion, or other hazards. Examples of this mitigation are primarily elevation of structures above flood levels and floodwalls.
- **Safe Room Construction** - Safe room construction projects are designed to provide immediate life-safety protection for people in public and private structures from tornado and severe wind events. Includes retrofits of existing facilities or new safe room construction projects, and applies to both single and dual-use facilities
- **Minor Localized Flood Reduction Projects** - Projects to lessen the frequency or severity of flooding and decrease predicted flood damages, such as the installation or up-sizing of culverts, and stormwater management activities, such as creating retention and detention basins. These projects must not duplicate the flood prevention activities of other Federal agencies and may not constitute a section of a larger flood control system.
- **Infrastructure Retrofit** - Measures to reduce risk to existing utility systems, roads, and bridges.
- **Soil Stabilization** - Projects to reduce risk to structures or infrastructure from erosion and landslides, including installing geotextiles, stabilizing sod, installing vegetative buffer strips, preserving mature vegetation, decreasing slope angles, and stabilizing with rip rap and other means of slope anchoring. These projects must not duplicate the activities of other Federal agencies. *New tools for Bioengineered Shoreline Stabilization, Bioengineered Streambank Stabilization.*
- **Wildfire Mitigation** - Projects to mitigate at-risk structures and associated loss of life from the threat of future wildfire through: Defensible Space for Wildfire, Application of Ignition-resistant Construction and Hazardous Fuels Reduction. *New tool for Bioengineered Wildfire Mitigation.*
- **HMGP only - 5 Percent Initiative Projects** – These projects, which are only available pursuant to an HMGP disaster, provide an opportunity to fund mitigation actions that are consistent with the goals and objectives of approved mitigation plans and meet all HMGP program requirements, but for which it may be difficult to conduct a standard Benefit-Cost Analysis (BCA) to prove cost-effectiveness.

How do I apply?

Start by submitting a Notice of Interest, available on HSEMs website at:

<https://dps.mn.gov/divisions/hsem>

Where can I obtain further information?

For additional information about the HMA grant program, you can refer to the FEMA website:

<http://www.fema.gov/hazard-mitigation-assistance>

Mitigation Strategies & Action Types

Following are the five types of mitigation strategies that will be used in the update of the Multi-Hazard Mitigation Plan with examples of related mitigation actions. Minnesota HSEM recommends the use of these mitigation strategies to be in alignment with the State plan and those recommended by FEMA. The first four strategies listed are taken from the FEMA publications *Local Mitigation Planning Handbook* (2013) and *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards* (2013). The fifth strategy type was determined by Minnesota HSEM for use within the state.

These strategies will provide the framework for identification of new jurisdictional-level mitigation actions for implementation over the next 5-year planning cycle.

Mitigation Strategy	Description	Example Mitigation Actions
Local Planning and Regulations	These actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.	<ul style="list-style-type: none"> • Comprehensive plans • Land use ordinances • Planning and zoning • Building codes and enforcement • Floodplain ordinances • NFIP Community Rating System • Capital improvement programs • Open space preservation • Shoreline codes • Stormwater management regulations and master plans • Mobile home park compliance for storm shelters
Structure and Infrastructure Projects	<p>These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure.</p> <p>This type of action also involves projects to construct manmade structures to reduce the impact of hazards.</p>	<ul style="list-style-type: none"> • Property Acquisitions and elevations of structures in flood prone areas • Utility undergrounding • Structural retrofits (i.e., metal roofs) • Floodwalls and retaining walls • Detention and retention structures • Culvert Installation/Modification • Roads & Bridge risk reduction • Safe Room (New construction or facility retrofit) • Green Infrastructure Methods <p><i>Many of these types of actions are projects eligible for funding through FEMA HMA grant programs.</i></p>

Mitigation Strategy	Description	Example Mitigation Actions
Natural Systems Protection	<p>These are actions that minimize damage and losses and also preserve or restore the functions of natural systems.</p>	<ul style="list-style-type: none"> • Soil stabilization for sediment and erosion control • Floodplain and Stream corridor restoration • Slope management • Forest management (defensible space, fuels reduction, sprinkler systems) • Conservation easements • Wetland restoration and preservation • Aquifer Storage & Recovery • Flood Diversion and Storage <p><i>Many of these types of actions are projects eligible for funding through FEMA HMA grant programs.</i></p>
Education and Awareness Programs	<p>These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady or Firewise Communities. Although this type of mitigation reduces risk less directly than structural projects or regulation, it is an important foundation. A greater understanding and awareness of hazards and risk among local officials, stakeholders, and the public is more likely to lead to direct actions that support life safety and lessen property damage.</p>	<ul style="list-style-type: none"> • Radio or television spots • Websites with maps and information • Social media outreach • Promotion of sign-up for emergency warnings • Real estate disclosure • Promotion of NFIP insurance to property owners • Presentations to school groups or neighborhood organizations • Mailings to residents in hazard-prone areas. • NWS StormReady Program • Firewise Communities <p><i>Some of these types of actions may be projects eligible for funding through the FEMA HMA "5 Percent Initiative Program".</i></p>
Mitigation Preparedness and Response Support	<p>This is a State of Minnesota mitigation strategy with the intent of covering emergency preparedness actions that protect life and property prior to, during, and immediately after a disaster or hazard event. These activities are typically not considered mitigation, but support reduction of the effects of damaging events.</p>	<ul style="list-style-type: none"> • Emergency Operations Plan • Flood fight plans and preparedness measures • Dam emergency action plans • Emergency Warning Systems (i.e., CodeRed, warning sirens) • Generator backup power • NWS Storm Spotter Training • Training and education for local elected officials and key partners.

Appendix G – Public Outreach & Engagement Documentation

Marshall County MHMP News Release #1

Record of Public Input & Incorporation

Overview: On **August 8, 2022**, Marshall County Emergency Management put out a news release titled **“Public Input Wanted as County Updates Multi-Hazard Mitigation Plan”** to announce the start of the county’s Multi-Hazard Mitigation Plan. The news release provided information on the purpose and content of the plan, who the plan covers, stakeholders involved in the plan update and examples of hazard mitigation activities. Marshall County used the news release to gather feedback from residents and businesses from across the county to incorporate into the plan, inviting feedback to the following:

- What are the natural hazards you feel pose the greatest risk to your community?
- What concerns do you have, and what sorts of mitigation actions or projects do you feel would help to reduce the damages of potential future events for your personal property, your community, or the County as a whole?

The public was strongly encouraged contact Marshall County Emergency Management to submit comments, concerns, or questions regarding natural disasters and potential mitigation actions to be included into the plan update process. The public was also able to post comments electronically on county or city Facebook sites where the news release was posted.

Distribution: The news release was sent via email to the county’s MHMP Jurisdictional Contact List, which includes the names, titles, phone numbers, and email addresses of key stakeholders to be engaged in the MHMP update, including County Contacts, City Contacts, Township Contacts, Other Stakeholder Contacts, and Neighboring Jurisdiction Contacts. (A copy of the Jurisdictional Contact List can be found in Appendix F). The news release was additionally sent to local media contacts with a request to carry the news release.

Postings: Attached is documentation of the news release postings by Marshall County, participating jurisdictions, local media, and other stakeholders. Cities and townships were encouraged to help share the news release locally by posting it on their websites, social media, or community bulletin boards.

Public Input & Incorporation:

Following is a record of public responses to the news release and how their input will be incorporated into the plan update, and if not relevant to be addressed, why.

No Public Input: Marshall County Emergency Management and local jurisdictions did not receive any public input following News Release #1.

