

Olmsted County 2024 Hazard Mitigation Plan



Olmsted County Minnesota

2024 Hazard Mitigation Plan

Olmsted County Emergency Preparedness & Management

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Section 1 – Introduction

1.1 Hazard Mitigation Planning in Minnesota

Hazard mitigation planning is any sustained action to reduce or eliminate long-term risk to human life and property from natural disasters. 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, 2023b).

Since 1980, damages from natural disasters in the U.S. exceeded \$2.72 trillion. 2023 saw a record 28 separate billion-dollar weather and climate disaster events in the United States, breaking the previous record of 22 events set in 2020. Minnesota alone has experienced 59 separate billion-dollar disasters since 1980 (NCEI, 2024). 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 well-being 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. To be eligible for future mitigation funds, communities 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).

Olmsted County is vulnerable to a variety of natural hazards that threaten the loss of life and property. Hazards such as tornadoes, flooding, wildfires, blizzards, straight-line winds, and droughts can potentially inflict vast economic loss and personal hardship.

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

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

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

[Olmsted County HMP Website](#)

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 Olmsted County Emergency Management to facilitate an update to the 2017 Olmsted 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 Olmsted 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 Olmsted County, including the cities of Byron, Chatfield, Dover, Eyota, Oronoco, Pine Island, Rochester, and Stewartville. The Olmsted 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 Olmsted County after final approval by FEMA (see Appendix B).

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

- Include more recent data documenting the critical infrastructure and hazards faced by Olmsted County.
- Reformat and reorganize the plan to reflect definitions of hazards as expressed in the 2024 Minnesota State Hazard Mitigation Plan.
- Reflect current hazard mitigation priorities in Olmsted County.
- Encourage recipients and sub-recipients of hazard mitigation grants to consider climate change adaptation, resiliency, and equity 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 Olmsted County HMP planning team is headed by the Olmsted County emergency manager, who is the primary point of contact. Planning team members include representatives from public and governmental sectors. Table 1 identifies the planning team individuals and the organizations they represent

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

Table 1. Hazard Mitigation Planning (HMP) Team

Name	Agency/Organization	Participant Title
Jonathan Jacobson	Olmsted County Emergency Management	Emergency Management Director
Janice Chezick	Olmsted County	GIS Manager
Taylor Schoenfelder	Olmsted County Sheriff's Office - EM	Deputy Director of Emergency Management
Kristi Gross	Olmsted County	Senior Planner & Floodplain Administrator
Brian Mueller	Olmsted County	Commissioner
Skip Langer	Olmsted County	Soil Conservation Manager
Mary Blair Hoeft	Olmsted County	Director of Property Records & Licensing
Scott Safe	Planning/Building Department	Olmsted County Building Official
Denise Daniels	Olmsted County Public Health	Director
Sandi Goslee	Olmsted County Planning Department	Principal Planner
Mark Thein	Olmsted County	Commissioner
Nathan Arnold	Olmsted County Public Works	Assistant County Engineer
Chad Schuman	Olmsted County	Highway Maintenance Engineer
Laurel Podulke-Smith	Olmsted County	County Commissioner
Heidi Welsch	Olmsted County	Administrator
Teresa Blader	Olmsted County	GIS Specialist
Tony Hill	Olmsted County	Director of Environmental Resources
Benjamin Johnson	Olmsted County	County Engineer / Director of Public Works
Gregg Wright	Olmsted County	Commissioner
Michelle Rossman	Olmsted County	Commissioner
Judy Indrelie	Olmsted County	Project Manager
Kevin Torgerson	Olmsted County Sheriff's Office	County Sheriff
Julie Hackman	Olmsted County	Associate Director / County Assessor
Al Roder	City of Byron	City Administrator
Tom Ricke	City of Byron	Public Works Director/Emergency Manager
Michele Peterson	City of Chatfield	City Administrator
Rocky Burnette	City of Chatfield	Ambulance Director

Name	Agency/Organization	Participant Title
Shane Fox	City of Chatfield Police Dept.	Police Chief
Mitch Irish	City of Chatfield Public Works	Assistant Wastewater Operator
Jason Blum	City of Rochester	Safety Administrator
Brett Knapp	City of Rochester Fire Dept./EM	Fire Captain/Interim EM Director
Spencer Sweeney	City of Rochester Fire Dept.	Fire Captain and Interim Deputy EMD
Eric Kerska	City of Rochester Fire Dept.	Fire Chief
Holly Mulholland	City of Rochester Fire Dept.	Deputy Chief
Jon Turk	City of Rochester Police Dept.	Captain
Tom Faudskar	City of Rochester Police Dept.	Lieutenant - Patrol
Wendy Turri	City of Rochester Public Works	PW Director
Aaron Luckstein	City of Rochester Public Works	Deputy Public Works Director
Tyler Niemeyer	City of Rochester Public Works	Incoming Public Works Director
Jay Forstner	City of Rochester GIS	GIS Supervisor
Michael Nigbur	City of Rochester Parks and Forestry	Parks and Forestry Division Head
Brian Anderson	City of Rochester	Finance Director
Jenna Bowman	City of Rochester	Strategic Communications & Engagement Director
Kim Norton	City of Rochester	Mayor
Brooke Carlson	City of Rochester	Council President
Irene Woodward	City of Rochester	Community Development Director
Chris Ferguson	City of Rochester Fire Dept.	Assistant Fire Chief
Micichael Spindler-Krage	City of Rochester	City Attorney
Robert Cooke	City of Rochester Public Utilities	Safety Manager
Steven Nyhus	City of Rochester Public Utilities	Director of Compliance and Public Affairs
Tim McCollough	City of Rochester Public Utilities	General Manager
Bill Schimmel, Jr.	City of Stewartville	City Administrator
Brandon Dohlman	City of Stewartville	Fire Chief
Patrick Keane	City of Rochester	City Councilor
Matt Crawford	City of Rochester Public Works Dept.	Project Development Manager
Robert Heathman	Cascade Township	Supervisor
Brad Brech	Cascade Township	Supervisor
Donna Beyer	New Haven Township	Clerk
Ann Fahy-Gust	New Haven Township	Supervisor
Patrick McGowan	Rochester and Cascade Townships	Maintenance Supervisor
Jered Staton	Township Cooperative Planning Association	Administrator
Belinda Selfors	Stewartville Public Schools	Superintendent of Schools
Michael Stock	Rochester Public Schools ISD 535	Facilities Health & Safety
John Carlson	Rochester Public Schools	Chief Administrative Officer
Julie Claymon	Rochester Public Schools	Coordinator of Safety and Security

Name	Agency/Organization	Participant Title
Eli Szydlo	American Red Cross	Disaster Services Program Manager, Southeast MN
Michael Palmer	Minnesota DNR	Central Region Firewise Specialist
Nicole Lehman	Minnesota DNR	Area Hydrologist
Chad Hanson	MnDOT	District 6 Emergency Management Coordinator
Kristoffer Langlie	MnDOT	District 6 Water Resources Engineer
Kyle Lake	MnDOT	District 6 Operations Engineer
Jay Johnson	Mayo Clinic	Manager, Emergency Management
Meredie Sexton	Mayo Clinic	Sr. Coordinator / Emergency Management
Mike Henke	People's Energy Cooperative	President & CEO
Grace Pesch	United Way of Olmsted County	Vice President of Community Impact
Zeni Aly	United Way of Olmsted County	Impact Operations Associate
Earl Merchlewitz	Goodhue County	Emergency Management Director
Brenda Tomlinson	Wabasha County	Emergency Management Director
Don Kullot	Fillmore County	Emergency Management Director
Amy Bramwell	Mower County Sheriff's Office	Emergency Management Director

2.2 Review of Existing Plans, Capabilities & Vulnerabilities

Olmsted 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 Olmsted 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 Olmsted 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 Olmsted 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 Olmsted County to support mitigation.

Local Mitigation Surveys: As part of Olmsted County's 2024 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 Olmsted County LMS report, see Appendix C).

2.3 Planning Process Timeline and Steps

To update the 2017 Olmsted County HMP, U-Spatial consultants worked with Olmsted County Emergency Management and members of the planning team. The updated plan includes new data documenting the types of hazards faced by Olmsted County residents and emergency planning officials as well as new thinking on how to address these hazards.

2.3.1 Olmsted County Stakeholder Coordination

Two planning team meetings took place via Zoom video conference hosted by U-Spatial. Meeting participants included representatives from Olmsted 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, Olmsted 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 8/13/24 to 8/27/24, for a period of 15 days. Appendix G provides documentation of the public outreach for feedback on the draft plan by Olmsted County and jurisdictions.

At the close of the public outreach period, the U-Spatial consultants worked with the Olmsted County Emergency Manager and members of the planning team to incorporate public feedback into the HMP. For more information on the planning process, see Sections 5 and 6.

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

Event	Date	Appendix
Kickoff Webinar	4/28/23	Appendix F, Planning Team Meetings
News Release #1	6/6/23	Appendix G, Public Outreach & Engagement Documentation
Planning Team Meeting #1	2/22/24	Appendix F, Planning Team Meetings
Planning Team Meeting #2	7/19/24	Appendix F, Planning Team Meetings
News Release #2	8/13/24	Appendix G, Public Outreach & Engagement Documentation

2.3.2 Overview of Jurisdictional Participation

Throughout the planning process, Olmsted 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 Olmsted 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 Olmsted 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 Olmsted 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 Olmsted 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. Olmsted 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 each city’s participation in the Olmsted County HMP update planning process and a reference to 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
Olmsted County (166,529)	X	X	X	X	X	X
City of Byron (6,588)	X	X	X	X	X	X
City of Chatfield (1,160)	X	X	X	X	X	X
City of Dover (777)	X		X	X		
City of Eyota (1,989)	X		X	X		X
City of Oronoco (1,801)	X		X	X		X
City of Pine Island (907)	X		X	X		X
City of Rochester (124,179)	X	X	X	X	X	X
City of Stewartville (6,756)	X		X	X		X
Neighboring						
Goodhue County		X				
Wabasha County					X	
Winona County						
Fillmore County					X	
Mower County					X	
Dodge County						

Section 3 – Risk Assessment and Vulnerability Analysis

3.1 Hazard Identification and Prioritization

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.

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.

See a list of all natural hazards covered in the 2024 HMP

The cornerstone of the risk assessment is identifying the hazards that affect jurisdictions. Listed below are the natural hazards addressed in the 2024 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 Olmsted County, updated the existing mitigation actions published in the 2017 HMP, and proposed new mitigation actions.

The team examined the hazards identified in the 2017 HMP and adjusted them to reflect the definitions of natural hazards used in the 2024 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 Olmsted 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 2024 Olmsted County HMP Update

Natural Hazards	Current Priority
Flooding	High
Windstorms	High
Tornadoes	High
Winter Storms	Moderate
Hailstorms	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Wildfire	Moderate
Drought	Moderate
Landslides	Moderate
Land Subsidence	Moderate
Lightning	Low
Dam Failure	Low

3.1.2 FEMA- and Minnesota-Declared Disasters and Assistance

Another historical perspective is derived from FEMA-declared disasters. Thirteen major disasters and two emergency declarations in Olmsted County have been made between 1957 and July 2024; details of these can be viewed on the [Olmsted 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). Olmsted County has been included in three 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 that provide funding for eligible mitigation planning and projects that 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 Olmsted County

Project Identifier	Sub-Grantee	Project Type	Project Total	Federal Share
DR-1921-0004-R	Oronoco	200.1: Acquisition of Private Real Property (Structures and Land) - Riverine	\$542,550	\$406,913
DR-4069-0021-R	Rochester	206.2: Safe Room (Tornado and Severe Wind Shelter) - Public Structures	\$619,660	\$464,745
DR-1921-0009-R	Pine Island	200.3: Acquisition of Public Real Property (Structures and Land) - Riverine	\$198,724	\$149,043
DR-4069-0013-P	Rochester	91.1: Local Multihazard Mitigation Plan	\$111,319	\$60,000
DR-1717-0003-P	Olmsted (County)	91.1: Local Multihazard Mitigation Plan	\$74,140	\$55,605
DR-1116-0012-R	MN Dept. of Transportation - District 6A	300.3: Vegetation Management - Wind	\$106,392	\$79,794

SOURCE: (FEMA, 2023c)

3.2 Community 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).

The ATSDR created the CDC Social Vulnerability Index (SVI) to help identify vulnerable communities that may need support in preparing for hazards 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.

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

3.3 Climate Change

Minnesota’s climate change summary is informed primarily by the Midwest Chapter of the Fifth National Climate Assessment (NCA5) dated November 2023 and with interpretations from the MN DNR State Climatology Office (Wilson et al., 2023).

Rising global temperatures and the resulting increases in atmospheric moisture from evaporation of ocean waters have allowed Minnesota to become warmer, wetter, and more humid during the past several decades. The ten combined warmest and wettest years between 1895 and 2022 all occurred

since 1998. Nights have warmed faster than days since 1970, and winter has warmed several times faster than summer. Even with the drought conditions of the early 2020s in Minnesota, heavy precipitation continues to show long-term increases, with damaging rain and snowfall events reported somewhere in the state each year of the decade through 2023. Despite no increase in the highest temperatures of summer, maximum annual heat index values (one measure of how hot it feels) have been rising across the state because of increased humidity during heat waves.

Even though periods of intense growing-season drought have defined the climate of the early 2020s in much of Minnesota, long-term increases in annual precipitation have continued because of heavy and even record-setting precipitation during the cold season. For instance, record-dry conditions during May through mid-August of 2021 led to parts of northwestern and northern Minnesota reaching “Exceptional Drought”—the worst category on the US Drought Monitor. A shift to a stormy pattern during the following winter and spring, however, produced unprecedented precipitation between December in May in the exact same areas, with historic flooding along the Rainy River.

The observed changes in our climate have altered growing seasons, damaged forests, challenged natural resource management, limited recreational opportunities, destroyed infrastructure, and affected the conditions of lakes, rivers, wetlands, and groundwater aquifers that provide water for drinking and agriculture. Climate models project that temperature and precipitation increases will continue in Minnesota through the 21st century, with hotter summers and increased drought severity during dry periods as well.

To help the public understand how the changing climate has affected and is expected to affect the behavior of common weather hazards in the Minnesota, the MN DNR State Climatology Office developed graphical summaries of the scientific confidence associated with each hazard’s relationship to climate change (Table 6 and Table 7). Climate change in Minnesota has by far the strongest associations with (1) sharp declines in the frequency and severity of extreme cold outbreaks, tied to a persistent warming of winters, and (2) sharp increases in the frequency and intensity of extreme precipitation events. For instance, from 1970 through 2023, Minnesota’s winters warmed at a rate of almost one degree F per decade, and approximately three-four times faster than summer. During that same period, the coldest night of the year has warmed almost twice as fast as winter as a whole—up to two degrees F per decade (or 20 degrees F per century).

Despite major losses to cold extremes, the warming climate and increased abundance of atmospheric moisture has led to an uptick in many heavy snowfall metrics across Minnesota, leading to moderately high confidence that the changing climate is increasing heavy snowfall events—even as other winter characteristics decline. The intensity and frequency of tornadoes and severe convective storms are weakly connected at best to recent climate changes, and since the 1950s, despite superior detection and verification capabilities, the number of damaging tornadoes rated at least F-2 or EF-2 in Minnesota has shown no increases. Dramatic changes in the seasonal and geographical ranges of severe convective weather have, on the other hand, already affected Minnesota. In 2021, a damaging tornado crossed the Boundary Waters into Canada, becoming the latest on record so far north in the state. Then, on December 15th, an outbreak of destructive thunderstorm winds and over 20 tornadoes struck the southeastern parts of the state, producing the latest tornadoes on record by 29 days.

The climatic picture is expected to change further beyond the 2020s and especially as Minnesota approaches the middle of the 21st century (Table 7). Dramatic losses in extreme cold and additional increases in heavy and extreme precipitation are expected to remain the state’s leading climate change symptoms. Although Minnesota has not yet observed increases in the frequency, severity, or duration of summertime high temperatures or drought (through 2023), climate model projections summarized in NCA5 indicate that heat waves are all but certain to increase by mid-century. A 2018 study conducted by NOAA scientists indicates that by the 2050s, heat waves in Minnesota will be more attributable to climate change than to natural variability (Lopez et al., 2018).

Table 6. Confidence that climate change has already impacted common Minnesota weather/climate hazards

Confidence	Hazard	Recent & Current Observations
Highest	Extreme cold	Rapid decline in severity & frequency
	Extreme rainfall and heavy snowfall	Becoming larger and more frequent
Moderately High	Humid heat waves	Some increase in maximum dew point and Heat Index values since 1980
Moderately Low	Tornadoes, hail, thunderstorm winds	Intensity and frequency unchanged, but seasons expanding aggressively
Low	Drought and dry spells	Intense & major episodes in early 2020s but no long-term trend
Lowest	Summer high temperature extremes	Highest temperatures still well within historical ranges, and number of hot days increasing only slightly in isolated locations

SOURCE: (BLUMENFELD, K. MINNESOTA STATE CLIMATOLOGY OFFICE, PERSONAL COMMUNICATION, DECEMBER 21, 2023)

Table 7. Confidence that climate change will impact common Minnesota weather/climate hazards through 2070

Confidence	Hazard	Expectations through 2070
Highest	Extreme cold	Continued rapid decrease in severity and frequency
	Extreme rainfall	Unprecedented events more common
High	Heat waves	Summer high temperatures, maximum dew point and heat index values all projected to increase
Moderately High	Drought	Increased severity likely as summer heat increases; frequency and duration projections unclear
Moderately Low	Heavy snowfall	Greater extremes, but events less frequent as winter rain increases
	Tornadoes, hail, thunderstorm winds	Intensity and frequency unclear but continued seasonal expansion and larger “outbreaks” possible

SOURCE: (BLUMENFELD, K. MINNESOTA STATE CLIMATOLOGY OFFICE, PERSONAL COMMUNICATION, DECEMBER 21, 2023)

3.3.1 Climate Change Impacts and Resilience Planning

The NCA5 states that even if the world decarbonizes rapidly, the Nation will continue to face climate impacts and risks. Adequately and equitably addressing these risks involves longer-term inclusive planning, investments in transformative adaptation, and mitigation approaches that consider equity and justice. In the Midwest, rising temperatures, extreme precipitation, drought, and other climate-related events are impacting agriculture, ecosystems, cultural practices, health, infrastructure, and waterways. Communities, Indigenous Peoples, governments, and businesses are embracing adaptation approaches that include climate-smart agriculture, improved landscape management, innovative green infrastructure financing, and collaborative decision-making.

NCA5 includes these key messages for the Midwest region ([Chapter 24: Midwest](#)):

- Changes in precipitation extremes, timing of snowmelt, and early-spring rainfall are expected to pose greater challenges for crop and animal agriculture, including increased pest and disease transmission, muddier pastures, and further degradation of water quality. Climate-smart agriculture and other adaptation techniques provide a potential path toward environmental and economic sustainability.
- Increasing incidence of flooding and drought is expected to further alter aquatic ecosystems, while terrestrial ecosystems are being reshaped by rising temperatures and decreasing snow and ice cover. In response, communities are adapting their cultural practices and the ways they manage the landscape, preserving and protecting ecosystems and the services they provide.
- Climate change has wide-ranging effects on lives and livelihoods. Mitigation and adaptation strategies, such as expanded use of green infrastructure, heat-health early warning systems, and improved stormwater management systems, when developed in collaboration with affected communities, have the potential to improve individual and community health.
- Increases in temperatures and extreme precipitation events are already challenging aging infrastructure and are expected to impair surface transportation, water navigation, and the electrical grid. Shifts in the timing and intensity of rainfall are expected to disrupt transportation along major rivers and increase chronic flooding. Green infrastructure and public and private investments may mitigate losses, provide relief from heat, and offer other ways to adapt the built environment to a changing climate.
- Climate-related changes to water quantity and quality are increasing the risks to ecosystem health, adequate food production, surface water and groundwater uses, and recreation (high confidence). Projected increases in droughts, floods, and runoff events across the Mississippi River basin and the Great Lakes will adversely impact ecosystems through increased erosion, harmful algal blooms, and expansion of invasive species.

Key messages from the NCA5 are indicated in green throughout this document.

3.3.2 Health Impacts of Climate Change in Minnesota

Climate change already impacts our health, and these impacts are expected to worsen in the years ahead. The risks are especially high for Minnesotans who are less able to cope due to their age, income, housing insecurity, preexisting health conditions, and more.

Heat, air pollution (including wildfire smoke and allergens like pollen), extreme precipitation, floods, droughts, and ecosystem changes are all “climate hazards” that impact our health. Some of these climate hazards have a direct effect, like a heat-related illness from a heatwave, while some have an indirect impact, like exacerbation of asthma from mold growth in a flooded basement.

Heat

Minnesotans will experience a wide range of impacts from the increased frequency and severity of extreme heat events. Higher heat, increased humidity, and longer and more frequent extreme heat events can lead to direct health impacts of dehydration and heatstroke. Untreated heat stroke can lead to death. Heat-related illness directly accounted for 75 deaths in Minnesota from 2000–2022.

Heat can also worsen existing health conditions, such as respiratory and cardiovascular diseases. The people most at risk include those who are more exposed and those who may be more susceptible due to physiological reasons. People more likely to be exposed to heat include outdoor workers in agriculture and construction, student athletes, people who live in cities (due to the heat island effect), people without air conditioning, and unhoused persons.

People at higher risk because of physiological reasons include those with underlying medical conditions, pregnant people, older adults, infants, and young children.

Just as one example of the devastating effects of heat, in the summer of 2011, Minnesota had six days when the heat index was 105 degrees F or higher—and that same summer there were 1,302 emergency department visits and 3 deaths due to heat. What makes these numbers tragic is that heat-related illnesses are preventable.

Indirect impacts of extreme heat include infrastructure failures like roads buckling and power outages; strain on essential services, such as emergency medical services and law enforcement response time due to increases in crime; and disruptions to important social and economic networks, such as school and event cancellations, which reduces access to education, physical activity, and community support.

Air Pollution

In general, we breathe clean air in Minnesota, according to federal standards. But on some days and in some locations, air is unhealthy due to ozone or fine particulate matter. Greenhouse gas emissions can increase air pollution, and rising temperatures can also affect the formation and release of pollutants. Unhealthy air days are expected to become more frequent, and more intense due to climate change.

Climate change is likely to increase three main air contaminants in Minnesota: ozone, particulate matter (including wildfire smoke), and allergens. These air pollutants can cause or exacerbate cardiovascular and respiratory diseases, chronic obstructive pulmonary disease (COPD), allergies, and asthma.

Pollen is intensifying with climate change, and can trigger allergies, asthma attacks, and affect other respiratory conditions. In Minnesota, asthma affects one in 16 children (6.4%) and one in 13 adults (7.4%). People with asthma need to be especially aware of pollen sources and seasons to prevent an allergy-related asthma attack.

There are three pollen seasons in Minnesota: trees, grasses, and weeds. Trees are the first to release pollen, typically starting in early April, grasses usually ramp up pollen release in early June, and weeds

typically begin releasing pollen in mid-June and continue until the first hard frost. Research shows that the growing season for ragweed pollen, which is highly allergenic, has increased by 15 to 25 days in and around Minnesota. The lengthening pollen season is strongly related to climate change characteristics, such as lengthening of the frost-free season and later timing of the first fall frost.

Indirect health effects from air pollution can include reduced visibility on a high smog day, reduced productivity at work or school due to allergies or asthma, and reduced productivity and degradation of crops and water sources, which can lead to economic burdens.

Those most at risk include:

- Children, because they have developing lungs, are outside more, and they play vigorously and inhale more air per pound of body weight compared to adults.
- Adults over 60, because their bodies are aging.
- People with chronic respiratory or cardiovascular disease because they are more susceptible to air pollution.
- Individuals living near other sources of air pollution (such as roadways, freeways, and heavy industry), because they are chronically exposed to air pollution.
- People of color, because they are more likely to be exposed to more air pollution and have a disproportionate burden of heart and lung diseases, which may increase susceptibility.

Extreme Precipitation, Floods, Drought

Rain is falling more frequently in extreme, heavy, localized events, leading to some parts of our state experiencing flooding while other parts experience drought.

Increased frequency and severity of heavy rainfalls can lead to flooding, which results in both direct and indirect health impacts like:

- Injury or even death from drowning.
- Illnesses from being exposed to contaminated drinking water or recreational sources.
- Mental health stress from experiencing the trauma of the event or later from being displaced or dealing with damaged homes and business.
- Respiratory ailments from exposure to mold from flooded basements.
- Carbon monoxide poisoning from exposure to carbon monoxide when using secondary power sources, like generators.
- Flooding can also disrupt economic and social networks and put a strain on essential services.

The people most at risk are Minnesotans who are more likely to be exposed to flood waters, like those who live in a flood plain or near water bodies, or people who cannot easily evacuate or recover from flooding destruction, such as people who do not have reliable transportation, people who can't use the stairs when elevators are out of service, people in wheelchairs, people with disabilities, older adults, and lower income people.

Heavy rain events can cause standing water in backyards or basements. Many homeowners have experienced wet basements, which is mentally and financially stressful, and if mold starts to grow that can become a health problem.

Localized flash flooding can also be a problem where our infrastructure is undersized, and people get caught off guard by flooded roads. This is an important public health safety concern as almost half of

flash flood fatalities occur in vehicles. It takes as little as six inches of fast-moving water to knock over and carry away an adult, and as little as 12 inches can carry away a small car.

Another public health concern with precipitation changes exacerbated by climate change is waterborne disease outbreaks. Heavy downpours can lead to a host of problems, including increased runoff and sewage overflows, which can cause outbreaks of waterborne diseases such as E. coli and Cryptosporidium. Runoff can carry viruses and other disease-causing agents into wells and recreational waters, contaminating them and causing health problems.

Zoonotic Diseases

Zoonotic diseases or zoonoses are caused by germs like viruses, bacteria, parasites, and fungi that spread between animals and people. Increases in temperatures and changes in rain patterns are changing our ecosystems, which can affect the spread of diseases carried by insects, ticks, rodents, birds, and other animals.

Diseases from ticks include Lyme disease, Anaplasmosis, and Babesiosis. As temperatures increase, disease-transmitting ticks will become active sooner and stay active longer, allowing more time to develop and feed on hosts. Ticks thrive in warm humid environments.

Additionally, there may be a decreased die off over the winter months if temperatures do not get very cold. An increase in winter temperatures can also lead to new tick species moving into and surviving in Minnesota, which can lead to the introduction of new diseases.

People more at risk for diseases carried by insects, ticks, and rodents are people who spend more time outdoors or are more exposed to these pests.

Harmful Algal Blooms

An increase in water temperatures can lead to blue-green algal blooms, which contain toxins that can pose harmful health risks. People or pets who drink or swim in water with dangerous levels of harmful algal bloom (HAB) contamination may experience stomach illness, skin irritation, allergic responses, and damage to the liver and nervous system. In extreme cases, dogs and other animals have died after drinking water containing these toxins.

Harmful algal blooms in Minnesota lakes result from several factors including runoff from fertilizers, discharges from waste treatment plants, warmer waters, and higher temperatures. While HABs can occur naturally, the frequency of outbreaks is increasing in part because human activities create favorable conditions for the blooms.

Zoonotic diseases and HABs can have an indirect health effect when they threaten the livelihoods of people who work in recreation-dependent economies that revolve around camping, fishing, and hunting.

Mental Health

Climate change threatens our mental health through direct exposure to a climate-related disaster (e.g., flooding); through the disruption to a major determinant of health, such as a loss of livelihood or a cultural tradition; and through awareness or uncertainty of climate change as an existential threat. These experiences may overlap and lead to compounded impacts on an individual or even an entire community, such as family farmers burdened with decadal drought who are more likely to commit suicide.

Existing research has associated several mental health conditions with climate change, such as psychological distress, grief reactions, depression, post-traumatic stress disorder, interpersonal conflicts, drug or alcohol abuse, loss of identity, and suicidal ideation.

Vulnerable populations such as children, the elderly, communities of color, and other marginalized communities are most at risk of climate change-related mental health impacts.

3.3.3 Climate Change Adaptation

Climate change adaptation is important for increasing the resilience of communities and the environment. The shocks caused by more extreme weather events and the stressors of longer-term changes to the climate affect all natural systems. For human communities, these impacts challenge the surroundings in which they live, the critically important ecosystem services upon which they depend, public health, local facilities and infrastructure, the safety of their residences, and the viability of their livelihoods. Development trends can further exacerbate both climate impacts and population vulnerability. Communities are only as resilient as the most vulnerable within them.

3.3.4 Climate Change Data and Tools in Minnesota

The University of Minnesota Extension and the University of Minnesota's Water Resources Center coordinate the Minnesota Climate Adaptation Partnership (MCAP), which brings together federal and state agencies, organizations, and individuals statewide with an interest in climate adaptation. MCAP received funding after the 2021 legislative session to develop high-resolution (2.6 mile/4km grid) dynamically downscaled climate projections utilizing the University of Minnesota's Supercomputing Institute. This data is being made publicly accessible via the new [Minnesota CliMAT—Climate Mapping and Analysis Tool](#). This interactive online tool provides highly localized climate projections for Minnesota. MN CliMAT is based on data from the latest generation of global climate models, called [CMIP6](#). With the dynamically downscaled climate projection data, users can visualize even how small cities will likely be impacted in the coming decades (Liess, S. et al., 2023).

More resources are available on the [climate change page of the Olmsted County website](#)

3.4 Jurisdictional Change in Risk or Vulnerability Assessment

Jurisdictions in Olmsted 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, Olmsted 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 the development of related local mitigation actions to reduce risk.

Olmsted County

Flooding: Olmsted County routinely deals with flooding and has numerous small and large-scale flooding events in our history. Although our primary river (Zumbro) and its tributaries are in line with the flood control project, the changing climate and surface conditions still leave areas in Olmsted County susceptible to flooding. Much work is done to maintain the flood control project and other mitigation efforts. Localized flooding in 2019 in the southwest portion of the county was mitigated with upsized culvert installation, rip-rap, and other efforts to assist high-level water flow and to prevent blockages and erosion. A failure of any parts of the Flood Control Project could prove disastrous for the City of Rochester and Olmsted County.

Severe Winter Storms: Olmsted County has experienced two blizzards since 2017, with one major blizzard affecting travel and government operations (February 2019). Olmsted County also experienced Severe Thunderstorms, Tornado Warnings, High Wind Warnings (a Derecho) on December 15, 2021, which resulted in a State declared disaster. Continuity of business operations (both public and private) is at stake during severe winter weather. Responding to and recovering from a blizzard can take several days; from clearing roads to restoring power so that businesses can return to either modified or full operation. With the City of Rochester being home to the Mayo Clinic, its most vital economic partner, work must be done quickly to plan for, respond to and recover from severe winter weather impacts not only for Mayo, but for the web of infrastructure and services that supports Mayo and county residents. In addition, much of the county's municipal and rural power consists of overhead power lines. This makes our county susceptible to widespread power outages during severe Winter weather events. Although most critical infrastructure in Olmsted County have back-up generators for power, delivering fuel to all facilities will take coordination and prioritization. Power outages also create vulnerabilities to our residents in any city within Olmsted County, especially those on electricity-dependent durable medical equipment in their home.

Severe Summer Storms: Olmsted County has a long history of severe storms from April through October. Severe weather includes thunderstorms, hail, high winds and tornadoes. As indicated previously, Olmsted County has experienced a plethora of hail events since 2017. For tornadic activity, Olmsted County has confirmed 4 tornadoes in 2017 and one in 2019. Fortunately, all tornadoes affecting Olmsted County in the last six years have not resulted in major damage or disaster declarations. Much of the county's municipal and rural power consists of overhead power lines. This makes our county susceptible to widespread power outages during severe weather events. Although most critical infrastructure in Olmsted County have back-up generators for power, delivering fuel to all facilities will take coordination and prioritization.

Power outages also create vulnerabilities to our residents in any city within Olmsted County, especially those on powered medical devices in their home.

Extreme Cold: Olmsted County experiences extreme cold events with some regularity, usually in January or February. Residents are susceptible to dangers from extreme cold, especially if the power goes out during winter storm events. We have a high population of senior citizens, low-income residents, and medically dependent residents who are more vulnerable during these events. In the past we have experienced frozen water services and some residential homes experienced burst pipes from extended extreme cold. In extreme temperatures we have had liquefied petroleum (LP) customers experience lack of pressure and lost heating due to frozen regulators and loss of pressure in the LP tank. The county and local cities have also experienced damage to roads from spring frost heaves and frozen culverts that can cause localized flooding.

Extreme Heat: Olmsted County experiences extreme heat events with some regularity, usually in July or August, but we have seen extreme heat events in April and as late as October. Residents are susceptible to dangers from extreme heat, especially if the power goes out during severe weather that often accompany extreme heat events. We have a high population of senior citizens, low-income residents, and medically dependent residents who are more vulnerable during these events.

Drought: Olmsted County was included in the 2023 extreme drought with conditions persisting through the summer into fall of 2023. However, National Weather Service hydrologists stated the drought for Olmsted (and other counties) was the “wettest driest year on record” meaning even though we were experiencing drought conditions, we were “barely” in the extreme drought category.

City of Byron

Flooding: Our wastewater treatment plant is very susceptible to flooding in moderate rain events. We also have flooding/ponding on several roadways and stormwater treatment ponds that overtop in larger rain events.

Winter Storms: Byron has two power companies that serve our residents. Excel Energy has many overhead lines running through backyards with mature trees. With wet, heavy snow, trees have been known to be damaged and cause damage to the powerlines. In 2019, we had almost record snowfall totals for the season leading to safety concerns on our city streets because we were running out of room to put the snow.

Tornado and Windstorm: Our biggest threat during a tornado would be building damage and power outages from fallen trees and other debris.

Lightning and Hail: Same problems as tornado and windstorm. Lightning storms do have the capability of knocking out our SCADA [Supervisory Control and Data Acquisition] system which controls our wells and lift stations throughout the city.

Extreme Cold: We do have some neighborhoods with an elderly population that can be affected by a power outage in extreme cold. Our fire hall is equipped with a generator that can be a place of shelter. Extreme cold does pose a risk of freezing waterlines and frost depth and cause watermain breaks.

Drought: Byron has had periods of moderate to severe drought conditions. We have enacted our water conservation plan and odd/even irrigation.

City of Chatfield

All Hazards – Power Outages: A generator has been installed at City Hall that serves as our local shelter if people are displaced from a severe storm event or extended power outage. Generators have been installed at our City Well #2 and our Booster Station to supply water to residents. The city has a vac truck to pump lift stations if needed. We also have a large population of senior citizens that do not use cell phones to receive emergency notifications.

Flooding: We have a city lift station that is prone to flooding during high rain events. Two city parks that are vulnerable to flooding and park equipment has been damaged in the past. We need to upsize several culverts to better handle high rain events.

Ice Storms, Blizzards: Updated power conversions have been completed by Peoples Energy Coop. 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 and Tornadoes: We have one mobile home park within the city that does not have a storm shelter and residents are vulnerable to high wind and tornado events. We have experienced power outages from strong wind events that have caused power outages.

Extreme Cold: We have a high population of senior citizens and low-income residents who are more vulnerable during periods of extreme cold with power outages. In the past we have experienced frozen water services and some residential homes experienced burst pipes from extended extreme cold. The city has experienced frozen culverts causing localized flooding.

Drought: Chatfield has experienced moderate to severe drought causing the city to enforce their water Conservation Plan.

Highway 52 (HazMat): Highway 52 running through the middle of town presents a great hazard to our community. There are several trucks passing through town carrying hazardous materials. We have had two crashes in recent years involving vehicles carrying a hazardous material within our downtown commercial district.

City of Dover

Highways 14 & 190 (HazMat): These highways run on the outskirts of the city and truck traffic often cross between the two highways which brings potential for hazardous materials and often trucks do not slow down to meet our speed limits. A lot of our emergency runs are for calls on these highways.

City of Eyota

Transportation HazMat Events: We have two major highways that run past our city, Hwy 14, Hwy 42. Also, we have the Canadian Pacific Railroad that splits our city. We also have Magellan Pipeline, Kugel's gas (LP Storage facility) Kwik Trip Blending Station and Ag Partners Anhydrous Ammonia fill station in town. We have multiple trucks hauling hazardous materials in town and close proximity.

City of Oronoco

All Hazards: We need to obtain a generator for our City Hall and Community Center that serves as our local shelter if people are displaced from a severe storm event or extended power outage. Generators have been installed at City Well #2. We need a generator for Well #1 for redundancy. The city needs a vac truck to pump lift stations when needed.

Flooding: The city has had several parks along Zumbro River that experience minor damage during high water and repeated flood events. Improvements in the shoreline of the river is needed to prevent future damage in the parks and city.

Ice Storms, Blizzards: Updated power conversions have been completed by Peoples Energy Co-Op. Much of the city's 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.

Drought: Oronoco has experienced moderate to severe drought causing the city to notify water consumers to reduce water usage.

Highway 52 (HazMat): Highway 52 running through the middle of town presents a great hazard to our community. There are several trucks passing through town carrying hazardous materials.

City of Pine Island

All Hazards – Power Outages: A generator has been installed at City Hall that serves as an overflow local shelter if people are displaced from a severe storm event or extended power outage. We are also looking into installing a permanent generator at the Lutheran Church which will be our primary shelter. Pine Island Public School and Pine Island Firehall both have permanent generators and can be used as overflow shelters.

Flooding: We have a city lift station that is prone to flooding during high rain events. Two city parks that are vulnerable to flooding and park equipment has been damaged in the past.

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 and Tornadoes: We have one mobile home park within the city that does not have a storm shelter and residents are vulnerable to high wind and tornado events. We have experienced power outages from strong wind events that have caused power outages.

Extreme Cold: We have a high population of senior citizens and low-income residents who are more vulnerable during periods of extreme cold with power outages. In the past we have experienced frozen water services and some residential homes experienced burst pipes from extended extreme cold. The city has experienced frozen culverts causing localized flooding.

Drought: Pine Island has experienced moderate drought.

Highway 52 (HazMat): Highway 52 running through the middle of town presents a great hazard to our community. Transporting hazard materials on this highway is common.

City of Rochester

All Hazards: As the city grows at a rapid pace due to the Destination Medical Center initiative, we are seeing new development on the outskirts of town, as well as increased infill of already developed areas. Combined with climate change, this growth increases challenges ranging from strain on emergency response services to potential impacts to flood control measures and surface water runoff. Emergency Alerting is also becoming an area in need of a more well-developed and nuanced approach as various vulnerable and immigrant communities expand. City departments are actively working to address these issues.

Flooding: Since its completion in 1996, the city's flood control project remains effective in helping mitigate large-scale flooding that has occurred regularly in the city's history. However, recent years have seen in a surge in vulnerability to flash flooding. One particular area of NW Rochester (Kings Run District) has seen increases in flash flooding due to urban development encroaching on one drainage tributary and agricultural land that produces significant flood volume. Our Public Works department has identified a need for a large retention pond and green space that can assist with flooding during spring events.

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 and Tornadoes: Our city is home to several mobile home parks, including in areas that are on the outskirts of the city limits, making them particularly vulnerable to high winds and tornadoes. Our local agencies work with the parks to provide information to these residents on what actions to take in case of high winds or tornadoes. When requested, we also advise park management to reach out to the state to determine whether their storm shelter requirements and/or capacity are adequate. Our tornado and high-wind siren system is robust, but our most recent siren study determined that urban development has led to areas in NW and SE Rochester that are on the edge or just outside the desired reach of current sirens in those locations.

City of Stewartville

All Hazards: The city desires to obtain additional generator capabilities, whether portable or permanent, to assist city facilities in the capability for alternate electricity in the event of power outages. We want to ensure that these facilities can continue to function for service necessities, for safe sheltering needs, and/or for communication and operational needs.

Severe Weather: In the event of Extreme Cold/Heat/Storm Shelter needs, the city would like to continue finding alternate safe haven sheltering locations to protect the elderly, the vulnerable, and/or those that have lost housing due to severe weather and storm damages, and/or other dangerous or damaging hazards that may have developed.

3.4.2 Future Development

Because Olmsted 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. Olmsted 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 Olmsted 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.

Olmsted County

As the City of Rochester continues to grow and is expected to grow exponentially with the announcement of Mayo Clinic’s \$5B investment to expanding its infrastructure, so do the communities in Olmsted County that surround Rochester. With many new developments in our outlying cities, their environments are changing with regard to water runoff and soil conservation efforts. With increasing population comes increased strain on availability of emergency response services. Outlying cities within Olmsted County should be keeping a close eye on the types and number of service calls and adjust their personnel and infrastructure accordingly.