From: [Scott Jorgenson](#)
To: [Josh Johnston](#); [Scott Jorgenson](#); [Jason Boman](#); [Russ Steer](#); [Scott Peters](#); [Lon Aune](#); [chris.kujava@co.marshall.mn](#); [Brett Brandon](#); [Liz Dustin](#); [florianpark@wiktel.com](#); [Frances.Tougas@northvalleyhealth.org](#); [Dave Clark](#); [Jim Duckstad](#); [Rolland Miller](#); [Larry Nybladh](#); [Sharon Bring](#); [Gary Kiesow](#); [gwtoren@wiktel.com](#); [alvarado@wiktel.com](#); [Syver2@hotmail.com](#); [terry.sundby@rcis.com](#); [argyle@wiktel.com](#); [argyleshop@wiktel.com](#); [cityofgrygla@gvtel.com](#); [roseaune16@gmail.com](#); [bkmonson@gvtel.com](#); [jilee@wiktel.com](#); [citymiddleriver@wiktel.com](#); [newfolden@wiktel.com](#); [cityoffice@oslo.mn](#); [cjamieson@invisimax.com](#); [pthompson@kodabank.com](#); [cityclerk@stephenmn.com](#); [stephen.volunteer.fire@gmail.com](#); [strandquistcityclerk@gmail.com](#); [cityofvikings@gmail.com](#); [Bryan13_b@hotmail.com](#); [shannonm@warrenminnesota.com](#); [k.l.c.griffin@gmail.com](#); [robert@wiktel.com](#); [kbplet@gmail.com](#); [bergeron@invisimax.com](#); [Michael.rosendahl@gmail.com](#); [mmrustads4@gmail.com](#); [pathanson@wiktel.com](#); [scottsomers62@gmail.com](#); [britann.piet@gmail.com](#); [candl@polarcomm.com](#); [A_roppe@hotmail.com](#); [tiffjarson@gmail.com](#); [gelimes@gvtel.com](#); [diamondhranch7@gmail.com](#); [joeose@wiktel.com](#); [foldahltownship@gmail.com](#); [Cary.osowski@hotmail.com](#); [Peter.nelson@mn.nacdn.net](#); [garnette.hanson@wiktel.com](#); [ajdvergsten@wiktel.com](#); [ckedgar@wiktel.com](#); [sjohnson@redlakeelectric.com](#); [mg.township@gmail.com](#); [ron.jeannie@gmail.com](#); [cecil@wiktel.com](#); [glenogotoc@aim.com](#); [lrf4425@gvtel.com](#); [kentownship@gmail.com](#); [rls@wiktel.com](#); [Bergh75@hotmail.com](#); [jillhall958@yahoo.com](#); [rodteigen@yahoo.com](#); [Korey.sundby@gmail.com](#); [jlarsonfarms@gmail.com](#); [Dave Clark](#); [mornqst@wiktel.com](#); [derik_nelson06@hotmail.com](#); [arlettepearson14@outlook.com](#); [Robbie.anderson@asbgrygla.com](#); [hiboman@yahoo.com](#); [greg.sparby@gmail.com](#); [Bryan13_b@hotmail.com](#); [jjnelson478@hotmail.com](#); [jeremysolvik@yahoo.com](#); [bevruux@wiktel.com](#); [jmborgfarms@gmail.com](#); [wrighttownship@outlook.com](#); [Heather.Winkleblack@state.mn.us](#); [darren.carlson@mn.nacdn.net](#); [matt.waterworth@mn.usda.gov](#); [jolson@nwrdc.org](#); [angela.bokovoy@usda.gov](#); [j.t.anderson@state.mn.us](#); [Dan.Carroll@state.mn.us](#); [Stephanie.Klamm@state.mn.us](#); [Stephanie.Klamm@state.mn.us](#); [Myron.Jesme@redlakewatershed.org](#); [Myron.Jesme@redlakewatershed.org](#); [james_graham@fws.gov](#); [marian.jordan@redcross.org](#); [cody.kill@usc.salvationarmy.org](#); [kolson@pkmcoop.com](#); [jmarcotte@pkmcoop.com](#); [thrdlicka@otpc.com](#); [tstoll@roseauelectric.com](#); [sjohnson@redlakeelectric.com](#); [jlunsetter@grygla.k12.mn.us](#); [jlund@mccfreeze.org](#); [cmills@sac.k12.mn.us](#); [kthorstenon@wao.k12.mn.us](#); [darla@nwrdc.org](#); [jessicay@nwmf.org](#); [heather@nwrdc.org](#); [solson@co.kittson.mn.us](#); [sue.grafstrom@co.roseau.mn.us](#); [Chris.muller@co.beltrami.mn.us](#); [elbeitel@co.pennington.mn.us](#); [jody.beauchane@co.polk.mn.us](#); [banelson@nd.gov](#)
Cc: [hundrieserconsulting@outlook.com](#)
Subject: Marshall County 2022 Multi-Hazard Mitigation Plan Update
Date: Monday, August 8, 2022 11:24:59 AM
Attachments: [Marshall County Hazard Mitigation Plan News Release #1.pdf](#)

Marshall County News Release

Greetings,

Marshall County Emergency Management is commencing work on the update of the Marshall County Multi-Hazard Mitigation Plan (MHMP). Attached is a news release for your information.

Your assistance is requested to post this news release in order to help notify the public about the plan update and have an opportunity to provide feedback:

Participation by all cities is required in order to help fulfill required documentation to FEMA for the plan update. Townships, businesses, and other agencies or organizations are also encouraged to participate to help reach out to the public.

INSTRUCTIONS:

Please post this news release using the outreach methods best available to you (your website, Facebook, community bulletin boards). We welcome as many of ways of posting that you can cover.

- **Electronic Postings** - If you are posting to a website and/or Facebook page, please send me an email with information on the date, location, and website link of the posting. We will need to get a screenshot of the posting for documentation.

- **Hardcopy Postings** - If you are posting it as a printed hardcopy in a visible location such as City Hall, Post Office or a Community Center, please send me the date and location of the posting. No photo is required.

The timely return of your posting documentation is appreciated. We will be working to wrap this up before the end of August.

I look forward to your participation in the Marshall County MHMP update.

If you have any questions, please let me know.

Thank you,

Josh Johnston
Marshall County
Emergency Management Director
208 E Colvin Ave Ste 5
Warren, MN 56762
218-745-5841
Josh.johnston@co.marshall.mn.us

From: [Scott Jorgenson](#)
To: [news@gfherald.com](#); [dhill@trftimes.com](#); [contact@trfradio.com](#); [news@warrensheaf.com](#); [messenger@wiktel.com](#); [Middle River Honker \(brianna@thehonker.com\)](#); [grygla.eagle@gmail.com](#)
Cc: [hundrieserconsulting@outlook.com](#)
Subject: Marshall County 2022 Multi-Hazard Mitigation Plan Update
Date: Monday, August 8, 2022 11:30:12 AM
Attachments: [Marshall County Hazard Mitigation Plan News Release #1.pdf](#)

Good Morning,

Please carry this news release in your online or printed news.

Thank you!

Scott Jorgenson
Environmental Services Technician | Marshall County, MN
scott.jorgenson@co.marshall.mn.us
(Ph) 218-745-5841



208 E Colvin Ave, Suite 5
Warren, MN 56762

MARSHALL COUNTY NEWS RELEASE

August 8, 2022

Public Input Wanted as County Updates Multi-Hazard Mitigation Plan

Marshall County residents, business owners, nonprofit members, and community leaders now have an organized opportunity to share how severe weather events impact their property and lives. There is also an opportunity to share their ideas on how to reduce the impact in the future.

The Marshall County Office of Emergency Management is working with U-Spatial at the University of Minnesota Duluth to update the county's Multi-Hazard Mitigation Plan (MHMP). The plan assesses the natural hazards that pose risk to the county, such as tornadoes, straight line winds, ice storms, blizzards, wildfire, flooding, and extreme temperatures and identifies ways to minimize the damage of future events. As the county works to update the plan, it wants to hear from the public.

The Marshall County MHMP is a multi-jurisdictional plan that covers Marshall County, including the cities of Alvarado, Argyle, Grygla, Holt, Middle River, Newfolden, Oslo, Stephen, Strandquist, Viking, and Warren. The Marshall County MHMP also incorporates the concerns and needs of townships, school districts, and area agencies or organizations participating in the plan. The plan will be updated by a planning team made up of representatives from county departments, local municipalities, school districts and other key stakeholders.