City of Byron

Since the 2010 Census, Byron has grown at a rate of nearly 30%. This growth puts a lot of strain on the city's existing infrastructure. New home construction and commercial construction have taken away a lot of pervious land and created large amounts of impervious areas. Atlas 14 [A NOAA Precipitation-Frequency Atlas] has increased the rainfall totals and rates as which storms occur, so this must be considered when developments are being proposed.

City of Chatfield

Since 2010, the city's population has grown from 1,206 to 3,002 with many new homes built making more properties vulnerable to damages. Homes have been built slab-on-grade, so residents do not have a basement for safety during high wind or tornado events. With an increase in population and construction of more homes and commercial properties, we have also witnessed more storm water discharging to our stormwater system. We feel this is due to more impermeable surface which has increased stormwater runoff and the amount of precipitation seems to have increased per rain event.

City of Dover

No changes in vulnerability to report.

City of Eyota

The city of Eyota has increased in population for the past 5 years. We have also increased the number of homes and new businesses. In 2022, we started cleaning our stormwater ponds to help with capacity. Of the 4 we currently have we were able to clean 2. Our creek needs to be cleaned out to help the flow of water.

City of Oronoco

With the city sewer and water going live, there are now 500+ customers who rely on 24/7 coverage with reliable operations that include 83 grinder stations. There is also an increase in population and land development requiring more hookups to the city water and sewer. This also requires more area to protect and respond to in or with hazard events.

City of Pine Island

Since 2010, the city's population has grown from 2,462 to 3,924 with many new homes built making more properties vulnerable to damage. Homes have been built slab-on-grade, so residents do not have a basement for safety during high wind or tornado events. With an increase in population and the construction of more homes and commercial properties, we have also witnessed more stormwater discharging to our stormwater system. We feel this is

due to more impermeable surface which has increased stormwater runoff, and the amount of precipitation seems to have increased per rain event.

City of Rochester

The city of Rochester continues to expand outwardly and via infill development. Infill development is often more challenging and tends to impact environmentally sensitive lands as most readily developable property has been developed.

Since 2017 there have been multiple developments constructed within or upon floodplains, wetlands, steep slopes, and other natural areas including forests and open grass areas. These practices dramatically increase runoff volume and expose residents to hazards that are increasing in magnitude as climate change progresses. The City of Rochester recently updated its Unified Development Code to help address some of these challenges but development in these areas is not outright prohibited in many cases.

Extreme drought and water downpours have had significant impact on tree and vegetation infrastructure.

Population growth may begin outpacing city services and utilities. Rochester Public Utilities does plan for these risks in system design in consultation with developers and other city departments.

City of Stewartville

The only real increase in vulnerability would be the increase in population and new land development. In other words, more residents and developed property to assist and protect and respond to, in or with hazard events.

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 Olmsted 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 Olmsted 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 Olmsted 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. Ten of the 15 federal disaster declarations in Olmsted County included flooding.

After several years of drought and exceptionally mild winter, the first half of 2024 was extremely wet with frequent, heavy precipitation causing widespread flooding throughout Minnesota, resulting in a Federal Disaster Declaration affecting 22 counties including Olmsted County (FEMA, 2024).

Historically notable events include the summer of 1978 when Olmsted County was affected by three separate major flash flood events, two of which produced [five inches of rain or more in the Rochester area](#). The first of these events, from the evening of June 30 to the morning of July 1, 1978, was part of sprawling “Mega-Rain” that affected areas along and [up to 50 miles west of the Mississippi River](#). Eastern parts of the county were especially hard-hit, with 4–6 inches of rain and massive flooding that washed out roads and damaged bridges. On July 5–6, extreme rains inundated southwestern, central, and eastern Olmsted County during the evening, including Rochester, where about five inches of rain fell in three hours, with storm totals of nearly seven inches. Major flooding was extensive within the city, with numerous homes, businesses, and roads damaged, constituting the [worst flood in the city’s history](#). That same year in September, another major flood event affected Rochester and much of Olmsted County with 4-7 inches of rain falling, leading to additional flooding in the area.

Extreme rainfall has a strong link to rising global temperatures, and climate projections are virtually unanimous in depicting increasing rainfall extremes through the 21st century in Minnesota, which will likely see more flash-flooding events in the years and decades ahead than had been historically typical or normal.

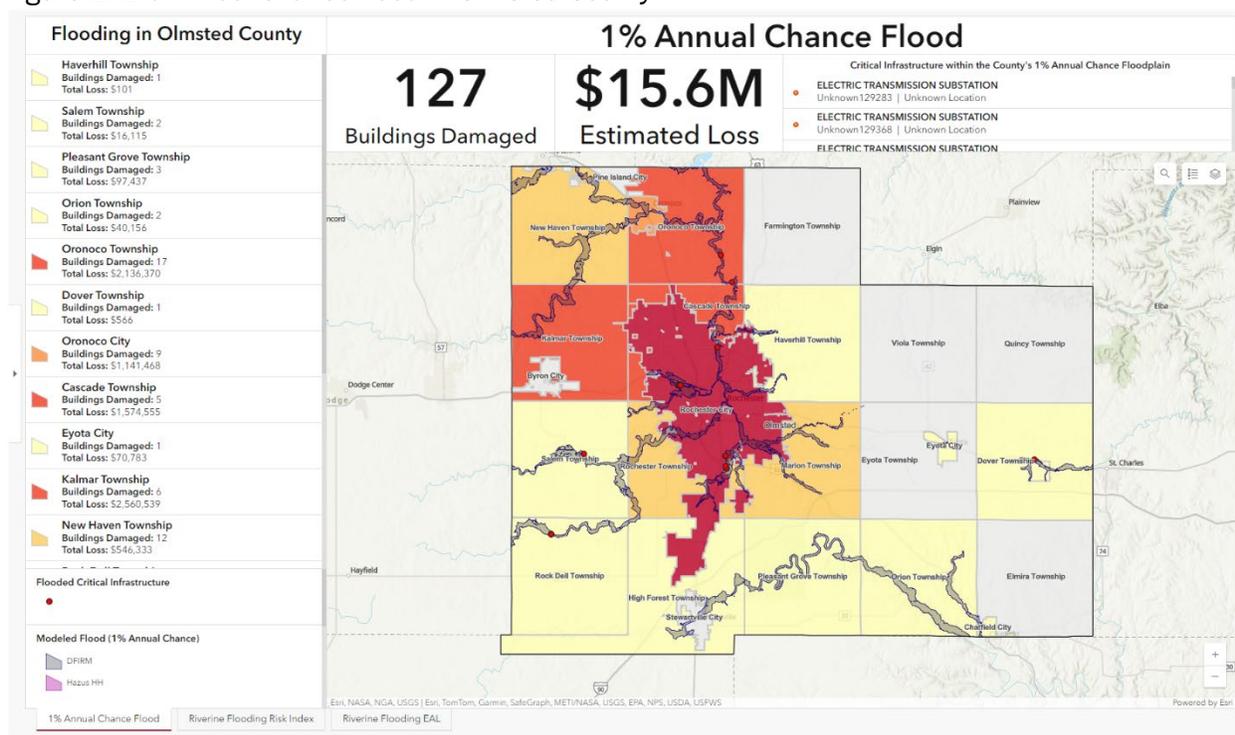
4.1.1 Probability of Occurrence

From 1997 to 2023, the NCEI Storm Events Database has recorded 53 flood and flash flood events. Olmsted County has experienced one flash flood event every 1.6 years and one riverine flood event every 1.4 years 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 1% annual chance flood boundary. Where available, stream base flow elevation and cross-section data were used to generate a depth grid with a 10-meter horizontal resolution. The resulting Hazus 1% annual chance floodplain is shown in the Flood Vulnerability dashboard on the Olmsted County HMP website (Figure 1), where it is available in an interactive form.

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

Figure 1. 1% Annual chance flood in Olmsted County



4.1.2 Vulnerability

Potential economic loss estimates were based on county-specific building data. Olmsted 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.

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, 78,780 points were input to Hazus to represent buildings with a total estimated building plus contents value of \$36.3 billion. Approximately 84% of the buildings (and 68% of the building value) are associated with residential housing. The estimated loss by occupancy class for the entire county is shown in Table 8.

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

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 to visualize the loss (see map [on the flooding page of the HMP website](#)). 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 8. 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	66,350	\$24,502,770,188	298	\$208,470,150	81	\$7,551,409
Commercial	2,244	\$6,837,317,430	46	\$39,589,800	12	\$20,060
Other	10,186	\$4,911,959,514	91	\$166,689,550	34	\$8,047,760
Totals	78,780	\$36,252,047,132	435	\$414,749,500	127	\$15,619,229

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 Olmsted County.

Buildings identified as essential facilities for the Hazus flood analysis include hospitals, police and fire stations, and schools (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 Rochester Fire Department Station 5 was shown to fall within 1% annual chance floodplain. The local site should be reviewed to determine actual vulnerability. The Zumbro Valley Connections supervised living facility may also be within the 1% annual chance floodplain.

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, 2018b).

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 Olmsted County, four electric transmission stations, several wastewater reclamation plants, and the Mathy Construction wastewater treatment plant were found to be at risk in the 1% annual chance flood. The

locations provided for these facilities are mapped in the [Olmsted County HMP website](#). No other information is available.

A 1 % annual chance flood boundary also revealed the Country Home Trailer Court in Byron and six other EPA listed treatment or disposal facilities may be at risk.

Community Vulnerability

Potential economic losses were estimated by Census Minor Civil Division. The City of Rochester would suffer significant estimated losses in the 1% annual chance flood. The neighborhood around Bear Creek is where the most costly damage would occur. All jurisdictions with buildings identified in the 1% annual chance flood zone can also be viewed on the Olmsted 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.

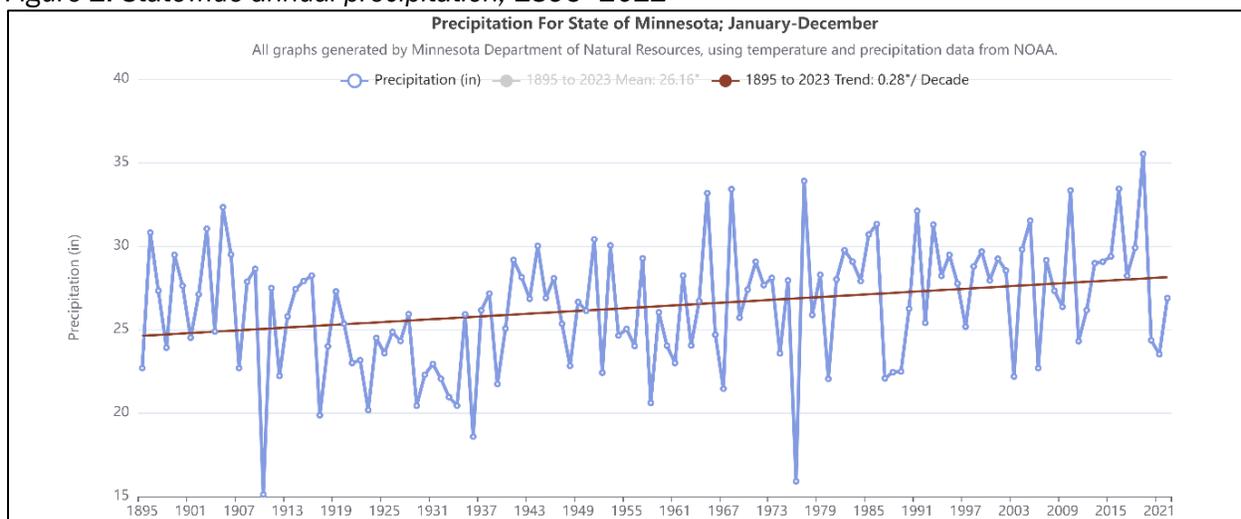
4.1.3 Flooding and Climate Change

Increased heat and moisture often make extreme precipitation events larger, more intense, more frequent, and therefore more probable over a given time interval at a given location. While climate change does not necessarily cause individual extreme events to happen, it enhances their size, strength, and likelihood (MN DNR State Climatology Office, 2024).

Key Message #1 in the Water Chapter of the NCA5 states that climate change will continue to cause profound changes in the water cycle.

Higher temperatures globally have evaporated more surface and ocean water into the atmosphere, which, in turn, has provided more potential moisture for precipitating weather systems. In Minnesota, the result has been increased precipitation, with annual totals increasing at an average rate of just over a quarter inch per decade statewide since 1895 (see Figure 2).

Figure 2. Statewide annual precipitation, 1895–2022



SOURCE:(MN DNR, 2023A)

Snow cover will decrease and melt earlier and heavier rainfall is leading to increasing flooding (Payton et al., 2023). Additional increases in heavy and extreme precipitation are expected to remain the state's leading climate change symptoms. Heavy rains are now more common in Minnesota and more intense than at any time on record. Long-term observation sites have seen dramatic increases in one-inch rains, three-inch rains, and the size of the heaviest rainfall of the year. Since 2000, Minnesota has seen a significant uptick in devastating, large-area extreme rainstorms as well. Rains that historically would have been in the 98th percentile annually (the largest 2%) have become more common (MN DNR, 2024a).

This precipitation increase is found in all seasons, but spring and summer are becoming wetter at faster rates than fall and winter. Whereas temperature increases have been greatest in the northern parts of the state, precipitation increases have been well distributed geographically, and have somewhat favored southern Minnesota, which has better access to moisture from the Gulf of Mexico and is more frequently near the “low-level jet” airflow (a relatively fast-moving zone of winds in the lower atmosphere) that influences precipitation production.

4.1.4 Program Gaps and Deficiencies

Olmsted County Emergency Management identified 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:

Road Infrastructure: Flood mitigation for county and township roads (e.g., culvert replacements, road repair) is an ongoing need. The county and many of our townships have limited funding for road infrastructure. Olmsted County continues to provide assistance on road infrastructure mitigation projects to reduce the impacts of localized flooding.

Funding: The county needs funding assistance to improve roads and culverts that experience repetitive flooding. Significant State and Federal funding is needed to construct infrastructure projects to prevent, reduce, and mitigate the impacts of high rain events and flooding.

4.2 Wildfire

A wildfire (also known as wildland fire) is an uncontrolled fire spreading through vegetative fuels, posing danger and destruction to property. Minnesota experienced an average of 1,400 wildfires each year between 1985 and June 2021 (MN DNR, 2021b). Wildfires occur throughout the spring, summer, and fall; however, most wildfires in Minnesota take place in March, April and May. The history of wildfire in Olmsted County is shown in Figure 2; an interactive map is available on the Olmsted County HMP website.

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

Figure 3. History of wildfire in Olmsted County



4.2.1 Probability of Occurrence

To determine the probability of future wildfires Olmsted County, records of previous wildfire events in were summed and divided by the dataset’s period of record, resulting in the annual relative frequency of wildfires during the period of record. Based on Minnesota DNR records, from January 1985 to January 2024, the relative frequency of wildfire events in the county is one event every 6.4 years. (MN DNR, 2023b). This relative frequency can be used to infer the probability of these events occurring in the future. While wildfire incidence has been low, and the previous Hazard Mitigation Plan noted wildfire as a low risk, planning meeting discussions in Olmsted County revealed concerns due to drought and wind. Wildland fires may also be undercounted in the DNR data.

4.2.2 Vulnerability

Wildfires jeopardize the built environment, health, and wellbeing of individuals living near its fuel source. Some residents are more vulnerable to air quality conditions of wildfire, including children, older adults, and those with respiratory issues (AirNow, 2021).

Structures located in areas near undeveloped wildland are vulnerable to wildfires. The SILVIS Lab at University of Wisconsin–Madison created a dataset documenting the changes of the wildland–urban interface (WUI) in the United States from 1990 to 2010. Radeloff et al. (2018) define WUI as the area where structures and other human development meet or intermingle with wildland vegetation. With the increase of development in metropolitan fringes and rural areas, the WUI is growing. The expansion of the WUI in recent decades has significant implications for wildfire management and impact as it creates an environment in which fire can readily move between structural and vegetation fuels. Its expansion has increased the likelihood that wildfires will threaten structures and people (Radeloff et al., 2018).

Table 9. Wildland-Urban Interface (WUI), Olmsted County, 2000–2020

	Total WUI 2000	Total WUI 2010	Total WUI 2020	% Change (2000–2020)
Land Area	4.8%	4.1%	4.6%	-4.6%
Housing	5.3%	4.0%	3.9%	-26.4%

SOURCE: (RADELOFF ET AL., 2023)

There are two main types of WUI: intermix and interface. Intermix WUI are areas where housing and wildland vegetation intermingle; interface WUI are areas where housing are adjacent to wildland vegetation (Radeloff et al., 2018). Table 9 shows the change of total WUI (intermix and interface) in the county from 2000 to 2020, and the percent of the county's land, housing, and population located in the WUI area.

Some communities are more vulnerable than others to wildfires. Thirty-two percent of the City of Rochester is classified as Intermix. Other communities with Intermix WUI include Cascade (27%), Chatfield (22%), and Oronoco (21%).

According to the Central Region Firewise Specialist, there is some increasing concern about wildfire risk in Olmsted County due to drought, storms, and associated insect and disease issues that exacerbate fuel loading. There may be fewer concerns around Rochester due to an excellent hydrant system and good natural firebreaks. The county at large may endure the primary risk during regional drought where there may be lots of dry grasses near structures. Section 3.4 provides jurisdictional responses of localized vulnerabilities to specific hazards.

4.2.3 Wildfire and Climate Change

The changing climate poses a complex web of issues for wildfire in Minnesota. Climate change likely is affecting the frequency and intensity of Canadian wildfires, similar to its effect on wildfires in the western U.S. and Alaska (Wehner, 2017). Small particulate pollution from smoke plumes has numerous health impacts as described above, and if severe enough can result in spikes of demand for emergency services. Based even on intermediate (RCP4.5) future climate projections, many Midwest counties will experience increased exposure to wildfire smoke (Mills et al., 2018).

According to the NCA5, Key Message #3 in the Midwest Chapter, Climate Adaptation will require innovative collaborations between public health and other sectors such as emergency management (Wilson et al., 2023).

Changes in Minnesota's climate also may be influencing the frequency, severity, and areal coverage of wildfires. For example, warmer winters with inconsistent snow cover, the arrival of wet conditions prior to the growing season, plus early and more frequent thaws, all combine to prolong the exposure of susceptible vegetation to dry conditions, potentially extending the peak wildfire season.

Minnesota's changing climate also may affect fire-damaged areas. For instance, heavy rains in burned areas can lead to erosion and mudslides. Documented and projected increases in the frequency and intensity of heavy and extreme rainfall suggest that Minnesota is becoming and will become more prone to post-fire landscape hazards. Climate change also is having an impact on the pests that damage the health and composition of Minnesota forests, although the ultimate consequences for wildfire are complex and uncertain. Shorter winters are allowing two reproductive cycles of the Eastern

Larch Beetle, which has now killed off at least 143,000 acres of mature tamarack forest in Minnesota since 2001 and affected about 535,000 acres to some degree during that period. The decline in severity and frequency of extreme cold may allow more rapid establishment of Emerald Ash Borer to latitudes further north than without climate change. Minnesota forests are home to an estimated 1 billion ash trees. Many of these trees are in nearly pure stands of black ash growing in wet areas. So while the deaths of these lowland species will increase fuel loading, their decreased transpiration will increase water on the ground. The ultimate contribution to wildfire will depend on the interplay between increased precipitation, warming temperatures, extreme heat, and periods of drought as our climate continues to change.

Temperatures are predicted to rise in the state, which could lead to more extreme heat events and associated wildfire risks. As Minnesota's climate changes, weather fluctuations between drought and extreme rain events and increasing temperatures will result in changes to forest composition and/or distribution. These fluctuations can lead to dry conditions that may cause increased fire risk in both grassland and forest environments.

The varied impacts of climate change are complicated by how these changes also interact with and reinforce one another. Drought and heat may both contribute to wildfires, which may in turn lead to changes in plant and animal populations and other ecological shifts. Increasing events of extreme heat and drought can increase the number of wildfires (Blumenfeld, K. Minnesota State Climatology Office, personal communication, January 9, 2019).

4.2.4 Program Gaps and Deficiencies

Olmsted County Emergency Management did not identify any program gaps or deficiencies that make its citizens more vulnerable to wildfire.

4.3 Windstorms

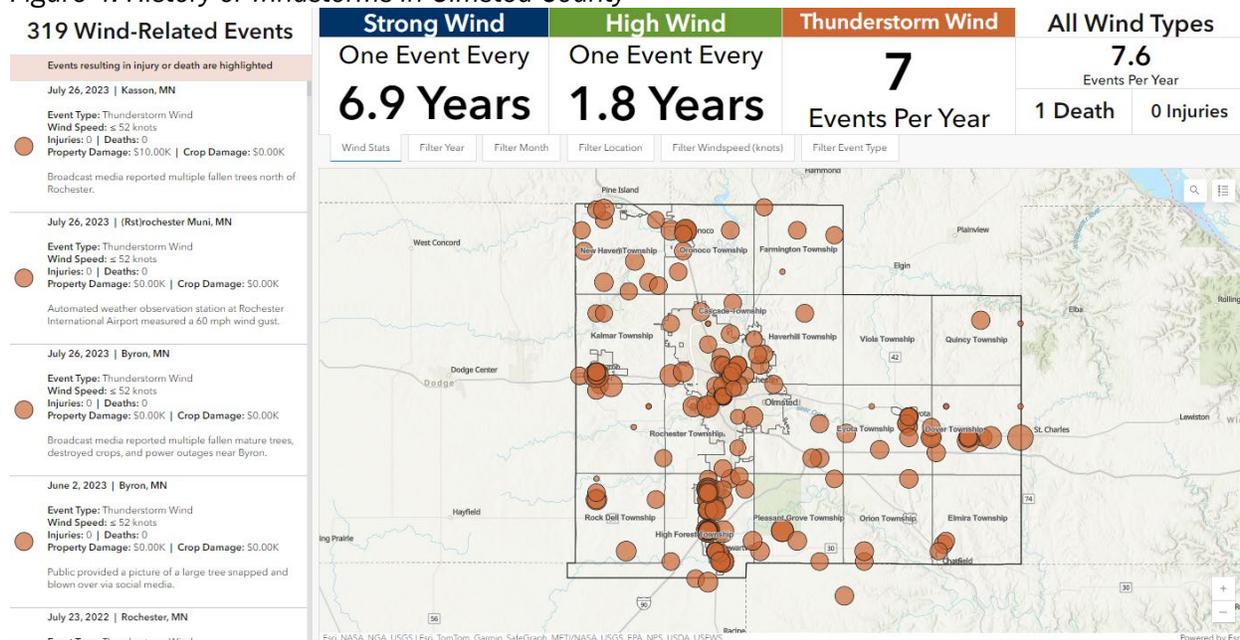
A windstorm is a wind strong enough to cause damage to trees and buildings and typically exceeding 34 mph (Pielke, 2012). Windstorm events encompass a variety of types of damaging wind. The history of windstorms in Olmsted County is shown in Figure 4; an interactive version of this map can be found on the Olmsted County HMP website.

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

4.3.1 Probability of Occurrence

To determine the probability of future wind-related events in Olmsted County, records of previous wind-related events (strong wind, high wind, and thunderstorm wind) in Olmsted 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 1996 is 7.6 per year. These relative frequencies can be used to infer the probability of these events occurring in the future.

Figure 4. History of windstorms in Olmsted County



4.3.2 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.

4.3.3 Windstorms and Climate Change

Lack of high-quality long-term data sets makes assessment of changes in wind speeds very difficult (Kunkel et al., 2013). In general, one analysis found no evidence of significant changes in wind speed distribution. Other trends in severe storms, including the number of hurricanes and the intensity and frequency of tornadoes, hail, and damaging thunderstorm winds, are uncertain. Since the impact of more frequent or intense storms can be larger than the impact of average temperature, climate

scientists are actively researching the connections between climate change and severe storms (USGCRP, 2018a).

4.3.4 Program Gaps and Deficiencies

Olmsted 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:

Above-Ground Power Lines: Most powerlines throughout Olmsted 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. Olmsted 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 Olmsted County without viable storm shelters or tornado safe rooms where there are populations vulnerable to high wind and storm events, such as mobile home parks and campgrounds. 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 possible. Finding funding for the implementation of such construction projects is also a barrier.

4.4 Tornadoes

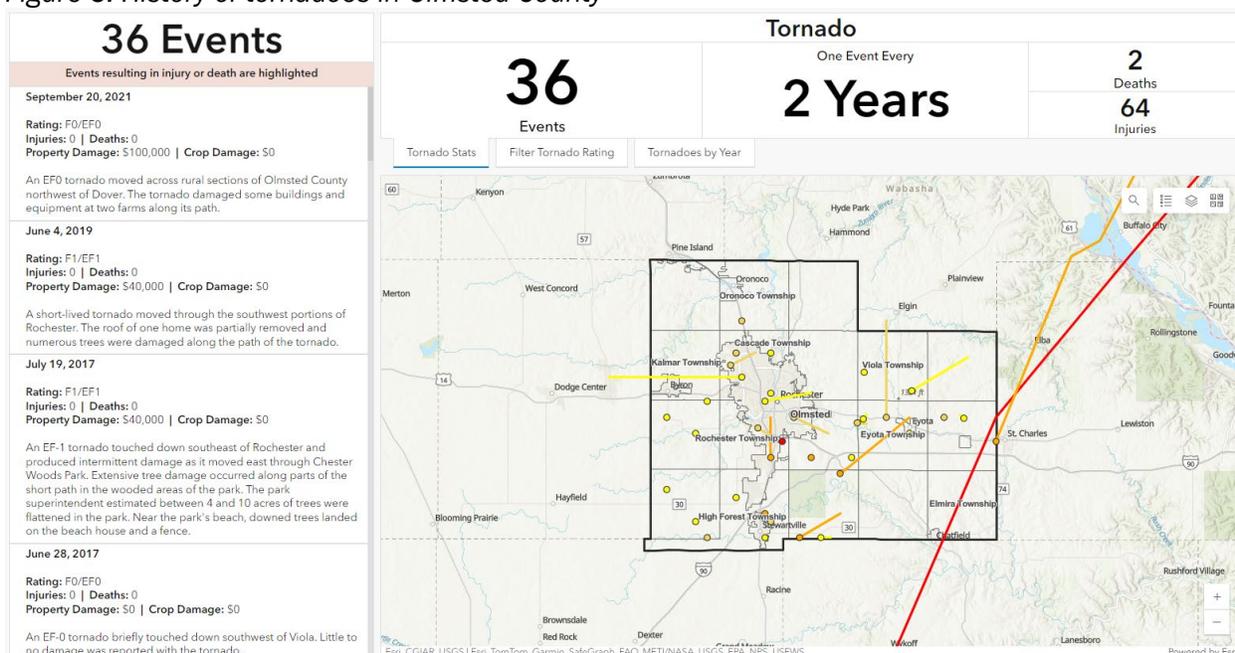
With wind speeds reaching up to 300 mph, tornadoes are one of nature's most violent storms (Hogeback, 2020). The history of tornadoes in Olmsted County is shown in Figure 5; an interactive version of this map can be found on the Olmsted County HMP website.

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

4.4.1 Probability of Occurrence

Estimating the probability of future tornadoes in Olmsted 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 January 2024, there has been one tornado every 2.0 years in Olmsted County. These 36 tornadic events occurred in 21 of the 73 years on record.

Figure 5. History of tornadoes in Olmsted County



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 Olmsted County, there was an annual frequency of 2.1–6.0 tornadoes within a 50-mile radius. The historical frequency was higher in the western half of the county with less frequency in the further east. These relative frequencies can be used to infer the probability of these events occurring in the future.

4.4.2 Vulnerability

The likelihood of a tornado does not vary significantly across geography within Olmsted 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 Olmsted 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).

4.4.3 Tornadoes and Climate Change

Minnesota's climate is undergoing distinct changes, but as reported by the MN DNR State Climatology Office, these changes are only weakly connected to increases in tornadoes or severe convective storms. Minnesota, like all parts of the U.S., has seen increases in the weakest class of tornadoes (rated F-0 or EF-0), but these increases are known to be linked to improved spotting, detection, and verification procedures within the National Weather Service.

When examining tornadoes that cause significant structural damage and are rated EF-2 or above, Minnesota has seen no recent trends towards increasing frequencies—whether measured as raw counts, or as days with one or more of these tornadoes (MN DNR, 2019).

The tornado trends in Minnesota match those found nationally. NCA5 states that while the average annual number of tornadoes appears to have remained relatively constant, there is evidence that tornado outbreaks have become more frequent, tornado seasons are extending into later in the fall, and that tornado strength has increased (Marvel et al., 2023). An October 10, 2021 tornado in the Boundary Waters Canoe Area Wilderness became the latest on record so far north in the state. Then, on December 15, 2021, an outbreak of destructive thunderstorm winds and over 20 tornadoes struck the southeastern parts of the state, producing the latest tornadoes on record by 29 days (Blumenfeld, K. Minnesota State Climatology Office, personal communication, December 21, 2023).

According to the NCA5 Key Message #5 in the Climate Trends chapter, extreme events are becoming more frequent.

However, climate scientists are unclear about whether the recent statistical behavior of these severe convective storm events has any relationship with the changing climate. This uncertainty results from the fact that tornadoes and their parent thunderstorms operate on smaller scales and more localized processes than the global climate. There has been some indication that, on a national basis, tornadoes are being clustered into fewer days, suggesting a greater tendency towards outbreaks. Scientific modelling studies indicate that the meteorological conditions supportive of severe thunderstorms should increase in the future, but it is unclear whether the specific conditions required for the formation of tornadoes, and particularly significant tornadoes, will increase (Kossin, 2017). Until more studies are completed, the Minnesota State Climatology Office recommends assuming that tornadoes will remain an important and dangerous part of Minnesota's climate, even if they do not increase in frequency or severity in response to changing climatic conditions.

4.4.4 Program Gaps and Deficiencies

Olmsted County Emergency Management identified 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:

Above-Ground Power Lines: Most powerlines throughout Olmsted 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. Olmsted 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 Olmsted County without viable storm shelters or tornado safe rooms where there are populations vulnerable to high wind and storm events, such as mobile home parks and campgrounds. 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 possible. Finding funding for the implementation of such construction projects is also a barrier.

4.5 Hail

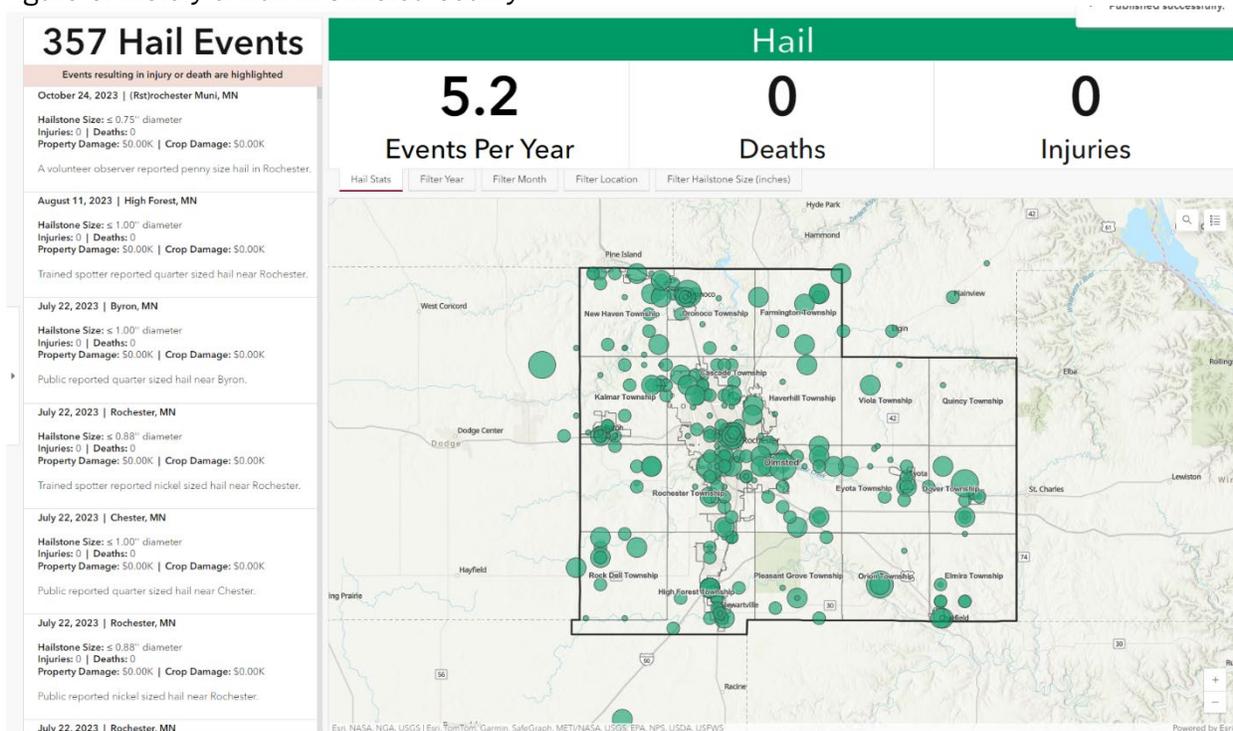
Hailstorms occur throughout the year though are most frequent between May and August (NWS, 2020). Although hailstorms rarely cause injury or loss of life, they do cost Minnesota nearly \$16 million in property and crop damage each year (CEMHS, 2023). Of the 59 confirmed disaster events with losses of over \$1 billion in Minnesota, 19 have involved hail (NCEI, 2024). The history of hail in Olmsted County is shown in Figure 6; an interactive version of this map can be found on the Olmsted County HMP website.

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

4.5.1 Probability of Occurrence

To determine the probability of future hailstorms in Olmsted County, records of previous hail events in the county were examined for the period of record. From January 1955 through January 2024, the relative frequency of hail events was 5.2 per year. This relative frequency can be used to infer the probability of hail events occurring in the future. Please note that public reports of hail are often secondary to those of thunderstorm winds or tornadoes because if either damaging winds or tornadoes occur, the damaging wind and/or tornado are more important to the reporter and may result in underreporting of hail events.

Figure 6. History of hail in Olmsted County



4.5.2 Vulnerability

Olmsted County’s agricultural lands and structures are vulnerable to hail damage and its residents to injury and possibly death. Data from the Spatial Hazard Events and Losses Database for the United States (SHELDUS) was examined to identify the county’s monetary losses due to hail damage to crops, property, injury, and death. From 1960 through 2022 Olmsted County reported over \$13.4 million in hail damages, ranking 26th among Minnesota counties in total hail damages. Olmsted County’s losses are primarily due to property damages reported at \$11.2 million followed by 2.1 million in crop damages. Crop indemnity payments due to hail totaled \$1,030,432 for the period of record spanning 1989–2022 (CEMHS, 2023).

Within Olmsted County, the vulnerability of jurisdictions to hailstorms does not vary geographically. As with all summer storms, those who work outdoors or do not have permanent housing are at greater risk during hailstorms. Section 3.4 provides jurisdictional responses of localized vulnerabilities to specific hazards.

4.5.3 Hail and Climate Change

Trends in severe storms, including the numbers of hail and damaging thunderstorm winds are uncertain. Since the impact of more frequent or intense storms can be larger than the impact of average temperature, climate scientists are actively researching the connections between climate change and severe storms (Marvel et al., 2023). The NCA reports that in Minnesota’s neighboring Great Plains region, hail size, frequency of large hail, and length of hail season are projected to

increase through the rest of this century (Knapp et al., 2023). The occurrence of very heavy precipitation has increased in Minnesota in recent decades, and future projections also indicate this will continue (Blumenfeld, K. Minnesota State Climatology Office, personal communication, December 21, 2023).

According to the NCA5 Key Message #5 in the Climate Trends chapter, extreme events are becoming more frequent.

4.5.4 Program Gaps and Deficiencies

Olmsted County Emergency Management identified several program gaps and deficiencies that make its citizens more vulnerable to summer storms, including hail. The following gaps and deficiencies should be addressed with new mitigation efforts to reduce that vulnerability:

Above-Ground Power Lines: Most powerlines throughout Olmsted 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.

Olmsted 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.

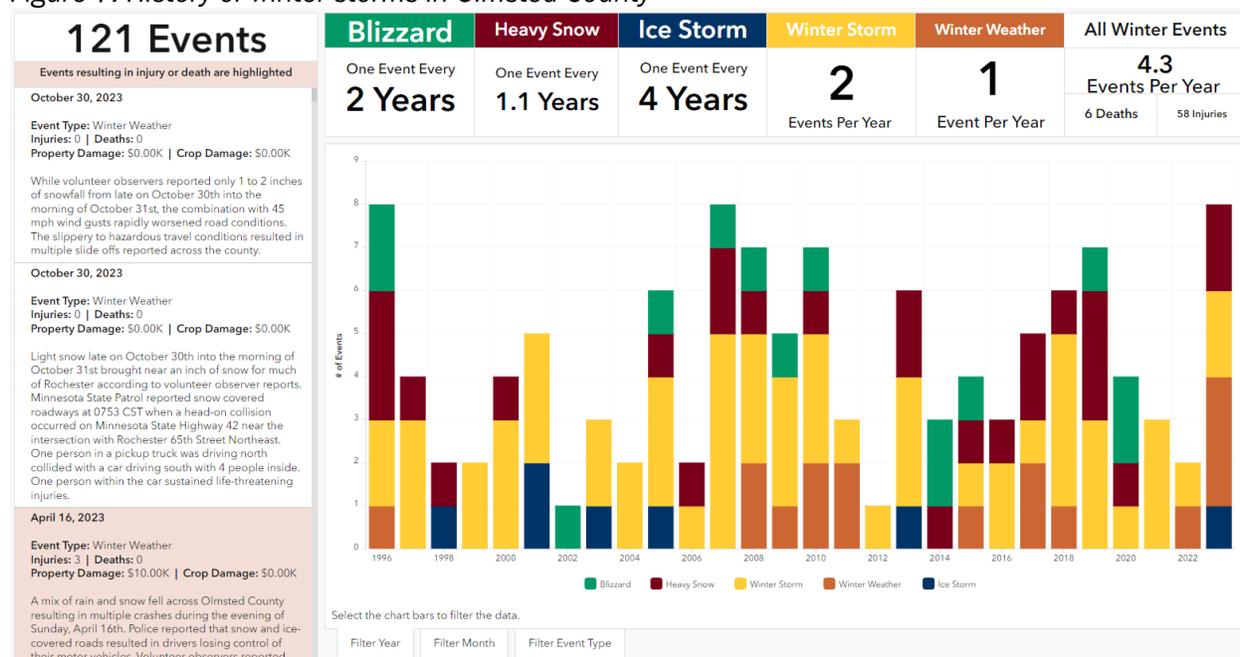
Storm Shelters and Tornado Safe Rooms: There are areas throughout Olmsted County without viable storm shelters or tornado safe rooms where there are populations vulnerable to high wind and storm events, such as mobile home parks and campgrounds. A coordinated approach is needed to identify where storm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

4.6 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 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 in damages since 1960 (CEMHS, 2023). The history of winter storms in Olmsted County is shown in Figure 7; an interactive version of this map can be found on the Olmsted County HMP website.

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

Figure 7. History of winter storms in Olmsted County



4.6.1 Probability of Occurrence

To determine the probability of future winter-related storm events in Olmsted 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 January 2024, the relative frequency of winter-related storm events in Olmsted County is 4.3 per year. This relative frequency can be used to infer the probability of these events occurring in the future.

4.6.2 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.

4.6.3 Winter Storms and Climate Change

Historically, winter storms have had a large impact on public safety in Minnesota. If the frequency of snowstorms and annual total snowfalls increase, as anticipated effects of Climate Change, the effects on public safety will also increase. Pressures on energy use, reduced reliability of services, potential outages, and potential rise in household energy costs are major climate change risks to public health that can occur from winter weather.

Table 7 in Section 3.3 discusses confidence that climate change will impact common Minnesota weather/climate hazards beyond 2025, there is some weak evidence that warming winters may make heavy snowfall events less frequent as winter warms.