"Hazard mitigation planning is a central part of our emergency management program," said Josh Johnson, Marshall County Emergency Management Director. "Understanding the natural hazards that can cause serious impact to our communities and taking action to reduce or eliminate the impact of future disasters makes us more resilient. Hazard mitigation helps us to break the cycle of damage and repair caused by things like flooding, ice storms, and severe wind events that can damage property, stress economies, and threaten life safety in our county."

Examples of hazard mitigation include:

- improvement of roads and culverts that experience repetitive flooding
- construction of safe rooms at campgrounds, public parks, mobile home parks or schools to protect lives in the event of tornadoes or severe wind events
- burying powerlines that may fail due to heavy snow, ice, or windstorms

- ensuring timely emergency communication to the public through warning sirens and mass notification systems
- conducting public awareness and education campaigns to help people be prepared to take safe action before, during, or following a hazard event.

Some mitigation activities may be eligible for future FEMA Hazard Mitigation Assistance grant funding.

Public input is an essential part of the plan update. As part of the planning process, Marshall County is seeking feedback from residents and businesses from across the county to incorporate into the plan:

- What are the natural hazards you feel pose the greatest risk to your community?
- What concerns do you have, and what sorts of actions or projects do you feel would help to reduce the damages of potential future events for your personal property, your community, or the county as a whole?

Comments, concerns, or questions regarding natural disasters and potential mitigation actions to be included into the plan update process should be submitted to Marshall County Emergency Management by phone or email. Comments may also be submitted on the Marshall County Emergency Management Facebook page where this news release will be posted.

There will be additional opportunities for public feedback throughout the planning process. A draft of the plan will be made available for public review prior to submission of the plan to the State of Minnesota. Future news releases will be shared with the media to notify the public of these opportunities.

The Federal Disaster Mitigation Act of 2000 (DMA 2000) requires counties to update their plan every 5 years to maintain eligibility for FEMA's Hazard Mitigation Assistance (HMA) grant programs.

Contact

Josh Johnson

Marshall County Emergency Management Director

Phone: 218-745-5841

Email: josh.johnston@co.marshall.mn.us

Marshall County HMP News Release #1 – August 8, 2022
Chart Documentation of News Release Postings

Jurisdiction or Agency	Posting Representative	Date & Location of News Release Posting
Marshall County	Josh Johnston, Marshall County Emergency Management Director	8/8/22, Marshall County website, Marshall County EM Facebook page,
City of Alvarado	Jill Fanfulik, Treasurer/Clerk	8/9/22, City Hall bulletin board
City of Argyle	Tamara Benitt, City Clerk	8/8/22, Post Office bulletin board
City of Grygla	Rose Aune, City Clerk	8/18/22, City Hall bulletin board
City of Holt	Jenny Lee, City Clerk	8/10/22, Community Center bulletin board and also shared with the City Council.
City of Middle River	Rachel Bukowski, City Administrator	8/9/22, City website
City of Newfolden	Tammy Hansen, City Administrator	8/18/22, City Hall bulletin board, city Facebook page
City of Oslo	Debbie Goschke, City Clerk/Treasurer	8/18/22, City Hall bulletin board
City of Stephen	Brett Kuznia, City Clerk	8/8/22, City Hall and Post Office bulletin boards, also city Facebook page
City of Strandquist	Nancy McCullough, City Clerk	8/18/22, City Hall bulletin board
City of Viking	Mean Rheault, City Clerk/Treasurer	8/18/22, City Hall bulletin board
City of Warren	Shannon Mortenson, City Clerk/Treasurer	8/18/22, City Hall bulletin board, city website, and city Facebook page
West Valley Township	Beverly Rux, Township Clerk	8/12/22, West Valley town hall bulletin board
Nelson Park Township	Kenneth Stusynski, Township Clerk	8/9/22, Nelson Park town hall bulletin board
Marshall County Central Schools	Jeffrey Lund, Superintendent	8/8/22. MCCA website and Facebook page
Grand Forks Herald	News Editor	8/9/22, Grand Forks Herald online news article
Stephen Messenger	News Editor	8/9/22, Stephen Messenger printed news article
Grygla Eagle	News Editor	8/13/22, Grygla Eagle printed news article
Middle River Honker	News Editor	8/13/22, Middle River Honker printed news article
Northern Watch	News Editor	8/13/22, Northern Watch printed news article
Warren Sheaf	News Editor	8/13/22, Warren Sheaf printed news article

Marshall County HMP News Release #2

Record of Public Input & Incorporation

Overview: On October 25, 2023 Marshall County Emergency Management put out a news release titled “Public Comment Sought for County’s Hazard Mitigation Plan” to announce the completion of the draft Marshall County Hazard Mitigation Plan and invitation for public review and comment. The news release informed jurisdictional stakeholders and the public that a copy of the draft plan, interactive website, and comment form for public feedback was available online with a website link. The public review period for the draft plan was open from 10/25/23 to 11/8/23 for a total of 15 days.

Distribution: The news release was sent via email to the county’s HMP Jurisdictional Contact List, which includes the names, titles, phone numbers, and email addresses of key stakeholders to be engaged in the HMP update, including County Contacts, City Contacts, Township Contacts, Other Stakeholder Contacts, and Neighboring Jurisdiction Contacts. (A copy of the Jurisdictional Contact List can be found in Appendix F). The news release was additionally sent to local media contacts such as area newspapers, radio and television channels with a request to carry the news release.

Postings: Attached is documentation of the news release postings by Marshall County, participating jurisdictions, and local media. Cities and townships were encouraged to help share the news release locally by posting it on their websites, social media, or community bulletin boards.

Public Input & Incorporation:

Following is a record of public responses to the Marshall County news release and how the input will be incorporated into the plan update, and if not relevant to be addressed, why.

Submitted By	Comment	How Incorporated into the Plan
Tim Osowski, Big Woods Township Supervisor	Email Response: <i>Flood damage needs to be the first priority of the plan. I think the frequency of events will be longer and more devastating with changes of the watershed over the past decade.</i>	No incorporation required. Flooding is noted as a high priority hazard in the plan.
Gary Toren, City of Alvarado resident	Email Response: <i>I am no longer the mayor of Alvarado. Please remove me from your list.</i>	No incorporation needed. Email was removed from the Marshall County jurisdictional contact list.
Russel Grandstand, City of Strandquist resident	Email Response: <i>I am no longer the mayor of Strandquist Please contact someone else for city of Stranquist business.</i>	No incorporation needed. Email was removed from the Marshall County jurisdictional contact list.

Marshall County News Release - attachments and instructions



Josh Johnston <josh.johnston@co.marshall.mn.us>

To alvarado@wiktel.com; argyle@wiktel.com; citymiddleriver@wiktel.com;
cityofgrygla@gvtel.com; jjlee@wiktel.com; newfolden@wiktel.com; **+55 others**

Cc Bonnie K Hundrieser



You replied to this message on 11/7/2023 8:42 AM.
This message was sent with High importance.

	10-25-23 Marshall County News Release - Hazard Mitigation Plan Public Review.pdf 168 KB	▼
	10-25-23 Marshall County News Release - Hazard Mitigation Plan Public Review.docx 77 KB	▼

Please post this news release on any public notice boards you may have for your jurisdictions.

Josh Johnston

Environmental Services Administrator/

Emergency Management Director

[208 E. Colvin Ave. Ste 5](#)

[Warren, MN 56762](#)

218-745-5841

josh.johnston@co.marshall.mn.us

From: [Stacey Stark, U-Spatial](#)
To: hundrieserconsulting@outlook.com
Subject: Your input is requested for the Marshall County Hazard Mitigation Plan!
Date: Thursday, November 2, 2023 12:12:00 PM

Dear Bonnie,

Marshall County has an updated draft of its Hazard Mitigation Plan (HMP) available for review.

Now that the news release about the plan is out, I wanted to write to remind you to please take the time to review this draft as a stakeholder in the planning process.

These plans are required by FEMA in order for county governments to mitigate damage and injury due to natural disasters, as well as be able to apply for certain funding programs from the federal government. The plans are updated every five years, so this is the county's last opportunity to make changes before the next update in 2028.

Planning team and stakeholder input is vital to the success of the plan, but thus far the plan has received very little feedback. If you have not yet had time to do so, please take some time to review the Marshall HMP Update. Opportunities for review and feedback are required prior to submitting the plan to the State of Minnesota and the Federal Emergency Management Agency (FEMA).

Your feedback may be provided via the online comment forms or directly to Marshall County Emergency Management. Please **respond by November 8**.

You will find the draft plan on the County Hazard Mitigation Plan website here:
<https://z.umn.edu/MarshallHMP>

Use the Public Comment Feedback Form to submit feedback:
https://z.umn.edu/CountyHMP_Feedback

Feedback may be also be provided directly to the County HMP Contact:

Josh Johnson
Marshall County Emergency Management Director
Phone: (218) 745-5841 / on call: 218-745-5411
Email: josh.johnston@co.marshall.mn.us

Thank you for your attention.

Stacey Stark
U-Spatial, UMN
County Hazard Mitigation Plan Project Manager

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Stacey Stark, MS, GISP
Associate Director | U-Spatial | uspatial.umn.edu
Research Computing | Office of the Vice President for Research



208 E. Colvin Ave, Suite 5
Warren, MN 56762

MARSHALL COUNTY NEWS RELEASE

October 25, 2023

Public Comment Sought for County's Hazard Mitigation Plan

Marshall County has completed an updated draft of its Hazard Mitigation Plan (HMP) and is now seeking public feedback. Like all Minnesota counties, Marshall County is vulnerable to a variety of natural hazards such as tornadoes, windstorms, severe winter storms, flooding, drought, and extreme temperatures, which can threaten the loss of life and property in the county. Planning for natural disasters minimizes the impact of events that can cause vast economic loss and personal hardship.

All county residents, as well as other interested agency or organizational stakeholders are strongly encouraged to review and offer feedback on the interactive website, PDF of the draft plan, and proposed local mitigation actions. The review and comment period is open for a period of 15 days through November 8, 2023. The public can access the plan using the following links:

[Marshall County HMP Website](https://z.umn.edu/MarshallHMP) (z.umn.edu/MarshallHMP)

[Mitigation Action Charts](https://marshall-county-hmp-umn.hub.arcgis.com/pages/mitigation-actions) (<https://marshall-county-hmp-umn.hub.arcgis.com/pages/mitigation-actions>)

[Public Comment Feedback Form](https://z.umn.edu/HMPfeedback) (<https://z.umn.edu/HMPfeedback>)

The Marshall County HMP is a multi-jurisdictional plan that covers Marshall County, including the cities of Alvarado, Argyle, Grygla, Holt, Middle River, Newfolden, Oslo, Stephen, Strandquist, Viking, and Warren. The Marshall County HMP also incorporates the concerns and needs of townships, school districts, and other stakeholders participating in the plan.

Update of the plan has been under direction of Marshall County Emergency Management in cooperation with U-Spatial at the University of Minnesota Duluth and representatives from county departments, city and township governments, school districts, and other key stakeholders. Together, the planning team worked to identify cost-effective and sustainable actions to reduce or eliminate the long-term risk to human life or property from natural hazards. Examples include improvement of roads and culverts that experience repetitive flooding; construction of safe rooms in areas where residents and visitors are vulnerable to tornadoes and severe storm events; burying powerlines that may fail due to heavy snow, ice or wind storms; ensuring timely emergency communication to the public through warning sirens and mass notification systems; and conducting outreach to increase public awareness of severe weather and personal preparedness.

Hazard mitigation planning helps Marshall County and other jurisdictions protect their residents. Working with local communities through the process helps identify vulnerabilities and develop strategies to reduce or eliminate the effects of a potential hazard. In addition, increasing public awareness of natural disasters and encouraging personal preparedness helps to create a community that is resilient to disaster, and breaks

the cycle of response and recovery. Updating the plan further allows Marshall County and its jurisdictions to be eligible to apply for future FEMA Hazard Mitigation Assistance grant program funding for projects that help to reduce or eliminate the impacts of future natural hazard events.

Community feedback is vital to the success of the plan. Marshall County invites public review and feedback of the draft plan prior to submitting it to the State of Minnesota and the Federal Emergency Management Agency (FEMA) for review. Feedback may be provided via the online comment forms or directly to Marshall County Emergency Management.

Contact:

Josh Johnson
Marshall County Emergency Management Director
Phone: 218-745-5841
Email: josh.johnston@co.marshall.mn.us

Please scan the following QR codes to go directly to the Marshall County Hazard Mitigation Plan interactive website and online feedback form:



Marshall County HMP News Release #2 – October 25, 2023
Chart Documentation of News Release Postings

Jurisdiction or Agency	Posting Representative	Date & Location of News Release Posting
Marshall County	Josh Johnston, Marshall County Emergency Management Director	10/25/2023 Posted on the Marshall County website, and EM facebook page. Posted in the Warren Sheaf 11/8/2023.
City of Alvarado		
City of Argyle	Tamara Benitt, City Clerk	10/25/2023 Post at City Hall and at Post Office
City of Grygla	Rose Aune, City Clerk	10/25/2023 Posted at City Hall
City of Holt	Jenny Lee, City Clerk	
City of Middle River	Teresa Anderson, City Clerk/Treasurer	10/25/2023 Posted at City Hall and website
City of Newfolden	Tammy Hansen, City Administrator	10/25/2023 Post at City Hall
City of Oslo		
City of Stephen		
City of Strandquist		
City of Viking		
City of Warren	Shannon Mortenson, City Clerk/Treasurer	10/25/2023 posted at city hall, on the city website, and on their facebook page.
Red Lake Watershed District	Tammy Audette, Administrator	10/25/2023 Posted at District Office and website
Moylan Township	Carolyn Pittman, Clerk	10/25/2023 Posted at Township Hall
Middle Snake Tamarac Rivers Watershed	Morteza Maher, Administrator	10/25/2023 Posted at District Office and website
Nelson Park Township	Kenneth Stusynski, Clerk	10/25/2023 Posted at Township Hall

Appendix H – Mitigation Actions by Jurisdiction

CITY OF ALVARADO

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
1	All-Hazards	Education & Awareness Programs	Encourage residents to be aware of and prepared for severe weather events, periods of extreme temperatures, and extended power outages.	Existing High 2024-2029	City Admin, City EM	We communicate information to our residents by posting information at City Hall. We can post a flyer to encourage residents to sign up for the county's CodeRED emergency notification system.	City
2	Severe Winter & Summer Storms	Structure & Infrastructure Projects	Reduce the risk of downed power lines and extended power outages from the impacts of heavy snow, ice, or high wind events.	Existing High 2024-2029	City Public Works	The city's Public Works Dept. continues to trim vegetation away from power lines to avoid downed branches from severe storms. The city of Alvarado owns and oversees the electricity within the city, while PKM Electric provides services to rural areas.	City
3	Extreme Cold	Mitigation Preparedness & Response Support	Be prepared to provide emergency sheltering to vulnerable residents during extreme cold events.	Existing High 2024-2029	City Admin, City EM	Our Fire Department will work with Marshall County Emergency Management in the event that we need to conduct any evacuations for the elderly or open a temporary shelter due to an extreme cold event coupled with a power outage.	City, County
4	Severe Summer Storms	Structure & Infrastructure Projects	Ensure the functionality of the city's outdoor warning siren for high wind events.	Existing High 2024-2029	City EM	The Alvarado Fire Department maintains and tests our outdoor warning siren on a monthly basis in coordination with Marshall County.	
5	Drought	Local Planning & Regulations / Education & Awareness Programs	Establish watering restrictions during drought conditions and raise public awareness of water conservation measures.	New Moderate 2024-2029	City Admin	The city will establish and enforce a water conservation ordinance as per MN DNR guidelines during periods of severe drought. The city will do local outreach to help make residents aware of the ordinance and the limitations on non-essential water usage.	City