4.6.4 Program Gaps and Deficiencies

Olmsted 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:

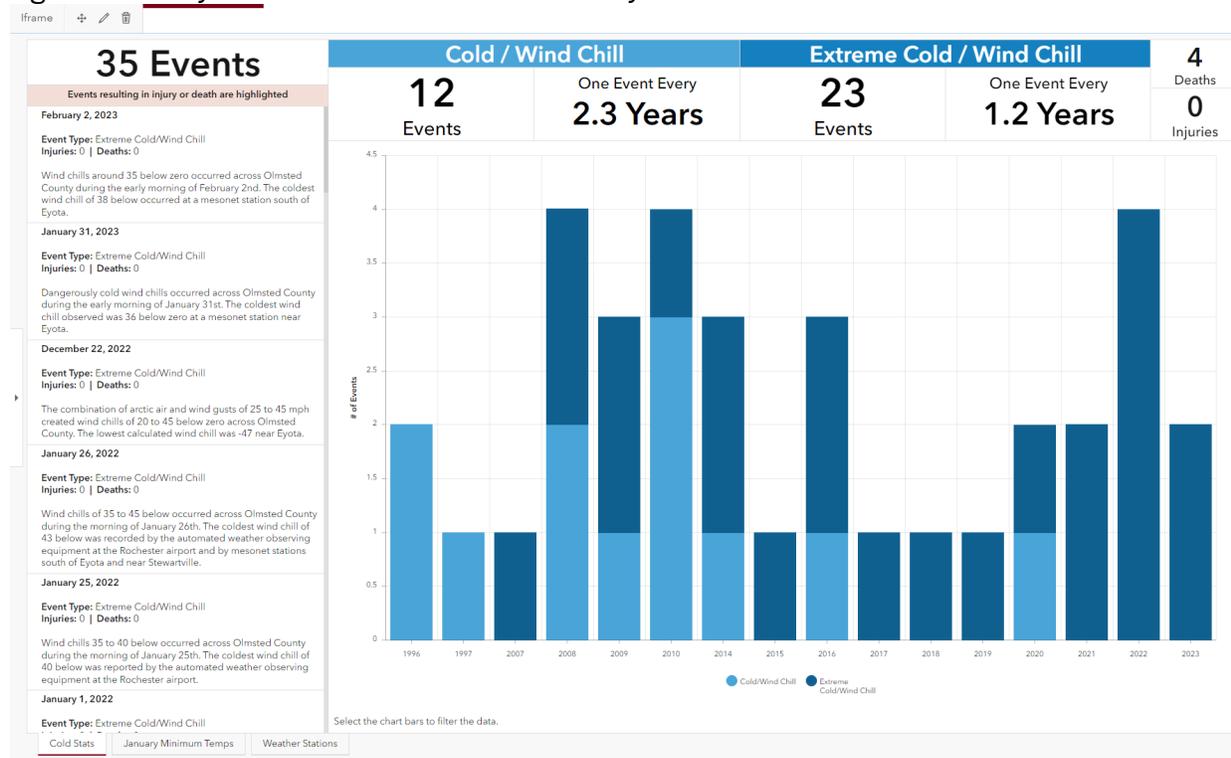
Above-Ground Power Lines: Most powerlines throughout Olmsted County are above ground, exposing them to impacts/damage from winter high wind and ice events, potentially leading to localized or extensive power outages.

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.

4.7 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 Olmsted County can be especially dangerous when low temperatures and wind create arctic-like wind chills. The history of extreme cold in Olmsted County is shown in Figure 8; an interactive version of this dashboard can be found on the Olmsted County HMP website.

Figure 8. History of extreme cold in Olmsted County



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

4.7.1 Probability of Occurrence

To determine the probability of future cold-related events in Olmsted 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 January 2024, the relative frequency of extreme cold/wind chill events in Olmsted County is 1.2 per year. (NCEI, 2023). This relative frequency can be used to infer the probability of these events occurring in the future.

4.7.2 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 Olmsted 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 the one that 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.

4.7.3 Extreme Cold and Climate Change

Although climate research indicates that Minnesota's average winter lows are rising rapidly, and our coldest days of winter are now warmer than we have ever recorded, cold temperatures have always been a part of Minnesota's climate, and extreme cold events will continue.

Key Message #4 in NCA5 in the Midwest Chapter states that green infrastructure and public and private investments may mitigate losses, provide relief from heat, and offer other ways to adapt the built environment to a changing climate.

As the climate changes, an increase in extreme precipitation or storm events could lead to a higher risk of residents being exposed to cold temperatures during power outages or other storm-related hazards. Extreme and changing temperatures are already challenging aging infrastructure and are expected to impair surface transportation and the electrical grid.

4.7.4 Program Gaps and Deficiencies

Olmsted 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. Olmsted County Emergency Management continues to do public education through the local schools, senior and health care centers, and local government for severe weather awareness.

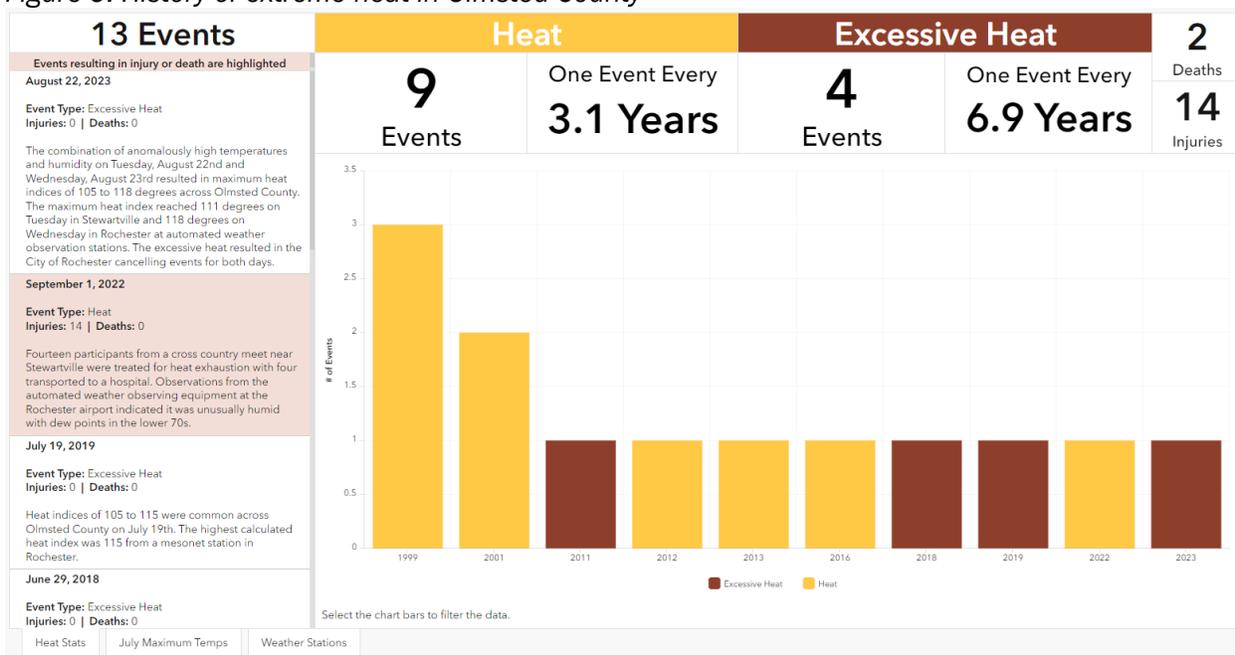
4.8 Extreme Heat

Extreme heat is the combination of very high temperatures and exceptionally humid conditions. Olmsted County's agricultural lands and structures are vulnerable to heat damage and its residents to injury, exacerbation of pre-existing chronic conditions, and even death (Moss, 2017). Medical costs related to extreme heat can be enormous, and with extreme heat estimated to create \$1 billion in healthcare-related costs in the United States in 2023 (Center for American Progress, 2023). In 2023 in Minnesota, 682 people went to the emergency department and two died from heat-related illness (MDH, 2024).

When the atmospheric moisture content is high, the rate of perspiration from the body decreases and the human body feels warmer (NWS, 2021). Heat stress can be indexed by combining the effects of temperature and humidity. The history of extreme heat in Olmsted County is shown in Figure 9; an interactive version of this chart can be found on the Olmsted County HMP website.

Data from the Spatial Hazard Events and Losses Database (SHELDUS) for the United States was examined to identify the county's monetary losses due to heat damage to crops. Ranking 31st among Minnesota counties in crop indemnity payments, heat-related losses for Olmsted County totaled nearly 1.8 million for the period of record spanning 1989 to 2022 (CEMHS, 2023).

Figure 9. History of extreme heat in Olmsted County



4.8.1 Probability of Occurrence

To determine the probability of future heat-related events in Olmsted County records of previous heat and excessive heat events were summed and divided by the dataset’s period of record, resulting in the annual relative frequency of heat-related events. Based on records in the NCEI Storm Events Database through January 2024, the relative frequency of extreme heat events in the county is one event every 6.9 years. This relative frequency can be used to infer the probability of these events occurring in the future. The Rochester International Airport Weather Station in Olmsted County reported daily maximum temperatures above 90 F a total of 160 times, which is an average of 40 days per year.

4.8.2 Vulnerability

The Minnesota Department of Health released a 2012 Minnesota Extreme Heat Toolkit to help local governments prepare for extreme heat events. In their toolkit, they note extreme heat events are often dubbed “silent killers” because deaths and illnesses from these events are often misunderstood and underreported. Minnesota has no official system to report deaths and illnesses linked to extreme heat (MDH, 2012). It is important to not underestimate the danger of extreme heat events within the state.

High temperatures can be exacerbated by the urban heat island effect in densely developed areas, an effect that amplifies higher temperatures in areas with a higher concentration of impervious and paved surfaces. These types of surfaces absorb more heat and hold it for longer than vegetation cover (EPA, 2019). Impervious surfaces cover 3.7% of Olmsted County (MDH & University of Minnesota, 2019). Impervious surfaces are not spread evenly throughout the county and attention should be given to cities or areas within the county that contain the largest amounts of this type of surface cover. Except for these areas, the risk of extreme heat does not vary geographically.

Key Message #3 in the Midwest Chapter of the NCA5 states that Mitigation and adaptation strategies, such as expanded use of green infrastructure and heat-health early warning systems, have the potential to improve both individual and community health (Wilson et al., 2023).

The impact extreme heat has on individuals is not equal. According to the Center for Disease Control and Prevention (CDC), population groups more vulnerable to extreme heat include:

- Older adults (≥ 65 years old). The elderly cannot easily adjust to sudden changes in temperature and are more likely to have a chronic medical condition or take medication affecting their body's ability to control its temperature.
- Infants and children. Young children and infants have limited control with their surroundings and rely on others to keep them cool and hydrated.
- Individuals with chronic health conditions. These individuals are less likely to respond to changes in temperature, may be taking a medication that exacerbates the effects of extreme heat, or have a condition that is a risk factor for heat-related illness (e.g., heart disease, mental illness, poor blood circulation, and obesity).
- People with low income. These individuals may not be able to afford to properly cool their home and may face transportation challenges when trying to access cooling shelters.
- Athletes and people working outdoors. Both groups are likely to exert energy while being exposed to the heat (CDC, 2020).

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

Warming temperatures will continue to increase the risk of extreme heat, especially among these already vulnerable populations. Section 3.4 provides jurisdictional responses of localized vulnerabilities to extreme heat.

4.8.3 Extreme Heat and Climate Change

Minnesota's annual average temperature has increased more than 3 °F since record keeping began in 1895, and nine of Minnesota's hottest 16 years on record have occurred since the year 2000 (MCAP, 2024).

Climate models project that temperature and precipitation increases will continue in Minnesota through the 21st century, with hotter summers and increased drought severity during dry periods as well. Already, the maximum annual heat index values have been rising across the state, because increased humidity during heat waves (Blumenfeld, K. Minnesota State Climatology Office, personal communication, December 21, 2023).

The average number of days per year with temperatures over 95 °F under a moderate carbon emissions (SSP 245), mid-century (2040–2059) scenario is illustrated in the [Climate Dashboard](#) on the HMP website

On average, by mid-century (2040–2059), under a moderate emissions (SSP 245) scenario, Olmsted County may reach 11.15 more days/year of temperature greater than 95 °F compared to the historical (1995–2014) simulations average of 6.75 days/year (Liess, S. et al., 2023).

Greenhouse gas concentrations will continue rising through the century, and the air’s ability to trap heat from the earth’s surface will increase accordingly. Warming of the atmosphere will evaporate even more water into the air, further limiting the amount of cooling Minnesota will be able to achieve at night and during the winter. As warmer winters and warmer baseline conditions transition into summer, it will be much easier to attain extreme heat (ICAT, 2017).

4.8.4 Program Gaps and Deficiencies

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

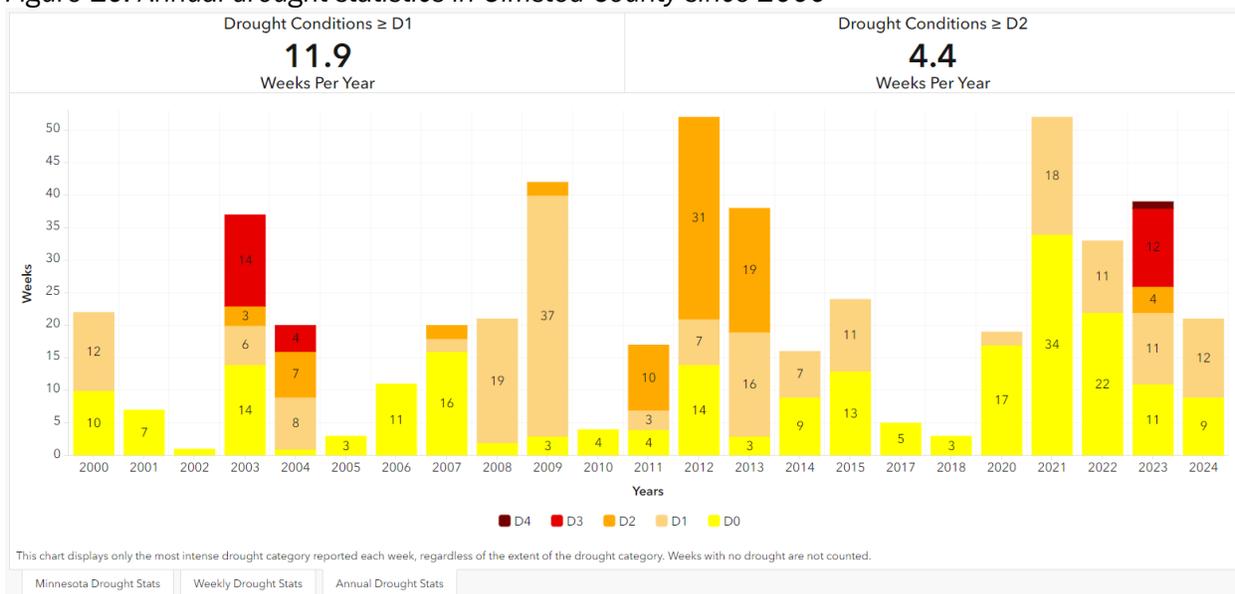
Generators for Backup Power to Critical Facilities & Shelters: Not all healthcare and other critical facilities utilized for the care of residents & visitors, including designated severe weather/emergency shelters (schools, churches, etc.) have backup power to run cooling systems in the event of a power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

4.9 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 10; an interactive version of this dashboard can be found on the Olmsted County HMP website.

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

Figure 10. Annual drought statistics in Olmsted County since 2000



4.9.1 Probability of Occurrence

To determine the probability of future droughts in Olmsted 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–July 9, 2024 for any occurrence of drought \geq D1 in Olmsted 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 11.9 weeks per year, and the relative frequency of drought conditions \geq D2 is 4.4 weeks per year (NDMC, 2024b). The relative frequency of past droughts can be used to infer the probability of similar droughts occurring in the future.

4.9.2 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, 2024b) 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 Olmsted County between 2000 and 2023, impacting seven sectors with the greatest impact to the agriculture sector (NDMC, 2024a). Since droughts are regional in nature, jurisdictions within Olmsted County do not vary in their vulnerability to drought; however, the impact of droughts is 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, 2021a). 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, Olmsted County's agriculture sector has been impacted by drought more than once, and with 54% of Olmsted 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 1989–2022, Olmsted County received \$14,495,958.77 (2021 ADJ) in crop indemnity payments due to drought, placing it as the 60th-highest-paid county in Minnesota (CEMHS, 2023).

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

4.9.3 Drought and Climate Change

Droughts have been happening throughout Minnesota's history. While the degree at which climate change will impact future droughts is not certain, an increase in efforts and resources are being devoted to project these impacts. In 2023, the NCA5 was completed by the U.S. Global Change Research Program. It provided a comprehensive scientific review of how climate change is impacting the U.S. as well as providing climate change projections.

According to the report, a warming climate is contributing to oscillations between extreme droughts and floods, threatening the agriculture and livestock in the Midwest which produces more than 30% of the world's corn and soybeans (Wilson et al., 2023). Climate change is attributed to an estimated \$31.9 billion (2022 USD adjusted) of US crop indemnity payments over the last 30 years, with the largest portion of payments going to farmers affected by drought (Wilson et al., 2023). In Minnesota, drought alone represents 25% of the total crop indemnity payments made in the state (CEMHS, 2023).

Climate projections indicate an increase in annual precipitation of 0.2%–0.5% in the western Midwest and the increase in cumulative runoff is expected to continue through the midcentury (Wilson et al., 2023).

Key Message #5 in the Midwest Chapter of the NCA5 states that managing extremes is necessary to minimize impacts on water quality and quantity. The extreme variability between wet and dry periods is expected to negatively impact the water quality and quantity of the Mississippi River System and adversely affect dependent ecosystems and commerce (Wilson et al., 2023).

4.9.4 Program Gaps and Deficiencies

Olmsted County Emergency Management did not identify any program gaps or deficiencies that make its citizens more vulnerable to drought.

4.10 Landslides

The USGS definition of landslides includes a wide range of ground movement, such as rock falls, deep failure of slopes, and shallow debris flows. Although gravity acting on an over-steepened slope is the primary reason for a landslide, there are other contributing factors. Rivers create steepened slopes with erosion over time, rock and soil slopes are weakened through saturation by snowmelt or heavy rains, and the excess weight from accumulation of rain or snow or from man-made structures can stress weak slopes (DeLong et al., 2022).

The most common type of landslide in Minnesota are shallow slope failures that occur during heavy rain (DeLong et al., 2022). Landslides and mudslides often occur together with other major natural disasters, thereby exacerbating relief and reconstruction efforts. Wildfires may remove vegetation from hillsides, significantly increasing runoff and landslide potential. Floods and 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.

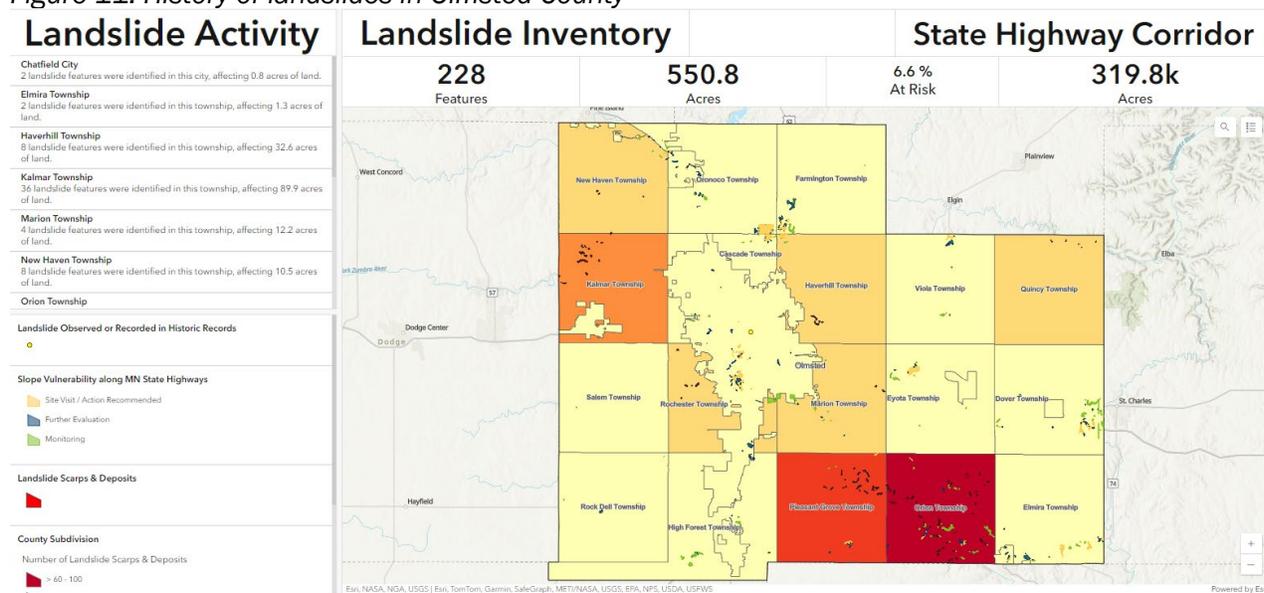
Streambank erosion is a natural process, but acceleration of this natural process leads to land loss, stream channel instability, increased sediment, habitat loss, and other adverse effects. Bank erosion takes place by two processes, channel migration and channel widening. Widening of channels can be caused by natural processes of incision and bank erosion or by direct modification by construction activities. The result is more erosion from stream bed and banks, increased sediment deposition, and loss of habitat. Increased flows due to watershed changes, stormwater runoff, reservoir releases, and scour below culverts and bridges can all contribute to channel enlargement and therefore bank erosion (Day, 2013).

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 inventory includes all evidence of historical slides. Olmsted County has 228 features in the USGS landslide inventory.

The history of landslides in Olmsted County is shown in Figure 11; an interactive version of this map can be found on the Olmsted County HMP website.

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

Figure 11. History of landslides in Olmsted County



4.10.1 Probability of Occurrence

To determine the frequency of landslides in Olmsted County, we require records of previous landslides and the period in which they occurred. Comprehensive data for historical landslide events are not available. The historical data we do have does not have dates of the slope failure associated. Statewide and national maps suggest that landslide risk in Olmsted County is relatively low; however, anecdotal evidence does indicate that there is a risk of landslides in bluff areas and steep bedrock

slopes. There is a documented increase in frequency of the heaviest 1% of extreme precipitation events (NOAA Climate Adaptation Partnerships, 2022). These extreme rain events are the most likely to cause landslides. Although the risk to infrastructure and property in Olmsted County is low, landslides remain a concern to Olmsted County Emergency Management.

4.10.2 Vulnerability

In southeastern Minnesota, which was not glaciated in the most recent glacial period, rivers have eroded through older glacial sediment and bedrock, resulting in steep bedrock slopes prone to landslides that incorporate bedrock debris (DeLong, et al., 2022).

The USGS historical research found that over half of Olmsted County cities and townships are susceptible to landslides. Just in Orion Township, 91 landslide features were identified in this township, affecting 246.1 acres of land.

The Minnesota Department of Transportation (MnDOT) provided spatial data from a slope vulnerability assessment completed statewide in 2019. This assessment sought to identify slope failure risks along state trunk highways in several MnDOT districts. Then using GIS modeling, researchers mapped and ranked slopes along highways according to failure vulnerability and then developed a method for MnDOT to quantify failure risk for asset and emergency management planning. The assessment resulted in a statewide map also shown the Landslide Risk Dashboard classifying potential risks areas into four categories: high risk—a site visit or action is recommended; moderate risk—further evaluation is required, low risk—the area should be monitored, or no action is required. In Olmsted County, 3089 acres of highway corridor are at a moderate or high risk for slope failure.

4.10.3 Landslides and Climate Change

The conditions that make certain lithologies more vulnerable to erosion, landslides, and mudslides will be exacerbated by the expected increase in the magnitude and frequency of flooding events. The expected increase in storm activity from climate change may increase the risk of soil saturation. Changing summer storm intensity may result in increased runoff and higher flows, leading to near-channel erosion (DeLong, et al., 2022).

According to NCA5, Key Message #1 in the Land Chapter, climate change has increased regional intensity and frequency of extreme rain, droughts, temperature highs, fires, and urban floods, threatening roads and other infrastructure.

Structures of all kinds are at risk where there may be increases in erosion, slope failure, fire, flooding, and shoreline retreat. Water supplies have been threatened in California years fire, as erosion and extreme rain washes excess sediment and pollutants downstream, shortening the lifespan of water-storage reservoirs (Thornton et al., 2023).

4.10.4 Program Gaps and Deficiencies

Olmsted County Emergency Management did not identify any program gaps or deficiencies that make its citizens more vulnerable to landslides.

4.11 Land Subsidence

Subsidence is the gradual settling or sudden sinking of the earth's surface due to subsurface movement of earth materials. Subsidence commonly involves a gradual sinking, but it also refers to an instantaneous or catastrophic collapse. The level of subsidence ranges from a broad lowering to collapse of land surface. Many causes of subsidence are human induced, such as groundwater pumping, aquifer system compaction, drainage of organic soils, underground mining, and hydrocompaction. Natural compaction and thawing permafrost can also have natural causes of subsidence. Areas located above or adjacent to karst topography have a greater risk of experiencing subsidence. Sudden collapses of surface areas can damage and destroy buildings and infrastructure (FEMA, 2013). Other problems associated with subsidence include the formation of sinkholes, flooding and pollution.

A change in the local environment affecting the soil mass that then causes subsidence and sinkholes is called a triggering mechanism. The main triggering mechanisms for subsidence are water level decline, changes in groundwater flow, and increased loading and deterioration (abandoned coal mines) of the earth. Water level decline can happen naturally or be human-induced. Factors in water decline are pumping water from wells, localized drainage from construction, dewatering, and drought. Changes in the groundwater flow include an increase in the velocity of groundwater movement, increase in the frequency of water table fluctuations, and increased or reduced recharge. Increased loading causes pressure in the soil leading to the failure of underground cavities and spaces. Vibrations caused by an earthquake, heavy machinery, and blasting can cause structural collapse followed by surface settlement.

4.11.1 Probability of Occurrence

The probability of sinkholes and land subsidence in Minnesota is directly related to local landscape conditions and triggers likely to produce these conditions. The probability is very localized and is higher in karst landforms and is near zero in non-karst landforms (Figure 12).

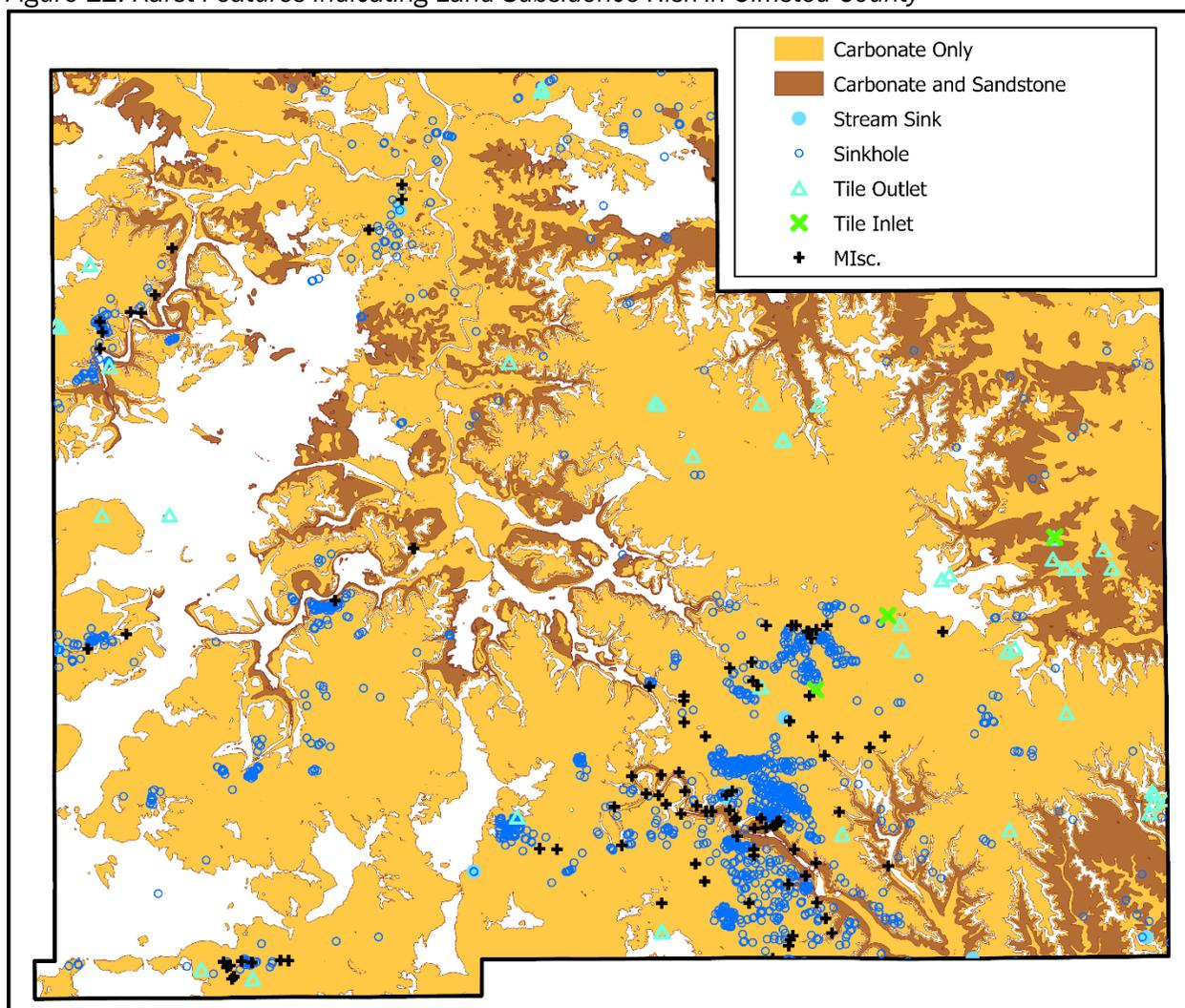
4.11.2 Vulnerability

In Minnesota, the primary natural causes of land subsidence are karst landforms, which develop on or in limestone, dolomite, or gypsum by dissolution and are identified by the presence of features such as sinkholes, underground (or internal) drainage through solution-enlarged fractures (joints), and caves.

Karst landforms can be hazardous because of the sinkholes that form there and for the ease with which pollutants can infiltrate into the water supply.

Figure 12 shows the vulnerability of Olmsted County to land subsidence. Olmsted County is the county with the third highest vulnerability in Minnesota based on the number of significant karst features. While Fillmore County has more acres in the karst-prone area, Olmsted County has a much greater population living in the karst-prone area than any other Minnesota County.

Figure 12. Karst Features Indicating Land Subsidence Risk in Olmsted County



In Olmsted County, there are 1702 sinkholes, stream sink/sieves, and spring features recorded. There are 302,814 acres in karst-prone geology, with 45,674 structures and a population of approximately 112,523 in this area (MN DNR, 2024b; MN DNR, UMN, 2024; U.S. Census Bureau, 2020).

4.11.3 Land Subsidence and Climate Change

The increased magnitude and frequency of flooding events resulting from climate change may in turn increase the risk of land subsidence in Minnesota if associated geological conditions exist.

4.11.4 Program Gaps and Deficiencies

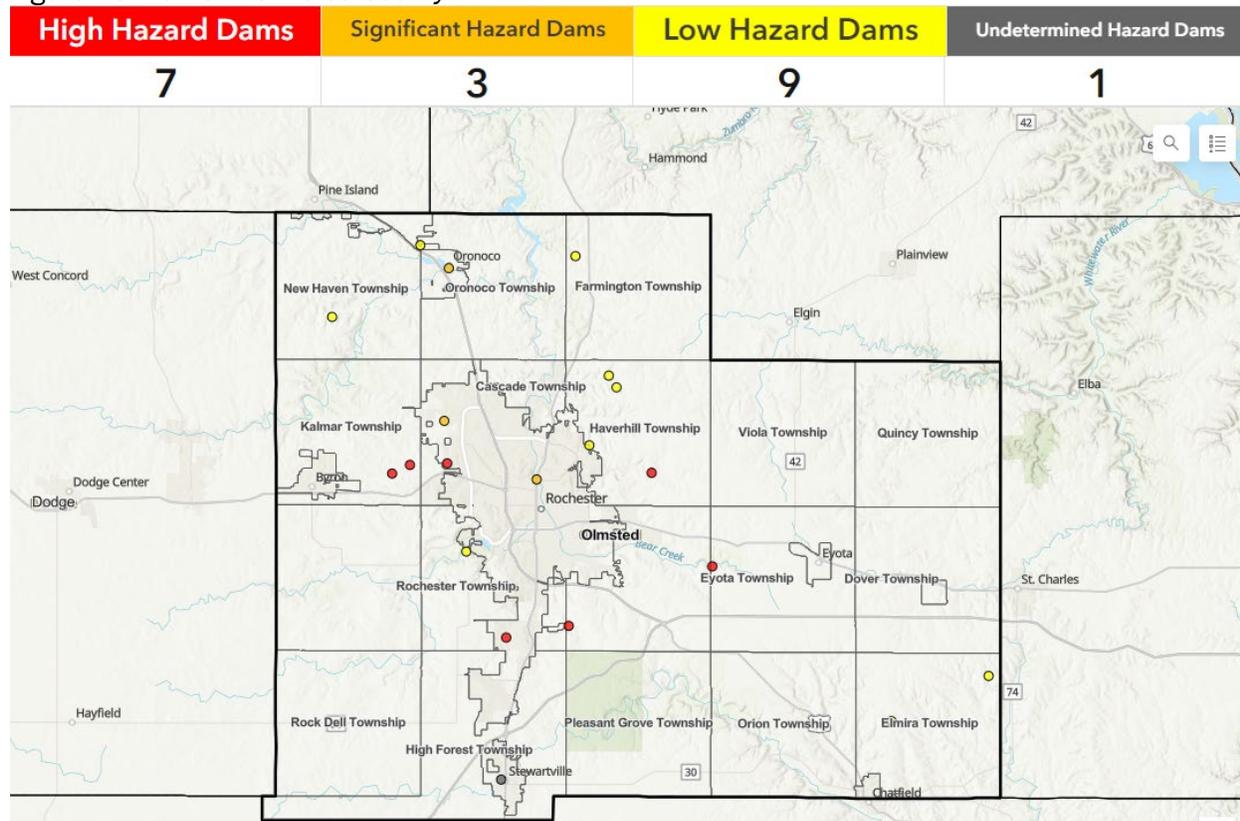
Olmsted County Emergency Management did not identify any program gaps or deficiencies that make its citizens more vulnerable to land subsidence.

4.12 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).

Dam Inventory: The National Dam Inventory reports that there are 20 dams and three levees in Olmsted County. Dams are mapped in Figure 13; an interactive version of this map is available on the [MN State 2024 HMP website](#).

Figure 13. Dams in Olmsted County



Olmsted County had seven dams classified as High Hazard Dams, two dams classified as Significant Hazard Dams, and nine dams classified as Low Hazard Dams. Two other dams (one of Significant and one with Undetermined Hazard Potential) have been removed: The Shady Lake Dam was removed after significant embankment failure in 2010, and the Stewartville Dam was removed in 1990 after significant erosion at the crest and slope. The Minnesota Dam Safety Program office was consulted to identify dam incidents and concerns.

4.12.1 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 five noted dam incidents in Olmsted County, four related to overtopping and erosion. In 2019, the fifth incident at Lake Zumbro CDF involved a failing rock foundation under the core trench. This was a dam of low hazard potential. Total dam failures are extremely unlikely if the dam is maintained in compliance with Minnesota’s Dam Safety Program. The likelihood of failure in Olmsted County is low.

4.12.2 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 10 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).

Table 10. 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)

An Emergency Action Plan (EAP) is a document that 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).

The City of Rochester owns seven dams that are classified as having high hazard potential in Olmsted County (Table 11). These dams are South Zumbro WR-4, WR-6a, BR -1, SR-2, KR-3, KR-6, and KR-7. These earthen dams—all built between 1988 and 1994—established flood mitigation reservoirs on tributaries draining to the Zumbro River. The current NRCS dam hazard classification for these dams is “high hazard”, and the State of Minnesota dam classification is Hazard Class I, indicating that a dam failure has the potential for loss of life and serious impacts on utilities, industrial, or commercial properties.

Table 11. High Hazard Dams owned by the City of Rochester, Olmsted County

Name	Nearest City	River or Stream Name	Height (Ft)	Year	Max Storage (Acre-Ft)	Drainage Area (Sq Miles)	Max Discharge (Cubic Ft/Sec)
South Zumbro WR-4	3 miles	Willow Creek-TR	21	1988	968	4.3	140
South Zumbro WR-6a	4 miles	Willow Creek	56	1989	1696	9.4	131
South Zumbro BR-1	6 miles	Bear Creek	61	1991	2429	13.1	408
South Zumbro SR-2	3 miles	Silver Creek	45	1992	3276	9.9	129
South Zumbro KR-3	4 miles	Cascade Creek N Fork	20	1993	257	1.6	6500
South Zumbro KR-6	1 mile	Cascade Creek N Fork-TR	31	1993	600	1.6	5000
South Zumbro KR-7	3 miles	Cascade Creek N Fork-TR	22	1994	763	3.8	113
*Lake Zumbro	10 miles	Zumbro River	55	1919	35,000	845	30,000

*The Lake Zumbro Dam is in Wabasha County

Each of these high hazard dams has an Emergency Action Plan (EAP) prepared. The City of Rochester has a dedicated flood control engineer and inspection staff to inspect and maintain flood control system. Annual reporting and inspections are done with the USACE and DNR Flood Safety. Standard operating procedures are developed for the operation of the infrastructure during flooding events (USACE, 2024).

Rochester Public Works maintains detailed dam breach maximum depth assessment reports for the seven HHPD below prepared by HDR Engineering in 2015. The reports contain a total of 27 map panels providing detailed potential inundation areas, structures, and critical infrastructure. The analysis details the estimated extent of flooding, flow velocity, and travel time after a sunny day scenario breach. The structures are detailed, and the hazard classification is assessed. The descriptions below are extracted from the HDR Dam Assessment Reports prepared for the NRCS Minnesota State Office in 2015, provided by the City of Rochester Public Works (HDR | Kleinfelder JV, 2015, six reports).

South Zumbro WR-4, which impounds Gamehaven Reservoir, is located on East Fork Willow Creek, approximately 6.2 river miles upstream from the South Fork Zumbro River. The drainage area above the dam is primarily agricultural row crops, grassland pastures, and forested land use. Downstream of the dam are wetlands, cultivated pasture, and some urban areas. A dam breach would result in a potential loss of life by impacting 234 homes and businesses and overtopping one road crossing. A total of ten buildings would be impacted with flood heights of more than three feet. Of the buildings in the downstream dam break flood zone there was one school identified.

South Zumbro WR-6A is located on Willow Creek, approximately 7.1 river miles upstream of the confluence with the South Fork of the Zumbro River. The drainage area above the dam is in pastures and forested. Downstream of the dam is a golf course, a forested floodplain, and extensive urban development. A dam breach would result in a potential loss of life by impacting 707 homes and businesses and four primary road crossings. A total of 162 buildings could be impacted with flood

heights of more than three feet. Of the buildings existing in the downstream dam break flood zone, two municipal buildings, four schools, and three hospitals were identified.

South Zumbro BR-1 impounds Bear Creek Reservoir and is located on Bear Creek, approximately 9.5 river miles upstream from the South Fork Zumbro River. The drainage area above the dam is primarily agricultural row crops, grassland pastures, and forested land use. Downstream of the dam is a forested floodplain, cultivated pasture, and some urban developed areas. A dam breach could potentially damage 679 homes and businesses and overtop four road crossings. A total of 137 buildings would be impacted with flood heights of more than three feet. Within the buildings existing in the downstream dam break flood zone, there were three schools, one hospital, and no municipal buildings identified.

South Zumbro SR-2 impounds Silver Creek Reservoir and is located on Silver Creek, approximately 6.6 river miles upstream from the South Fork Zumbro River. The drainage area above the dam is primarily agricultural row crops, grassland pastures, and forested land use. Downstream of the dam is a forested floodplain, cultivated pasture, and urban developed areas. A dam breach would result in a potential loss of life by impacting 487 homes and businesses and three road crossings. A total of 226 buildings would be impacted with flood heights of more than three feet. Of the buildings in the dam break flood zone, there was one hospital identified.

South Zumbro KR-3 is located on an unnamed tributary to North Run Cascade Creek, approximately 7.1 river miles upstream of the confluence with the South Fork Zumbro River. The drainage area above the dam is primarily agricultural row crops and grassland pastures. Downstream land use consists of primarily agricultural row crops and grassland pastures. A dam breach would result in a potential loss of life by impacting 17 homes and businesses and overtopping three road crossings, none over three feet in depth. Within the buildings existing in the downstream dam break flood zone, no hospitals, municipal buildings, or schools were identified.