CITY OF ALVARADO

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
6	Flooding	Structure & Infrastructure Projects	Address stormwater management improvements to prevent river backflow and other localized flooding.	Existing High 2024-2029	City Admin, City Public Works	This is an ongoing effort of the city. We have a city engineer and a public works superintendent and assistant that evaluate and implement necessary projects to handle heavy rain events. In May 2022, we purchased an additional floating pump, and an inline plug for the pond discharge to prevent river back flow.	City
7	Flooding	Local Planning & Regulations	Monitor water levels on the Snake River to be prepared for possible flooding to the city.	Existing High 2024-2029	City Public works in coord with NWS	The city uses the National Weather Service to forecast the river height to determine what steps need to be taken to prevent flooding in the city.	NWS
8	Flooding	Local Planning & Regulations	Enforce city ordinances that reduce the impacts of high rain events and risk of flooding to areas of new development.	Existing Moderate 2024-2029	City Admin	The city of Alvarado enforces requirements of the NFIP through the city's current floodplain ordinance, adopted 1/19/21 and published publicly 1/27/21. This ordinance regulates development in the flood hazard areas of the city. Our Floodplain Administrator is the city's Utilities Superintendent.	City

CITY OF ARGYLE

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
1	All-Hazards	Education & Awareness Programs	Encourage residents to be aware of and prepared for severe weather events, periods of extreme temperatures, and extended power outages.	Existing High 2024-2029	City Admin, City EM	To communicate with our residents we post information on our city website and Facebook page. We also post information on bulletin boards in the Bank, Mall, and Post Office. We also send a monthly newsletter will reminders. To date we have not promoted sign up for the county's CodeRED system, but we could post flyers at the City Hall, Bank, Senior Center, Mall, and Post Office. We could put the link to the county website on our city website. Our elementary school practices tornado drills on an annual basis and each spring and winter we encourage residents to maintain their sump pumps to reduce the chances of basement flooding.	City
2	Severe Winter & Summer Storms	Local Planning & Regulations	Ensure new development is built to guidelines to reduce risk of damage or failure from extreme storm events.	Existing High 2024-2029	City Admin, City Public Works	The city does enforce the City Code zoning requirements for new developments.	City
3	Severe Winter & Summer Storms	Structure & Infrastructure Projects	Reduce the risk of downed power lines and extended power outages from the impacts of heavy snow, ice, or high wind events.	Existing High 2024-2029	City Public Works	The city of Argyle Public Works and Otter Tail Electric Company both continue to work to trim tree branches near power lines to reduce the chances of damage during storm events. Otter Tail Power works convert overhead power lines to underground when they deem it as a necessary measure.	City, Otter Tail Power
4	Extreme Cold	Mitigation Preparedness & Response Support	Be prepared to provide emergency sheltering to vulnerable residents during extreme cold or other hazard events.	Existing High 2024-2029	City Admin, City EM	The school is the city's designated public storm shelter. Also have a plan established to have this area available and open during extreme events that would displace vulnerable residents, such as a period of extreme cold coupled with an extended power outage.	City

CITY OF ARGYLE

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
5	Severe Summer Storms	Structure & Infrastructure Projects	Ensure the functionality of the city's outdoor warning siren for high wind events.	Existing High 2024-2029	City EM	The Argyle Fire Department tests our outdoor warning siren on a yearly basis. The siren alarms at Noon, 6:00 PM, and 10:00 PM daily. We have replaced our siren with a multi-directional one to warn surrounding area of tornadoes.	
6	Flooding	Structure & Infrastructure Projects	Implement stormwater system improvement to reduce the risk of localized flooding to homes and the city storm sewer system.	Existing High 2024-2029	City Admin, City Public Works	Following past flooding events in 2021 and 2022 the city has made many repairs to storm drains to reduce future impacts of high rain events. The city of Argyle would like to address the impact of runoff from a nearby field's which runs into the city storm water system. The grade of the field also floods adjacent property. The city will seek to work with the property owner of the field and Marshall County to address this drainage issue.	City
7	Flooding	Local Planning & Regulations	Enforce city ordinances that reduce the impacts of high rain events and risk of flooding to areas of new development.	Existing Moderate 2024-2029	City Admin	The city of Argyle enforces requirements of the NFIP through the city's current floodplain ordinance, adopted 3/21/21 and published publicly 3/6/21. This ordinance regulates development in the flood hazard areas of the city. The city also enforces our sump pump ordinance to minimize impacts on city stormwater system.	City

CITY OF ARGYLE**Mitigation Action Chart**

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
8	Flooding	Local Planning & Regulations	Ensure that personnel, plans, and equipment are in place to handle flood mitigation and response.	Existing High 2024-2029	City Admin, City EM	Our utility superintendent is the city's director of Emergency Management. The Argyle Fire Department is available to assist with sandbagging during flood events. We are also a member of MnWARN. For equipment, the city would like to purchase additional pumps in the event of flooding. We would also like to install a permanent generator so the lift station can still run and prevent backups if we experience loss of power during high rain or other storm events.	City

CITY OF GRYGLA

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
1	All-Hazards	Education & Awareness Programs	Encourage residents to be aware of and prepared for severe weather events, periods of extreme temperatures, and extended power outages.	Existing High 2024-2029	City Admin, City EM	The city uses our website and Facebook page to communicate with residents on emergency preparedness, and we use the PublicAlert system. We also post information on bulletin boards at the Café, bank, store, and at the Post Office. We also make special announcements at City Council meetings. To encourage residents to sign up for CodeRED we will post a flyer on it at City Hall, the Senior Center, and put a link to the county website on our city website. Our city works with the county to participate in the National Weather Service's annual Severe Winter/Spring Weather Awareness Week by posting severe weather awareness information out on our city Facebook page. Our local school practices tornado drills on an annual basis.	City
2	Extreme Cold	Ed	Raise public awareness of the dangers of extreme cold and measures to avoid frozen pipes.	Existing High 2024-2029	City Admin	In the past we have experienced frozen & broken water services and some residential homes experienced burst pipes from extended extreme cold. The city has a website and Facebook page we can use to put out reminders to residents to run a small stream of warm water to avoid frozen pipes. The city also works with the local apartments to be prepared with emergency plans for extended power outages or other emergencies.	

CITY OF GRYGLA

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
3	Severe Winter & Summer Storms	Structure & Infrastructure Projects	Reduce the risk of downed power lines and extended power outages from the impacts of heavy snow, ice, or high wind events.	Existing High 2024-2029	City of Grygla Utility	We have our own municipal utility that is responsible for mitigating against power outages. Roseau Electric has also cut trees out of the path of the powerlines.	City, Roseau Electric
4	Extreme Cold Temps	Mitigation Preparedness & Response Support	Be prepared to provide emergency sheltering to vulnerable residents during extreme temperature events.	Existing High 2024-2029	City Admin, City EM	The Grygla Fire Department has a generator to be used at the Community Center, which is our designated community mass care shelter. We will provide emergency assistance to vulnerable residents of the community to get to the shelter during a period of extreme cold with a power outage or other emergency event.	City
5	Severe Summer Storms	Structure & Infrastructure Projects	Ensure the functionality of the city's outdoor warning siren for high wind events.	Existing High 2024-2029	City EM	The city maintains and tests our sirens on a monthly basis to ensure they are in functioning order.	City, USDA grant funding
6	Flooding	Structure & Infrastructure Projects	Implement stormwater system improvement to reduce the risk of localized flooding to homes and the city storm sewer system.	Existing High 2024-2029	City Admin, City Public Works	We have a city engineer and a public works director that address road maintenance issues for flooding (culverts, repetitive flooding). We will be implementing new storm sewer upgrades as construction projects in 2024. We have requested bigger flood pumps from Marshall County in the past, but haven't received those yet. We are applying for grant funds from the USDA Community Development Grant Program to install a new water tower, well house, and repairs at the lift station.	City, USDA Grant Funding