South Zumbro KR-6 is located on an unnamed tributary of Cascade Creek, approximately 4.7 river miles upstream from the South Fork Zumbro River. The drainage area above the dam is cultivated cropland and pastures. Downstream of the dam is primarily urban developed areas. A dam breach would result in a potential loss of life by impacting 105 buildings and overtopping three road crossings. A total of ten buildings would be impacted with flood heights of more than three feet. There were no municipal buildings, schools, or hospitals located in the breach flood zone.

South Zumbro KR-7 is located on North Run Cascade Creek, located approximately 6.5 miles upstream from the South Fork Zumbro River. The drainage area above the dam is primarily agricultural row crops and grassland pastures. Downstream of the dam is primarily cultivated pasture with some urban developed areas. A dam breach would result in a potential loss of life by impacting potential loss of life by impacting 126 buildings and overtopping four road crossings. A total of 14 buildings would be impacted with flood heights of more than three feet. Within the buildings existing in the downstream dam break flood zone, no municipal buildings, schools, or hospitals were identified.

The City of Rochester also owns the Lake Zumbro Hydroelectric Generating Plant, also known as the Lake Zumbro Dam, a hydroelectric facility on the Zumbro River in Wabasha County. The facility consists of a gravity dam and a powerhouse. This is also classified as a high hazard potential dam.

The town of Zumbro Falls, Wabasha County, is ten miles north and downstream of Lake Zumbro Dam. Remote operation of the generating equipment from Rochester was enabled in the 1960s.

The Silver Lake Dam is located on the Zumbro River South Fork. According to the City of Rochester, this Significant Hazard dam will undergo sediment removal and dam modification. This project will include dredging to remove accumulated sediment from Silver Lake and a portion of the South Fork Zumbro River as well modifying the existing low head dam to increase safety. Other activities included in the project will improve aquatic habitat and create recreational opportunities (City of Rochester, personal communication, July 30, 2024).

4.12.3 Dam Failure and Climate Change

Dams are designed based on assumptions about a river's annual flow behavior that will determine the volume of water behind the dam and flowing through the dam at any one time. Changes in weather patterns due to climate change may change the hydrograph or expected flow pattern. Spillways are put in place on dams as a safety measure in the event of the reservoir filling too quickly. Spillway overflow events are mechanisms that also result in increased discharges downstream. It is conceivable that bigger rainfalls at earlier times in the year could threaten a dam's designed margin of safety, causing dam operators to release greater volumes of water earlier in a storm cycle in order to maintain the required margins of safety. Such early releases of increased volumes can increase flood potential downstream.

Climate change may increase the probability of design failures. Some spillways may not be large enough to convey the increased flow pattern. An undersized spillway could lead to dam overtopping and failure.

The partial failure of the Rapidan Dam in Blue Earth County in June of 2024 highlighted the growing threat climate change poses to the country's aging infrastructure as extreme weather becomes more common and severe. About 20% of Minnesota's Significant and High Hazard Potential Dams are in "fair" or "poor" condition, with a few in "undefined" condition, and about 70% of these dams were built before 1970 (USACE, 2024). Older dams are growing increasingly taxed by extreme weather, especially in the Midwest (Harrison, 2024). Climate change is adding to a new level of uncertainty that needs to be considered with respect to assumptions made during the dam construction.

While the Rapidan Dam partial failure did not result in mass inundation, it sent an estimated 11.6 million cubic yards of sediment downstream. The sediment loading behind older dams adds another compounding threat of dam failure to the stream and structures below. The sediment was high in phosphorus and nitrogen because of nearby agricultural runoff. The impacts to the fish habitat and ecology of the stream may not be known for years (MPR News, 2024).

4.12.4 Program Gaps and Deficiencies

Olmsted 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 Olmsted County as related to hazard mitigation.
- Appendix C: As part of the Olmsted 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 Olmsted 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 12 lists and describes jurisdictional participation in the National Flood Insurance Program (NFIP).

Table 12. NFIP participation in Olmsted County

FEMA Plan Requirements Plan Review Tool, Section C2	Description
Name of Community	Olmsted County
Participation in the NFIP	Participating – Entry date 05/19/1981
FEMA Map	FEMA Mapped High Risk Areas
Current Effective Map Date	09/21/2023
Potential Buildings Damaged in Floodplain (including all townships and cities)	127
1. Adoption of NFIP minimum floodplain management criteria via local regulation	Adoption of current floodplain ordinance: 03/31/2022
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable	09/21/2023
3. Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs	Olmsted County enforces requirements of the NFIP through the county’s floodplain ordinance (Olmsted County Code of Ordinances - Chapter 3750), adopted 09/05/2023 and published publicly 09/09/2023. This ordinance establishes the floodplain district and zoning regulations and conditional uses permitted within the floodway, flood fringe, and general floodplain districts of Name County. The Olmsted County Planning 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: Kristi Gross, Olmsted County Planning Department – Senior Planner & Floodplain 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 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 Byron
Participation in the NFIP	Participating – Entry date 1/21/2020
FEMA Map	FEMA Mapped High Risk Areas
Current Effective Map Date	04/19/2017
Potential Buildings Damaged in Floodplain	0
1. Adoption of NFIP minimum floodplain management criteria via local regulation	Adoption of current floodplain ordinance: 9/10/2019
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable	N/A - Community adopted state "No Map" model ordinance (i.e., no FIRM or no mapped SFHA), and in this case didn't adopt any FIRM panels.

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 Byron enforces requirements of the NFIP through the city's current floodplain ordinance, effective 12/9/2019 (date of publication). 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: Al Roder, 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.
Name of Community	City Of Chatfield
Participation in the NFIP	Participating – Entry date 08/02/1982
FEMA Map	FEMA Mapped High Risk Areas
Current Effective Map Date	04/19/2017
Potential Buildings Damaged in Floodplain	1
1. Adoption of NFIP minimum floodplain management criteria via local regulation	Adoption of current floodplain ordinance: 5/13/2019
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable	5/13/2019
3. Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs	The city of Chatfield enforces requirements of the NFIP through the city's current floodplain ordinance, effective 6/21/2019 (30 days after the date of publication). 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: Logan Tjossem, Planning & Zoning 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 Dover
Participation in the NFIP	Participating – Entry date 04/15/1982
FEMA Map	FEMA Mapped High Risk Areas
Current Effective Map Date	04/19/2017

FEMA Plan Requirements Plan Review Tool, Section C2		Description
Potential Buildings Damaged in Floodplain	1	
1. Adoption of NFIP minimum floodplain management criteria via local regulation		Adoption of current floodplain ordinance: 4/6/2017
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable	4/6/2017	
3. Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs		The city of Dover enforces requirements of the NFIP through the city's current floodplain ordinance, effective 4/13/2017 (date of publication). 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: Gary Pederson, 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 Eyota
Participation in the NFIP		Participating - Entry date 12/15/1981
FEMA Map		FEMA Mapped High Risk Areas
Current Effective Map Date	04/19/2017	
Potential Buildings Damaged in Floodplain	1	
1. Adoption of NFIP minimum floodplain management criteria via local regulation		Adoption of current floodplain ordinance: 3/23/2017
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable	3/23/2017	
3. Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs		The city of Eyota enforces requirements of the NFIP through the city's current floodplain ordinance, 3/28/2017 (date of publication). 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: Susan Spafford, Planning Commission Chair
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 Oronoco
Participation in the NFIP		Participating - Entry date 11/04/1981

FEMA Plan Requirements Plan Review Tool, Section C2	Description
FEMA Map	FEMA Mapped High Risk Areas
Current Effective Map Date	04/19/2017
Potential Buildings Damaged in Floodplain	9
1. Adoption of NFIP minimum floodplain management criteria via local regulation	Adoption of current floodplain ordinance: 2/21/2017
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable	2/21/2017
3. Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs	The city of Oronoco enforces requirements of the NFIP through the city's current floodplain ordinance, 3/1/2017 (date of publication). 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: Cain Dolan, Public Works 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 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 Pine Island
Participation in the NFIP	Participating – Entry date 03/02/1981
FEMA Map	FEMA Mapped High Risk Areas
Current Effective Map Date	09/21/2023
Potential Buildings Damaged in Floodplain	0
1. Adoption of NFIP minimum floodplain management criteria via local regulation	Adoption of current floodplain ordinance: 7/18/2023
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable	7/18/2023
3. Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs	The city of Pine Island enforces requirements of the NFIP through the city's current floodplain ordinance, effective 7/26/2023 (date of publication). 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: Elizabeth Howard, 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 Rochester
Participation in the NFIP	Participating – Entry date 03/26/1971
FEMA Map	FEMA Mapped High Risk Areas
Current Effective Map Date	09/21/2023
Potential Buildings Damaged in Floodplain	50
1. Adoption of NFIP minimum floodplain management criteria via local regulation	Adoption of current floodplain ordinance: 7/10/2023
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable	7/10/2023
3. Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs	The city of Rochester enforces requirements of the NFIP through the city’s current floodplain ordinance, effective 9/9/2023 (date of publication). 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: Wendy Turri, Public Works 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 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 Stewartville
Participation in the NFIP	Participating – Entry date 09/02/1982
FEMA Map	FEMA Mapped High Risk Areas
Current Effective Map Date	09/21/2023
Potential Buildings Damaged in Floodplain	0
1. Adoption of NFIP minimum floodplain management criteria via local regulation	Adoption of current floodplain ordinance: 9/12/2023
2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable	9/12/2023

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 Stewartville enforces requirements of the NFIP through the city’s current floodplain ordinance, effective 9/19/2023 (date of publication). 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: Sean Hale, Public Works 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 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.

Olmsted County has six RL properties and no SRL properties. All of the properties are single-family homes. In Rochester, the properties have loss dates of 1986, 2010, and 2013. Oronoco has two RL properties with loss dates in 2010 and 2019. The final RL property is in Eyota with a loss date of 2011.

For more on the areas that flood repeatedly in Olmsted County, see the [Olmsted County Flooding page](#).

5.1.2 Plans and Ordinances

Olmsted 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

Olmsted 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 Olmsted County to support mitigation for the hazards addressed in this plan.

All Hazards

All Hazards Emergency Operations Plan: Olmsted 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 and IPAWS: Olmsted 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 Olmsted County Emergency Management website page. Olmsted County also uses IPAWS (Integrated Public Alert Warning System), which allows for both targeted and county-wide emergency notifications to both residents and visitors (not an “opt-in” service).

Relationship with National Weather Service: Olmsted County has a strong relationship with the LaCrosse, WI 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.

Preparedness Outreach & Public Education: Olmsted County Emergency Management utilizes the Olmsted County website, Olmsted County Sheriff’s Office website 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. The Olmsted County Emergency Management website page provides emergency preparedness information and resource links for the public.

Mass Care Sheltering: In the event of a disaster where temporary sheltering is needed, Olmsted County Emergency Management works in coordination with Olmsted County Public Health Services, the American Red Cross, and local governments/Fire & EMS to provide mass care services as needed. The county EOP includes plans, procedures, and resources available for mass care sheltering.

NOAA Weather Radios: Olmsted County Emergency Management promotes the use of NOAA Weather Radios by 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: Olmsted County Emergency Management is a registered NOAA and NWS Weather-Ready Nation (WRN) Ambassador, 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.

Backup Power: Olmsted County works to ensure the continuity of operations of county government services and critical infrastructure in the event of an extended power outage. County facilities with backup generators include the Emergency Operations Center and other critical facilities, including designated mass care sheltering facilities.

Schools Support: Olmsted 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: Olmsted County Emergency Management works closely with the MN HSEM Region 1 regional program coordinator and neighboring county emergency managers on a range of planning, training, and exercises to support all-hazards preparedness, mitigation, response, and recovery capabilities.

Severe Winter Storms

Winter Weather Statements (Watch, Advisory, Warning, etc.): Olmsted County Emergency Management works to relay winter weather statements received from the NWS to help alert residents and visitors to hazardous conditions.

Winter Hazard Awareness Week: Olmsted 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. Olmsted County Emergency

Management promotes and shares information during the week via social media with communities, schools, churches or other civic programs are encouraged to share locally.

Snow Removal & Ice Control: The Olmsted County Highway Department conducts winter road maintenance on county roads in accordance with the Olmsted County Snow and Ice Control Policy. Other road jurisdictions conduct winter road maintenance on their respective road systems in accordance with each of their established policy and/or practice.

Severe Summer Storms

Severe Weather Statements (Watch, Advisory, Warning, etc.): Olmsted County works to relay severe spring and summer weather statements (such as for thunderstorms, windstorms, or tornadoes) received from the NWS to help alert residents and visitors to hazardous conditions.

Outdoor Warning Sirens: Outdoor warning sirens are located throughout the county and are tested monthly by the Olmsted County Office of Emergency Management in coordination with local jurisdictions. Warning sirens are owned by the cities where they are located and maintained by joint-powers agreement with the local jurisdiction and Olmsted County.

Skywarn Program: Olmsted 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 area 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.

Skywarn Net: Olmsted County Emergency Management supports and works with a long-standing and active Amateur Radio group that deploys ahead of incoming storms to pre-designated spotting locations throughout Olmsted County. Radio operators are certified Skywarn Spotters and have direct contact with the Emergency Operations Center during weather-related events for direct reporting of weather activity.

Severe Weather Awareness Week: Olmsted 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. Olmsted County Emergency Management promotes and shares information during the week via social media with communities, schools, churches or other civic programs are encouraged to share locally.

Vegetation Management: The Olmsted County Highway Department 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.

Extreme Cold

Emergency Notifications: Extreme cold temperature warnings are issued by the National Weather Service. Olmsted County Emergency Management works to relay extreme cold temperature warnings from the NWS to help alert residents and visitors to hazardous conditions. The Olmsted County Emergency Management Office also encourages residents to follow local news or NWS weather applications to receive severe weather and extreme temperature notifications.

Extreme Cold Safety Awareness: Olmsted County Emergency Management and Olmsted County Public Health promote public awareness of personal safety measure to take during periods of extreme cold, such as sharing information via Facebook posts.

Emergency Sheltering: In the event of an extended power outage coupled with a period of extreme cold, Olmsted County Emergency Management will work with Olmsted County Public Health and local Fire or EMS agencies as needed to assist vulnerable residents such as the elderly who may need temporary sheltering. Olmsted County Emergency Management partners with Olmsted County Public Health, City of Rochester Emergency Management and Rochester Public Transportation to offer a “Warm Place to Be” – a program where the residents can ride the bus for free to warm up during extreme cold.

Extreme Heat

Emergency Notifications: Extreme cold temperature warnings are issued by the National Weather Service. Olmsted County Emergency Management works to relay extreme cold temperature warnings from the NWS to help alert residents and visitors to hazardous conditions. The Olmsted County Emergency Management Office also encourages residents to follow local news or NWS weather applications to receive severe weather and extreme temperature notifications.

Public Education and Awareness: Olmsted County Emergency Management and Olmsted County Public Health to promote public awareness of personal safety measure to take during periods of extreme heat, such as sharing information via Facebook posts.

Emergency Sheltering: In the event of an extended power outage coupled with a period of extreme heat, Olmsted County Emergency Management will work with Olmsted County Public Health and local Fire or EMS agencies as needed to assist vulnerable residents such as the elderly who may need temporary sheltering. Olmsted County Emergency Management partners with Olmsted County Public Health, City of Rochester Emergency Management and Rochester Public Transportation to offer a “Cool Place to Be” – a program where the residents can ride the bus for free to cool off during extreme heat.

Drought

Public Awareness & Outreach: In the event of extreme drought conditions, Olmsted County works in concert with the NWS, MN DNR, and local communities to raise public awareness of drought conditions and recommended water use restrictions as per MN DNR guidance.

Precipitation Monitoring: The Olmsted SWCD participates in the MNGage Minnesota Volunteer Precipitation Observing Program, which is administered by the DNR Minnesota State Climatology Office. Data collected by volunteers is entered into a database for various studies and weather prediction simulations, including the assessment of drought severity and impacts.

Wildfire

Public Awareness & Emergency Notifications: In event of wildfire, Olmsted County Emergency Management works with local law enforcement, local fire departments, the NWS, and the MN DNR to get the word out on the risk of the level of fire danger and any burning restrictions to help keep the public informed and protected.

Burning Restrictions/Permits: Burning restrictions are set by the MN DNR. Burning permits within Olmsted County are obtained through the MN DNR website or local office.

Wildland Fire Fighting: Local fire departments respond to woodland or grassland fires within their boundaries or in coordination with other fire departments as needed via mutual aid agreements.

Landslides

Past Mitigation Plans: Landslide risks and mitigation projects were addressed in the 2009 Olmsted County All Hazard Mitigation Plan and the 2017 City of Rochester All Hazard Mitigation Plan.

USGS Mapping: The USGS has a layer for at risk areas of landslides that the county GIS team can incorporate data.

Land Subsidence

Olmsted County GIS karst data: Olmsted County GIS has several geologic layer maps that show erosion risk areas and risk to groundwater contamination due to karst features. The county also has a sinkhole map.

Flooding

National Flood Insurance Program (NFIP): Olmsted County has FEMA Mapped High Risk Areas and participates in the NFIP. Initial entry date into the program was 05/19/1981.

Floodplain Administrator: The Olmsted County Planning Department – Senior Planner & Floodplain Administrator is the county’s designated Floodplain Administrator, who is responsible to implement the requirements of the NFIP.

Floodplain Ordinance: Olmsted County enforces requirements of the NFIP through the county’s floodplain ordinance (Olmsted County Code of Ordinances - Chapter 3750), adopted September 5, 2023 and published publicly September 9, 2023. This ordinance establishes the floodplain district and zoning regulations and conditional uses permitted within the floodway, flood fringe, and general floodplain districts of Name County. The Olmsted County Planning Department maintains and enforces the floodplain management ordinance for the county.

Floodplain Mapping: Olmsted County’s current effective FEMA flood map date is 09/21/2023. The county’s Planning Department is the repository for the floodplain maps for the county. The Planning Department assists county residents in determining whether their property is affected by an officially mapped flood area.

Shoreland Ordinance: Olmsted County Ordinances, Code of Ordinance - Chapter 3750 establishes allowable uses and development standards in shoreland areas designated within the county.

Subdivision Ordinance: Olmsted County Zoning Ordinances, Chapter 1200 Subdivision Ordinance and 1250 Platting Ordinance is established to regulate the subdividing of land in Olmsted County.

Transportation Plan: The Olmsted County Planning Department serves as staff to the Rochester Olmsted Council of Governments. We develop and maintain the Long-Range Transportation Plan; Olmsted County Public Works uses that plan to implement their roadway projects.

Minnesota Buffer Law: The Olmsted SWCD administers the state Buffer Law and provides technical assistance on buffer compliance by landowners. Buffers benefit bank stabilization and reduced erosion and sedimentation into ditches, streams, rivers, and lakes.

One-Watershed One Plan (1w1P): Olmsted County SWCD participates in the Zumbro River Watershed 1W1P, Root River Comprehensive Watershed Plan, and the Mississippi River – Winona/LaCrescent 1W1P. These plans address regional watershed planning which include measures for flood mitigation.

Dam/Levee Failure

Zumbro Dams EAP: The City of Rochester owns and maintains 7 dam structures within Olmsted County that are classified as high-hazard potential dams (South Zumbro Kr-6, Sr-2, Kr-3, Wr-4, Wr-6a, Kr-7, and Br-1). An Emergency Action Plan is maintained for these dams. The dams are inspected and maintained on a regular basis.

5.2 Mitigation Goals

The goals and strategies for natural hazards in the 2024 Minnesota State Hazard Mitigation Plan were adopted for use in the Olmsted County Plan. This framework, as outlined below, will allow for integration of the mitigation actions that are listed by Olmsted 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 13.

Table 13. 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> <p>Many of these types of actions are projects eligible for funding through the FEMA Hazard Mitigation Assistance program.</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
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 Olmsted 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 Olmsted 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 Olmsted 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 Byron, Chatfield, Dover, Eyota, Oronoco, Pine Island, Rochester, and Stewartville.

See Mitigation Actions for all jurisdictions and provide ongoing feedback on the HMP website

Following is an overview of 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. “Severe Winter Storms” includes blizzards, heavy snow, ice storms, winter storms, and winter weather. “Severe Summer Storms” includes windstorms, tornadoes, lightning, and hail.

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 13 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 2017 Olmsted 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 14 provides criteria that were taken into consideration in the process.

Table 14. 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. As part of the plan update process, communities were asked to describe how they will integrate the mitigation actions listed into other planning mechanisms since the last plan update. This can include description of methods for public outreach, enforcement of policies, development of plans, and coordination of key staff and partnership efforts.

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.

5.3.1 Olmsted County Mitigation Action Chart

The Olmsted County Mitigation Action Chart is provided in Table 15. Appendix H provides the mitigation action charts developed for each city participating in the HMP update.

[See Mitigation Actions for all jurisdictions and provide ongoing feedback on the HMP website](#)

Table 15. Olmsted County Mitigation Action Chart (2024–2028)

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
1	All-Hazards	Education & Awareness Programs	<p>EMERGENCY NOTIFICATION Encourage all county residents to sign-up for the county’s CodeRED Emergency Notification System.</p>	Existing High Ongoing	Olmsted County Emergency Management (OCEM)	Olmsted 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 Olmsted County website. Alerts delivered through CodeRED can be delivered in English and Spanish. Additional languages may be available later.	County Funding
2	All-Hazards	Education & Awareness Programs	<p>PUBLIC OUTREACH Conduct outreach to the public to increase awareness and preparedness for severe weather events, periods of extreme temperatures, and extended power outages.</p>	Existing High Ongoing	OCEM	OCEM utilizes the Olmsted County website, Olmsted County Sheriff’s Office website 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. The Olmsted County Emergency Management website page provides emergency preparedness information and resource links for the public. Olmsted County also participates in the NWS annual Severe Weather Awareness Weeks.	County Funding
3	All-Hazards	Mitigation Preparedness & Response Support	<p>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.</p>	Existing High Ongoing	OCEM	The Olmsted 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.	County Funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
4	All Hazards	Local Planning & Regulations	FUTURE DEVELOPMENT Incorporate mitigation strategies across county and local government plans and policies that address future growth and new development.	Existing High 2025-2030	OC Admin, OC Planning, OC Public Works in coord with local gov'ts	Olmsted County continues to work closely with the City of Rochester and surrounding communities to address planning for increased growth and development that will affect emergency response services as well as an increase in vulnerable systems and infrastructure. Olmsted County uses its General Land Use Plan, Shoreland Ordinance, Floodplain Ordinance, Subdivision Ordinance, and Transportation plan to address long-term planning for future development.	County Funding
5	All Hazards	Local Planning & Regulations	CLIMATE CHANGE Integrate considerations for mitigation for natural hazards into long-term planning for climate resiliency.	New High 2025-2030	OC Admin in coord with depts.	Olmsted County currently has a committee of people representing leaders in all departments throughout its organization that are evaluating climate change hot topics and what Olmsted County can do to reduce its carbon footprint. This committee will report on results and initiatives to the County Board with recommended steps moving forward and seek funding for projects such as solar power, hybrid or electric vehicles, geothermal systems for its new buildings to name a few.	County Funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
6	All-Hazards	Mitigation Preparedness & Response Support	VULNERABLE POPULATIONS Work with county departments, partner agencies, facilities, and local jurisdictions to address planning and outreach efforts for those considered to be more vulnerable to severe weather events.	Existing High Ongoing	OCEM, OCPH	OCEM, OCPH, and local jurisdictions provide outreach to and emergency planning assistance as needed to facilities such as schools and long-term care facilities and mobile home parks. Schools throughout the county participate annually in tornado drills annually. We work in coordination with agencies such as the Red Cross and Salvation Army. Emergency notifications are available in more than one language. OCEM works with Public Health to maintain information on the location of key facilities such as hospitals, nursing homes, and day cares.	County Funding other agencies & organizations
7	All-Hazards	Mitigation Preparedness & Response Support	GENERATOR BACKUP POWER Install generators at key county facilities to ensure continuity of operations and services in the event of loss of power.	Existing High Ongoing	OC Facilities & Building Operations	OC Facilities and Building Operations is installing generators at all County-owned critical infrastructure buildings, starting with Public Health.	County Funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
8	All-Hazards	Mitigation Preparedness & Response Support	<p>MASS CARE SHELTERING Ensure that plans and designated facilities are in place in order to provide temporary sheltering due to a severe weather or other disaster event.</p>	Existing High 2025-2030	OCEM, OCPH, HHH	In the event of a disaster where temporary sheltering is needed, OCEM works in coordination with OC Public Health Services, the American Red Cross, and local governments/Fire & EMS to provide mass care services as needed. The county EOP includes plans, procedures, and resources available for mass care sheltering. Olmsted County has also partnered with our hotel association Olmsted County/City of Rochester and have agreements in place for mass sheltering in hotels. Each hotel has designated blocks of rooms that can be utilized for short- or long-term sheltering options.	County Funding
9	Extreme Cold/Heat Temps	Education & Awareness Programs	<p>EXTREME TEMPS PUBLIC OUTREACH Provide outreach and education to the public on personal safety measures to take during periods of extreme cold or extreme heat.</p>	In-Progress High 2024	OCEM, OCPH, HHH	OCEM works to share information received from the NWS when periods of extreme hot/cold are forecast and occurring. Syndromic surveillance is a tool being implemented to monitor our hospital emergency department visits related to extreme heat/cold affects on patients. This surveillance can identify trends in order to better predict expectations of more of these events in the future so that community education can be more effective.	County Funding
10	Extreme Cold/Heat Temps	Mitigation Preparedness & Response Support	<p>SHELTERING/HOUSING FOR HOMELESS POPULATIONS Plan for/expand the capacity to shelter vulnerable populations during periods of extreme cold or extreme heat.</p>	Existing High 2025-2030	OCEM, OCPH	Olmsted County is continuing to work on a project acquiring housing and transitional living space for our community's homeless population. Housing those who need it is far more reaching than simple short-term sheltering and will help provide protection to some of our most vulnerable populations with regard to natural hazards.	County Funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
11	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 2025-2030	Olmsted County Public Works	Olmsted County Public Works conducts winter road maintenance on county roads in accordance with the Olmsted County Snow and Ice Control Policy. Other road jurisdictions conduct winter road maintenance on their respective road systems in accordance with each of their established policy and/or practice.	County Funding
12	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 2025-2030	OCEM in coord with NWS	OCEM 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. Olmsted County Emergency Management supports and works with a long-standing and active Amateur Radio Emergency Services (ARES) group that deploys ahead of incoming storms to pre-designated spotting locations throughout Olmsted County. Radio operators are certified Skywarn Spotters and have direct contact with the Emergency Operations Center during weather-related events for direct reporting of weather activity.	National Weather Service
13	Severe Summer Storms	Mitigation Preparedness & Response Support	OUTDOOR WARNING SIRENS Ensure outdoor warning sirens are located where needed and functioning properly.	Existing High 2025-2030	OCEM in coord with local jurisdictions	Olmsted County works closely with all communities within its borders regarding its Outdoor Warning Siren system. An official sound study was completed in 2023 and recommended additions to its siren system. Olmsted County provides ongoing preventative maintenance of the Siren system, but local municipalities own the sirens and must budget for repairs, replacements, and expansion of their sirens to newly developed areas. Olmsted County made recommendations to two municipalities to add sirens in specific locations for added coverage.	County Funding & local jurisdictions

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
14	Severe Summer Storms	Structure & Infrastructure Projects	STORM SHELTERS / TORNADO SAFE ROOMS 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 2025-2030	OCEM and OCPH in coord with local jurisdictions	OCEM and OCPH 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.	County Funding, Local Gov't, FEMA HMA
15	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 2025-2030	Olmsted County Public Health	Olmsted 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 MDH.	MDH & MHP licensing fees
16	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 2025-2030	OCEM, local jurisdictions in coord with electric utility providers	OCEM 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

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
17	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 2025-2030	Olmsted County Planning Dept.	Olmsted County Planning Dept. oversees permits for new development. Olmsted 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. Local jurisdictions enforce their own building permits respectively.	County Funding
18	Severe Winter & Summer Storms	Natural Systems Protection	VEGETATION MANAGEMENT Manage trees and other vegetation along roads from severe storm events to reduce risk to powerlines and passing motorists.	Existing Moderate 2025-2030	OC Public Works, Local Utility Providers	Olmsted County Public Works 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 Funding, Utilities
19	Karst / Landslides	Local Planning & Regulations	KARST & SLOPE MONITORING Monitor areas of the county that may be at risk for karst and landslides and address any areas of risk.	Existing Moderate 2025-2030	OC Planning Dept., OC GIS	Olmsted County GIS has several geologic layer maps that show erosion risk areas and risk to groundwater contamination due to karst features. The county also has a sinkhole map. Development of future GIS support systems should include updating spatial and non-spatial data (such as Karst features and landslide vulnerabilities), modeling, project cost benefit evaluation and hazard event record storage including substantial damaged structure information.	County Funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
20	Landslides	Natural Systems Protection	BLUFF/BANK STABILIZATION Improve the stabilization of steep hillsides or banks to reduce impacts to roads, natural resources, and recreation areas from erosion and slope failure.	Existing Moderate 2025-2030	OC Planning Dept., OC Public Works, Olmsted SWCD	The Olmsted SWCD administers the state Buffer Law and provides technical assistance on buffer compliance by landowners. Buffers benefit bank stabilization and reduced erosion and sedimentation into ditches, streams, rivers, and lakes. The USGS has a layer for at risk areas of landslides that the county GIS team can incorporate data. Olmsted County departments are working to continue assessment of any areas of landslide risk and implement stabilization measures.	County Funding, SWCD
21	Landslides	Local Planning & Regulations	LANDSLIDE RISK REDUCTION FOR NEW DEVELOPMENT Reduce the risk of erosion and landslides in areas of new development on bluffslands.	Existing Moderate 2025-2030	OC Planning Dept.	Olmsted County Planning & Zoning manages the approval of any new development through our permitting system. Proposed development related to bluff areas or steep slopes must meet review and approval by the county.	County Funding
22	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 2025-2030	OC Floodplain Administrator	Olmsted County enforces requirements of the NFIP through the county's floodplain ordinance (Olmsted County Code of Ordinances - Chapter 3750), adopted September 5, 2023 and published publicly September 9, 2023. This ordinance establishes the floodplain district and zoning regulations and conditional uses permitted within the floodway, flood fringe, and general floodplain districts of Olmsted County. The Olmsted County Planning Department maintains and enforces the floodplain management ordinance for the unincorporated areas of the county and assists incorporated areas in administering their ordinances.	Olmsted County

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
23	Flooding	Local Planning & Regulations	FLOODPLAIN MAPPING & RISK ASSESSMENT Assess current risk of damages to structures in newly mapped floodplain areas.	In-Progress High 2025-2030	OC Floodplain Administrator	Floodplain mapping has been updated in 2023 for a portion of the county that wasn't previously mapped. The Olmsted County Planning Department is creating a database of structures in the floodplain to better track substantial damage.	County Funding
24	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	HYDRAULIC RISK ASSESSMENTS Conduct hydraulic risk assessments as part of plans for bridge reconstruction and flood protection.	Existing High 2025-2030	OC Public Works	All Olmsted County reconstruction projects include hydraulic elements designed to state aid standards, providing an increased level of flood protection and in turn safety for the traveling public. Hydraulic risk assessments are done on our bridge reconstruction projects to inform a design that will provide the necessary level of protection to meet current roadway standards.	County Funding
25	Flooding	Structure & Infrastructure Projects	ROCHESTER KINGS RUN POND 40 PROJECT Work with the City of Rochester to apply for FEMA BRIC grant funding to implement flood mitigation project for the Kings Run Pond 40, also known as the Section 7 Pond.	New High 2025-2030	Rochester Public Works in coord with Rochester EM and OCEM	Beginning in 2024 the City of Rochester is working with Olmsted County Emergency Management to prepare a grant application to submit for FEMA BRIC grant funding to support this project. This project has been identified as the top flood mitigation project for the city. A series of regional stormwater ponds are designed to reduce peak flows from the western drainage area outside of the city; with the Section 7 pond being the primary pond needed to reduce and stabilize flows on the south side of the Douglas State Bike Trail through the residential areas. The grant will be submitted to FEMA following approval of the 2024-2025 Olmsted County HMP Update.	City Funding, FEMA BRIC Grant Funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
26	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 2025-2030	OC Public Works, OC Planning	The Olmsted County Planning Department serves as staff to the Rochester Olmsted Council of Governments. We develop and maintain the Long-Range Transportation Plan; Olmsted County Public Works uses that plan to implement their roadway projects. The county needs funding assistance to improve roads and culverts that experience repetitive flooding. Significant State and Federal funding is needed to construct infrastructure projects to prevent, reduce, and mitigate the impacts of high rain events and flooding.	County Funding, State and Federal funding, Possible FEMA BRIC or HMA grant funding
27	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 2025-2030	Olmsted SWCD	Olmsted County SWCD participates in the Zumbro River Watershed 1W1P, Root River Comprehensive Watershed Plan, and the Mississippi River – Winona/LaCrescent 1W1P. These plans address regional watershed planning which include measures for flood mitigation.	SWCD, Watershed District funding
28	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 2025-2030	OCEM	There are currently no potential property buyout projects identified by Olmsted 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.	Olmsted County, FEMA HMA

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
29	Flooding/ Drought	Natural Systems Protection	INCREASE FLOODPLAIN CONNECTIVITY, REDUCE FLOODING Improve stream channel pattern and floodplain connectivity and flooding capacity using prescribed natural channel design methodologies. Improve and protect road infrastructure and utilities from damage of future flooding, improve public safety by widening roadway, lengthening toe slopes and establishing ditches by shifting a channelized stream system back to its natural location.	Existing High 2025-2030	OC Public Works, City of Rochester Public Works., Olmsted SWCD, MNDNR	OC Public Works, City of Rochester Public Works., Olmsted SWCD, and MNDNR are working collaboratively on the Hadley Valley Creek Project at the Gertrude B Sehl Trustee property in Haverhill twp, sect 17, 18 to develop a design plan, secure funding and implement the stream channel and floodplain restoration project to reduce flooding, protect infrastructure, improve public safety, reduce sedimentation, improve water quality and enhance habitat.	Federal-FEMA, Also, State & Local
30	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 2025-2030	OCEM	OCEM continues to provide public outreach and education during heightened drought periods using the county website and social media platforms. OCEM encourages city and townships to promote drought awareness to residents at the local level.	Olmsted County
31	Drought	Local Planning & Regulations	WATERING RESTRICTIONS Implement watering restrictions during periods of drought as per MN DNR guidance.	Existing High 2025-2030	OCEM in coord with MN DNR and local jurisdictions	Olmsted County and local jurisdictions will establish and enforce watering restrictions as per MN DNR guidelines during periods of severe drought.	County Funding, Local Gov'ts

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
32	Wildfire	Local Planning & Regulations / Education & Awareness Programs	COMMUNITY WILDFIRE PROTECTION PLAN / FIREWISE OUTREACH Work with the MN DNR Firewise Program and local fire departments to develop a Community Wildfire Protection Plan (CWPP) or equivalent in the county EOP.	New Moderate 2025-2030	OCEM in coord with MN DNR and local FDs	Olmsted County will seek to work with the MN DNR to determine how the county can address wildfire mitigation planning (to what level) in order to be eligible for MN DNR Firewise Grant funding for wildfire mitigation projects. The planning will work to identify fuels mitigation needs and public education.	County Funding, MN DNR Grant funding
33	Wildfire	Education & Awareness Programs	WILDFIRE PUBLIC OUTREACH Conduct public outreach and education on wildfire risk and prevention during periods of high risk for wildfire.	Existing High 2025-2030	OCEM in coordination with local FD's	In event of wildfire, Olmsted County Emergency Management works with local law enforcement, local fire departments, the NWS, and the MN DNR to get the word out on the risk of the level of fire danger and any burning restrictions to help keep the public informed and protected.	County Funding
34	Dam Failure	Local Planning & Regulations	ZUMBRO DAM EAP Work with Rochester Emergency Management and RPU on EAP updates and emergency drills for the Zumbro Hydroelectric Dam.	Existing Moderate 2025-2030	OCEM in coord with REM	Olmsted County Emergency Management continues to coordinate with Rochester Emergency Management and Rochester Public Utilities to participate in EAP updates and annual drills for dam safety.	OCEM, RPU
35	Land Subsidence (Karst)	Local Planning & Regulations	KARST MAPPING Continue to utilize GIS maps in planning and zoning reviews that show where risk exists in the county due to karst features.	Existing High Ongoing	Olmsted County Planning	Olmsted County GIS houses several state geologic layer maps that show erosion risk areas and risk to groundwater contamination due to karst features. The county also has a sinkhole map.	County and State Funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
36	Land Subsidence (Karst)	Local Planning & Regulations	ECOSYSTEM PROTECTION Continue to use the Olmsted County General Land Use Plan in policy and development review to manage critical ecosystems such as areas of karst and steep slopes.	Existing High Ongoing	Olmsted County Planning	Areas of karst and steep slopes are found throughout Olmsted County. Conserving and protecting the County's natural environment is a primary planning principle of the Olmsted County land use plan.	County Funding
37	Land Subsidence (Karst)	Local Planning & Regulations	RESOURCE MANAGEMENT Sensitive environmental areas should be protected from degrading land use practices and their development discouraged in order to support such critical natural functions as groundwater protection, stormwater management, and erosion control. These lands include areas of sinkhole concentrations and steep or unstable slopes.	Existing High Ongoing	Olmsted County Planning	The policies of the Olmsted County General Land Use Plan and its Comprehensive Land Use Evaluation System (CLUES) model steer development potential away from areas sensitive to human impacts and hazardous environmental conditions.	County Funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
38	Land Subsidence (Karst)	Local Planning & Regulations	<p>SUBURBAN ENVIRONMENTAL IMPACT Where suburban development patterns (large lots on private wells and septic systems) and individual development proposals incorporate areas with significant natural features, development should be designed to preserve such features and minimize adverse impacts to them.</p>	Existing High Ongoing	Olmsted County Planning	While sensitive features such as karst and steep slopes may be found within the boundaries of suburban developments, site designs must avoid these critical features.	County Funding
39	Land Subsidence (Karst)	Local Planning & Regulations	<p>URBAN ENVIRONMENTAL IMPACT Where urban development patterns and individual development proposals cannot avoid areas with significant natural features, development should be designed to minimize adverse impacts to those features.</p>	Existing High Ongoing	Olmsted County Planning	While cities are granted planning authority by State statutes, the Olmsted County Future Land Use Plan provides guidance to municipalities on how to do so within their urban service area boundaries.	County Funding

Section 6 – Plan Maintenance

6.1 Monitoring, Evaluation, and Updating the Plan

The Olmsted 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 Olmsted County HMP.

The Olmsted 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 Olmsted 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 Byron, Chatfield, Dover, Eyota, Oronoco, Pine Island, Rochester, and Stewartville, 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 Olmsted 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 Olmsted 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 Olmsted 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 Olmsted 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 Olmsted County EMD so that progress notes may be maintained for the next plan update.

6.2 Implementation

Olmsted 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 Olmsted County and its jurisdictions (see Appendix H and Section 5.3). The cities of Byron, Chatfield, Dover, Eyota, Oronoco, Pine Island, Rochester, and Stewartville 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.

According to the Olmsted EM, the 2017 plan directly informed and improved jurisdictions' emergency planning and response capabilities, especially after experiencing two state disasters due to natural hazards. The EMs in Olmsted County work together to integrate the material into planning.

Several implementation tools are available to address hazards. The strategies to use will be part of an ongoing discussion as Olmsted 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 Olmsted 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 Olmsted 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.

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

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

- The Olmsted County HMP website link will be posted on the Olmsted 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, Olmsted 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 Olmsted County HMP website). Each respective jurisdiction will be required to report on the status of mitigation actions in their charts to the Olmsted County EMD.
- Olmsted 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



Olmsted County

Local Mitigation Survey Report

Overview

As part of Olmsted County's 2024 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

Olmsted County	Yes
City of Byron	Yes
City of Chatfield	Yes
City of Dover	Yes
City of Eyota	Yes
City of Oronoco	Yes
City of Pine Island	Yes
City of Rochester	Yes
City of Stewartville	Yes

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

Olmsted County

LOCAL MITIGATION SURVEY

Please fill out the Point of Contact information and Parts A, B, C, and D of this survey. Please be as specific as 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: OLMSTED COUNTY

Point of Contact:

Name: Jonathan P. Jacobson
 Job Title: Olmsted County Director of Emergency Management
 Phone: (507) 328-6101
 Email: jonathan.jacobson@olmstedcounty.gov

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

1. 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 hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Do feel that this hazard has increased, decreased, or had no change?
Flooding	X	High	No change
Winter Severe Storms	X	High	No change
Summer Severe Storms	X	Moderate	No change
Tornadoes	X	High	No change
Windstorms	X	Moderate	Increased
Lightning		Moderate	No change
Hail	X	Moderate	No change
Extreme Cold		Moderate	Increased
Extreme Heat		Moderate	Increased
Drought		Low	No change
Wildfire		Low	No change
Landslides		Low	No change
Dam/Levee Failure	X	Moderate	No change

2. RECENT HAZARD EVENTS

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

Between May and June 2019, Olmsted County received nearly twenty (20) inches of rain. Although rain fell steadily throughout May, the ground was well-saturated for the June rainfalls. In one (1) rainfall

event in June (over two days), Olmsted County received 5.63 inches of rain causing localized flooding of tributaries to the Zumbro River and other creeks that damaged roadways, culverts, and private property mainly in the Southwest portion of Olmsted County. The saturated ground coupled with winds gusting to nearly 40mph toppled trees causing small-scale localized power outages. There was no disaster declaration and all remediation projects were completed with Olmsted County operational and reserve funds.

On December 15, 2021, Olmsted County experienced severe weather ranging from high wind warnings to tornado and severe thunderstorm warnings. Olmsted County recorded a high wind speed of 77mph that damaged structures and toppled trees. This December day brought high temperatures of nearly 70 degrees Fahrenheit to Olmsted County and by December 16 temperatures had fallen below 20 degrees Fahrenheit. A local emergency was declared due to numerous widespread power outages and damage throughout Olmsted County and a State Disaster Declaration followed for Olmsted and surrounding counties.

Since October of 2017 to present day, the National Weather Service has recorded seventy-four (74) hail events for Olmsted County with four (4) of those hail events being significant, causing damage to private property. The most significant hail event was June 4, 2019, where near tennis-ball sized hail fell as part of a confirmed tornado warning and touchdown in SW Rochester.

Since the last HMP Update, Olmsted County has experienced two blizzards. On February 23 and 24, 2019, Olmsted County experienced its most impactful blizzard since the Halloween Blizzard of 1991. Heavy snowfall and sustained winds of 50mph and greater closed Interstate 90 from Wisconsin to South Dakota, and other State Highways and secondary roads were impassable. Power outages were mainly localized but this storm certainly had the potential for widespread outages. Several stranded motorists were rescued throughout the day on February 23 by emergency services, MNDOT crews and local voluntary organizations. It took nearly 2 days to completely open Interstate 90 in Olmsted County and other secondary roads took longer. December 21-24, 2022, Olmsted County experienced another blizzard. Conditions were not near as bad as the 2019 blizzard, and this weather system was in the post-COVID world, where many public and private businesses had adapted to working from home, making continuity of operations much more feasible and effective.

3. 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	Olmsted County routinely deals with flooding and has numerous small and large-scale flooding events in our history. Although our primary river (Zumbro) and its tributaries are in-line with the flood control project, the changing climate and surface conditions still leave areas in Olmsted County susceptible to flooding. Much work is done to maintain the flood control project and other mitigation efforts. Localized flooding in 2019 in the Southwest portion of the County was mitigated with upsized culvert installation, rip-rap and other efforts to assist high-level water flow and to prevent blockages and erosion. A failure of any parts of the Flood Control

	Project could prove disastrous for the City of Rochester and Olmsted County.
Severe Winter Storms	Olmsted County has experienced two blizzards since 2017, with one major blizzard affecting travel and government operations (February 2019). Olmsted County also experienced Severe Thunderstorms, Tornado Warnings, High Wind Warnings (a Derecho) on December 15, 2021, which resulted in a State declared disaster. Continuity of business operations (both public and private) is at stake during Severe Winter Weather. Responding to and recovering from a blizzard can take several days; from clearing roads to restoring power so that businesses can return to either modified or full operation. With the City of Rochester being home to the Mayo Clinic, its most vital economic partner, work must be done quickly to plan for, respond to and recover from severe Winter weather impacts not only for Mayo, but for the web of infrastructure and services that supports Mayo and County residents. Much of the County’s municipal and rural power consists of overhead power lines. This makes our county susceptible to widespread power outages during severe Winter weather events. Although most critical infrastructure in Olmsted County have back-up generators for power, delivering fuel to all facilities will take coordination and prioritization. Power outages also create vulnerabilities to our residents in any city within Olmsted County, especially those on powered medical devices in their home.
Severe Summer Storms	Olmsted County has a long history of Severe Storms from April through October. Severe Weather includes thunderstorms, hail, high winds and tornadoes. As indicated previously, Olmsted County has experienced a plethora of hail events since 2017. For tornadic activity, Olmsted County has confirmed 4 tornadoes in 2017 and one in 2019. Fortunately, all tornadoes affecting Olmsted County in the last six years have not resulted in major damage or disaster declarations. Much of the County’s municipal and rural power consists of overhead power lines. This makes our county susceptible to widespread power outages during severe weather events. Although most critical infrastructure in Olmsted County have back-up generators for power, delivering fuel to all facilities will take coordination and prioritization. Power outages also create vulnerabilities to our residents in any city within Olmsted County, especially those on powered medical devices in their home.
Extreme Cold	Olmsted County experiences extreme cold events with some regularity, usually in January or February. Residents are susceptible to dangers from extreme cold, especially if the power goes out during winter storm events. We have a high population of senior citizens, low-income residents, and medically dependent residents who are more vulnerable during these events. In the past we have experienced frozen water services and some residential homes experienced burst pipes from extended extreme cold. In extreme temperatures we have had LP customers experience lack of pressure and lost heating due to frozen regulators and loss of pressure in the LP tank. The county and local cities have experienced damage to roads from spring frost heaves and frozen culverts that can cause localized flooding.

Extreme Heat	Olmsted County experiences extreme heat events with some regularity, usually in July or August, but we have seen extreme heat events in April and as late as October. Residents are susceptible to dangers from extreme heat, especially if the power goes out during severe weather that often accompany extreme heat events. We have a high population of senior citizens, low-income residents, and medically dependent residents who are more vulnerable during these events.
Drought	Olmsted County was included in the 2023 extreme drought with conditions persisting through the Summer into Fall of 2023. However, National Weather Service Hydrologists stated the drought for Olmsted (and other counties) was the “wettest driest year on record” meaning even though we were experiencing drought conditions, we were “barely” in the extreme drought category.

4. 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 currently underway.

There are several projects that are underway within the City of Rochester to reduce vulnerabilities. Please refer to City of Rochester’s LMS form. In addition, Olmsted County Soil and Water Conservation District is currently working on the Cascade Creek Restoration Project which aligns with the City of Rochester’s flood mitigation efforts. Olmsted County also completed a roadway relocation project (County Road 105) out of the floodplain. County Road 105 is the primary transportation route for Oxbow Park and Zollman Zoo, which has a significant history of flooding resulting in significant local damage. The roadway was moved away from the banks of the Zumbro River and elevation changed to increase flood protection. Furthermore, on all Olmsted County reconstruction projects, hydraulic elements are designed to State Aid Standards, providing an increased level of flood protection and safety for the traveling public.

5. 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. Please include any factors such as recent population growth or new development.

As the City of Rochester continues to grow and is expected to grow exponentially with the announcement of Mayo Clinic’s \$5B investment to expanding its infrastructure, so do the communities in Olmsted County that surround Rochester. With many new developments in our outlying cities, their environments are changing with regard to water runoff and soil conservation efforts. With increasing population comes increased strain on availability of emergency response services. Outlying cities within Olmsted County should be keeping a close eye on the types and number of service calls and adjust their personnel and infrastructure accordingly.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

1. 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.

Olmsted County Emergency Management utilizes the Olmsted County website, Olmsted County Sheriff's Office website 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. The Olmsted County Emergency Management website page provides emergency preparedness information and resource links for the public.

2. 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?

Olmsted County maintains the CodeRED Emergency Notification System which allows residents and visitors to sign up ("opt-in") to receive life-threatening alerts targeted to their location, such as natural gas leaks, along with other local emergency alerts that are non-life-threatening such as snow emergencies. A link to sign up for the system is located on the Olmsted County Emergency Management website page. Olmsted County also uses IPAWS (Integrated Public Alert Warning System), which allows for both targeted and county-wide emergency notifications to both residents and visitors (not an "opt-in" service). Alerts delivered through CodeRED can be delivered in English and Spanish. Additional languages may be available later.

3. LOCAL PLANS & POLICIES

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: Olmsted 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.

Mass Care Sheltering: In the event of a disaster where temporary sheltering is needed, Olmsted County Emergency Management works in coordination with Olmsted County Public Health Services, the American Red Cross, and local governments/Fire & EMS to provide mass care services as needed. The county EOP includes plans, procedures, and resources available for mass care sheltering. Olmsted County has also partnered with our hotel association in the City of Rochester and have signed agreements in place for mass sheltering in hotels. Each hotel has designated blocks of rooms that can be utilized for short- or long-term sheltering options.

Snow Removal & Ice Control: The Olmsted County Public Works Department conducts winter road maintenance on county roads in accordance with the Olmsted County Snow and Ice Control Policy.

Other road jurisdictions conduct winter road maintenance on their respective road systems in accordance with each of their established policy and/or practice.

National Flood Insurance Program (NFIP): Olmsted County has FEMA Mapped High Risk Areas and participates in the NFIP. Initial entry date into the program was 05/19/1981.

Floodplain Ordinance: Olmsted County enforces requirements of the NFIP through the county's floodplain ordinance (Olmsted County Code of Ordinances - Chapter 3750), adopted September 5, 2023, and published publicly September 9, 2023. This ordinance establishes the floodplain district and zoning regulations and conditional uses permitted within the floodway, flood fringe, and general floodplain districts of Name County. The Olmsted County Planning Department maintains and enforces the floodplain management ordinance for the county.

Shoreland Ordinance: Olmsted County Ordinances, Code of Ordinance - Chapter 3750 establishes allowable uses and development standards in shoreland areas designated within the county.

Subdivision Ordinance: Olmsted County Zoning Ordinances, Chapter 1200 Subdivision Ordinance and 1250 Platting Ordinance is established to regulate the subdividing of land in Olmsted County.

Transportation Plan: The Olmsted County Planning Department serves as staff to the Rochester Olmsted Council of Governments. We develop and maintain the Long-Range Transportation Plan; Olmsted County Public Works uses that plan to implement their roadway projects.

Minnesota Buffer Law: The Olmsted SWCD administers the state Buffer Law and provides technical assistance on buffer compliance by landowners. Buffers benefit bank stabilization and reduced erosion and sedimentation into ditches, streams, rivers, and lakes.

One-Watershed One Plan (1w1P): Olmsted County SWCD participates in the Zumbro River Watershed 1W1P, Root River Comprehensive Watershed Plan, and the Mississippi River – Winona/LaCrescent 1W1P. These plans address regional watershed planning which include measures for flood mitigation.

General Land Use Plan: A key policy of this plan is to keep development out of flood prone, geologically/topographically unstable, and environmentally sensitive areas. This policy acts as the foundation of the County's zoning and other ordinances.

4. STAFF & PARTNERSHIPS

Please describe what staff or other 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 or projects.

Olmsted County departments work together to accomplish mitigation goals through integrated policies and programs. Key departments include Olmsted County Emergency Management, Olmsted County Sheriff's Office, Olmsted County Planning Department, Olmsted County Public Works, Olmsted County Environmental Resources, Olmsted County Public Health Services, Olmsted County Administration, and Olmsted County Soil and Water Conservation District.

Olmsted County works closely with the City of Rochester Emergency Management and other city emergency managers within the county on emergency preparedness and response capabilities.

Olmsted County Emergency Management works closely with the MN HSEM Region 1 regional program coordinator and neighboring county emergency managers on a regular basis for joint planning, training, and exercises. In addition to its regional partners, Olmsted County EM also meets regularly with its local partners with Public Health, Mayo Clinic, Olmsted Medical Center and the City of Rochester.

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

Olmsted County has a strong relationship with the La Crosse, WI, 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.

5. PROGRAMS IN PLACE

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

Severe Weather Statements (Watch, Advisory, Warning, etc.): Olmsted County Emergency Management works to relay all severe weather and extreme temperature statements received from the NWS to help alert residents and visitors to hazardous conditions.

NOAA Weather Radios: Olmsted County Emergency Management promotes the use of NOAA Weather Radios by residents, businesses, schools, long term care facilities, government buildings, faith communities, and other places of common gathering.

Weather-Ready Nation Ambassador: Olmsted County Emergency Management is a registered NOAA and NWS Weather-Ready Nation (WRN) Ambassador, 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.

National Weather Service – Severe Weather Awareness Weeks: Olmsted 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. Olmsted 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.

Outdoor Warning Siren Testing: Outdoor warning sirens throughout the county are tested monthly by the Olmsted County Office of Emergency Management in coordination with local jurisdictions.

Skywarn Program: Olmsted 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

area 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.

Skywarn Net: Olmsted County Emergency Management supports and works with a long-standing and active Amateur Radio group that deploys ahead of incoming storms to pre-designated spotting locations throughout Olmsted County. Radio operators are certified Skywarn Spotters and have direct contact with the Emergency Operations Center during weather-related events for direct reporting of weather activity.

Vegetation Management: The Olmsted County Public Works Department 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.

Extreme Temperatures “Place to Be” Bus Programs: Olmsted County Emergency Management partners with Olmsted County Public Health, City of Rochester Emergency Management and Rochester Public Transportation to offer a “Warm Place to Be” program where the residents can ride the bus for free to warm up during a period of extreme cold and a “Cool Place to Be” program where the residents can ride the bus for free to cool off during extreme heat.

EmPower: EmPower is a program being utilized by Olmsted County Public Health to protect residents who live independently and rely on electric-dependent durable medical equipment so they can be readily identified during short- and long-term power outages.

6. 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.

SWCD - State Cost Share Program: The Olmsted County SWCD has state funding available to share in the cost of building practices for the purpose of erosion control, sedimentation control, and water quality improvement that are designed to protect and improve soil and water resources in the county. Through the State Cost Share Program, land occupiers and owners can request financial and technical assistance to implement conservation practices. The program can provide up to 75% of the cost of installing the practice. In Olmsted County, our most common Best Management Practices (BMP) are Grassed Waterways, Water and Sediment Control Basins (WASCOB), Terraces, Grade Stabilization Structures, and Cover Crops.

Olmsted County Public Health currently receives the Response Sustainability Grant.

PART C: LOCAL MITIGATION PROJECTS

1. LOCAL MITIGATION PROJECTS

Please describe what mitigation actions would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address local vulnerabilities; limit risk to existing structures or new development; and also any actions that benefit underserved communities or socially vulnerable populations in your community. Please be as specific as possible in your responses.

Severe Weather: Olmsted County works closely with all communities within its borders regarding its Outdoor Warning Siren system. An official sound study was completed in 2023 and recommended additions to its siren system. Olmsted County provides ongoing preventative maintenance of the Siren system, but local municipalities own the sirens and must budget for repairs, replacements and expansion of their sirens to newly developed areas. Olmsted County made recommendations to two municipalities to add sirens in specific locations for added coverage.

Extreme Heat/Cold: Syndromic surveillance is a tool being implemented to monitor our hospital emergency department visits related to extreme heat/cold affects on patients. This surveillance can identify trends in order to better predict expectations of more of these events in the future so that community education can be more effective.

Flooding: Hydraulic risk assessments are done on our bridge reconstruction projects to inform a design that will provide the necessary level of protection to meet current roadway standards. All Olmsted County reconstruction projects include hydraulic elements designed to state aid standards, providing an increased level of flood protection and in turn safety for the traveling public.

The Kings Run Pond 40, also known as the Section 7 Pond has been identified as the top flood mitigation project for the city. The Kings Run District is located in the northwest portion of Rochester. A majority of the district drains to two tributaries to the South Fork Zumbro River. Kings Run begins west of County Road 104 in two branches that flow to West Circle Drive. The two branches join and continue along the south side of 55th Street to Essex Park near the confluence of the South Fork Zumbro River. Urban residential development has occurred along the eastern portion of Kings Run both north and south of 55th Street. The western portion of King Runs is largely agricultural and produces significant flood water volumes that are flashy in nature during mid and large storm events. A series of regional stormwater ponds are designed to reduce peak flows from the western drainage area outside of the city; with the Section 7 pond being the primary pond needed to reduce and stabilize flows on the south side of the Douglas State Bike Trail through the residential areas. The pond will also provide water quality treatment to remove the sediment and nutrients in the flood waters. The existing channel capacity along the south side of the Douglas State Bicycle trail consistently overtops its banks during medium and large storm events. In 2019, this portion of the city experienced significant flooding and the near evacuation of memory care facility. The proposed pond is estimated to be 56 acres in size with an additional 24 acres of green space that can be flooded during extreme events. **The City of Rochester is working with Olmsted County to prepare a grant application to submit in the fall of 2024 for FEMA BRIC grant funding to support this project.**

Sheltering: Olmsted County is continuing to work on a project acquiring housing and transitional living space for our community's homeless population. Housing those who need it is far more reaching than simple short-term sheltering and will help provide protection to some of our most vulnerable populations with regard to natural hazards.

Climate Change: Olmsted County currently has a committee of people representing leaders in all departments throughout its organization that are evaluating climate change hot topics and what Olmsted County can do to reduce its carbon footprint. This committee will report on results and initiatives to the County Board with recommended steps moving forward and seek funding for projects such as solar power, hybrid or electric vehicles, geothermal systems for its new buildings to name a few.

Power: Facilities and Building Operations is installing generators at all County-owned critical infrastructure buildings, starting with Public Health.

2. GAPS OR DEFICIENCIES

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

Funding for Flood Mitigation: Flood mitigation for county and township roads (i.e., culvert replacements, road repair) is an ongoing need. The county and many of our townships have limited funding for road infrastructure. Olmsted County continues to provide assistance on road infrastructure mitigation projects to reduce the impacts of localized flooding. Olmsted County needs funding assistance to improve roads and culverts that are impacted by high rain events and flooding.

A complete picture of climate change impacts for Olmsted County has yet to be drawn. As Olmsted County's Climate Change committee makes recommendations we will seek to incorporate them into our mitigation strategy.

PART D: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey.

Jonathan Jacobson, Olmsted County Emergency Management Director
Sandi Goslee, Principal Planner
Benjamin Johnson, Director of Public Works
Kaitlin Anderson, Public Health Emergency Preparedness Coordinator
Kristi Gross, Senior Planner and Flood Plain Coordinator

Olmsted County

LOCAL MITIGATION SURVEY

Please fill out the Point of Contact information and Parts A, B, C, and D of this survey. Please be as specific as 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 BYRON

Point of Contact:

Name: Al Roder
 Job Title: City Administrator
 Phone: 507-775-3400
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PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

1. 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 hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Do you feel that this hazard has increased, decreased, or had no change?
Flooding	X	HIGH	INCREASED
Winter 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
Extreme Cold	X	MODERATE	INCREASED
Extreme Heat	X	MODERATE	INCREASED
Drought	X	LOW	NO CHANGE
Wildfire			
Landslides			
Dam/Levee Failure			

2. RECENT HAZARD EVENTS

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

In 2019 Byron experienced back-to-back weeks of 6+” of rain. This rain came extremely fast and caused significant flooding, especially at our Wastewater Plant. This flooding led to damage to our UV system, final clarifiers were flooded along with minor flooding in buildings.

In approximately 2021 we had a thunderstorm with high winds that caused downed trees and powerlines and damage to our fire hall roof. Power was out to residents for several hours.

3. 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 wastewater treatment plant is very susceptible to flooding in moderate rain events. We also have flooding/ponding on several roadways and stormwater treatment ponds that overtop in larger rain events.
Winter Storms	Byron has two power companies that serve our residents. Excel Energy has many overhead lines running through backyards with mature trees. With wet, heavy snow, trees have been known to be damaged and cause damage to the powerlines. In 2019, we had almost record snowfall totals for the season leading to safety concerns on our city streets because we were running out of room to put the snow.
Tornado and Windstorm	Our biggest threat during a tornado would be building damage and power outages from fallen trees and other debris.
Lightening and Hail	Same problems as tornado and windstorm. Lightning storms do have the capability of knocking out our SCADA system which controls our wells and lift stations throughout the city.
Extreme Cold	We do have some neighborhoods with an elderly population that can be affected by a power outage in extreme cold. Our fire hall is equipped with a generator that can be a place of shelter. Extreme cold does pose a risk of freezing waterlines and frost depth and cause watermain breaks.
Drought	Byron has had periods of moderate to severe drought conditions. We have enacted our water conservation plan and odd/even irrigation.

4. 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 currently underway.

Byron has done many street reconstruction projects over the last several years. These projects included new and sized correctly storm sewers to help contain rain events. The water main has been replaced and constructed at a depth that is less susceptible to freezing. Byron has a seven-year street CIP adopted by the city council to continue with street upgrades.

In 2023, Byron received a Climate Resilience Grant to address the increase rainfall totals and rates at which they occur. This grant has allowed the city to run an analysis of the entire city storm sewer system to show any “hot spots” that may be vulnerable during these increased rainfall events. This data is helping the city to identify and plan for future regional ponds as development continues. These

regional ponds will provide some relief to the wastewater treatment facility because all the storm water and runoff from 90% of Byron passes by the plant.

Byron has also been proactive in equipment purchases throughout the last several years. A six (6) inch portable pump has been purchased to aid in the need for pumping water or wastewater in a major storm. A portable vac trailer was also purchased for use in storm events. In 2022, a new lift station was constructed to open more land to be served by municipal sewer. As part of the lift station, a generator was installed to operate as a backup in a power outage. Byron has also upgraded to the newest version of our SCADA alarm system.

Byron city council adopted a Strategic Plan that was developed with the help of multiple boards, council, fire department, first responders, staff and any community members who wanted to attend. During this session, one of the focal points was “Being intentional about our growth”. The city has increased its focus on growth and development to plan better for more of these hazardous events.

5. 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. Please include any factors such as recent population growth or new development.

Since the 2010 Census, Byron has grown at a rate of nearly 30%. This growth puts a lot of strain on the city’s existing infrastructure. New home construction and commercial construction have taken away a lot of pervious land and created large amounts of impervious areas. Atlas 14 has increased the rainfall totals and rates as which storms occur, so this must be considered when developments are being proposed.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

1. 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.

Byron post updates and news on the city website and the city’s Facebook page. We also offer Code Red through Olmsted County to all residents and will use local media outlets for snow emergency notifications. Byron no longer has a local newspaper; however, a monthly newsletter is available for download, pick up at city hall or mailed as part of the monthly water bill. We also livestream board meetings and city council meetings.

2. 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 have links on the city’s website and Facebook page to sign up for Code Red. We also have discussed this in public meetings which are livestreamed. Byron will post important emergency information on the website, Facebook page, and hang flyers and informational packets in city hall.

3. LOCAL PLANS & POLICIES

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.

In the last four (4) years, Byron has updated its Comprehensive Plan and did a complete review and update of its Subdivision and Zoning Code. These updates help to keep us on track with our strategic plan vision of “Being Intentional about our Growth”. We also utilize Olmsted County for all our building permit review and inspections. The City Council has adopted a 7-year Street CIP which will help to address aging and undersized infrastructure in our current system.

4. STAFF & PARTNERSHIPS

Please describe what staff or other 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 or projects.

Byron’s Public Works Director is its Emergency Manager and works closely with the city’s consulting engineer to develop street CIPs and do development reviews. Byron works closely with other agencies such as Olmsted County, DNR, Olmsted County SWCD and surrounding communities to stay updated on what is happening in our area. Byron also utilizes Olmsted County Emergency Management to test our outdoor warning system.

5. PROGRAMS IN PLACE

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

Byron continues to provide residents with any updated information provided from state or local officials including Olmsted County Emergency Management. Updated information is posted on the city's website, Facebook page and monthly newsletter to keep residents informed.

6. 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.

Byron primarily uses its own budget to address mitigation projects. In 2023 we did receive a Climate Resiliency Grant that was used to determine where our flooding issues would be in the projected rainfall events such as the 100-, 200- and 500-year rain events. Byron has also received a LRIP grant to improve roadways and install storm sewer to help control runoff. Bridge grants and other grants have been applied for by staff which would help with the changes in the climate.

PART C: LOCAL MITIGATION PROJECTS

1. LOCAL MITIGATION PROJECTS

Please describe what mitigation actions would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address local vulnerabilities; limit risk to existing

structures or new development; and also any actions that benefit underserved communities or socially vulnerable populations in your community. Please be as specific as possible in your responses.

Windstorms/Tornadoes - As Byron continues to expand, ensure that our outdoor warning siren spacing is adequate to reach all residents. Be proactive in dead or hazardous tree removal especially in areas of overhead lines.

Flooding – We have identified areas prone to flooding in the larger, more frequent rainfall events that affect our wastewater treatment plant. Look for ways to partner with other agencies and landowners to construct stormwater retention ponds upstream from the wastewater treatment plant to help reduce the risk of flooding. Continue to invest money into street reconstruction projects to update storm sewers.

Drought – Continue to monitor the gallons we are pumping daily and utilize our water conservation measures to help reduce the use of unnecessary water.

Severe Winter / Summer Storms – Promote residence to sign up for Code Red with Olmsted County Emergency Management to help get them the latest updates on upcoming storms. Work with our volunteer Fire Department and provide any necessary training for storm spotting. Continue with removal of dead or hazardous trees throughout the community. Look at possibly installing a generator at city hall to provide another place of shelter for residents, especially the elderly, in the winter months.

Extreme Cold – Utilize Byron’s website and Facebook to give residents warnings of upcoming extreme cold. Also, provide residence with tips to help avoid freezing water lines. Be available to help residents that may need to find a warming shelter should the need arise.

2. GAPS OR DEFICIENCIES

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

Like most cities, funding is the biggest hurdle when looking to implement any mitigation measures. Utilizing the funds we have and being smart about our growth is the most effective way to try and stay proactive when dealing with hazard mitigation. Byron will continue to utilize its social media and monthly newsletter to encourage residents to participate in the Code Red alert system.

PART D: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey.

Al Roder, City Administrator
Bill Angerman, City Consulting Engineer
Tom Ricke, Public Works Director
Kelli Cheney, Community Development Planner

Olmsted County

LOCAL MITIGATION SURVEY

Please fill out the Point of Contact information and Parts A, B, C, and D of this survey. Please be as specific as 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 CHATFIELD (*partly in Fillmore County*)

Point of Contact:

Name: Rocky Burnett	Michele Peterson
Job Title: Ambulance Director/Emergency Manager	City Administrator
Phone: 507-867-3810	507-867-3810
Email: rburnett@ci.chatfield.mn.us	mpeterson@ci.chatfield.mn.us

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

1. 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 hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Do feel that this hazard has increased, decreased, or had no change?
Flooding	X	High	NC
Winter Storms	X	High	NC
Tornadoes	X	Moderate	NC
Windstorms	X	Moderate	NC
Lightning	X	Moderate	NC
Hail	X	Moderate	NC
Extreme Cold	X	High	NC
Extreme Heat	X	Moderate	NC
Drought	X	High	NC
Wildfire			
Landslides			
Dam/Levee Failure			

2. RECENT HAZARD EVENTS

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

Each Spring melting of snow and rain events cause the Root River and Mill Creek to rise and cause damage to some of our city parks. Run-off from these events also have the capability of causing damage to our streets and culverts. Within the last five years we have experienced the following events: 1) On

June 27th-29th, 2019 we experienced a major rain event with higher wind gusts causing street flooding, downed trees, damage to waterways and culverts (FEMA declaration). Damage to parks, streets, and basement flooding for many residential properties. 2) We have also had numerous high wind events that have damaged trees and powerlines, resulting in power outages and tree damage to vehicles and homes. 3) In December 2021 the city received high winds causing downed trees and residents losing shingles etc. 4) On April 4, 2023, Chatfield received hail 1 inch in diameter causing roof damage to multiple residential and commercial buildings. 5) During the summer of 2023, we were in a drought phase causing the city council to implement our water conservation plan to reduce water use.

3. 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.
All Hazards – Power Outages	A generator has been installed at City Hall that serves as our local shelter if people are displaced from a severe storm event or extended power outage. Generators have been installed at our City Well #2 and our Booster Station to supply water to residents. The city has a vac truck to pump lift stations if needed. We also have a large population of senior citizens that do not use cell phones to receive emergency notifications.
Flooding	We have a city lift station that is prone to flooding during high rain events. Two city parks that are vulnerable to flooding and park equipment has been damaged in the past. We need to upsize several culverts to better handle high rain events.
Ice Storms, Blizzards	Updated power conversions have been completed by Peoples Energy Coop. 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 and Tornadoes	We have one mobile home park within the city that does not have a storm shelter and residents are vulnerable to high wind and tornado events. We have experienced power outages from strong wind events that have caused power outages.
Extreme Cold	We have a high population of senior citizens and low-income residents who are more vulnerable during periods of extreme cold with power outages. In the past we have experienced frozen water services and some residential homes experienced burst pipes from extended extreme cold. The city has experienced frozen culverts causing localized flooding.
Drought	Chatfield has experienced moderate to severe drought causing the city to enforce their water Conservation Plan.
Highway 52	Highway 52 running through the middle of town presents a great hazard to our community. There are several trucks passing through town carrying hazardous materials. We have had two crashes in recent years involving vehicles carrying a hazardous material within our downtown commercial district.

4. 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 currently underway.

In 2015, 2017, and 2023 the city completed street reconstruction projects which included adding more storm sewer and catch basins. In 2020, the city built two retention ponds off County 10 to reduce excessive water flow into the city limits. Six out of a total of seven Storm Water Capital Improvements from our 2015 Capital Plan have been completed. Over the last five years our municipal utility has worked to convert overhead powerlines to underground and upgrading power to the city. A generator has been installed at City Hall for creating a community shelter. In 2023, 2 generators were installed in the water system and both of our wells were added to our SCADA alarm system. A Vac truck has been purchased to pump lift station during power outages.

5. 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. Please include any factors such as recent population growth or new development.

Since 2010, the city's population has grown from 1,206 to 3,002 with many new homes built making more properties vulnerable to damages. Homes have been built slab-on-grade, so residents do not have a basement for safety during high wind or tornado events. With an increase in population and construction of more homes and commercial properties, we have also witnessed more storm water discharging to our stormwater system. We feel this is due to more impermeable surface which has increased stormwater runoff and the amount of precipitation seems to have increased per rain event.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

1. 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 informational announcements on our city website, through the Code Red system, through our Police Department Facebook page, and through our cities public access channel (CCTV). Additionally, we can print information in our local newspaper. We often also make announcements at City Council meetings.

2. 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 offer a sign-up link to a City of Rochester/Olmsted County Code Red Alert System offering county and local emergency notifications, on the city website, monthly newsletter, as well as on the local Public Access Channel (CCTV).

3. LOCAL PLANS & POLICIES

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's planning and zoning department enforces the MN State Building Code and the City Code zoning requirements for new development. We have a 20-year Comprehensive Plan that is designed to plan for future physical growth of the city and appropriate land uses. We have a 5-year Transportation Plan that identifies and schedules road, bridge, and culvert improvement projects to reduce over-the-road repetitive flooding. The city works with our 2 mobile home parks on emergency evacuation and sheltering of residents. The city also participates in the National Flood Insurance Program and has FEMA mapped high risk areas. The city enforces Chapter 105, Floodplain Management in the city code of ordinances.

4. STAFF & PARTNERSHIPS

Please describe what staff or other 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 or projects.

Our Ambulance Director is our designated Emergency Manager. Our Public Works Director and our City Engineer work to address road maintenance issues regarding flooding. We work with Olmsted County to control our outdoor warning sirens.

5. PROGRAMS IN PLACE

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

The city shares information with the public that we receive from Olmsted County Emergency Management and continue to address mitigation measures through our public works improvement projects.

6. 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, such as replacement of culverts. 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. In 2016 and 2019, the city submitted damages to FEMA for flooding and high wind damages. The city has also worked with the SWCD to address water retention issues into the city. We have work closely with our power companies to reduce long term power outages.

PART C: LOCAL MITIGATION PROJECTS

1. LOCAL MITIGATION PROJECTS

Please describe what mitigation actions would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address local vulnerabilities; limit risk to existing structures or new development; and also any actions that benefit underserved communities or socially vulnerable populations in your community. Please be as specific as possible in your responses.

Windstorms/Tornadoes – Installation of a natural gas generator at our Fire Station would ensure operation of the building and necessary equipment in times of need. The building could then also serve as a backup or overflow for members of the community to have a safe place to reside. This is especially true for our community members that live in the mobile home park.

Flooding – Work to address flood mitigation measures for our city lift station that is prone to flooding during high rain events as well as our two city parks that are vulnerable to flooding and park equipment has been damaged in the past. We also need to upsize several culverts to better handle high rain events.

Drought – During periods of severe drought, enforce the city’s water Conservation Plan and promote water conservation awareness measures to residents.

Severe Winter/Summer Storms – Evaluate opportunity to build a storm shelter or tornado safe room for the mobile home park in the city. Also work with the Peoples Energy Coop as needed to address future conversion projects from overhead to underground to reduce power outages from a range of severe storm events.

Extreme Cold – Work with Olmsted County Emergency Management to establish a plan for temporary warming facilities for those in the community who are more highly vulnerable during periods of extreme cold or winter storms that result in extended power outages (i.e., homeless, elderly).

Continue to implement city policies that help to address risk reduction including enforcement of building codes, floodplain management ordinance. Continue to work with Olmsted County Emergency Management to share severe weather information with the public such as participating in the Severe Weather Awareness Week and SkyWarn Storm Spotter training. Continue to encourage all residents to sign up for the county’s CodeRED emergency notification system.

2. 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 emergency alert (Code Red) notification system. We are a small city with limited financial and staff resources to address local mitigation projects.

PART D: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey.

Brian Burkholder, Public Works Director (bburkholder@ci.chatfield.mn.us)

Rocky Burnett, Ambulance Director/Emergency Manager (rburnett@ci.chatfield.mn.us)

Michele Peterson, City Administrator (mpeterson@ci.chatfield.mn.us)

Olmsted County

LOCAL MITIGATION SURVEY

Please fill out the Point of Contact information and Parts A, B, C, and D of this survey. Please be as specific as 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 DOVER

Point of Contact:

Name: Gary Pedersen
 Job Title: City Clerk/EM Director
 Phone: (507) 932-4314
 Email: Dovercityclerk1@gmail.com

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

1. 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 hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Do feel that this hazard has increased, decreased, or had no change?
Flooding	X	Moderate	NC
Winter Storms	X	High	NC
Tornadoes	X	Low	NC
Windstorms	X	High	NC
Lightning	X	Moderate	NC
Hail	X	Moderate	NC
Extreme Cold	X	Moderate	NC
Extreme Heat			
Drought	X	Low	NC
Wildfire			
Landslides			
Dam/Levee Failure			

2. RECENT HAZARD EVENTS

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

Various Wind and Hail damaging storm have hit the city, but did not result in any disaster declarations.

3. 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.
Highways 14 & I90	These highways run on the outskirts of the city and truck traffic often cross between the two highways which brings potential for hazardous materials and often trucks do not slow down to meet our speed limits. A lot of our emergency runs are for calls on these highways.

4. 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 currently underway.

With the last couple of streets projects we have completed, we improved the storm water drainage system in these areas, including capacities. We purchased a generator for a well supply so it can be kept operational during events that have knocked out electrical power.

5. 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. Please include any factors such as recent population growth or new development.

None, changes have been made on the positive side.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

1. 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 and at or on our city bulletin board at city hall.

2. 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, but would be willing to post a link on our website.

3. LOCAL PLANS & POLICIES

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's planning and zoning department enforces the MN State Building Code and the City Code zoning requirements for new development. Our zoning ordinance has sections devoted to enforcing the flood zones so building in these areas are greatly reduced if not eliminated. We have a Comprehensive Plan that is designed to plan for the future physical growth of the city and appropriate land uses. We work with the mobile home park owner when they have questions.

4. STAFF & PARTNERSHIPS

Please describe what staff or other 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 or projects.

Our Assistant 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 worked with the county emergency manager to address upgrade of our outdoor warning siren.

5. 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.

6. 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, such as replacement of culverts. 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.

PART C: LOCAL MITIGATION PROJECTS

1. LOCAL MITIGATION PROJECTS

Please describe what mitigation actions would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address local vulnerabilities; limit risk to existing structures or new development; and also any actions that benefit underserved communities or socially vulnerable populations in your community. Please be as specific as possible in your responses.

Windstorms/Tornadoes – Possibly upgrade the city’s warning siren to have a second siren if found to be needed on the SW side of the city,

Flooding –Implement new storm sewer upgrades as construction projects and purchase additional pumps in the event of flooding. Work with the city and county engineer on local flood reduction measures.

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 face book page to encourage residents to sign up for the county’s emergency notification system. Participate in the National Weather Service’s – Severe Weather Awareness Weeks. Consider a portable generator for our Community Center, which is our designated community mass care shelter.

Extreme Cold – Encourage residents to be prepared for periods of extreme cold and potential power outages. Use our city website and face book page to notify residents to avoid freezing pipes during sub-zero weather.

2. 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 need to update our city’s Comprehensive Plan to address considerations for future hazard events such as limited flooding. We are a small city with limited financial and staff resources to address local mitigation projects.

PART D: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey.

Gary Pedersen, Clerk

Dave Iseminger, Mayor

Roger Ihrke, City Fire Chief

Jeremy Magnuson, Assistant Fire Chief/Emergency Manager

Olmsted County

LOCAL MITIGATION SURVEY

Please fill out the Point of Contact information and Parts A, B, C, and D of this survey. Please be as specific as 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 EYOTA

Point of Contact:

Name: Tony Nelson
 Job Title: Emergency Manager
 Phone: 507-273-0489
 Email: tnelson1@live.com

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

1. 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 hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Do feel that this hazard has increased, decreased, or had no change?
Flooding	X	High	No change
Winter Storms	X	Moderate	No change
Tornadoes	X	High	No change
Windstorms	X	High	No change
Lightning	X	High	No change
Hail	X	High	No change
Extreme Cold		low	
Extreme Heat		low	
Drought	X	Moderate	No change
Wildfire			
Landslides			
Dam/Levee Failure			

2. RECENT HAZARD EVENTS

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

No major storm events to report.

3. 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.
Transportation HazMat Events	We have two major highways that run past our city, Hwy 14, Hwy 42. Also, we have the Canadian Pacific Railroad that splits our city. We also have Magellan Pipeline, Kugel’s gas (LP Storage facility) Kwik Trip Blending Station and Ag Partners Anhydrous Ammonia fill station in town. We have multiple trucks hauling hazardous materials in town and close proximity.

4. 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 currently underway.

In 2023, we have done improvements to our waterway to try to get water out of town faster by adding culverts and setting up a dry detention area to slow water flowing E/NE out of town. At this time we also wanted to clean the creek bed that has been filled in over the years but were denied the permit by the Minnesota Department of Natural Resources. In 2022, we were able to purchase a backup generator for our wellhouse with the help of a grant.

5. 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. Please include any factors such as recent population growth or new development.

We have increased in population for the past 5 years. We have also increased the number of homes and new businesses. In 2022, we started cleaning our storm water ponds to help with capacity. Of the 4 we currently have we were able to clean 2. Our creek needs to be cleaned out to help the flow of water.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

1. 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 currently post notices on our website, CCTV (City Channel), cities Facebook page, posting at city hall, post office and local restaurant.

2. 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. Once the county has its new CodeRED notification system in place we will put it on our website, Facebook page and CCTV channel.

3. LOCAL PLANS & POLICIES

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 its Planning and Zoning committee updating ordinances to keep up with new building codes. We continue to update our comprehensive plan.

4. STAFF & PARTNERSHIPS

Please describe what staff or other 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 or projects.

Currently the Mayor and council appoint the Emergency Management Director. Our Public works staff work with our city engineers to maintain culvers and city streets.

5. PROGRAMS IN PLACE

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

We work with Olmsted County Emergency Management office to disseminate information to our community members through mailings and social media.

6. 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.

Most funding of projects is through the city budget. We do apply for grants when available. We work closely with Peoples Co-op Power and currently allow them to keep one truck at our fire hall.

PART C: LOCAL MITIGATION PROJECTS

1. LOCAL MITIGATION PROJECTS

Please describe what mitigation actions would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address local vulnerabilities; limit risk to existing structures or new development; and also any actions that benefit underserved communities or socially vulnerable populations in your community. Please be as specific as possible in your responses.