CITY OF GRYGLA

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
7	Flooding	Local Planning & Regulations	Enforce city ordinances that reduce the impacts of high rain events and risk of flooding to areas of new development.	Existing Moderate 2024-2029	City Admin	The city of Grygla enforces requirements of the NFIP through the city's current floodplain ordinance, adopted 11/19/20 and published publicly 2/8/21. The city plans to update and enforce our floodplain ordinance to address areas of new development. The city also has a sump pump ordinance in place to minimize impacts to the city's stormwater system.	City
8	Flooding	Local Planning & Regulations	Ensure that personnel, plans, and equipment are in place to handle flood mitigation and response.	Existing High 2024-2029	City Admin, City EM	We have a city engineer and a public works director that address road maintenance issues for flooding (culverts, repetitive flooding). The city wishes to purchase additional pumps in the event of flooding. We work with the city and county engineer on local flood reduction measures.	City
9	Flooding	Local Planning & Regulations	Update the city's Comprehensive Plan to address considerations for flood risk reduction in land use and future development.	New Moderate 2024-2029	City Admin	We need to update our city's long-range Comprehensive Plan to address considerations for future hazard events such as flooding. When the city works to update the Comp Plan we will incorporate mitigation considerations for flooding including zoning.	City
10	Drought	Local Planning & Regulations / Education & Awareness Programs	Establish watering restrictions during drought conditions and raise public awareness of water conservation measures.	New Moderate 2024-2029	City Admin	The city will establish and enforce a water conservation ordinance as per MN DNR guidelines during periods of severe drought. The city will do local outreach to help make residents aware of the ordinance and the limitations on non-essential water usage.	City

CITY OF GRYGLA**Mitigation Action Chart**

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
11	Wildfire	Natural Systems Protection	Work with MN DNR Forestry to implement wildfire risk reduction for land and structures within the city.	Existing Moderate 2024-2029	City Fire Dept., City Public Works	We have worked with MN DNR Forestry to implement wildfire mitigation measures to reduce risk of fire in woodland areas adjacent to residential areas. We will continue to coordinate with the MN DNR as needed in the future to mitigate wildfire risk to the community.	City, MN DNR

CITY OF HOLT

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
1	All-Hazards	Education & Awareness Programs	Encourage residents to be aware of and prepared for severe weather events, periods of extreme temperatures, and extended power outages.	Existing High 2024-2029	City Admin, City EM	We are a small community and share information with residents by posting information at the city office and by making announcements at City Council meetings as needed. We look to Marshall County Emergency Management to do outreach to encourage residents to sign up for the CodeRED system.	City
2	Extreme Cold	Mitigation Preparedness & Response Support	Be prepared to provide emergency sheltering to vulnerable residents during extreme cold events.	Existing High 2024-2029	City Admin, City EM	In the event of an extreme cold event with a power outage we would work with Marshall County Emergency Management and neighboring communities to help set up a temporary shelter for those that may need assistance.	City, County
3	Severe Summer Storms	Structure & Infrastructure Projects	Purchase an outdoor warning siren for the city.	Existing High 2024-2029	City Admin, City EM in coord with MCEM	The city would like to install an outdoor warning siren but funding is a barrier to do so. The city will seek to work with Marshall County Emergency Management to see if we may be eligible to apply for grant funding from the USDA Community Facilities grant to assist in this effort.	City, USDA Grant Funding
4	Severe Summer Storms	Structure & Infrastructure Projects	Explore options for construction of a storm shelter or tornado safe room for city residents who are vulnerable to high wind events.	New Moderate 2014-2029	City Admin, City EM in coord with MCEM	The city would like to provide a storm shelter or tornado safe room for residents that do not have basements but funding is a barrier to do. The city can explore potential funding for a construction project with Marshall County Emergency Management.	City, FEMA HMA grant funding

CITY OF MIDDLE RIVER

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
1	All-Hazards	Education & Awareness Programs	Encourage residents to be aware of and prepared for severe weather events, periods of extreme temperatures, and extended power outages.	Existing High 2024-2029	City Admin, City EM	We post information on our city website and Facebook page. We also post information on bulletin boards in the Legacy Center, the Bank, and the Post Office. We also send a quarterly newsletter with reminders. The Fire Department will host weather warning classes. We will encourage residents to sign up for county's CodeRED emergency notification system by posting the information so all residents can be informed of upcoming weather events.	City
2	All-Hazards	Mitigation Preparedness & Response Support	Be prepared to provide emergency sheltering to vulnerable residents during extreme cold events with a power outage or other severe weather events.	Existing High 2024-2029	City Admin, City EM	We could research to see if the Legacy Center could be a public storm shelter. Also have a plan established to have this area available and open during the extreme events.	City
3	Severe Winter & Summer Storms	Local Planning & Regulations	Ensure new development is built to guidelines to reduce risk of damage or failure from extreme storm events.	Existing High 2024-2029	City Admin, City Public Works	The City of Middle River enforces the City Code zoning requirements for new developments.	City
4	Severe Winter & Summer Storms	Structure & Infrastructure Projects	Reduce the risk of downed power lines and extended power outages from the impacts of heavy snow, ice, or high wind events.	Existing High 2024-2029	Otter Tail Power	Ottertail Electric continues to cut trees out of the path of the city's powerlines.	Otter Tail Power
5	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Acquire a permanent generator back-up power for the city lift station to function during power outages.	Existing High 2024-2029	City Admin, City EM	The city wishes to purchase and install a permanent generator for fast, easy access when electricity goes out during storm events so the lift station can still run and prevent backups. FEMA HMA grant funding may be sought to support this effort.	City, FEMA HMA

CITY OF MIDDLE RIVER

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
6	Severe Summer Storms	Structure & Infrastructure Projects	Ensure the functionality of the city's outdoor warning siren for high wind events.	Existing High 2024-2029	City EM	The city owns and maintains one outdoor warning siren. Our Fire Department oversees the monthly testing of the siren in coordination with Marshall County Emergency Management.	City
7	Drought	Local Planning & Regulations / Education & Awareness Programs	Establish watering restrictions during drought conditions and raise public awareness of water conservation measures.	New Moderate 2024-2029	City Admin	The city will establish and enforce a water conservation ordinance as per MN DNR guidelines during periods of severe drought. The city will do local outreach to help make residents aware of the ordinance and the limitations on non-essential water usage.	City
8	Flooding	Structure & Infrastructure Projects	Implement stormwater system improvement to reduce the risk of localized flooding to homes and the city storm sewer system.	Existing High 2024-2029	City Admin, City Public Works	We are planning to make repairs to storm drains in Fall, 2023. The city has experienced damages to roads from spring frost heaves, frozen culverts that cause localized flooding.	City
9	Flooding	Public Awareness & Education Programs	Encourage residents to maintain sump pumps to avoid basement flooding during spring rain events and winter thaw.	Existing High 2024-2029	City Admin, City Public Works	Each spring and winter we encourage residents to maintain their sump pumps to reduce the chances of basement flooding.	City
10	Flooding	Local Planning & Regulations	Enforce city ordinances that reduce the impacts of high rain events and risk of flooding to areas of new development.	Existing Moderate 2024-2029	City Admin	The city of Middle River enforces requirements of the NFIP through the city's current floodplain ordinance, adopted 3/13/21 and published publicly 3/13/21. This ordinance regulates development in the flood hazard areas of the city. Our City Administrator serves as our designated Floodplain Administrator.	City

CITY OF MIDDLE RIVER**Mitigation Action Chart**

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
11	Flooding	Local Planning & Regulations	Ensure that personnel, plans, and equipment are in place to handle flood mitigation and response.	Existing High 2024-2029	City Admin, City EM	Our City Council includes a Public Safety Committee. Our County Engineer conducts bridge inspections. We have Council Members who address road maintenance. The Middle River Fire Department is available to assist with sandbagging. We are also a member of MnWARN.	City

CITY OF NEWFOLDEN

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
1	All-Hazards	Education & Awareness Programs	Encourage residents to be aware of and prepared for severe weather events, periods of extreme temperatures, and extended power outages.	Existing High 2024-2029	City Admin, City EM	We share information with residents by posting on our city website and Facebook. We also post on the Community Center and Post Office Bulletin. In addition, we have a monthly newsletter. We are able to access the County's Code Red Alert system in case of an emergency. We are looking into an alternative website with emergency notifications as a secondary option. Our city works with the county to participate in the National Weather Service's annual Severe Winter/Spring Weather Awareness Week by posting severe weather awareness information out on our city Facebook page. Our local school practices tornado drills on an annual basis.	City
2	Severe Winter & Summer Storms	Local Planning & Regulations	Ensure new development is built to guidelines to reduce risk of damage or failure from extreme storm events.	Existing High 2024-2029	City Admin, City Public Works	The City of Newfolden has a planning and zoning ordinance for land use and construction oversight.	City
3	Severe Winter & Summer Storms	Structure & Infrastructure Projects	Reduce the risk of downed power lines and extended power outages from the impacts of heavy snow, ice, or high wind events.	Existing High 2024-2029	City Utility	We have our own municipal utility that is responsible for mitigating against power outages. The city has a program to manage vegetation near powerlines to reduce risk of power outages during storms. Our electric utility works to transition from overhead to underground whenever possible. We also trim trees and debris from electric lines annually.	City