Windstorms / Tornadoes – Installation of a gas generator for our firehall and city hall would help in keeping these valuable areas open during a storm.

Flooding - Having the Minnesota Department of Natural Resources allow us to clean and deepen our creek would improve water flow greatly, The creek sediment from field run off has greatly decreased the volume of water in the creek.

2. GAPS OR DEFICIENCIES

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

Not all residents are signed up for the county's emergency alert system as it has changed a few times. Once we have the newest notification system we will send out a link on our Facebook page and city newsletter.

PART D: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey.

Tony Nelson, City Emergency Manager / Councilman
Brad Boice, City Public Works Supervisor

Olmsted County

LOCAL MITIGATION SURVEY

Please fill out the Point of Contact information and Parts A, B, C, and D of this survey. Please be as specific as 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 ORONOCO

Point of Contact:

Name: Jason Baker
 Job Title: City Administrator
 Phone: 507-367-4405
 Email: jbaker@oronoco.com

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

1. 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 hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Do feel that this hazard has increased, decreased, or had no change?
Flooding	X	High	No Change
Winter 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
Extreme Cold	X	Moderate	No Change
Extreme Heat	X	Moderate	Increased
Drought	X	High	Increased
Wildfire	N/A	Low	No Change
Landslides	N/A	Low	N/A
Dam/Levee Failure	N/A	N/A	N/A

2. RECENT HAZARD EVENTS

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

In 2019 a minor flood event occurred. Damage to several parks occurred during this event. The city also experienced widespread drought in 2023. In early 2024 there were widespread power outages due to winter storms.

3. 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.
All Hazards	We need to obtain a generator for our City Hall and Community Center that serves as our local shelter if people are displaced from a severe storm event or extended power outage. Generators have been installed at City Well #2. We need a generator for Well #1 for redundancy. The city needs a vac truck to pump lift stations when needed.
Flooding	The city has had several parks along Zumbro River that experience minor damage during high water and repeated flood events. Improvements in the shoreline of the river is needed to prevent future damage in the parks and city.
Ice Storms, Blizzards	Updated power conversions have been completed by Peoples Energy Co-Op. Much of the city's 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.
Drought	Oronoco has experienced moderate to severe drought causing the city to notify water consumers to reduce water usage.
Highway 52	Highway 52 running through the middle of town presents a great hazard to our community. There are several trucks passing through town carrying hazardous materials.

4. 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 currently underway.

Our Public Works Department has invested in a portable generator for the lift stations. While most of Oronoco's vulnerability remains somewhat the same, due to most hazards being weather related and sometimes unforeseen that can happen at any time

5. 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. Please include any factors such as recent population growth or new development.

With the city sewer and water going live, there are now 500+ customers who rely on 24/7 coverage with reliable operations that include 83 grinder stations. There is also an increase in population and land development requiring more hookups to the city water and sewer. This also requires more area to protect and respond to in or with hazard events.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

1. 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 utilizes local news media and social media and city website for informational and physical help that may be needed for warning and/or protection and/or safe sheltering services. We also livestream board meetings and city council meetings.

2. 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 our city website. We would like to implement this system within our community for various uses. Oronoco will post important emergency information on the website, Facebook page, and hang flyers and informational packets in city hall.

3. LOCAL PLANS & POLICIES

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 uses as a land growth and use guideline, a 10-Year Comprehensive Plan (continuously updated) that assists with planning and zoning.
- The city also has a Planning and Zoning Commission.
- The city uses a capital improvements plan for reviewing street and infrastructure use and future planning.
- The city is in the process of updating its zoning codes.

4. STAFF & PARTNERSHIPS

Please describe what staff or other 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 or projects.

- The City Council.
- Olmsted County Emergency Management & Operations Center & Staff.
- The City Administrator, Fire Chief, Public Works Director all serve as Co- Emergency Managers.
- The City Engineer assists with infrastructure planning and emergency response too.
- The city is a member of MnWARN (a statewide agency response network).

5. PROGRAMS IN PLACE

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

Oronoco continues to provide residents with any updated information provided from state or local officials including Olmsted County Emergency Management. Updated information is posted on the city's website, Facebook page and newsletters are used to keep residents informed.

6. 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 utilizes MN & FEDERAL funding when or if available.
- The city applies for grant funding if or when available.

PART C: LOCAL MITIGATION PROJECTS

1. LOCAL MITIGATION PROJECTS

Please describe what mitigation actions would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address local vulnerabilities; limit risk to existing structures or new development; and also any actions that benefit underserved communities or socially vulnerable populations in your community. Please be as specific as possible in your responses.

The city tries to be aware of current updating for trends and practices in cooperation with local County, State, and Federal Agencies as time, and our community evolve and grow and develop. The city continues to work with Olmsted County on a Severe Weather and Storm and Tornado Conditions alert and warning system and the city/county warning siren system for all the geographic boundary areas of the city. Providing new message signs would help provide notifications to citizens as well.

Windstorms/Tornadoes - As Oronoco continues to expand, ensure that our outdoor warning siren spacing is adequate to reach all residents. Be proactive in dead or hazardous tree removal especially in areas of overhead lines.

Flooding –Look for ways to partner with other agencies and landowners to construct stormwater retention ponds upstream from the wastewater treatment plant to help reduce the risk of flooding. Continue to invest money into street reconstruction projects to update storm sewers.

Drought – Continue to monitor the gallons we are pumping daily and utilize our water conservation measures to help reduce the use of unnecessary water.

Severe Winter / Summer Storms – Promote residence to sign up for Code Red with Olmsted County Emergency Management to help get them the latest updates on upcoming storms. Work with our volunteer Fire Department and provide any necessary training for storm spotting. Continue with removal of dead or hazardous trees throughout the community. Look at possibly installing a generator at city hall to provide another place of shelter for residents, especially the elderly, in the winter months.

Extreme Cold – Utilize Oronoco’s website and Facebook to give residents warnings of upcoming extreme cold. Also, provide residence with tips to help avoid freezing water lines.

2. GAPS OR DEFICIENCIES

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

- The city continues to find that increased laws and regulations, along with growth and development is bringing about more frequent reviews of procedures, as well as bringing about a need for more budgeted dollars due to these increases.
- Utilizing the current funds and strategically analyzing our growth is the most effective way to try and stay proactive when dealing with hazard mitigation.
- Oronoco will continue to utilize its social media and monthly newsletter to encourage residents to participate in the Code Red alert system.

PART D: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey.

Jason Baker, City Administrator
Cain Dolan, Public Works Director

Olmsted County

LOCAL MITIGATION SURVEY

Please fill out the Point of Contact information and Parts A, B, C, and D of this survey. Please be as specific as 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 PINE ISLAND (partly in Goodhue County)

Point of Contact:

Name: Brandon Mathison

Sam Lenz

Job Title: Emergency Manager

Emergency Manager

Phone: 612-991-7221

507-884-1821

Email: brandon.mathison@ci.pineisland.mn.us

sam.lenz@ci.pineisland.mn.us

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

1. 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 hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Do feel that this hazard has increased, decreased, or had no change?
Flooding	X	High	NC
Winter Storms	X	High	NC
Tornadoes	X	Moderate	NC
Windstorms	X	Moderate	NC
Lightning	X	Moderate	NC
Hail	X	Moderate	NC
Extreme Cold	X	High	NC
Extreme Heat	X	Moderate	NC
Drought	X	High	NC
Wildfire	X	Low	NC
Landslides	X	Low	NC
Dam/Levee Failure			

2. RECENT HAZARD EVENTS

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

Each Spring melting of snow and rain events cause the Zumbro River to rise and cause damage to some of our city parks. Run-off from these events also have the capability of causing damage to our streets and culverts.

Flooding: Within the last five years we have experienced a few Spring flooding events but only one required the deployment of sandbags in SE area of town.

Wind: Pine Island also had numerous high wind events that have damaged trees and powerlines, resulting in power outages and tree damage to vehicles and homes. On December 2021 the city received high winds causing downed trees and residents losing shingles etc.

Hail: Pine Island has experienced 2 significant Hail events causing damage to buildings in the last 5 years. May 11th, 2022 and July 22,2023.

3. 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.
All Hazards – Power Outages	A generator has been installed at City Hall that serves as an overflow local shelter if people are displaced from a severe storm event or extended power outage. We are also looking into installing a permanent generator at the Lutheran Church which will be our primary shelter. Pine Island Public School and Pine Island Firehall both have permanent generators and can be used as overflow shelters
Flooding	We have a city lift station that is prone to flooding during high rain events. Two city parks that are vulnerable to flooding and park equipment has been damaged in the past.
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 and Tornadoes	We have one mobile home park within the city that does not have a storm shelter and residents are vulnerable to high wind and tornado events. We have experienced power outages from strong wind events that have caused power outages.
Extreme Cold	We have a high population of senior citizens and low-income residents who are more vulnerable during periods of extreme cold with power outages. In the past we have experienced frozen water services and some residential homes experienced burst pipes from extended extreme cold. The city has experienced frozen culverts causing localized flooding.
Drought	Pine Island has experienced moderate drought
Highway 52	Highway 52 running through the middle of town presents a great hazard to our community. Transporting hazard materials on this highway is common.

4. 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 currently underway.

Our city completed street reconstruction projects in 2015, 2017, 2020, and 2023. The projects included storm sewer reconstruction. In 2022 we cleared and regraded one of our retention ponds and we have plans to do another in the near future.

5. 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. Please include any factors such as recent population growth or new development.

Since 2010, the city's population has grown from 2,462 to 3,924 with many new homes built making more properties vulnerable to damage. Homes have been built slab-on-grade, so residents do not have a basement for safety during high wind or tornado events. With an increase in population and construction of more homes and commercial properties, we have also witnessed more storm water discharging to our stormwater system. We feel this is due to more impermeable surface which has increased stormwater runoff, and the amount of precipitation seems to have increased per rain event.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

1. 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 informational announcements on our city website, through the Code Red system, through our Community Facebook page, Pine Island Fire Dept Facebook, monthly newsletter and through our cities public access channel (CCTV). We often also make announcements at City Council meetings.

2. 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 offer a sign-up link to a City of Rochester/Olmsted County Code Red Alert System offering county and local emergency notifications, on the city website, and monthly newsletter.

3. LOCAL PLANS & POLICIES

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's planning and zoning department enforces the MN State Building Code and the City Code zoning requirements for new development. We have a 20-year Comprehensive Plan that is designed to

plan for future physical growth of the city and appropriate land uses. The city works with our mobile home parks on emergency evacuation and sheltering of residents. The city also participates in the National Flood Insurance Program and has FEMA mapped high risk areas. The city updates and approves the yearly Emergency Operation Plan.

4. STAFF & PARTNERSHIPS

Please describe what staff or other 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 or projects.

We currently have 2 fire Dept members that are designated Emergency Manager(s). One of those firefighters is also a public works employee. Our Public Works Director and our City Engineer work to address road maintenance issues regarding flooding. We work with Olmsted County to control our outdoor warning sirens.

5. PROGRAMS IN PLACE

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

The city shares information with the public that we receive from Olmsted County Emergency Management and continue to address mitigation measures through our public works improvement projects.

6. 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, such as clearing the riverbanks of debris. 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 have worked closely with our power companies to reduce long term power outages.

PART C: LOCAL MITIGATION PROJECTS

1. LOCAL MITIGATION PROJECTS

Please describe what mitigation actions would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address local vulnerabilities; limit risk to existing structures or new development; and also any actions that benefit underserved communities or socially vulnerable populations in your community. Please be as specific as possible in your responses.

Windstorms/Tornadoes – We hardened/hardening the Lutheran church, city hall and fire hall For sheltering.

Flooding – Work to address flood mitigation measures for our city lift station that is prone to flooding during high rain events as well as our two city parks that are vulnerable to flooding and park equipment

Drought – During periods of severe drought, enforce the city’s water Conservation Plan and promote water conservation awareness measures to residents.

Severe Winter/Summer Storms – Evaluate opportunity to build a storm shelter or tornado safe room for the mobile home park in the city. Also work with the Peoples Energy Coop as needed to address future conversion projects from overhead to underground to reduce power outages from a range of severe storm events.

Extreme Cold – Work with Olmsted and Goodhue County Emergency Management to establish a plan for temporary warming facilities for those in the community who are more highly vulnerable during periods of extreme cold or winter storms that result in extended power outages (i.e., homeless, elderly).

Continue to implement city policies that help to address risk reduction including enforcement of building codes, floodplain management ordinance. Continue to work with Olmsted County Emergency Management to share severe weather information with the public such as participating in the Severe Weather Awareness Week and SkyWarn Storm Spotter training. Continue to encourage all residents to sign up for the county’s CodeRED emergency notification system.

2. 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 emergency alert (Code Red) notification system. We are a small city with limited financial and staff resources to address local mitigation projects.

PART D: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey.

Brandon Mathison, Emergency Manager
Sam Lenz, Emergency Manager
Todd Robertson, Publics Works Director

Olmsted County

LOCAL MITIGATION SURVEY

Please fill out the Point of Contact information and Parts A, B, C, and D of this survey. Please be as specific as 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 ROCHESTER

Point of Contact:

Name: Brett Knapp
 Job Title: Interim Emergency Management Director
 Phone: 507-328-2823
 Email: bknapp@rochestermn.gov

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

1. 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 hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Do feel that this hazard has increased, decreased, or had no change?
Flooding	X	High	Increased
Winter Storms		Moderate	No change
Tornadoes	X	High	No change
Windstorms	X	High	Increased
Lightning		Moderate	No change
Hail	X	High	No change
Extreme Cold		Moderate	No change
Extreme Heat		Moderate	Increased
Drought		Low	Increased
Wildfire		Low	No change
Landslides		Moderate	No change
Dam/Levee Failure		Moderate	No change

2. RECENT HAZARD EVENTS

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

In June of 2019, we experienced a major rain event that caused streets, basements, and at least one local park to flood, and City officials nearly had to evacuate a senior living facility. That year also saw the city set a new record for annual precipitation totals.

In December of 2021, we experienced a long line of strong storms, later classified as a derecho. The NWS confirmed 30+ tornadoes in the region near Rochester with wind gusts reaching over 80 mph. In the city, we experienced multiple downed trees and power lines that resulted in power outages, at least one death, and a structure fire.

In 2023, we experienced extreme drought during the summer that resulted in multiple red flag warnings and extreme prolonged fire danger in our urban wildlife interface.

3. 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.
All Hazards	As the City grows at a rapid pace due to the Destination Medical Center initiative, we are seeing new development on the outskirts of town, as well as increased infill of already developed areas. Combined with climate change, this growth increases challenges ranging from strain on emergency response services to potential impacts to flood control measures and surface water runoff. Emergency Alerting is also becoming an area in need of a more well-developed and nuanced approach as various vulnerable and immigrant communities expand. City departments are actively working to address these issues.
Flooding	Since its completion in 1996, the city’s flood control project remains effective in helping mitigate large-scale flooding that has occurred regularly in the city’s history. However, recent years have seen in a surge in vulnerability to flash flooding. One particular area of NW Rochester (Kings Run District) has seen increases in flash flooding due to urban development encroaching on one drainage tributary and agricultural land that produces significant flood volume. Our Public Works department has identified a need for a large retention pond and green space that can assist with flooding during spring events.
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 and Tornadoes	Our city is home to several mobile home parks, including in areas that are on the outskirts of the city limits, making them particularly vulnerable to high winds and tornadoes. Our local agencies work with the parks to provide information to these residents on what actions to take in case of high winds or tornadoes. When requested, we also advise park management to reach out to the state to determine whether their storm shelter requirements and/or capacity are adequate. Our tornado and high-wind siren system is robust, but our most recent siren study determined that urban development has led to areas in NW and SE Rochester that are

	on the edge or just outside the desired reach of current sirens in those locations.
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4. 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 currently underway.

The city has adopted the Urban Forest Management Plan, which provides long-term strategies for better management of the urban forest, including increasing canopy cover. This has a host of positive environmental and infrastructure benefits. This plan also helps guide selection of tree types and physical placement of trees, along with ongoing operational maintenance of trees (more pruning and timely removal of declining trees). Parks and Forestry also performs annual boulevard tree inspections and utilizes Elements tracking software. Parks and Forestry also considers environmental sustainability as part of new storm water features and natural vegetation utilization.

Public Works has worked toward mitigation on multiple fronts, including:

- Sediment Removal in multiple Flood Control River sections
- Inspection of all Flood Control River Sections, Flood Control Levees, and Flood Control Reservoirs 3 times per year.
- Continued inspection of all Storm Water Ponds and Storm Water BMPS each year and correction of any maintenance identified items.
- The following items are additional work done previously and not noted in the USACE report for this year.
 - Winter of 2018/2019 removed sediment from South Zumbro River from Broadway Ave Bridge to Bear Creek to re-establish flood control channel.
 - Winter of 2022/2023 removed sediment from South Zumbro River South ROC2 Levee on the east side from levee to 16th St SW to re-establish flood control channel.
 - Summer of 2020 repaired various riverbanks and bridge abutments from 2019 flood damage. Repairs made to protect public infrastructure and maintain flood control channels through the city.
 - Winter/Spring of 2019 repaired channel of Cascade creek from Kutzky Park to 11th Ave to protect infrastructure and repair channel for flood passage.
 - Winter 2018/2019 Repair channel on Cascade Creek in Cook Park to protect infrastructure and repair flood control channel.

Rochester Public Utilities (RPU) regularly invests in protecting electric and water infrastructure to reduce vulnerability to physical and cyber threats. As of 2022, 549.6 of a total 844.17 circuit miles, or 65.11% of RPU’s electric distribution system, were underground. On August 23, 2023, RPU set a new historic system peak of 293 MW. RPU’s distribution system handled this peak without major issues. RPU consistently maintains a system reliability in excess of 99.99%. Substations and generation units are maintained in accordance with applicable North American Electric Reliability Corporation (NERC) standards.

In addition, RPU has taken the following measures to strengthen our electric infrastructure:

- Annually invest over \$1.7 million to trim or remove trees and limbs that could damage electric lines and equipment during high wind events.

- Construct redundant or excess electric capacity in selected substations and electric feeders to reduce single points of failure.
- Deploy system hardening by converting RPU's standard substation control building design, to now be constructed of precast concrete.
- Deploy electronic video monitoring at key electric substation sites to detect human intrusion and reduce malicious acts.

Underground water infrastructure is maintained and replaced according to a schedule that assesses system reliability, new growth and development, and risk of hazards due to breaks. Wellhouses are secured and locked. RPU's water system is decentralized with multiple reservoirs, standpipes, and elevated storage, thereby minimizing the risk of widespread impacts in the event of a partial system failure.

Since 2017 RPU has invested in network and server upgrades to guard against cyberattacks to its network and SCADA systems. An internal Network Security Team meets several times each month to review potential threats and assess system resiliency. RPU has also contracted with a third-party vendor to assist with disaster recovery in the event of ransomware or other large-scale attack.

5. 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. Please include any factors such as recent population growth or new development.

The city continues to expand outwardly and via infill development. Infill development is often more challenging and tends to impact environmentally sensitive lands as most readily developable property has been developed.

Since 2017 there have been multiple developments constructed within or upon floodplains, wetlands, steep slopes, and other natural areas including forests and open grass areas. These practices dramatically increase runoff volume and expose residents to hazards that are increasing in magnitude as climate change progresses. The City of Rochester recently updated its Unified Development Code to help address some of these challenges but development in these areas is not outright prohibited in many cases.

Extreme drought and water downpours have had significant impact on tree and vegetation infrastructure.

Population growth may begin outpacing city services and utilities. RPU does plan for these risks in system design in consultation with developers and other City departments.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

1. 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 the Facebook pages, including Police and Fire pages, if relevant. This includes during Severe Weather Awareness Week each April.

Our residents also receive timely weather information through wireless alerting from the National Weather Service. EM connects local events with weather support from NWS through an application process that helps event coordinators receive real-time weather updates leading up to and during their event. We also have capability of sending out alerts via WEA and EAS with our CodeRED platform to provide widespread or geo-targeted weather awareness messaging.

The city is developing a new 311 telephone information system, and EM is working with the 311 team to provide important weather-related information, including warning siren information, to their customers. The 311 system will also have a language translation component that we will utilize. We are also conducting outreach and education efforts with our vulnerable, limited-English, and immigrant communities to better connect them with emergency information that is clear and accessible.

The city is planning a Snow Summit event for October. This effort, led by Public Works, will bring together multiple City agencies to provide information for residents on how to navigate winter weather when it comes to snow removal, plowing, fire hydrants, and other topics.

2. 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 recently switched over from Rochester Alerts to CodeRED for our alerting and notification software. We did have a community sign-up option with Rochester Alerts, but it was used by a very small percentage of our residents. We are reviewing the efficacy of a similar program in CodeRED.

3. LOCAL PLANS & POLICIES

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 passed the Local Option Sales Tax (LOST), with some of that revenue allocated for flood control/mitigation.

The city also follows a Sustainability and Resiliency Plan that includes 104 action items.

Parks and Forestry takes long-term guidance from the Urban Forest Master Plan.

The city utilizes floodplain and shoreland ordinances to protect both environmental features, as well as mitigate any damage to private property or to the natural environment.

The City also enforces a Decorah Edge Ordinance to protect areas with unstable soils and prevent damage to the integrity of those soils.

The UDC provides development incentives for green buildings and the use of clean energy.

The electric grid to which RPU is connected has a number of structures in place to protect against large-scale system failure in the event of natural hazards. RPU has internal procedures for power rerouting or temporary service interruption to protect the distribution system, and the Midcontinent Independent System Operator (MISO) has cascading procedures that RPU follows in order to minimize impacts to the transmission grid. These procedures are reviewed and practiced regularly. Further, before a single transformer is installed or a single distribution pole is set, engineering studies assess the capacity needed to serve load and maintain reliability and/or quick restoration in the event of a natural hazard event. Such studies include an evaluation of ice and wind impacts on aboveground infrastructure.

RPU has Water Service Rules that govern how homes and businesses connect to RPU's water distribution system to maintain service and adequate pressure throughout the water system. Wells are sampled regularly for contaminants and the results reported to the Minnesota Department of Health. Hydrant valves are exercised regularly to ensure that they are functional when needed.

In terms of climate change resiliency, RPU is pursuing a Resource Plan to ensure that 100% of RPU's electric load, on a net annual basis, comes from renewable sources in 2030 and beyond. This means greater diversity in RPU's generation portfolio with the addition of wind, solar, and possible battery storage resources to RPU's existing hydro, gas, and diesel resources.

The city has developed a Comprehensive Surface Water Management Plan (CSWMP) that emphasizes resiliency and sustainability, and provides the foundation for the development of an asset management plan for grey and green infrastructure, as well as natural assets. The CSWMP utilizes an approach to assess risk based on the three pillars of sustainability, i.e. societal, environmental, and infrastructural factors. This assessment identifies areas exposed to the highest risk for current and future design rainfall events. Further evaluation of system performance allows for the development of potential solutions for flood mitigation. The updated Surface Water Management Plan to be implemented in 2024.

The Unified Development Code (UDC) regulates all development within the city. The UDC dictates land use and zoning in hazard areas including the Floodplain Overlay District and Shoreland Overlay District that restrict development within and along FEMA designated floodplains and public waters, respectively. Physical site grading and construction of structures are held to standards of the International Building Code and/or International Residence Code.

4. STAFF & PARTNERSHIPS

Please describe what staff or other 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 or projects.

Parks and Forestry has the option to utilize contracted services if their teams and internal department partnerships need assistance keeping up with maintenance or debris removal. Community Development works closely with our teammates at the county for wetland-related issues. Olmsted County is the city's Local Government Unit which reviews and provides comments on wetland delineations related to development projects in the city. Community Development works closely with Olmsted County's Floodplain Administrator to ensure compliance with floodplain regulations, and also works closely with Minnesota DNR when development is occurring in the shoreland. We also have knowledgeable teammates within the city that assist in review of developments occurring on or near environmentally sensitive areas.

For most mitigation efforts, RPU personnel work closely with other city departments. Of particular note are the Fire Department, Police Department, and Public Works.

With respect to hazards at the Zumbro Hydroelectric Dam, RPU has detailed notification procedures in place that require collaboration with Wabasha County. These are drilled on at least once a year. For events potentially affecting RPU's cyber assets, RPU coordinates with the City's Information Technology department to identify and prepare for possible interruptions.

The city's Water Resources (Storm Water Management) Team and Flood Control Project Team, which are part of the Public Works Environmental Services Division, are responsible for the implementation of flood mitigation-related planning and/or projects.

The 7 regional reservoirs that were constructed as part of the NRCS Flood Control Project is controlled by the South Zumbro Joint Powers Board. The City of Rochester is responsible for the operation and maintenance of 6 of the reservoirs and Olmsted County is responsible for one. The Joint Powers Board ensures the city and county are providing the proper oversight and funding. The Joint Powers Board includes Olmsted County Commissioners, Olmsted County Soil and Water Conservation District Board Supervisor, and City Councilmembers.

The city and Olmsted County often team with the Minnesota Department of Natural Resources for FEMA floodplain mapping initiatives, as well as mitigation efforts for local stream and habitat restoration projects.

The city is also a member of the Watershed Alliance for the Greater Zumbro River (WAGZ) that evolved from the One Watershed One Plan initiative for the Zumbro River.

The city has dedicated Flood Control Engineer and inspection staff to inspect and maintain flood control system. Annual reporting and inspections are done with the USACE and DNR Flood Safety.

5. PROGRAMS IN PLACE

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

Because so much of RPU's day-to-day field operations address system maintenance and hazard preparedness across the RPU footprint, many of RPU's internal efforts focus on employee and customer safety. Portions of the Service Center are hardened against both natural and man-made disasters. Procedures for both evacuation and shelter-in-place are exercised regularly. System Operations and Customer Care both have the functionality to operate from multiple locations.

The city has a designated Shoreland Overlay District and Floodplain Overlay District that restrict development within designated floodplains and along public waters, respectively.

The Public Works Department development review process enforces all pertinent building codes including those related to storm water and flood conveyance.

The city has planned to or performed flood risk assessments within 10 drainage districts. Projects developed to mitigate flooding are programmed within the Storm Water Management and/or Flood Control Capital Improvement Plan (CIP).

The city actively performs inspects, maintains, and operates storm water management and flood control project infrastructure including but not limited to Flood Control Inspection and Maintenance program. The city has dedicated staff to inspect Flood Control system, develop and implement maintenance work orders, and respond to flood events.

6. 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 relies on funding generated from the Storm Water Utility and Local Area Sales Tax for local flood mitigation and mitigation related to the regional Flood Control Project, respectively. The City will utilize funding opportunities such as grants, low-interest loans, etc. provided by the Minnesota Pollution Control Agency, Minnesota Department of Natural Resources, etc.

Parks and Forestry has received grants for various sustainability efforts such as tree-planting and vegetative management aimed at environmental sustainability.

RPU has Mutual Aid arrangements with other utilities through the Minnesota Municipal Utilities Association (MMUA) in the event of a system disruption beyond RPU's restoration capabilities. Typically RPU is one of the utilities responding, but the structure is there if needed. RPU activities and capital reserves are funded through customer rates per RPU's charter.

PART C: LOCAL MITIGATION PROJECTS

1. LOCAL MITIGATION PROJECTS

Please describe what mitigation actions would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address local vulnerabilities; limit risk to existing structures or new development; and also any actions that benefit underserved communities or socially vulnerable populations in your community. Please be as specific as possible in your responses.

- The Kings Run Pond 40, also known as the Section 7 Pond has been identified as the top flood mitigation project for the city. The Kings Run District is located in the northwest portion of Rochester. A majority of the district drains to two tributaries to the South Fork Zumbro River. Kings Run begins west of County Road 104 in two branches that flow to West Circle Drive. The two branches join and continue along the south side of 55th Street to Essex Park near the confluence of the South Fork Zumbro River. Urban residential development has occurred along the eastern portion of Kings Run both north and south of 55th Street. The western portion of King Runs is largely agricultural and produces significant flood water volumes that are flashy in nature during mid and large storm events. A series of regional stormwater ponds are designed to reduce peak flows from the western drainage area outside of the city; with the Section 7 pond being the primary pond needed to reduce and stabilize flows on the south side of the Douglas State Bike Trail through the residential areas. The pond will also provide water quality treatment to remove the sediment and nutrients in the flood waters. The existing channel capacity along the south side of the Douglas State Bicycle trail consistently overtops its banks during medium and large storm events. In 2019, this portion of the city experienced significant flooding and the near evacuation of memory care facility. The proposed pond is estimated to be

56 acres in size with an additional 24 acres of green space that can be flooded during extreme events. **The City of Rochester is working with Olmsted County to prepare a grant application to submit in the fall of 2024 for FEMA BRIC grant funding to support this project.**

- The city's Comprehensive Surface Water Management Plan prioritizes implementation of green infrastructure, watershed storage, and increased conveyance capacity.
- The city is also building out H/H models to complete flood risk assessment analyses and update the model based on development activities.
- Per state requirements, the city requires that infiltration be evaluated as a means of restricting runoff and/or increased watershed storage.

2. GAPS OR DEFICIENCIES

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

Funding necessary to implement green and grey infrastructure and preserve natural assets necessary to maintain the current level of service. The city is constantly balancing the need to maintain the growing amount of infrastructure with affordable rates. Some of the new technologies can also be more expensive to operate and maintain.

Flood risk assessments have not been performed on a significant portion of the city. There are likely many existing problems that have not been identified.

The community's understanding of resiliency and sustainability principles in light of climate change.

Retain more Parks and Forestry staffing and/or contracted service to reduce outstanding tree pruning work from the current 20-year cycle to a 7-year cycle.

Communication among departments is critical. Infrastructure needs to be maintained and replaced at some point in the future, and the public wants to keep interruptions of service as small as possible. Developers and City partners need to work together and plan ahead for what access is needed not if, but when restoration and mitigation work becomes necessary.

PART D: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey.

Kim Norton, Mayor

Brett Knapp, Rochester Fire Dept. Captain and Interim Emergency Management Director

Mike Nigbur, Parks and Forestry Division Head

Wendy Turri, Public Works Director

Aaron Luckstein, Deputy Public Works Director of Environmental Services

Edward Caples, Community Development Interim Planning Supervisor

Steven Nyhus, Rochester Public Utilities

Olmsted County

LOCAL MITIGATION SURVEY

Please fill out the Point of Contact information and Parts A, B, C, and D of this survey. Please be as specific as 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 STEWARTVILLE

Point of Contact:

Name: Bill Schimmel, Jr.
 Job Title: City Administrator
 Phone: (507) 533 - 4745
 Email: bschimmel@stewartvillemn.com

PART A: HAZARD IDENTIFICATION, RISK ASSESSMENT & VULNERABILITY ANALYSIS

1. 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 hazards that pose the greatest risk to your jurisdiction.	Please indicate if the hazard is of high, moderate, or low priority.	Do feel that this hazard has increased, decreased, or had no change?
Flooding	X	Moderate	No Change
Winter Storms	X	High	No Change
Tornadoes	X	Moderate	No Change
Windstorms	X	High	No Change
Lightning	X	High	No Change
Hail	X	Moderate	No Change
Extreme Cold	X	Moderate	No Change
Extreme Heat	X	Moderate	No Change
Drought	X	Low	No Change
Wildfire	Minimal Application	Low	No Change
Landslides	Minimal Application	Low	No Change
Dam/Levee Failure	NA	NA	NA

2. RECENT HAZARD EVENTS

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

In December of 2022, the city and surrounding area dealt with tornado conditions that resulted in some structural and tree damage, and power outage conditions in portions of the city. An emergency shelter

was set up for a couple days at one of the local schools for area residents to be safe and sheltered from the cold. Olmsted County Emergency Management and Red Cross and Salvation Army assisted with food and cots and blankets and first aid supplies with personnel to assist in sheltering services.

3. 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.
All Hazards	The city does have a desire to obtain additional generator capabilities, whether portable or permanent, to assist city facilities in the capability for alternate electricity in the event of power outages, so that these facilities can continue to function for service necessities, or for safe sheltering needs, and/or for communication and operational needs.
Severe Weather	In the event of Extreme Cold/Heat/Storm Shelter needs, the city would like to continue finding alternate safe haven sheltering locations to protect the elderly, the vulnerable, and/or those that have lost housing due to severe weather and storm damages, and/or other dangerous or damaging hazards that may have developed.

4. 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 currently underway.

While most of Stewartville’s vulnerability remains somewhat the same, due to most hazards being weather related and sometimes unforeseen that can happen at any time, the city has been working on a new emergency alert system for citizen benefit and information on helpful protection and service offerings and warnings, and continued training with Olmsted County Emergency Management and Stewartville Fire Department and Public Works.

5. 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. Please include any factors such as recent population growth or new development.

The only real increase in vulnerability would just be the increase in population and new land development, in other words, more residents and developed property to assist and protect and respond to, in or with hazard events.

PART B: LOCAL MITIGATION CAPABILITIES ASSESSMENT

1. 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 utilizes local news media and social media and city website for informational and physical help that may be needed for warning and/or protection and/or safe sheltering services. The city is also working with Olmsted County on the installation of a new Emergency Alert System – Code Red to help in providing notifications during emergency situations.

2. 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 had an emergency alert system in place, and is now working with Olmsted County on a new revised system – Code Red, and is in the process of encouraging all citizens to sign up for delivery on their phones – mobile and/or landline (calls and/or texts) and/or computers (e-mail) for area-wide notification.

3. LOCAL PLANS & POLICIES

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 an Emergency Management Plan (last reviewed 2021) that coordinates response with area safety response agencies.
- The city uses as a land growth and use guideline, a 10-Year Comprehensive Plan (last revised 2022) that assists with planning and zoning.
- The city also has a Public Safety Committee & Planning and Zoning Commission.
- A Floodplain Ordinance is in place, due to the city’s proximity with the Root River. The city also is part of the National Flood Insurance Program.
- The city uses a capital improvements plan for reviewing street and infrastructure use and future planning. The city also references Olmsted County’s Highway Safety Plan as a guide as well.

4. STAFF & PARTNERSHIPS

Please describe what staff or other 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 or projects.

- The City Council.
- City Public Safety Committee.
- Olmsted County Emergency Management & Operations Center & Staff.
- The City Administrator, Fire Chief, Public Works Director all serve as Co- Emergency Managers.
- The City Engineer assists with infrastructure planning and emergency response too.

- The city is a member of MnWARN (a statewide agency response network).

5. PROGRAMS IN PLACE

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

- The city participates with Olmsted County and National Weather Service in various emergency response tests and trainings.
- The city works with local School District on emergency and evacuation drills.
- The city has a Civil Defense Siren System with Olmsted County.
- The city has an Emergency Alert System (phone call, phone text, or e-mail) with Olmsted County.
- The city's Fire Department conducts emergency response and prevention trainings for the community, and is part of a Mutual Aid Agreement with area Fire Departments.
- The city works with the area electrical power provider – People's Energy Cooperative for outage and emergency and hazard prevention issues.
- The city has website and social media and local news media information help.

6. 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.

- Most funding capabilities come from the city's annual general or enterprise planning budgets.
- The city utilizes MN & FEDERAL funding when or if available.
- The city applies for grant funding if or when available.

PART C: LOCAL MITIGATION PROJECTS

1. LOCAL MITIGATION PROJECTS

Please describe what mitigation actions would help to reduce risk to your community from future hazard events. Please consider mitigation activities that address local vulnerabilities; limit risk to existing structures or new development; and also any actions that benefit underserved communities or socially vulnerable populations in your community. Please be as specific as possible in your responses.

The city tries to be aware of current updating for trends and practices in cooperation with local County, State, and Federal Agencies as time, and our community evolve and grow and develop. This includes cooperation with Civil Defense work and preventive measures and care in all areas of potential hazards and harm to area and community residents and business and commercial entities.

Specifically, this has been in the areas of updating the Floodplain Ordinance and Mapping and the Zoning Ordinance for control of increased development, as the city grows, and can help mitigate potential hazard. This past Summer, the city did have to enact some temporary water use restrictions in coordination with the drought conditions that were experienced in and around the greater Stewartville city and area. The city continues to work with Olmsted County on a Severe Weather and Storm and Tornado Conditions alert and warning system via the new CodeRed system and the city/county warning siren system for all the geographic boundary areas of the city.

2. GAPS OR DEFICIENCIES

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

- The city continues to find that increased laws and regulations, along with growth and development is bringing about more frequent reviews of procedures, as well as, bringing about a need for more budgeted dollars due to these increases.
- Adequate and/or appropriate security measures may, and/or continue as a need to be considered for water and wastewater treatment system infrastructure.
- Additional equipment and facility and possible personnel needs are foreseen to go along with this growth and development.

PART D: SURVEY PARTICIPANTS

Please list the names & titles of all persons that contributed information to this survey.

Bill Schimmel, Jr. – City Administrator

Brandon Dohlman – Fire Chief

Josh Podein – Assistant Fire Chief

Sean Hale – Public Works Director

Jimmie-John King – Mayor

Jon Jacobson – Olmsted County Emergency Management Director

Appendix D – Plans & Programs in Place

Olmsted County

HMP Plans & Programs in Place Form

EMERGENCY PLANNING CAPABILITIES	Yes/No	Comments
Emergency Mass Notification System	Yes	CodeRED (Olmsted County and City of Rochester)
Outdoor Warning Sirens (#'s and location)	Yes	Byron – 4 Chatfield – 4 Dover – 1 Eyota – 4 Olmsted County - 2 Oronoco – 4 Pine Island – 8 Rochester – 55 Stewartville – 5 New Haven TWP – 2 Cascade TWP – 1 Marion TWP – 2 Oronoco TWP – 1 Joint Ownership Rochester/Olmsted County – 4
Emergency Operations Plan (EOP)	Yes	County EOP is updated annually
Mass Care Sheltering Plan / List of Shelter Facilities	Yes	Addressed in EOP and in coordination with local jurisdictions
Tornado Safe Rooms / Storm Shelters	No	Addressed in coordination with schools & local jurisdictions with local vulnerabilities
NWS Weather Ready Nation / StormReady Certification	Yes	Olmsted County Emergency Management is a designated WRN Ambassador
Coordination with Schools	Yes	Tornado Drills, other trainings

Coordination with Neighboring County/Tribal Jurisdictions	Yes	Annual regional planning and training; Close coordination with the City of Rochester Emergency Management and HSEM Region 1
Coordination with Local / Regional Agencies involved in mitigation	Yes	SWCD, MN DNR, MnDOT, Rural and Municipal Electric Cooperatives, Watershed Districts
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, United Way
Hazard data and information	Yes	Damage information is kept on file from past storm events and disaster declarations
<i>Other (please describe)</i>	Yes	Olmsted County Public Health has additional preparedness plans in place

PLANNING & REGULATORY CAPABILITIES	Yes/No	Comments
Comprehensive/Land Use Plan	Yes	Olmsted County General Land Use Plan, Adopted 08/16/2022
Capital Improvements Plan	Yes	Olmsted County 2023-2027 Capital Improvement Plan
Economic Development Plan	Yes	Olmsted County integrates planning for economic development into different plans.
Climate Adaptation Plan	No	County Level – no. City of Rochester has adopted Greenhouse Gas Emissions Reduction Goals, adopted 09/07/2022
Continuity of Operations Plan (COOP)	Yes	Olmsted County Emergency Management in coordination with

		county departments and City of Rochester Emergency Management
Transportation Plan (Roads, Bridges, Culverts, Ditches)	Yes	Olmsted County Public Works – 2045 Long Range Transportation Plan
Stormwater Management Plan / Drainage Plan	No	Local jurisdictions maintain stormwater permits and ordinances
Burning Permits/Restrictions (Sheriff's Office or MN DNR)	Yes	Permits are obtained from the MN DNR. City of Rochester issues burning permits separately.
Comprehensive Local Water Management Plan	Yes	Olmsted County Water Management Plan 2013-2023 (Rochester-Olmsted Planning Department)
Watershed Plan (One Watershed, One Plan)	Yes	Olmsted County SWCD participates in the Zumbro River Watershed 1W1P, Root River Comprehensive Watershed Plan, and the Mississippi River – Winona/LaCrescent 1W1P
Wellhead Protection Plan		Municipal level plans are done in coordination with MDH
Forest Management Plan	No	The City of Rochester Parks Dept. has a Forestry Division.
Community Wildfire Protection Plan (CWPP)	No	
Participation in MN DNR Firewise Program	No	
Database of Dry Hydrants/Well Access	No	Information on rural water resources for wildland fire fighting are maintained by local fire departments
<i>Other (please describe)</i>		

LOCAL POLICY / PROGRAM CAPABILITIES	Yes/No	Comments
Land Use, Planning, & Zoning Ordinance	Yes	Olmsted County Zoning Ordinances
Subdivision Ordinance	Yes	Olmsted County Zoning Ordinances, Chapter 1200 Subdivision Ordinance and 1250 Platting Ordinance
Building Codes	Yes	The Olmsted County Building Official administers the building code in the City of Stewartville, City of Byron, and the townships of Eyota, Marion, Oronoco, and Quincy. Information on building activity in other jurisdictions in the county is available from the pertinent authority. (Townships, Small Cities, and the City of Rochester)
National Flood Insurance Program (NFIP)	Yes	Olmsted County NFIP entry date 05/19/81
Flood insurance rate maps	Yes	Current effective map date 09/21/2023
Floodplain Ordinance	Yes	Olmsted County Code of Ordinances - Chapter 3750 (effective September 21, 2023),, replaced the floodplain and shoreland regulations within Chapter 1400 with a County wide ordinance for Floodplain and Shoreland regulations. The
Shoreland Ordinance	Yes	Olmsted County Ordinances, Code of Ordinance - Chapter 3750.

Minnesota Buffer Law / Soil Erosion Ordinance	Yes	Olmsted SWCD oversees compliance with the State Buffer Law requirements
Home Buyouts for flood or erosion mitigation	Yes	Cascade Creek Watershed, Lake Shady (Oronoco). Both of these series of acquisitions occurred 2010-2016. Lake Zumbro (Fisherman's Inn acquired in 2020) and dredging project for flood and erosion control
Other natural hazard specific ordinance (i.e., stormwater, steep slope, wildfire)	Yes	Olmsted County Zoning Ordinances, Chapter 3800 Illicit Stormwater Discharge Ordinance
Maintenance programs to reduce risk	Yes	Olmsted County Public Works Dept. ROW maintenance and drainage systems
<i>Other (please describe)</i>		

ADMINISTRATIVE/TECHNICAL CAPABILITIES	Yes/No	Comments
Emergency Management Director	Yes	Olmsted County Emergency Management Director
Sheriff/Police Department	Yes	Olmsted County Sheriff's Office
Floodplain Administrator	Yes	Olmsted County Planning Department – Senior Planner & Floodplain Administrator
Chief Building Official	Yes	Olmsted County Planning Department – County Building Official
County Engineer	Yes	Olmsted County Public Works Department – Director / County Engineer
Mapping Specialist (GIS)	Yes	Olmsted County GIS Supervisor

Public Health Coordinator/Department	Yes	Olmsted County Public Health Department Director
Planning Commission	Yes	Olmsted County Planning Advisory Commission – consists of citizens appointed by the County Board
Soil and Water Conservation District	Yes	Olmsted County SWCD
Minnesota Department of Natural Resources	Yes	
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
FEMA ICS-100, 200, 700 and 800 training for all Olmsted County supervisors and above	Yes	Ongoing
<i>Other (please describe)</i>		

Appendix E – Past Mitigation Action Review Status Report

Olmsted County

Past Mitigation Action Review Status Report

Following is a report on the status of mitigation actions related to natural hazards included in the Olmsted County 2017 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 inclusion in the plan update. This report covers the mitigation actions that were listed for implementation by Olmsted County and by city jurisdictions, as applicable.

Hazard	Mitigation Action	Jurisdiction	Status	Comments
All-Hazards	Identify and map locations of vulnerable populations for emergency response and develop a communications plan to notify vulnerable populations.	Olmsted County & All Cities	Ongoing	Olmsted County Emergency Management (OCEM) works with Public Health to maintain information on the location of key facilities such as hospitals, nursing homes, and day cares. There is not a separate communication plan to these facilities.
All-Hazards	Encourage facilities that care for vulnerable populations (i.e., senior facilities, day care centers) to have emergency plans in place in the event of severe storms, extreme temperatures, or other events that require emergency measures to save lives.	Olmsted County & All Cities	Ongoing	Such facilities are statutorily required to have emergency plans in place. OCEM is available to assist with planning if requested.
All-Hazards	Provide outreach to the hospitality industry and visitors to the area with education and awareness on natural hazards in the County.	Olmsted County & All Cities	Ongoing	This falls under OCEM’s ongoing program of public outreach and education for all severe weather. OCEM communicates directly with Mayo Clinic and Olmsted Medical Center regarding hazardous weather outlooks and this service is also available to the hospitality industry.

Hazard	Mitigation Action	Jurisdiction	Status	Comments
All-Hazards	Promote emergency preparedness education & awareness for individuals, families, and businesses through use of websites, social media, and in-person events.	Olmsted County & All Cities	Ongoing	This falls under OCEM's ongoing program of public outreach and education for all severe weather or life-safety incidents. We use websites, social media, local media, and in-person events to communicate with the community.
All-Hazards	Collect and update critical data of use for OC emergency management and incorporate into annual Emergency Operations Plan updates as appropriate.	Olmsted County Byron Oronoco Pine Island	Delete	Not a necessary mitigation action. This falls under OCEM broader planning.
All-Hazards	Identify critical facilities that do not have backup power in the event of a major power outage.	Olmsted County & All Cities	Ongoing	Olmsted County and local jurisdictions continue to identify and address facilities or critical infrastructure that need generator back up power.
All-Hazards	Purchase and install generators or related equipment (e.g., generator hook-ups) for identified critical facilities that require backup power.	Olmsted County & All Cities	Ongoing	Same as above.
Severe Winter & Summer Storms	Promote the National Weather Service's annual Winter Weather Awareness Week in the fall and Severe Weather Awareness Week in the spring.	Olmsted County & All Cities	Ongoing	OCEM participates in the NWS severe weather awareness weeks and encourages local jurisdictions to do so as well. Also provide social and mainstream media coverage (PSAs) regarding these events.
Severe Winter & Summer Storms	Identify aboveground power lines vulnerable to failure during severe ice storm or wind events and work with public utilities to evaluate/implement mitigation projects such as hardening or burying of power lines as needed.	Olmsted County Byron Chatfield Stewartville	Ongoing	Rural and municipal electric utilities continue to provide oversight on the identification and implementation of risk reduction measures for power failures.

Hazard	Mitigation Action	Jurisdiction	Status	Comments
Severe Summer Storms	Identify areas where vulnerable populations are susceptible to tornadoes or extreme wind events (i.e. schools, campgrounds, or mobile home parks) and evaluate for construction or retrofit of safe rooms or storm shelters.	Olmsted County & All Cities	Ongoing	OCEM continues to work with local jurisdictions to identify where storm shelters or tornado safe rooms may be needed. OC Public Health inspects existing and new storm shelters.
Severe Summer Storms	Implement construction or retrofit projects for safe rooms or storm shelters in identified vulnerable locations.	Olmsted County & All Cities	Ongoing	As per above – OCEM will continue to provide assistance as appropriate to addressing construction or retrofit projects.
Severe Summer Storms	Work to establish and maintain “Storm Ready” community designation for cities in OC.	Olmsted County & All Cities	Ongoing	The NWS StormReady communities map for MN notes Eyota and Dover as cities with StormReady designation. OCEM works directly with NWS on delivering the requirements of a Storm Ready community.
Severe Summer Storms	Work to ensure Minnesota Department of Health Evacuation Plan & Storm Shelter Requirements are met in municipalities with manufactured home parks.	Olmsted County & All Cities	Ongoing	Ongoing by Olmsted County Public Health in coordination with local municipalities with MHPs and the MHP owners.
Severe Summer Storms	Provide “Storm Spotter” training on an annual basis in communities for local fire departments and local residents to become trained volunteers.	Olmsted County & All Cities	Ongoing	OCEM works with the NWS to provide this training on an annual basis to local law enforcement, fire depts, and local residents that wish to be trained as spotters.
Extreme Temps (Heat / Cold)	Encourage use of vegetation (i.e., tree planting) in communities to help reduce impacts of extreme heat temperatures.	Olmsted County & All Cities	Ongoing	Local jurisdictions have local authority to consider tree plantings to increase shade and reduce impacts of extreme temps as they see fit.
Extreme Temps (Heat / Cold)	Provide outreach & education to vulnerable populations in the community (i.e., senior citizens, young adults) on personal safety measures to take during periods of extreme heat / cold.	Olmsted County & All Cities	Ongoing	OCEM and local jurisdictions continue to share information from the NWS during periods of extreme heat or cold with the entire population using social media and local media. Separate outreach is not done to vulnerable populations.

Hazard	Mitigation Action	Jurisdiction	Status	Comments
Flooding	Update land use plans and floodplain zoning ordinances to identify and enforce where development should not occur.	Olmsted County & All Cities	Ongoing	Olmsted County maintains the floodplain maps (current map will be effective 9/21/2023). The county and cities that participate in the NFIP have floodplain ordinances in place that are enforced for development restrictions.
Flooding	Identify and maintain an inventory (i.e., GIS maps) of roads, bridges, and culverts where flooding has been an issue and identify required mitigation measures to reduce future flood damages.	Olmsted County & All Cities	Ongoing	Ongoing by Olmsted County Public Works and local road authorities on an annual basis.
Flooding	Implement required flood mitigation measures for roads, bridges, and culverts (i.e., raising roads, installation or modification of culverts, creation of retention areas.)	Olmsted County & All Cities	Ongoing	Ongoing by Olmsted County Public Works and local road authorities on an annual basis.
Flooding	Upgrade existing rain gauges in certain areas of the County (NW of the County and Oxbow Park).	Olmsted County Byron Eyota	Ongoing	Ongoing in cooperation with Olmsted SWCD / MN DNR.
Flooding	Work with Dodge County to install rain gauges on the Zumbro River to help prevent flooding in OC.	Olmsted County Pine Island	Ongoing	Olmsted County and Dodge County emergency management work together to monitor flood stage information on the Zumbro River.
Flooding	Install flood warning gauges on streams in critical areas of the County that can be remotely read and integrated in advance warning systems.	Olmsted County Stewartville	Ongoing	Ongoing with SWCD and watershed district groups as deemed necessary.

Hazard	Mitigation Action	Jurisdiction	Status	Comments
Flooding	Identify public properties that experience flood damage and work to implement measures to reduce or eliminate future flood damages as appropriate (i.e., homeowner education on landscaping, green infrastructure, or property acquisition & relocation)	Olmsted County & All Cities	Ongoing	Ongoing by Olmsted County and local governments as necessary for addressing localized flood concerns.
Flooding	Continue to update and implement existing plans (i.e., South Zumbro CIP) to help reduce long-term vulnerability of flooding and erosion to key waterways.	Olmsted County Byron Stewartville	Ongoing	Olmsted SWCD and other watershed districts work with the county and local communities on addressing update of local water management plans and incorporation of flood mitigation approaches.
Flooding	Identify and implement habitat restoration projects along the Zumbro River that will help reduce flooding by providing temporary storage within the river corridor.	Olmsted County Byron Oronoco	Ongoing	Related projects are ongoing in partnership with the Watershed Alliance for the Greater Zumbro.
Flooding	Work with private landowners (farmers) to obtain easements for water storage on their property to help reduce prolonged flood duration in cropland areas.	Olmsted County Byron Eyota Pine Island	Ongoing	This is a standing consideration for action by the SWCD, county and local jurisdictions if necessary.
Flooding	Continue participation in the National Flood Insurance Program (NFIP). (Jurisdictions with FEMA-mapped high risk areas.)	Olmsted County & All Cities	Ongoing	Olmsted County and the cities of Byron, Chatfield, Dover, Eyota, Oronoco, Rochester, Pine Island, and Stewartville all participate in the NFIP and follow requirements of the program.
Flooding	Investigate participation in the NFIP's "Community Rating System" (CRS) that would affect flood insurance rates.	Olmsted County Dover Pine Island Oronoco Stewartville	Ongoing	Ongoing. Nothing to report.

Hazard	Mitigation Action	Jurisdiction	Status	Comments
Flooding	Complete and implement the Digital Flood Insurance Rate Maps (DFIRM) project in OC. Each community will need to adopt the revised floodplain maps. Each community will need to update their floodplain ordinance.	Olmsted County & All Cities	Completed	Completed. The current effective map date for Olmsted County and local jurisdictions with mapped floodplain areas is 4/19/17.
Flooding	Map all properties covered by Letters of Map Amendment and Letters of Map Revision. (Those LOMR's that list properties but do not amend the FIRM panel.)	Olmsted County Dover Stewartville	Completed	Same as above.
Flooding	Examine the use of Low Impact Development (LID) techniques in road and development projects to more effectively manage stormwater runoff during heavy rain events.	Olmsted County Byron Dover Pine Island Stewartville	Ongoing	Olmsted County Public Works and city public works departments continue to address stormwater infrastructure improvements as needed.
Flooding	Develop educational materials and promote shoreland buffer vegetation Best Management Practices, and monitoring.	Olmsted County Dover Eyota Stewartville	Ongoing	This falls under the work of the Olmsted SWCD.
Flooding	Identify measures to limit infiltration to the Dover and Eyota portions of the Dover/Eyota/St. Charles sewer system.	Olmsted County Eyota Dover Pine Island	Ongoing	Jurisdictions continue to address improvements to sewer/stormwater systems.
Flooding	Through land acquisition, develop stormwater control structures to retain and slow the flow of surface water runoff, preventing flooding damage to private and public property.	Olmsted County & All Cities	Ongoing	Same as above.

Hazard	Mitigation Action	Jurisdiction	Status	Comments
Erosion, Landslides & Karst	Develop a model ordinance for use in every community in the county that will minimize disturbance and avoid the development of certain areas that are unstable due to soils and/or geologic formation.	Olmsted County	Completed	The county shoreland ordinance code addresses setbacks in shoreland areas for new structures.
Erosion, Landslides & Karst	Conduct a study of unstable slopes and an inventory of areas in the county. Develop a plan to address unstable slopes particularly near public roads and other critical facilities.	Olmsted County	Ongoing	This falls under the ongoing work of the Olmsted SWCD and Olmsted County Public Works
Erosion, Landslides & Karst	Create new standards in the OC Zoning Ordinance to address karst features and protection of the groundwater system in the county.	Olmsted County Byron	Delete	Not a relevant mitigation action.
Wildfire	Identify rural areas vulnerable to wildfire and not in proximity to a water source to assist in fire suppression. Evaluate projects such as installation of underground water tanks to help assist fire departments if needed.	Olmsted County	Delete	Wildfire is ranked as a low priority risk for Olmsted County and will not be profiled in the HMP update.
Wildfire	Increase Firewise education and training for property owners that have properties at- risk for wildfire (i.e., Provide Level-1 Assessments for Defensible Space around structures.)	Olmsted County	Delete	Wildfire is ranked as a low priority risk for Olmsted County and will not be profiled in the HMP update.
Wildfire	Provide education to the public on the dangers of and prevention of wildfire, particularly during periods of high-risk due to drought and high winds.	Olmsted County & All Cities	Delete	Wildfire is ranked as a low priority risk for Olmsted County and will not be profiled in the HMP update.

Hazard	Mitigation Action	Jurisdiction	Status	Comments
Wildfire	Encourage public or private property owners (such as landowners, parks or campgrounds) to incorporate defensible space and fuels reduction around new or existing structures that may be at-risk of wildfire. Incorporate into local building codes as appropriate.	Olmsted County Byron Pine Island Stewartville	Delete	Wildfire is ranked as a low priority risk for Olmsted County and will not be profiled in the HMP update.
Wildfire	Continue to educate the public on fire awareness and safety through education and outreach events (i.e. promotion of Fire Prevention Awareness Week education, school visits, and other events at the local level.)	Olmsted County & All Cities	Delete	Wildfire is ranked as a low priority risk for Olmsted County and will not be profiled in the HMP update.
Drought	Develop a section of the emergency response plan for OC that covers severe drought. The plan should address all community water systems and shared wells in suburban subdivisions.	Olmsted County & All Cities	Delete	Olmsted County would work with the MN DNR, HSEM, and local governments, in response to a drought so severe it resulted in water shortages.
Drought	Encourage the development of a response plan that addresses the needs of agriculture during a severe drought.	Olmsted County Dover Eyota	Delete	Same as above. The county would work the MN Dept. of Agriculture and local farmers to address required response.
Drought	Strengthen water conservation measures in the building code for each jurisdiction by educating the public and contractors.	Olmsted County Byron Eyota Stewartville	Delete	Water conservation measures are not written into building codes. The county and local jurisdictions follow the requirements of the MN DNR to set watering restrictions and promote water conservation measures in the event of an extreme drought that affects Olmsted County.

Hazard	Mitigation Action	Jurisdiction	Status	Comments
Drought	Promote water conservation measures and fire safety awareness to residents during periods of drought. Enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Olmsted County & All Cities	Ongoing	The county and local jurisdictions follow the requirements of the MN DNR to set watering restrictions and promote water conservation measures in the event of an extreme drought that affects Olmsted County.
Dam Failure	Continue to work with private dam owners to monitor condition of flood control project dams and address maintenance as needed.	Olmsted County	Ongoing	Ongoing as deemed necessary. MN DNR provides main oversight in working with private dam owners.

Appendix F – Planning Team Meetings

Olmsted County HMP Update

Appendix F – Kickoff Meeting Documentation

Overview:

On 4/28/23 U-Spatial@UMD hosted a kickoff meeting online that was attended by the Olmsted 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 2023-2024 Multi-Hazard Mitigation Plan Update Project Overview"
- **Webinar Slides:** "Minnesota 2023-2024 Multi-Hazard Mitigation Plan Update Project Kickoff Orientation Webinar"

Minnesota 2023-2024 Hazard Mitigation Plan Update Project Overview

During 2023-2024, U-Spatial at the University of Minnesota Duluth (U-Spatial@UMD) will be working to update Hazard Mitigation Plans (HMPs) for 14 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

Becker, Chisago, Goodhue, Grant, Houston, Hubbard, Kanabec, Lake, Lyon, Mille Lacs, Olmsted, Pennington, Roseau, and Wabasha counties. Cities within each county are required to participate in the planning process.

Overview of Update Process

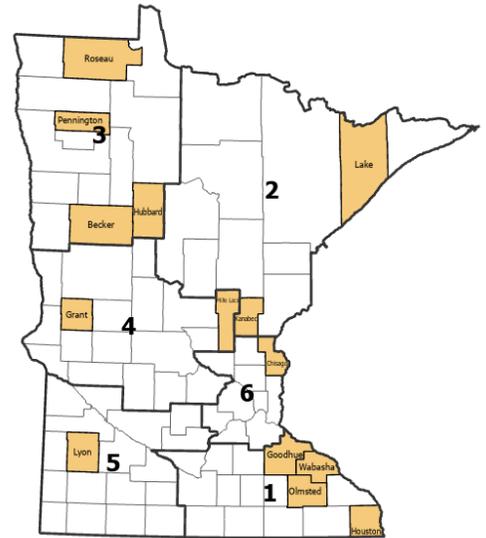
The U-Spatial@UMD team will coordinate with each Emergency Manager throughout the plan update process to engage participating jurisdictions and other stakeholders in the planning process. Following is an overview of key tasks that the U-Spatial@UMD team will facilitate to meet FEMA requirements in the 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 and interactive website that meets FEMA HMP 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 HMP 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, Emergency Managers are required to submit quarterly reports to HSEM on their local 25% match accrued through HMP activities during that quarter.

Minnesota 2023-2024 Multi-Hazard Mitigation Plan Update Project Kick-off Orientation Webinar



Webinar Purpose & Goals

The purpose of this webinar is to provide an orientation for Emergency Managers participating in 2023-2024 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 Lindelof
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

Project Overview

14 Counties:

- Becker
- Chisago
- Goodhue
- Grant
- Houston
- Hubbard
- Kanabec
- Lake
- Lyon
- Mille Lacs
- Olmsted
- Pennington
- Roseau
- Wabasha



Why U-Spatial@UMD?

➤ Proven experience

Our updates of 40+ 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

“Next Gen” - MN Hazard Mitigation Plans

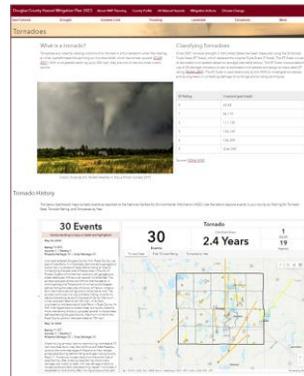
- Contains almost all required elements
- No mapping
- Community outreach/input remains the same
- Includes appendices with jurisdictional outreach

- 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

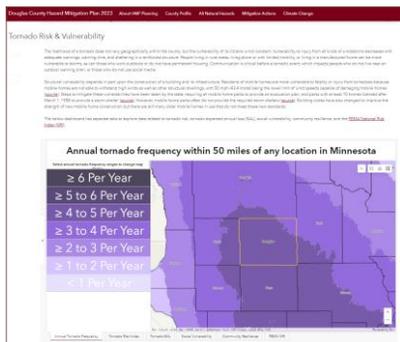
Stacey Stark



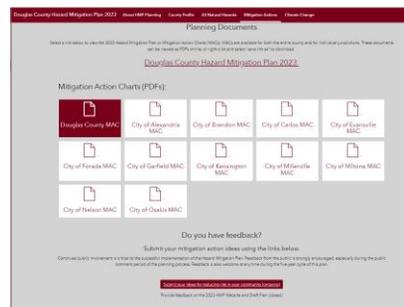
Example Web Site



Example Web Site



Example Web Site



Example Web Site

Timeline Overview

- 18-Month total timeline (April 2023 – October 2024)
- 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)	May – October 2023	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)	November 2023 – May 2024	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 2024	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 2024	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 que 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>

Olmsted County HMP Update

JURISDICTIONAL CONTACT LIST

COUNTY CONTACTS

Name	Title	Phone	Email
Jonathan Jacobson	Emergency Management Director	(507) 328-6101	jonathan.jacobson@olmstedcounty.gov
Taylor Schoenfelder	Sergeant/Deputy Director	(507) 328-6102	taylor.schoenfelder@olmstedcounty.gov
Kevin E. Torgerson	County Sheriff	(507) 328-6745	kevin.torgerson@olmstedcounty.gov
Pete Giesen	Interim County Administrator	(507) 328-6001	Pete.Giesen@olmstedcounty.gov
Judy Indrelie	Grants Manager	(507) 328-6764	judy.indrelie@olmstedcounty.gov
Benjamin Johnson	Public Works Director / County Engineer	(507) 328-7060	benjamin.johnson@olmstedcounty.gov
Mary Blair-Hoeft	County Assessor, Property Records & Licensing	(507) 328-7646	mary.blairhoeft@olmstedcounty.gov
Tony Hill	Environmental Resources Director	(507) 328-7008	tony.hill@olmstedcounty.gov
Denise Daniels	Public Health Director	(507) 328-7468	denise.daniels@olmstedcounty.gov
David Dunn	Planning Manager	(507) 328-7132	david.dunn@olmstedcounty.gov
Sandi Goslee	Principal Planner	(507) 328-7168	sandi.goslee@olmstedcounty.gov
Kristi Gross	Senior Planner/Floodplain Administrator	(507) 328-7102	kristi.gross@olmstedcounty.gov
Scott Safe	Building Official	(507) 328-7116	scott.safe@olmstedcounty.gov
Jan Chezick	GIS Manager		Janice.chezick@olmstedcounty.gov
Laurel Podulke-Smith	District 1 Commissioner	(507) 328-6123	laurel.podulke-smith@olmstedcounty.gov
David Senjem	District 2 Commissioner	(507) 319-7627	david.senjem@olmstedcounty.gov
Gregg Wright	District 3 Commissioner	(507) 328-6001	gregory.wright@olmstedcounty.gov
Brian Mueller	District 4 Commissioner	(507) 328-6125	brian.mueller@olmstedcounty.gov
Michelle Rossman	District 5 Commissioner	(507) 328-6136	michelle.rossman@olmstedcounty.gov
Sheila Kiscaden	District 6 Commissioner	(507) 287-6845	sheila.kiscaden@olmstedcounty.gov
Mark Thein	District 7 Commissioner	(507) 696-7188	mark.thein@olmstedcounty.gov

CITY CONTACTS

CITY OF BYRON (6,588)

Name	Title	Phone	Email
Al Roder	City Administrator	(507) 775-3418	administrator@byronmn.com
Daryl Glassmaker	Mayor	(507) 775-2255	dglassmaker@byronmn.com
Janna Monosmith	Community Development Planner	(507) 775-3419	jmonosmith@byronmn.com
Tom Ricke	Emergency Manager	(507) 775-3413	tricke@byronmn.com

CITY OF CHATFIELD (1,160)

Name	Title	Phone	Email
John McBroom	Mayor	(507) 867-1500	mpeterson@ci.chatfield.mn.us
Michele Peterson	City Administrator	(507) 867-1518	jyoung@ci.chatfield.mn.us
Beth Carlson	City Clerk	(507) 867-3810	bcarlson@ci.chatfield.mn.us

CITY OF DOVER (777)

Name	Title	Phone	Email
Dave Iseminger	Mayor	(507) 421-8721	doverdave@rocketmail.com
Gary Pedersen	City Clerk and EMD	(507) 932-4314	Dovercityclerk1@gmail.com

CITY OF EYOTA (1,989)

Name	Title	Phone	Email
Tammy Myers	City Clerk	(507) 545-2135	tmyers@cityofeyota.com
Tyrel Clark	Mayor	(507) 545-2135	
Tony Nelson	Emergency Manager	(507) 545-2431	tnelson1@live.com
Bill MacMonegle	Deputy Emergency Mgr		trainingevfd@gmail.com

CITY OF ORONOCO (1,801)

Name	Title	Phone	Email
Jason Baker	City Administrator	(507) 367-4405	jbaker@oronoco.com
Ranae While	City Clerk	(507) 367-4405	rwhile@oronoco.com

CITY OF PINE ISLAND (907)

Name	Title	Phone	Email
Elizabeth Howard	City Administrator	(507) 356-4591	Elizabeth.howard@ci.pineisland.mn.us
David Friese	Mayor	(612) 532-2009	
Sam Lenz	City EMDD	(507) 421-0043	piem@ci.pineisland.mn.us
Brandon Mathison	City EMDD	(507) 991-7221	piem@ci.pineisland.mn.us

CITY OF ROCHESTER (124,179)

Name	Title	Phone	Email
Alison Zelms	City Administrator	(507) 328-2000	azelms@rochestermn.gov
Aaron Parrish	Deputy City Administrator	(507) 328-2006	AParrish@rochestermn.gov
Cindy Steinhauser	Deputy City Administrator	(507) 328-2015	CSteinhauser@rochestermn.gov
Kelly Geistler	City Clerk	(507) 328-2900	kgeistler@rochestermn.gov
Kim Norton	Mayor	(507) 328-2700	knorton@rochestermn.gov
Brett Knapp	Interim Emergency Management Director	(507) 328-2824	bknapp@rochestermn.gov
Irene Woodward	Community Development Director	(507) 328-2600	buildingsafety@rochestermn.gov
Eric Kerska	Fire Chief	(507) 328-2800	ekerska@rochestermn.gov

Holly Mulholland	Deputy Fire Chief	(507) 328-2813	hmulholland@rochestermn.gov
Caleb Feine	Assistant Fire Chief	(507) 328-2815	cfeine@rochestermn.gov
Chris Ferguson	Assistant Fire Chief	(507) 328-2020	cferguson@rochestermn.gov
James Franklin	Police Chief	(507) 328-2890	jfranklin@rochestermn.gov
Jon Turk	Police Captain	(507) 328-2744	jturk@rochestermn.gov
Joel Blahnik	Police Sergeant	(507) 328-6861	jblahnik@rochestermn.gov
Tom Faudskar	Police Lieutenant	(507) 328-2891	tfaudskar@rochestermn.gov
Tyler Niemeyer	Director of Public Works	(507) 328-2422	taniemeyer@rochestermn.gov
Jay Forstner	GIS Supervisor	(507) 328-2814	jforstner@rochestermn.gov
Jenna Bowman	Communications Director	(507) 328-2913	jbowman@rochestermn.gov
Dale Martinson	Finance and IT	(507) 328-2861	dmartinson@rochestermn.gov
Chao Mwatela	Diversity, Equity, & Inclusion Director	(507) 328-2030	cmwatela@rochestermn.gov
Michael Spindler-Krage	City Attorney	(507) 328-2106	mskrage@rochestermn.gov
Jason Blum	Safety Administrator	(507) 328-2555	jblum@rochestermn.gov
Mike Nigbur	Parks and Forestry	(507) 328-2541	mnigbur@rochestermn.gov
Paul Widman	Parks and Recreation	(507) 328-2527	pwidman@rochestermn.gov
Irene Woodward	Community Development	(507) 328-2017	iwoodward@rochestermn.gov
Ryan Yetzer	Community Development	(507) 328-2954	RYetzer@rochestermn.gov
Zach Wood	Maintenance - DSIC	(507) 328-2027	zwood@rochestermn.gov
Brian Anderson	Director of Finance	(507) 328-2861	banderson@rochestermn.gov
Tony Campbell	Information Technology Manager	(507) 328-2848	TCampbell@rochestermn.gov
Brooke Carlson	City Council President	(507) 328-2983	bcarlson@rochestermn.gov
Mark Bransford	City Council	(507) 328-2981	MBransford@rochestermn.gov
Molly Dennis	City Council	(507) 328-2982	mdennis@rochestermn.gov
Patrick Keane	City Council	(507) 328-2987	PKeane@rochestermn.gov
Kelly Rae Kirkpatrick	City Council	(507) 328-2984	kkirkpatrick@rochestermn.gov
Shaun Palmer	City Council	(507) 328-2985	SPalmer@rochestermn.gov
Norman Wahl	City Council	(507) 328-2986	nwahl@rochestermn.gov

CITY OF STEWARTVILLE (6,756)

Name	Title	Phone	Email
Bill Schimmel	City Administrator	(507) 533-4745	bschimmel@stewartvillemn.com
Cheryl Roeder	City Clerk	(507) 533-4745	croeder@stewartvillemn.com

TOWNSHIP CONTACTS

Name of Township	Name & Title	Phone	Email
Township Cooperative Planning Association	TCPA Staff	(507) 529-0774	David@tcpamn.org Jered@tcpamn.org
Cascade Township	Sara Rudquist, Clerk	(507) 282-6678	cascadetownclerk@outlook.com
Dover Township	Denise Loftus, Clerk	(507) 250-0844	Jd_loftus@yahoo.com
Elmira Township	Ann Peters, Clerk	(507) 254-4092	Annalytical5@gmail.com
Eyota Township	(Vacant), Clerk		
Farmington Township	(Vacant), Clerk		
Haverhill Township	Joe Mahoney, Clerk	(507) 282-5745	jamahoney@aol.com
High Forest Township	Nathan Svoboda, Clerk	(507) 219-8929	HFclerk@outlook.com
Kalmar Township	Keith Stanich, Clerk		kalmartownship@gmail.com

Marion Township	Debra Raduenz, Clerk		gramdsr@yahoo.com
New Haven Township	Ann Fahy-Gust, Clerk		afahygust@gmail.com
Orion Township	Don Hodkinson, Clerk	(507) 273-4500	rivernorthstables@msn.com
Oronoco Township	Jody Schroeder, Clerk		oronocomn.township@gmail.com
Pleasant Grove Township	Stacey Kaldenberg, Clerk	(507) 250-3542	pgtownship@gmail.com
Quincy Township	Bryan Todd, Clerk	(507) 990-8252	ruffacres@hotmail.com
Rochester Township	Randy Staver, Clerk		rochestertownshipclerk@gmail.com
Rock Dell Township	Brenda Lindquist, Clerk		clerk@rockdellmn.org
Salem Township	Sharon Petersen, Clerk		salemtwspetersen@kmtel.com
Viola Township	Barb Nicklay, Clerk	(507) 251-7724	nicklayfamily@hotmail.com

OTHER STAKEHOLDER CONTACTS

LOCAL & REGIONAL AGENCIES INVOLVED IN HAZARD MITIGATION

Name of Agency / Organization	Name & Title	Phone	Email
MN Homeland Security & Emergency Management	Mike Peterson, HSEM Region 1 Regional Program Coordinator	(612) 505-1819	Michael.R.Peterson@state.mn.us
Olmsted Soil & Water Conservation District (SWCD)	Skip Langer, Soil Conservation Manager	(507) 328-7070	swcd@olmstedcounty.gov
Natural Resources Conservation Service (NRCS)	Brian DeVetter, District Conservationist	(507) 405-3569	brian.devetter@usda.gov
USDA Rural Development Community Programs	Laurie Balata, Area Specialist	(507) 332-7418 x113	laurie.balata@usda.gov
MnDOT District 6	Chad Hanson, MnDOT District 6 Emergency Management Coordinator	(507) 286-7637	chad.hanson@state.mn.us
MN DNR Ecological and Water Resources Division	Nicole E. Lehman, Area Hydrologist	(507) 206-2854	nicole.lehman@state.mn.us
MN DNR Firewise Program	Mike Palmer, Central Regional Firewise Specialist	(763) 284-7213	michael.a.palmer@state.mn.us

REPRESENTATIVES OF BUSINESSES, ACADEMIA, AND OTHER PRIVATE ORGANIZATIONS

Name of Agency / Organization	Name & Title	Phone	Email
Paws and Claws Humane Society	Tanya Johnson, Shelter Director	(507) 288-7226	tanyaj@pawsandclaws.org
People's Energy Cooperative	Mike Henke, President & CEO	(507) 367-7000	mhenke@peoplesenergy.coop
Rochester Public Utilities	Tim McCollough, General Manager	(507) 280-1500	tmccollough@rpu.org
Mayo Clinic	Meredie Sexton, Manager of Emergency Management	(507) 284-2511	Sexton.Meredie@mayo.edu
Byron Public School District	Dr. Mike Neubeck, Superintendent	(507) 775-2383	mike.neubeck@byron.k12.mn.us

Dover-Eyota Public School District	Jeremy W. Frie, Superintendent	(507) 545-2125	jeremyfrie@deschools.org
Rochester Public School District	Dr. Kent Pekel, Superintendent	(507) 328-3000	kepekel@rochesterschools.org
Stewartville Public School District	Belinda Selfors, Superintendent	(507) 533-1438	belinda.selfors@ssdtigers.org

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
Salvation Army Northern Division (MN/ND)	Major Michele Heaver	(651) 238-7783	Michele.heaver@usc.salvationarmy.org
American Red Cross	Kris Ihrke, Southeast MN Disaster Program Manager	(507) 287-2299	Kris.ihrke@redcross.org
United Way of Olmsted County	Jerome Ferson, President	(507) 287-2001	jeromef@uwolmsted.org
Olmsted County Adult & Family Services	Amy Thompson, Director	(507) 328-6352	Amy.thompson@olmstedcounty.gov
Family Service Rochester	Scott Maloney, Executive Director	(507) 287-2010	smaloney@familyservicerochester.org
Intercultural Mutual Assistance Association (IMAA)	Armin Budimlic, Executive Director	(507) 289-5960	armin.budimlic@imaa.net

NEIGHBORING JURISDICTIONS

Name of Jurisdiction	Name & Title	Phone	Email
Goodhue County	Earl Merchlewitz, EMD	(651) 267-2639	Earl.merchlewitz@co.goodhue.mn.us
Wabasha County	Brenda Tomlinson, EMD	(651) 565-3069	btomlinson@co.wabasha.mn.us
Winona County	Ben Klinger, EMD	(507) 457-6598	BKlinger@co.winona.mn.us
Fillmore County	Don Kullot, EMD	(507) 765-2830	dkullot@co.fillmore.mn.us
Mower County	Amy Bramwell, EMD	(507) 437-9483	amyl@co.mower.mn.us
Dodge County	Matt Maas, EMD	(507) 635-6132	matt.maas@dodgecountymn.gov

LOCAL MEDIA CONTACTS

Name of Local Media	Media Contact	Phone	Email
Rochester Post Bulletin	Jeff Pieters, Editor	(507) 285-7748	jpieters@postbulletin.com
KIMT3	Dan Clouse, News Director	(641)421-2633	news@kimt.com

Olmsted County HMP Planning Team Meeting #1 Presentation and Discussion 2/22/24 Meeting Summary & Documentation

Summary: On February 22, 2024 Olmsted 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 Olmsted County Hazard Mitigation Plan (HMP). The purpose of the meeting was to formally present information about the Olmsted County HMP 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: Olmsted 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 Planning Team Meetings*.

Pre-Meeting Materials: Several days in advance of the meeting an email was sent out to the HMP stakeholder list with materials to review prior to the meeting. Materials included an HMP overview handout, a list of discussion questions that would be covered during the meeting, and a handout on the FEMA Hazard Mitigation Assistance Grant Program. Participants who were registered for the meeting were encouraged to review the questions and be ready to discuss them during the meeting. Stakeholders who were not attending the meeting were also encouraged to fill out and return the discussion question form.

Meeting Participants: A total of **55** people attended the meeting. Representation included elected officials and departmental staff from Olmsted County and the cities of Byron, Chatfield, and Rochester. Representatives from the cities of Dover, Eyota, Oronoco, Pine Island, and Stewartville were not available to attend. Other stakeholders, including neighboring jurisdictions, participated in the meeting. A participant list is provided below:

	Name	Organization	Job Title
1	Jonathan Jacobson	Olmsted County Emergency Management	Emergency Management Director
2	Janice Chezick	Olmsted County	GIS Manager
3	Taylor Schoenfelder	Olmsted County Sheriff's Office - EM	Deputy Director of Emergency Management
4	Kristi Gross	Olmsted County	Senior Planner & Floodplain Administrator
5	Brian Mueller	Olmsted County	Commissioner
6	Skip Langer	Olmsted County	Soil Conservation Manager
7	Mary Blair Hoeft	Olmsted County	Director of Property Records & Licensing
8	Scott Safe	Planning/Building Department	Olmsted County Building Official
9	Denise Daniels	Olmsted County Public Health	Director

10	Sandi Goslee	Olmsted County Planning Department	Principal Planner
11	Mark Thein	Olmsted County	Commissioner
12	Nathan Arnold	Olmsted County Public Works	Assistant County Engineer
13	Chad Schuman	Olmsted County	Highway Maintenance Engineer
14	Laurel Podulke-Smith	Olmsted County	County Commissioner
15	Heidi Welsch	Olmsted County	Administrator
16	Teresa Blader	Olmsted County	GIS Specialist
17	Al Roder	City of Byron	City Administrator
18	Tom Ricke	City of Byron	Public Works Director/Emergency Manager
19	Michele Peterson	City of Chatfield	City Administrator
20	Rocky Burnette	City of Chatfield	Ambulance Director
21	Shane Fox	City of Chatfield Police Dept.	Police Chief
22	Mitch Irish	City of Chatfield Public Works	Assistant Wastewater Operator
23	Jason Blum	City of Rochester	Safety Administrator
24	Brett Knapp	City of Rochester Fire Dept./EM	Fire Captain/Interim EM Director
25	Spencer Sweeney	City of Rochester Fire Dept.	Fire Captain and Interim Deputy EMD
26	Eric Kerska	City of Rochester Fire Dept.	Fire Chief
27	Holly Mulholland	City of Rochester Fire Dept.	Deputy Chief
28	Jon Turk	City of Rochester Police Dept.	Captain
29	Tom Faudskar	City of Rochester Police Dept.	Lieutenant - Patrol
30	Wendy Turri	City of Rochester Public Works	PW Director
31	Aaron Luckstein	City of Rochester Public Works	Deputy Public Works Director
32	Tyler Niemeyer	City of Rochester Public Works	Incoming Public Works Director
33	Jay Forstner	City of Rochester GIS	GIS Supervisor
34	Michael Nigbur	City of Rochester Parks and Forestry	Parks and Forestry Division Head
35	Brian Anderson	City of Rochester	Finance Director
36	Jenna Bowman	City of Rochester	Strategic Communications & Engagement Director
37	Kim Norton	City of Rochester	Mayor
38	Brooke Carlson	City of Rochester	Council President
39	Robert Cooke	City of Rochester Public Utilities	Safety Manager
40	Steven Nyhus	City of Rochester Public Utilities	Director of Compliance and Public Affairs
41	Robert Heathman	Cascade Township	Supervisor
42	Brad Brech	Cascade Township	Supervisor
43	Donna Beyer	New Haven Township	clerk
44	Belinda Selfors	Stewartville Public Schools	Superintendent of Schools
45	Michael Stock	Rochester Public Schools ISD 535	Facilities Health & Safety
46	John Carlson	Rochester Public Schools	Chief Administrative Officer
47	julie claymon	Rochester Public Schools	Coordinator of Safety and Security
48	Eli Szydlo	American Red Cross	Disaster Services Program Manager, Southeast MN

49	Michael Palmer	Minnesota DNR	Central Region Firewise Specialist
50	Chad Hanson	MnDOT	District 6 Emergency Management Coordinator
51	Jay Johnson	Mayo Clinic	Manager, Emergency Management
52	Mike Henke	People's Energy Cooperative	President & CEO
53	Grace Pesch	United Way of Olmsted County	Vice President of Community Impact
54	Zeni Aly	United Way of Olmsted County	Impact Operations Associate
55	Earl Merchlewitz	Goodhue County	Emergency Management Director

Presentation Overview: The Power Point presentation covered the following items. A PDF of the presentation slides is included with this meeting summary.