CITY OF NEWFOLDEN

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
4	Severe Summer Storms	Mitigation Preparedness & Response Support	Work to address the need for a storm shelter at our municipal campground.	New High 2024-2019	City Admin, City EM	Our municipal campground is active during summer and fall months with RVs and campers and does not have a storm shelter. The city will work with Marshall County Emergency Management to determine what kind of solutions may be feasible, such as construction of a storm shelter or tornado safe room. Funding may be sought from FEMA HMA grant funding for a tornado safe room project in the future.	City, FEMA HMA
5	Severe Summer Storms	Structure & Infrastructure Projects	Ensure the functionality of the city's outdoor warning siren for high wind events.	Existing High 2024-2029	City Fire Dept.	We have worked with the county emergency manager to address upgrade of our warning siren. The city Fire Dept. maintains and tests the siren on a monthly basis in coordination with Marshall County Emergency Management.	City
6	Flooding	Local Planning & Regulations	Enforce city ordinances that reduce the impacts of high rain events and risk of flooding to areas of new development.	Existing Moderate 2024-2029	City Admin	In 2021, the City of Newfolden adopted a Floodplain ordinance to comply with FEMA regulations and protect vulnerable properties. The floodplain ordinance was adopted 2/16/21 and published publicly 2/21/21. This ordinance regulates development in the flood hazard areas of the city. Our City Administrator serves as our designated Floodplain Administrator.	City
7	Flooding	Public Awareness & Education Programs	Encourage residents to maintain sump pumps to avoid basement flooding during spring rain events and winter thaw.	Existing High 2024-2029	City Admin, City Public Works	Each spring and winter we encourage residents to maintain their sump pumps to reduce the chances of basement flooding.	City

CITY OF NEWFOLDEN

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
8	Flooding	Local Planning & Regulations	Work with the Middle-Snake-Tamarac River Watershed District on cooperative flood mitigation projects that will remove the city from the 100-year floodplain.	In-Progress High 2014-2019	City Admin, City EM in coord with MSTRWD	Currently the city is working with the MSTRWD on a flood mitigation project. We are anticipating to have Newfolden removed from the 100-year floodplain within the next 1 to 2 years.	
9	Flooding	Structure & Infrastructure Projects	Identify and address local vulnerabilities from flood events.	In-Progress High 2014-2019	City Admin, City Public Works	The city has identified that a portion of Newfolden that lies east of U.S. Highway 59 has been recently mapped as being within the 100-year floodplain. A railroad track/culvert system acts as a dam across the Middle River. This risks several households, the Cooperative Elevator, a city park and rental property. Any sanitary and wastewater infrastructure that are located in the 100-year floodplain are susceptible to flooding as well as any other structures in the same areas. The city is working to plan for and address projects to reduce risk to these areas.	City, MSTRWD
10	Flooding	Local Planning & Regulations	Ensure that personnel, plans, and equipment are in place to handle flood mitigation and response.	Existing High 2024-2029	City Admin, City EM	Our Fire Chief is the city's designated Emergency Manager. We have a city engineer and a public works director that address road maintenance issues for flooding (culverts, repetitive flooding). We are prepared to coordinate with Marshall County in the event of a flooding event that affects the city.	City

CITY OF OSLO

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
1	All-Hazards	Education & Awareness Programs	Encourage residents to be aware of and prepared for severe weather events, periods of extreme temperatures, and extended power outages.	Existing High 2024-2029	City Admin, City EM	The city participates in the National Weather Services – Severe Weather Awareness Week. The city also uses a Public Alert System to communicate with residents. All residents with utility accounts are signed up for the public alert system. The city does not have a website or Facebook page.	City
2	Severe Winter & Summer Storms	Structure & Infrastructure Projects	Reduce the risk of downed power lines and extended power outages from the impacts of heavy snow, ice, or high wind events.	Existing High 2024-2029	City Maintenance	The city works to trim trees away from power lines. Our utility provider, Otter Tail Power maintains the power lines and address projects to reduce vulnerability as needed.	City, Otter Tail Power Co.
3	Severe Summer Storms	Local Planning & Regulations / Structure & Infrastructure Projects	Assess and address storm shelter solutions for vulnerable areas within the city.	Existing High 2024-2029	City Admin, City EM	Within the city there is a mobile home area that does not have a storm shelter. The only storm shelter that the city has is the public restrooms at the park. There is no storm shelter at our city's boat ramp. The city will seek to work with Marshall County Emergency Management to assess possible construction projects for these locations. If we determine to pursue a tornado safe project, we will assess making a possible application to FEMA for an HMA grant.	City, County, FEMA HMA
4	Severe Summer Storms	Structure & Infrastructure Projects	Ensure the functionality of the city's outdoor warning siren for high wind events.	Existing High 2024-2029	City EM	The city Fire Department oversees maintenance and monthly testing of the warning siren in coordination with Marshall County Emergency Management.	City
5	Flooding	Structure & Infrastructure Projects	Implement stormwater system improvement to reduce the risk of localized flooding to homes and the city storm sewer system.	Existing High 2024-2029	City Admin, City Public Works	The city works with the US Corp of Engineers on anything related to the city's levee. The city also has an outside engineering company that we engage if needed.	City

CITY OF OSLO**Mitigation Action Chart**

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
6	Flooding	Local Planning & Regulations	Enforce city ordinances that reduce the impacts of high rain events and risk of flooding to areas of new development.	Existing Moderate 2024-2029	City Admin	The city of Oslo enforces requirements of the NFIP through the city's current floodplain ordinance, adopted 12/8/20 and published publicly 12/8/20. This ordinance regulates development in the flood hazard areas of the city.	City
7	Flooding	Structure & Infrastructure Projects	Address flood and erosion mitigation for the south side of the city's levee.	In-Progress High 2024-2029	City Public Works in coord with ACOE	The city is working with the US Corp of Engineers regarding the south side of the levee erosion problems.	City, ACOE

CITY OF STEPHEN**Mitigation Action Chart**

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
1	All-Hazards	Education & Awareness Programs	Encourage residents to be aware of and prepared for severe weather events, periods of extreme temperatures, and extended power outages.	Existing High 2024-2029	City Admin, City EM	We post information on our city website, city cable channel, and our Facebook page. We also post information on bulletin boards in our city office and Post Office. We also send out mailing reminders and information when they are needed. We have increased our usage with Facebook and our local TV channel to communicate with residents on emergency preparedness. We make sure to inform our lifeguards and campground guests where the storm shelter is in town. We will encourage residents to also sign up for the county's CodeRED system by posting flyers and using our city website and Facebook page.	City
2	Severe Winter & Summer Storms	Structure & Infrastructure Projects	Reduce the risk of downed power lines and extended power outages from the impacts of heavy snow, ice, or high wind events.	Existing High 2024-2029	City Utility	The city of Stephen has it's own municipal utility. We have started to convert our overhead powerlines to underground. In the future we may seek supportive FEMA HMA grant funding for this effort.	City, FEMA HMA
3	Extreme Cold	Mitigation Preparedness & Response Support	Encourage residents to be prepared for periods of extreme cold and potential power outages, and alert residents to the dangers of extreme cold and freezing pipes.	Existing High 2024-2029	City Admin, City EM	We utilize our city website and Facebook page as well as post flyers in common areas to reach all residents with reminders on preparation for extreme cold events and running a trickle of water to avoid frozen pipes.	City

CITY OF STEPHEN

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
4	Severe Summer Storms	Structure & Infrastructure Projects	Assess and address options for improved storm shelter facilities for the community pool and campground.	Existing High 2024-2029		Our municipal campground is active during summer and fall months with RVs and campers. Also, our swimming pool is over by the campground area and we only have a storm shelter on the other end of town for all these people in an emergency situation. The city will work with our city engineer and Marshall County Emergency Management to explore possible options for how to improve our shelter capabilities.	
5	Severe Summer Storms	Structure & Infrastructure Projects	Ensure the functionality of the city's outdoor warning siren for high wind events.	Existing High 2024-2029	City EM	The city owns one outdoor warning siren. It is maintained regularly and tested on a monthly basis by our fire department in coordination with Marshall County Emergency Management.	City
6	Flooding	Local Planning & Regulations	Enforce city ordinances that reduce the impacts of high rain events and risk of flooding to areas of new development.	Existing High 2024-2029	City Admin	The city of Stephen enforces requirements of the NFIP through the city's current floodplain ordinance, adopted 3/1/21 and published publicly 3/4/21. This ordinance regulates development in the flood hazard areas of the city. The city also has a sump pump ordinance to help alleviate the infiltration in the city's storm sewer and lagoon.	City
7	Flooding	Education & Awareness Programs	Encourage residents to maintain sump pumps to avoid basement flooding from high rain events.	Existing Moderate 2024-2029	City Admin	Every spring we put ads in the local paper, Facebook page, and city cable channel reminding people to re-route sump pumps outdoors.	City

CITY OF STEPHEN**Mitigation Action Chart**

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
8	Flooding	Local Planning & Regulations	Ensure that personnel, plans, and equipment are in place to handle flood mitigation and response.	Existing High 2024-2029	City Admin, City EM	We have a city engineer and a public works superintendent that address maintenance issues when they are needed. Our county engineer conducts bridge inspections. Our fire department is available to assist with sandbagging. We are a member of MnWARN. For equipment we will work to store some sandbags so that they are readily available when they are needed. We would also like to purchase additional pumps in case we need them during a flood event.	City

CITY OF STRANDQUIST**Mitigation Action Chart**

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
1	All-Hazards	Education & Awareness Programs	Encourage residents to be aware of and prepared for severe weather events, periods of extreme temperatures, and extended power outages.	Existing High 2024-2029	City Admin, City EM	We post information for residents at the Post Office. We do not have a city website or Facebook page, so most of communication with residents is in person or by posting flyers to share important information. Residents are encouraged to run water during extreme cold periods to avoid freezing pipes.	City
2	Severe Summer Storms	Structure & Infrastructure Projects	Install an outdoor warning siren to help warn residents of dangerous high wind events.	Existing High 2024-2029	City EM	The city would need outside grant funding to support this effort. The city will work with Marshall County Emergency Management to explore the possibility of funding from the USDA Community Facilities Grant Program for a warning siren.	City, USDA
3	Drought	Local Planning & Regulations	Plan for provision of emergency water for the city in the event of an extended drought.	New Moderate 2024-2029	City Admin	The city of Strandquist pulls our water from a drilled well in times of drought. In the event of an extended drought, we would work with Marshall County Emergency Management to address emergency water supplies if needed.	City

CITY OF VIKING

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
1	All-Hazards	Education & Awareness Programs	Encourage residents to be aware of and prepared for severe weather events, periods of extreme temperatures, and extended power outages.	Existing High 2024-2029	City Admin, City EM	We are a small community and share information with residents by posting information at the city office and by making announcements at City Council meetings as needed. We also make announcements on our City's Facebook page. We will work with Marshall County Emergency Management to provide us with a flyer encouraging residents to sign up for CodeRED. Residents are also encouraged to follow local media for weather conditions and safety information.	City
2	Extreme Cold	Education & Awareness Programs	Raise public awareness of the dangers of extreme cold and measures to avoid frozen pipes.	Existing High 2024-2029	City Admin	We remind residents to be ready for extended power outages in winter and to run a small stream of warm water to avoid frozen pipes.	City
3	Drought	Local Planning & Regulations / Education & Awareness Programs	Establish watering restrictions during drought conditions and raise public awareness of water conservation measures.	New Moderate 2024-2029	City Admin	The city will establish and enforce a water conservation ordinance as per MN DNR guidelines during periods of severe drought. The city will do local outreach to help make residents aware of the ordinance and the limitations on non-essential water usage.	City

CITY OF WARREN

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
1	All-Hazards	Education & Awareness Programs	Encourage residents to be aware of and prepared for severe weather events, periods of extreme temperatures, and extended power outages.	Existing High 2024-2029	City Admin, City EM	Warren utilizes our city Facebook page for emergency announcements. The local newspaper also provides information and the city newsletter which is distributed with the utility bills. We encourage residents to sign up for the county's CodeRED system via the city's newsletter and by responding to resident inquiries. We will continue to use our social media and city newsletter to encourage residents to be aware of severe storm and temperature events and to be prepared.	City
2	Extreme Cold	Local Planning & Regulations	Inform residents, businesses, and apartment owners of the city's Frozen Water Lines policy to help reduce the risk of frozen pipes during periods of extreme cold.	Existing High 2024-2029	City Admin, City Public Works	To help mitigate against frozen pipes during periods of extreme cold, the city has a Frozen Water Lines policy that is posted on our city website. The policy addresses that to protect city infrastructure and provide for the safety of city residents, the city may provide a service of thawing frozen service laterals to commercial businesses, owner occupied residences, owner-occupied residential condominiums and owner-occupied co-operative housing.	City
3	Severe Winter & Summer Storms	Structure & Infrastructure Projects	Reduce the risk of downed power lines and extended power outages from the impacts of heavy snow, ice, or high wind events.	Existing High 2024-2029	Warren Light, Power, & Gas	The city has its own municipal utility, Warren Light, Power & Gas. The utility manages vegetation near powerlines and works to convert overhead powerlines to underground or apply other risk reduction measures for power outages when necessary.	City

CITY OF WARREN

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
4	Severe Summer Storms	Structure & Infrastructure Projects	Ensure the functionality of the city's outdoor warning siren for high wind events.	Existing High 2024-2029	City EM	The city has 5 outdoor warning sirens which are maintained regularly and tested on a monthly basis in coordination with Marshall County Emergency Management.	City
5	Drought	Local Planning & Regulations	Monitor the city water supply levels and work with landowners to restrict water use during periods of drought.	New Moderate 2024-2029	City Admin	The city water supply comes from an underground source with the pump located about 3 miles from the city. There are irrigation wells that take from the same underground source which compromises the water supply for the entire city of Warren. The city has lowered the pumps at the water source and has a better monitoring system. There are agreements in place with the landowners to shut down the irrigation when our supply is compromised. In the event of an extended drought, we would work with Marshall County Emergency Management to address emergency water supplies if needed. We will be receiving money from the MN DNR for work done to address mitigation issues to lower the pump for the water monitoring system.	City, MN DNR
6	Drought	Local Planning & Regulations / Education & Awareness Programs	Establish watering restrictions during drought conditions and raise public awareness of water conservation measures.	New Moderate 2024-2029	City Admin	The city will establish and enforce a water conservation ordinance as per MN DNR guidelines during periods of severe drought. The city will do local outreach to help make residents aware of the ordinance and the limitations on non-essential water usage.	City

CITY OF WARREN**Mitigation Action Chart**

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
7	Flooding	Structure & Infrastructure Projects	Implement stormwater system improvement to reduce the risk of localized flooding to homes and the city storm sewer system.	Existing High 2024-2029	City Admin, City Public Works	In 2007 the city had a diversion channel that was put in by a partnership of the Army Corps of Engineers, Marshall County, and the Watershed District. This helps to mitigate spring flooding and high rain events. It diverts any excess water from the Snake River channel away from the community.	City
8	Flooding	Local Planning & Regulations	Enforce city ordinances that reduce the impacts of high rain events and risk of flooding to areas of new development.	Existing Moderate 2024-2029	City Admin	The city of Warren enforces requirements of the NFIP through the city's current floodplain ordinance, adopted 3/23/21 and published publicly 3/23/21 This ordinance regulates development in the flood hazard areas of the city. The City Administrator is the city's Floodplain Administrator.	City