- Welcome & Introductions
- Review of HMP Overview (*handout)
- Review of Past Hazard Risk Prioritization, Hazard Profiles, and New Priorities
- Overview of Mitigation Strategies, Actions
- Overview of FEMA HMA grant program
- Discuss local mitigation ideas
- Overview of Next Steps

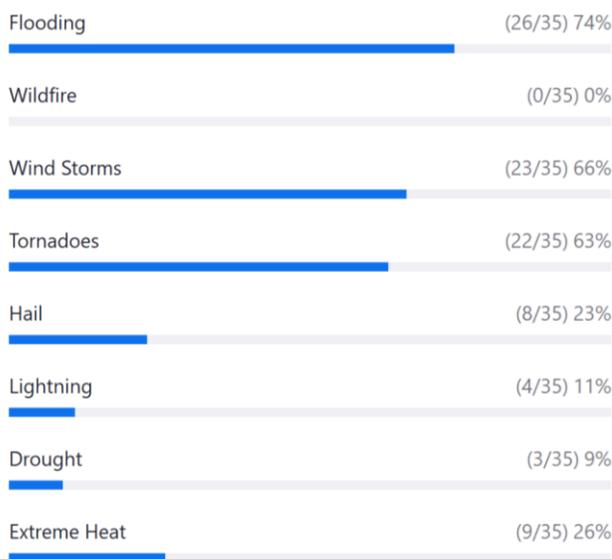
OLMSTED COUNTY HMP PLANNING TEAM MEETING #1 DISCUSSION NOTES

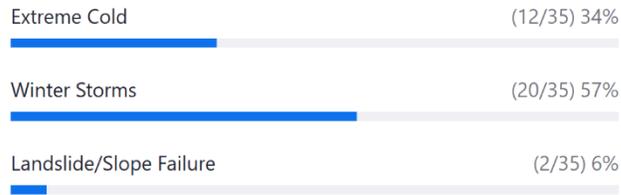
PARTICIPANT POLLS

During the presentation, participants were presented with two poll questions to respond to. Following are the poll questions and responses:

POLL #1: TOP HAZARDS

What are the top three hazards of most concern to you in this county? (Multiple Choice)





The top 3 hazards noted were Flooding, Windstorms, and Tornadoes.

POLL #2: CHANGE IN PERCEIVED RISK

Has the risk of any natural hazards changed in your jurisdiction in the last 5 years? (increased severity, decreased risk, increased extent, etc) (Single Choice)



What hazard risk has changed, and in what jurisdiction?

- Brad Brech - For Cascade Township, our concerns are around the trailer parks, and so storms are the biggest issue as they are not in a floodplain.
- Mark Thein - Our weather seems to vary more widely - heavier rains than normal followed by long dry periods. Is this an anomaly or the new normal?
- Michael Nigbur - Windstorms are occurring more frequently.... these can have wide spread or isolated effects. Severity can be extreme. The City of Rochester has adopted an Urban Forester Master Plan to help guide us.
- Jenna Bowman - Extreme Heat and Air Quality -seeing more often or more notable levels.
- Brett Knapp - Rochester: Extreme Heat seems to be increasing, but likely remains moderate. Severe summer storms also seem to be increasing in magnitude and were considered High in Rochester's previous HMP.
- Laurel Podulke-Smith - Extreme heat (in all jurisdictions) is a consistently worsening hazard, affecting many populations.
- John Carlson - Air quality alerts seemed common in the summer of 2023. I do not remember that being such an issue before 2023.
- Heidi Welsch - Climate change is driving more extremes in storms and rainfall amounts.

- Steven Nyhus - Within RPU's (Rochester Public Utilities) footprint, risks of wind and ice have decreased as more of distribution system has been put underground. Extreme heat and cold can impact energy and water supply.
- Michele Peterson - Drought, given the minimal rain last year and minimum snow fall this winter. We are concerned for the coming seasons.
- Grace Pesch - Severe winter storms and extreme cold seem to potentially be less of a concern (at least this season), and extreme heat may need to raise in level of concern
- Michael Palmer - The drought pattern, coupled with I&D issues that we are experiencing will likely increase wildfire hazards. Data does show the Olmsted County area as low potential for wildfire. (Grain of salt) But it is still an issue worth planning for.
- Chad Hanson - Flood risk.
- Kim Norton – Drought.

FOCUSED DISCUSSION QUESTIONS

During the presentation there were 3 key discussion questions (DQ's) that were presented to the planning team for feedback. Following are the questions and responses:

DQ #1: Are there any vulnerable populations or underserved communities you would identify for Olmsted County or within your own local jurisdiction? If so, are there any best outreach methods to provide an opportunity to participate?

- Denise Daniels - Home bound individuals.
- Kim Norton - Homeless, immigrants.
- Kristi Gross – Unhoused.
- Spencer Sweeney - Certainly the hospitals have a constant flux of folks.
- Grace Pesch - Deaf/hard of hearing have unique accessibility needs.
- Sandi Goslee - We did significant public engagement in the City of Rochester plan - see documentation.
- Brooke Carlson - Non-English-speaking immigrants and refugees.
- Jenna Bowman - I would look to the Census data - I imagine we also have various lists developed to point to and use for this process.
- Tyler Niemeyer – ESL (English as a second language).
- Aaron Luckstein - Memory care facilities and nursing homes.
- Kim Norton – Disabled.

- Sandi Goslee – Visitors.
- Jay Johnson - From the Healthcare perspective the list is extensive...but English as a second language, the unhoused, and those who are power dependent for life sustaining support are at the top of the list.
- Michael Nigbur - Visitors to community.
- Grace Pesch - How do you want us to share information on those agencies or communication channels? Just in a list format in the chat? / Bonnie Hundrieser – written feedback via email would be appreciated.
- Denise Daniels - We have built strong relationships with community connectors from multiple ethnic backgrounds to help with communication and outreach.
- Brett Knapp - We have begun multiple conversations on the need for renewed outreach efforts in Rochester and it is a high priority for Rochester EM this year.

DQ#2: *What do you feel should be recorded as the updated Hazard Prioritizations for the Olmsted County 2023 HMP? Why?* Following are the updated hazard priorities noted by planning team members during the meeting:

Natural Hazards	Current Priority
Flooding	High
Windstorms	High
Tornadoes	High
Winter Storms	Moderate
Hailstorms	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Wildfire	Moderate
Drought	Moderate
Lightning	Low
Landslides	Low
Karst	(under EM review)
Dam Failure	Low

Comments:

Flooding

- Kristi Gross - Floodplain mapping has been updated in 2023 for a portion of the county that wasn't previously mapped. The Olmsted County Planning Department is creating a database of structures in the floodplain to better track substantial damage.

Wildfire

- Michael Palmer - Drought, storms, and Insect and Disease issues can exacerbate Fuel loading which could increase the impacts of wildfire.
- Brett Knapp - Wildfire concerns around Rochester are Low due to excellent hydrant system and good natural firebreaks. All of Mike's comments about wildfires in the county at large are well taken, especially considering our increased regional drought and high winds.
- Eric Kerska - Wildfire is a concern for us during drought years in what is known as the wildland urban interface---big words for dry grasses near structures.

Landslides

- Kristi Gross - Do we know what the difference between erosion/land subsidence and landslides are and why one was addressed in the past plan and the other wasn't. / Stacey Stark explained that landslides are addressing slope failure and risk to infrastructure within the area. / Kristi - Landslide potential areas are now identified by the USGS and I don't think this was available in 2017.

Tornadoes/Windstorms

- Brett Knapp - Tornadoes and windstorms were both rated High in Rochester's previous separate plan.
- Mike Henke - Windstorms/tornados are #1 concern for electric utility infrastructure - People's Energy Cooperative

Erosion/Karst

- Kristi Gross - I think erosion and karst features are still a concern.
- Sandi Goslee - Erosion and karst are a big deal in Olmsted County

Extreme Heat/Extreme Cold

- Brett Knapp – I agree that Cold and Heat should be moderate.

DQ#3: Do you have any ideas for specific mitigation activities for implementation at the county or local level?

Kristi Gross - Mitigation Actions for landslides and erosion:

- Development of future GIS support systems should include updating spatial and non-spatial data (such as Karst features and landslide vulnerabilities), modeling, project cost benefit evaluation and hazard event record storage including substantial damaged structure information.
- Improve the stabilization of steep hillsides or banks to reduce impacts to roads, natural resources, and recreation areas from erosion and slope failure.
- Reduce the risk of erosion and landslides in areas of new development on bluffslands.

Michael Palmer – Mitigation Actions for Wildfire

- Firewise Education for residents, Fuels mitigation needs on Public Agency owned lands(State, County, City, Township). Identifying these areas in the plan could open education, planning, and

mitigation efforts up to grant funding to aid in these wildfire mitigation efforts. Funding opportunities beyond just the FEMA grants.

The meeting concluded with an overview of next steps and estimated timeline for completion.

MEETING DOCUMENTATION

Attached are additional documentation items for the Olmsted County HMP Mtg #1:

- Mtg #1 Email Invitation to RSVP
- Mtg #1 Pre-meeting Materials: Email, HMP Overview Handout, Discussion Questions Response Form, and HMA Grants Program Overview
- Mtg #1 Power Point Presentation Slides

Meeting Summary Prepared By: Bonnie Hundrieser, U-Spatial@UMD Project Team

From: [Jacobson Jonathan](#)
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Cc: [hundrieserconsulting@outlook.com](#); [slstark@d.umn.edu](#)
Subject: Olmsted County Hazard Mitigation Plan Update - Meeting Invitation
Date: Tuesday, January 2, 2024 4:58:20 PM
Attachments: [image001.png](#)

Greetings,

Your presence is requested at a Planning Team Meeting for the update of the **Olmsted County 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: Thursday, February 22, 2024

Time: 1:00 – 2:30 p.m.

Zoom Link: https://umn-private.zoom.us/webinar/register/WN_KgD1_6LIQ7-c0V1tnAFcxQ

You must click on the link above to register.

When you register, you will automatically be placed on an RSVP list and will be sent an email confirmation.

About the Plan

The update of the Olmsted County Hazard Mitigation Plan (HMP) 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 Olmsted

County and will result in the identification of mitigation actions and projects 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 actions 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 Olmsted 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,

Jonathan P. Jacobson
Captain – Olmsted County Sheriff's Office
Director of Emergency Management
Staff Training and Emergency Management Division

1421 3rd Ave SE
Rochester, MN 55904
(507)328-6101



“Success is not achieved being independent of others.”

From: [Bonnie K Hundrieser](#) on behalf of hundrieserconsulting@outlook.com
To: jonathan.jacobson@olmstedcounty.gov; taylor.schoenfelder@olmstedcounty.gov; kevin.torgerson@olmstedcounty.gov; heidi.welsch@olmstedcounty.gov; judy.indrelie@olmstedcounty.gov; benjamin.johnson@olmstedcounty.gov; mary.blairhoeft@olmstedcounty.gov; tony.hill@olmstedcounty.gov; denise.daniels@olmstedcounty.gov; david.dunn@olmstedcounty.gov; sandi.goslee@olmstedcounty.gov; kristi.gross@olmstedcounty.gov; scott.safe@olmstedcounty.gov; Janice.chezick@olmstedcounty.gov; laurel.podulke-smith@olmstedcounty.gov; david.senjem@olmstedcounty.gov; gregory.wright@olmstedcounty.gov; brian.mueller@olmstedcounty.gov; michelle.rossman@olmstedcounty.gov; sheila.kiscaden@olmstedcounty.gov; mark.thein@olmstedcounty.gov; administrator@byronmn.com; dglassmaker@byronmn.com; jmonosmith@byronmn.com; tricke@byronmn.com; mayormcbroom@ci.chatfield.mn.us; mpeterson@ci.chatfield.mn.us; bcarlson@ci.chatfield.mn.us; doverdave@rocketmail.com; Dovercityclerk1@gmail.com; tmymers@cityofeyota.com; tnelson1@live.com; trainingevfd@gmail.com; sunny@oronoco.com; rwhile@oronoco.com; Elizabeth.howard@ci.pineisland.mn.us; piem@ci.pineisland.mn.us; azelms@rochestermn.gov; knorton@rochestermn.gov; kmirehouse@rochestermn.gov; bknapp@rochestermn.gov; buildingsafety@rochestermn.gov; ekerska@rochestermn.gov; jfranklin@rochestermn.gov; vturri@rochestermn.gov; kgeistler@rochestermn.gov; jforstner@rochestermn.gov; jbowman@rochestermn.gov; SNYhus@rpu.org; dmartinson@rochestermn.gov; cmwatela@rochestermn.gov; mskrager@rochestermn.gov; jblum@rochestermn.gov; mnigbur@rochestermn.gov; pwidman@rochestermn.gov; bschimmel@stewartvillemn.com; croeder@stewartvillemn.com; David@tcpamn.org; Jered@tcpamn.org; cascadetownclerk@outlook.com; Jd_loftus@yahoo.com; Annalytical5@gmail.com; jamahoney@aol.com; HFclerk@outlook.com; kalmartownship@gmail.com; gramdsr@yahoo.com; Clerkbeyer@aol.com; rivernorthstables@msn.com; lucyoronoco@gmail.com; pgtownship@gmail.com; ruffacres@hotmail.com; rochestertownshipclerk@gmail.com; clerk@rockdellmn.org; salemtwspetersen@kmtel.com; nicklayfamily@hotmail.com; Michael.R.Peterson@state.mn.us; swcd@olmstedcounty.gov; brian.devetter@usda.gov; laurie.balata@usda.gov; chad.hanson@state.mn.us; nicole.lehman@state.mn.us; michael.a.palmer@state.mn.us; tanyaj@pawsandclaws.org; mhenke@peoplesenergy.coop; tmccollough@rpu.org; Johnson.jay3@mayo.edu; mike.neubeck@byron.k12.mn.us; jeremyfrie@deschools.org; kepekel@rochesterschools.org; belinda.selfors@ssdtigers.org; Michele.heaver@usc.salvationarmy.org; Kris.ihrike@redcross.org; jeromef@uwolmsted.org; Amy.thompson@olmstedcounty.gov; smaloney@familyservicesrochester.org; armin.budimlic@imaa.net; Earl.merchlewitz@co.goodhue.mn.us; btomlinson@co.wabasha.mn.us; BKlinger@co.winona.mn.us; dkullot@co.fillmore.mn.us; amyl@co.mower.mn.us; matt.maas@dodgecountymn.gov
Cc: ["Stacey Stark"](#)
Subject: Olmsted County HMP Planning Team Meeting Materials
Date: Wednesday, February 21, 2024 9:21:00 AM
Attachments: [Olmsted County 2023-2024 HMP Overview handout.pdf](#)
[Olmsted County HMP Mtg. #1 Discussion Questions.docx](#)
[HSEM HMA Grants Program Overview.pdf](#)
Importance: High

Greetings,

The Olmsted County Hazard Mitigation Plan (HMP) Update – Planning Team Meeting #1 will be held via Zoom on **Thursday, February 22 from 1:00 to 2:30 p.m.** This meeting is a critical step in the plan update process where we meet with county and local government officials, departmental staff, and other agency stakeholders to provide an overview of the plan update and gather important feedback.

Attached are several items that we will reference during the meeting.

- 1. Olmsted County 2023-2024 Hazard Mitigation Plan Update Overview**
- 2. Olmsted County HMP Planning Team Meeting #1 - Discussion Questions.** If you are registered for the meeting, you are encouraged to fill out and return the form to share your written feedback. If you are not able to join us, you are also welcome to provide your feedback by returning the form.
- 3. HSEM Hazard Mitigation Assistance (HMA) Grants Program Overview**

If you have not registered yet but wish to do so, please control+click on the following link to register:

https://umn-private.zoom.us/webinar/register/WN_KgD1_6LIQ7-c0V1tnAFcxQ

We look forward to meeting with you! If you have any questions, please let me know.

Thank you,
Bonnie Hundrieser

Bonnie K. Hundrieser, CEM

Hazard Mitigation Planning Specialist

Part of the **U-Spatial@UMD** HMP Planning Team

Hundrieser Consulting LLC

Phone: 218-343-3468



Olmsted County / City of Rochester 2023-2024 Hazard Mitigation Plan Update Overview

During 2023-2024, U-Spatial at the University of Minnesota Duluth (U-Spatial@UMD) will be working to update the **Olmsted County Hazard Mitigation Plan (HMP)**. 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.



Overview

Following are key points regarding the Olmsted County HMP Update:

Plan Requirement: It is a state and federal requirement that local governments develop and adopt an updated HMP every 5 years to be eligible for FEMA hazard mitigation assistance grant program funding. Plans must include a comprehensive risk assessment, engage a range of stakeholders and the public, and result in a plan of action to reduce risk from future natural hazard events.

Who the Plan Covers: The HMP is a multi-jurisdictional plan, covering all of Olmsted County, including all cities and townships within the county. Olmsted County and the city of Rochester are now working closely together to address hazard mitigation planning under one joint plan. 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.

Who Participates: The HMP is developed in coordination with a local “planning team,” which includes county, city, and township government officials and departmental staff and other related key stakeholders. The team participates in two meetings, assists with public outreach, and provides information to help inform the plan update. Input is also sought from the larger public via news releases, social media, and public events. Planning team members and the public help to review and comment on the draft plan.

Plan Content: The HMP addresses the natural hazards that pose risk to Olmsted County, such as flooding, severe winter storms, windstorms, tornadoes, extreme temperatures, and drought. A hazard profile is developed for each hazard prioritized as moderate to high. Each profile includes a description, incident history, geographic variability, future probability, relationship to changing climate trends and local vulnerabilities, as well as a review of planning and program capabilities. The HMP results in a plan of action for implementation.

Timeframe: The planning process generally occurs over the course of 14-18 months from start to finish.

Final Product: The Olmsted County HMP will include a PDF plan and an accompanying interactive website.

Contact:

Stacey Stark, U-Spatial Associate Director (HMP Project Manager)
Phone: (218) 726-7438 / Email: slstark@d.umn.edu

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Olmsted County Hazard Mitigation Plan Update Planning Team Meeting #1 Discussion Questions

As part of the Olmsted County 1st HMP Planning Team meeting, we will be covering several key discussion items. Your input is important to ensure the plan update reflects current concerns, priorities, and ideas for mitigation activities to reduce risk. Following are **3 discussion questions** where we will be seeking your feedback.

Meeting participants are encouraged to take down notes prior to the meeting using this form. You may also submit your form electronically if you wish to provide your written notes. Forms should be returned to: hundrieserconsulting@outlook.com

Please provide your contact information:

Name:

Jurisdiction/Agency:

Job Title:

Phone:

Email:

1. Outreach to Vulnerable Populations / Underserved Communities

As part of the planning process, FEMA specifically seeks to ensure that communities have addressed how vulnerable populations and underserved communities within the planning area were provided an opportunity to be involved. We are interested in what this means for your county and local community.

DISCUSSION QUESTION: Are there any vulnerable populations or underserved communities you would identify for Olmsted County or within your own local jurisdiction? If so, are there any best outreach methods to use to provide an opportunity to participate?

Type any comments

2. Review of Hazard Risk Prioritization

As part of the planning process, FEMA specifically seeks to ensure that participants have reviewed the natural hazards that pose risk to the county and its jurisdictions and consider how the priority of those hazards may have changed. Below are the natural hazards were addressed in the county's past hazard mitigation plan and the risk priorities that were noted for each.

OLMSTED COUNTY 2017 HAZARD MITIGATION PLAN

Hazards	Risk Priority
Flash Flooding & Riverine Flooding	High
Severe Winter Storms	High
Severe Summer Storms (Thunderstorms, Lightning, Hailstorms, Windstorms, Tornadoes)	Moderate
Extreme Heat/Extreme Cold	Moderate

Erosion/Land Subsidence	Moderate
Drought	Low
Dam Failure	Low
Wildfire	Low
Landslides	Not Addressed

DISCUSSION QUESTION: What do you feel should be recorded as the updated hazard prioritizations for the Olmsted County 2023 HMP? Consider the probability of future events occurring (likelihood) and damaging impacts to local vulnerabilities (people, systems, and critical infrastructure). Please use the chart below to note your answers.

OLMSTED COUNTY 2023 HMP UPDATE - HAZARD RISK PRIORITIZATIONS

Hazards	Risk Priority (Low, Moderate, or High)	Comments
Flooding		
Windstorms		
Tornadoes		
Hail		
Lightning		
Winter Storms (heavy snow, blizzards, ice storms)		
Extreme Heat		
Extreme Cold		
Drought		
Wildfire		
Landslides		
Dam/Levee Failure		

Type any additional comments

3. Identification of Mitigation Actions

The end-result of the Olmsted County HMP will be a set of jurisdictional mitigation action charts which will provide a course of action for the county and each city jurisdiction to reduce risk against future hazard events. The development of mitigation actions will be drawn from local-level hazard priorities, known vulnerabilities, and local capabilities to implement actions. The development of mitigation actions is guided by different types of strategies, including: Local Planning & Regulations, Structure & Infrastructure Projects, Natural Systems Protection, Education & Awareness Programs, and Mitigation Preparedness & Response Support. We are interested to know what ideas you may have for mitigation activities that can be incorporated into our planning as we move forward. Please be as specific as possible. For example, “Construct a tornado safe room for the City of X mobile home park.” “Increase the size of culverts on township roads to reduce over the road flooding and erosion from high rain events.”

DISCUSSION QUESTION: Do you have any ideas for specific mitigation activities for implementation at the county or local level?

Type any comments



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>

OLMSTED COUNTY Hazard Mitigation Plan Update 2024

Planning Team Meeting #1 Presentation & Discussion, 2/22/24



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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

Olmsted County Project Lead

- Jonathan Jacobson, Olmsted County Emergency Management Director

In coordination with City of Rochester Emergency Management

- Kyle Mirehouse, Emergency Management Director



Please type your name and jurisdiction in CHAT - so others know who is here

PRESENTER: STACEY STARK

Zoom Logistics

If you haven't yet, please type your Olmsted 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 **Olmsted County HMP Planning Team** for a presentation on the plan update and to discuss key items required for the plan update.

AGENDA

- > Welcome & Introductions
- > Review of HMP Overview (*handout)
- > Review of Past Hazard Risk Prioritization, Hazard Profiles, and New Priorities
- > Overview of Mitigation Strategies, Actions
- > Overview of FEMA HMA grant program
- > Discuss local mitigation ideas
- > Overview of Next Steps

Throughout the presentation we will cover key discussion questions to gather your input!

PRESENTER: STACEY STARK

HMP OVERVIEW – KEY POINTS

OLMSTED COUNTY 2024 HMP UPDATE

Plan Requirement



The Hazard Mitigation Plan (HMP) is a requirement of the Federal Disaster Mitigation Act of 2000 (DMA 2000).

- > The development of a local government plan is required to maintain eligibility for FEMA HMA grant programs.
- > Plans must be updated every 5 years.
- > Must address all jurisdictions and engage key stakeholders + the public
- > Must be approved by FEMA for meeting all federal requirements.

Olmsted County HMP Update 2024

- Last plan was adopted in 2017.
- The updated plan will cover a 5-year window for implementation and grant program eligibility
- Participating jurisdictions must have documented engagement in the planning process and adopt the final plan.

PRESENTER: BONNIE HUNDRIESER

Who the Plan Covers

This is a **multi-jurisdictional plan** that covers Olmsted 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 Participates



Planning Team

The HMP is developed in coordination with county, city, and township government officials and departmental staff and other related key stakeholders.

- Two planning team meetings
- Assistance with public outreach
- Participation in Local Mitigation Survey, Mitigation Action Chart development, and final plan review

The Public

It is required to provide an opportunity to the public to be aware of and provide input to the HMP plan update process.

- Information is shared via news releases, social media, local bulletin boards, and public events.
- Public outreach must include vulnerable populations or underserved communities within the planning area.

PRESENTER: BONNIE HUNDRIESER

Discussion Question #1:

Who are the vulnerable populations or underserved communities in Olmsted County or within your own local jurisdiction?

What are outreach methods to provide these groups an opportunity to participate?

Plan Content

What Hazards are Addressed

- The HMP addresses the **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 as per the State Hazard Mitigation Plan

Poll #1

PRESENTER: BONNIE HUNDRIESER

Plan Content

Risk Assessment & Vulnerability Analysis

The U-Spatial@UMD Team will work closely with the county and each city to provide information as needed.

- History of Hazards
- Inventory of critical infrastructure.
- 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)



PRESENTER: STACEY STARK

Timeframe for development & Plan Format

Timeframe:

The planning process generally occurs over the course of 14-18 months from start to finish.

- The Olmsted County Plan will be completed in 2024.

Format:

- PDF document (paper version)
- Interactive website companion
- Developed and hosted by U-Spatial at UMD



Comments and Questions?

Hazard Prioritization

REVIEW OF THE HAZARD RISK PRIORITIES FOR OLMSTED COUNTY

Olmsted County 2017 HMP Risk Rankings

Flash Flooding & Riverine Flooding	High
Severe Winter Storms	High
Severe Summer Storms (Thunderstorms, Lightning, Hailstorms, Windstorms, Tornadoes)	Moderate
Extreme Heat/Extreme Cold	Moderate
Erosion/Land Subsidence	Moderate
Drought	Low
Dam Failure	Low
Wildfire	Low
Landslides	Not Addressed

Has the level of priority for the following natural hazards changed for Olmsted County?

Please consider:

- Increase or decrease of events (probability)
- Local vulnerabilities (impacts to people, systems, and infrastructure)
- New development and population growth

Poll #2

PRESENTER: STACEY STARK

Discussion Question #2

What should be recorded as the updated Hazard Prioritizations for the Olmsted County 2024 HMP?

<https://z.umn.edu/OlmstedHMP>

PRESENTER: STACEY STARK

Natural Hazards Assessment on Website- Demo

OLMSTED COUNTY HMP UPDATE Review of hazard prioritizations

Hazards	2024 Risk Priority (Low, Moderate, or High)
Flash Flooding & Riverine Flooding	High
Severe Winter Storms	High
Severe Summer Storms (Thunderstorms, Lightning, Hailstorms, Windstorms, Tornadoes)	Moderate
Extreme Heat/Extreme Cold	Moderate
Erosion/Land Subsidence	Moderate
Drought	Low
Dam Failure	Low
Wildfire	Low
Landslides	Not Addressed
Flooding	
Windstorms	
Tornadoes	
Hail	
Lightning	
Winter Storms (heavy snow, blizzards, ice storms)	
Extreme Heat	
Extreme Cold	
Drought	
Wildfire	
Landslides	
Dam/Levee Failure	

Comments and Questions?

Mitigation Strategies, Actions & FEMA HMA grants

DEVELOPMENT OF MITIGATION ACTIONS AND ELIGIBLE ACTIVITIES FOR FEMA HAZARD MITIGATION ASSISTANCE GRANT FUNDING

PRESENTER: BONNIE HUNDRIESER

Overview of Mitigation Actions



Mitigation Action Charts are the end product of the HMP.

- Mitigation actions address hazards of moderate to high priority.
- Mitigation actions are specific.
- Mitigation actions address known vulnerabilities.
- Mitigation actions utilize capabilities to reduce risk.
- Jurisdiction mitigation action charts will be developed for the county and each city. Townships and other related agency mitigation efforts will be integrated where appropriate.

PRESENTER: BONNIE HUNDRIESER

FEMA HMA Grant Funding



Eligible Activities:

- 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.
- 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



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

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 and Fire Halls



PRESENTER: BONNIE HUNDRIESER

Natural Systems Protection



Examples:

- Conduct vegetation management along roads to reduce the risk of downed trees and branches resulting from severe storms. (County, Local, Electric Coop)
- Planting Living Snow Fences to reduce snow drifting
- Installing Rain Gardens to reduce impacts of high rain events



PRESENTER: BONNIE HUNDRIESER

Education & Awareness Programs

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

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

Discussion Question #3

Do you have any ideas for specific mitigation activities for implementation at the county or local level?

PRESENTER: BONNIE HUNDRIESER



Following Planning Team Meeting #1

Development of Local Mitigation Surveys

Representatives from Olmsted County and each city jurisdiction will participate in filling out Local Mitigation Survey forms. These forms include:

- Local hazard identification & risk prioritization.
- Local vulnerabilities (critical infrastructure, populations or assets)
- Local-level capabilities (programs, polices, staff, funding)
- Identify local mitigation projects.

PRESENTER: BONNIE HUNDRIESER

Questions?

What questions do you have for U-Spatial@UMD about development of the HMP or next steps?

PRESENTER: STACEY STARK

Contact Information

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slstark@d.umn.edu

218-726-7438

Bonnie Hundrieser, HM Planner

Hundrieser Consulting LLC

hundrieserconsulting@outlook.com

218-343-3468



PRESENTER: STACEY STARK

Olmsted County HMP Planning Team Meeting #2 7/19/23 Meeting Summary & Documentation

Summary: On Friday, July 19, 2024, Olmsted 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 Olmsted County Hazard Mitigation Plan (HMP). The purpose of the meeting was to formally convene the Olmsted 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: Olmsted 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 46 people attended the meeting. Representation included elected officials and departmental staff from Olmsted County and the cities of Byron, Chatfield, and Rochester. The cities of Dover, Eyota, Oronoco, Pine Island, and Stewartville were not available to participate and were not in attendance. Other stakeholders, including neighboring jurisdictions, participated in the meeting. A participant list is provided below:

	Name	Organization	Job Title
1	Jonathan Jacobson	Olmsted County Emergency Management	Emergency Management Director
2	Sandi Goslee	Olmsted County Planning	Principal Planner
3	Kristi Gross	Olmsted County	Senior Planner & Floodplain Administrator
4	Tony Hill	Olmsted County	Director of Environmental Resources
5	Scott Safe	Olmsted County Building	Building Official
6	Denise Daniels	Olmsted County Public Health	Director
7	Janice Chezick	Olmsted County	GIS Manager
8	Benjamin Johnson	Olmsted County	County Engineer/Director of Public Works
9	Gregg Wright	Olmsted County	Commissioner
10	Michelle Rossman	Olmsted County	County commissioner
11	Judy Indrelie	Olmsted County	Project Manager
12	Kevin Torgerson	Olmsted County Sheriff's Office	Sheriff
13	Julie Hackman	Olmsted County	Associate Director / County Assessor
14	Al Roder	City of Byron	City Administrator
15	Michele Peterson	City of Chatfield	City Administrator

16	Irene Woodward	City of Rochester	Community Development Director
17	Chris Ferguson	City of Rochester Fire Dept.	Assistant Fire Chief
18	Brett Knapp	City of Rochester Emergency Mgmt.	Deputy Emergency Management Director
19	Jason Blum	City of Rochester	Safety & Risk Manager
20	Michael Spindler-Krage	City of Rochester	City Attorney
21	Jon Turk	City of Rochester Police Dept.	Captain
22	Jay Forstner	City of Rochester	GIS Supervisor
23	Patrick Keane	City of Rochester	Council Member
24	Tim	Rochester Public Utilities	General Manager
25	Michael Nigbur	City of Rochester	Parks and Forestry Division Head
26	Tyler Niemeyer	City of Rochester	Public Works Director
27	Holly Mulholland	City of Rochester Fire Dept.	Deputy Chief
28	Matt Crawford	City of Rochester Public Works	Project Development Manager
29	Eric Kerska	City of Rochester Fire Dept.	Chief
30	Kim Norton	City of Rochester	Mayor
31	Ann Fahy-Gust	New Haven Township	Supervisor
32	Patrick McGowan	Rochester and Cascade Townships	Maintenance Supervisor
33	Grace Pesch	United Way of Olmsted County	Vice President of Community Impact
34	Zeni Aly	United Way of Olmsted County	Impact Operations Associate
35	Kristoffer Langlie	MnDOT District 6	District Water Resources Engineer
36	Kyle Lake	MnDOT	Operations Engineer
37	Jered Staton	Township Cooperative Planning Association	Administrator
38	Michael Stock	Rochester Public Schools	Facility Manager
39	Belinda Selfors	Stewartville Public Schools	Superintendent
40	Skip Langer	Olmsted SWCD	Soil Conservation Manager
41	Nicole Lehman	MNDRN	Area Hydrologist
42	Michael Palmer	MN DNR	Regional Firewise Specialist
43	Meredie Sexton	Mayo Clinic	Sr. Coordinator/Emergency Management
44	Brenda Tomlinson	Wabasha County	Emergency Management Director
45	Don Kullot	Fillmore County	Emergency Management Director
46	Amy Bramwell	Mower County Sheriff's Office	Emergency Management Director

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.

OLMSTED COUNTY HMP PLANNING TEAM MEETING #2 DISCUSSION NOTES

- **Question** regarding flood model information: (Kristoffer Langlie, MnDOT) Does this model account for damage in areas not in a floodplain? For instance, inslope damage from roadway overtopping from storm sewer or culverts sized for smaller events.
- **Response** from Stacey Stark - The flood analysis only includes riverine flooding - and only the FEMA regulatory 1% annual chance flood boundary. Urban and overland flooding is only mentioned in the narrative of the plan at this time.
- **Question** regarding mitigation action to add: (Nicole Lehman, MN DNR) There is a very early project on Hadley Valley Creek to restore a straightened stream that we discussed recently about applying to the BRIC program. Is this something that we could add to the plan?
- **Response** from Bonnie Hundrieser – Yes, we can follow up after this meeting and I can get details from you to develop a mitigation action to include in the Olmsted County Mitigation Action Chart.

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 Olmsted County HMP Meeting #2:

- Meeting Invitation to Stakeholders
- PowerPoint Presentation Slides
- Information Handouts

Meeting Summary Prepared By: Bonnie Hundrieser, U-Spatial@UMD Project Team

From: [Jacobson Jonathan](#)
To: [Jacobson Jonathan](#); [Schoenfelder Taylor](#); [Torgerson Kevin](#); [Welsch Heidi](#); [Indrelie Judy](#); [Johnson Benjamin](#); [Blair-Hoefl Mary](#); [Hill Tony](#); [Daniels Denise](#); [Dunn David](#); [Goslee Sandi](#); [Gross Kristi](#); [Safe Scott](#); [Chezick Janice](#); [Podulke-Smith Laurel](#); [Senjem David](#); [Wright Gregory](#); [Mueller Brian](#); [Rossman Michelle](#); [Kiscaden Sheila](#); [Thein Mark](#); [administrator@byronmn.com](#); [dglassmaker@byronmn.com](#); [jmonosmith@byronmn.com](#); [tricke@byronmn.com](#); [mayormcbroom@ci.chatfield.mn.us](#); [mpeterson@ci.chatfield.mn.us](#); [bcarlson@ci.chatfield.mn.us](#); [doverdave@rocketmail.com](#); [Dovercityclerk1@gmail.com](#); [tmyers@cityofeyota.com](#); [nelson1@live.com](#); [trainingevfd@gmail.com](#); [sunny@oronoco.com](#); [rwhile@oronoco.com](#); [Elizabeth.howard@ci.pineisland.mn.us](#); [piem@ci.pineisland.mn.us](#); [Zelms Alison](#); [Norton Kim](#); [kmirehouse@rochestermn.gov](#); [bknapp@rochestermn.gov](#); [buildingsafety@rochestermn.gov](#); [ekerska@rochestermn.gov](#); [Franklin Jim](#); [wturri@rochestermn.gov](#); [Geistler Kelly](#); [jforstner@rochestermn.gov](#); [Bowman Jenna](#); [SNyhus@rpu.org](#); [Martinson Dale](#); [Mwatela Chao](#); [Spindler Krage Michael](#); [Blum Jason](#); [Michael Nigbur](#); [pwidman@rochestermn.gov](#); [AParrish@rochestermn.gov](#); [CSteinhauser@rochestermn.gov](#); [Ferguson Christopher](#); [Mulholland Holly](#); [cfeine@rochestermn.gov](#); [iwoodward@rochestermn.gov](#); [Yetzer Ryan](#); [Wood Zack](#); [banderson@rochestermn.gov](#); [TCampbell](#); [MBransford@rochestermn.gov](#); [mdennis@rochestermn.gov](#); [PKeane@rochestermn.gov](#); [kkirkpatrick@rochestermn.gov](#); [SPalmer@rochestermn.gov](#); [nwahl@rochestermn.gov](#); [Turk Jon](#); [Blahnik Joel](#); [bschimmel@stewartvillemn.com](#); [croeder@stewartvillemn.com](#); [David@tcpamn.org](#); [Jered@tcpamn.org](#); [cascadetownclerk@outlook.com](#); [Jd_loftus@yahoo.com](#); [Analytical5@gmail.com](#); [jamahoney@aol.com](#); [HFclerk@outlook.com](#); [kalmartownship@gmail.com](#); [gramdsr@yahoo.com](#); [afahygust@gmail.com](#); [rivernorthstables@msn.com](#); [oronocomn.township@gmail.com](#); [pgtownship@gmail.com](#); [ruffacres@hotmail.com](#); [rochestertownshipclerk@gmail.com](#); [clerk@rockdellmn.org](#); [Sharon Petersen](#); [nicklaylorfamily@hotmail.com](#); [Michael.R.Peterson@state.mn.us](#); [PW SWCD](#); [brian.devetter@usda.gov](#); [laurie.balata@usda.gov](#); [chad.hanson@state.mn.us](#); [nicole.lehman@state.mn.us](#); [michael.a.palmer@state.mn.us](#); [tanyaj@pawsandclaws.org](#); [mhenke@peoplesenergy.coop](#); [tmccollough@rpu.org](#); [Sexton.Meredie@mayo.edu](#); [mike.neubeck@byron.k12.mn.us](#); [jeremyfrie@deschools.org](#); [kepekel@rochesterschools.org](#); [belinda.selfors@ssdtigers.org](#); [Michele.heaver@usc.salvationarmy.org](#); [Kris.ihrke@redcross.org](#); [jeromef@uwolmsted.org](#); [Thompson Amy](#); [smaloney@familyservicerochester.org](#); [Armin Budimlic](#); [Earl.merchlewitz@co.goodhue.mn.us](#); [btomlinson@co.wabasha.mn.us](#); [BKlinger@co.winona.mn.us](#); [dkullot@co.fillmore.mn.us](#); [amyl@co.mower.mn.us](#); [matt.maas@dodgecountymn.gov](#)
Cc: [Bonnie K Hundrieser](#); [Stacey Stark](#)
Subject: Hazard Mitigation Planning Team Meeting #2 Invitation
Date: Monday, June 10, 2024 3:03:59 PM
Attachments: [image001.png](#)
Importance: High

OLMSTED COUNTY

HAZARD MITIGATION PLAN UPDATE – MEETING INVITATION

*****YOU WILL NEED TO REGISTER FOR THE MEETING USING THE LINK BELOW*****

Greetings,

Your presence is requested at the **2nd Planning Team Meeting** for the update of the **Olmsted 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: Friday, July 19, 2024
Time: 10:00 a.m. – 11:30 a.m.
Zoom Link: [Click here to register for the meeting](#)

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 Olmsted County and each city, as well as funding opportunities available under the FEMA Hazard

Mitigation Assistance grant programs.

Your participation in this meeting and feedback on the draft plan is important to us. The draft Olmsted County HMP is nearing completion and will be ready for review by planning team members and the public in the coming weeks.

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,



Jonathan P. Jacobson • Captain
Olmsted County Director of Emergency Management
Staff Training and Emergency Management Division
1421 3rd Ave SE
Rochester, MN 55904
(507)328-6101

"Success is not achieved being independent of others." – John Maxwell

Olmsted County Hazard Mitigation Plan Update 2024 Planning Team Meeting #2

July 19, 2024



Welcome & Introductions



U-Spatial@UMD Project Leads



Stacey Stark
Project Manager
U-Spatial@UMD



Bonnie Hundrieser
HMP Planning Specialist
Hundrieser Consulting LLC

Olmsted County Project Lead

- Jonathan Jacobson, Olmsted County Emergency Management Director

In coordination with City of Rochester Emergency Management

Brett Knapp, Interim 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 Olmsted 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



This meeting formally convenes the **Olmsted 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
- > Preview of Deliverables
- > 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

Olmsted 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 2017.

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.

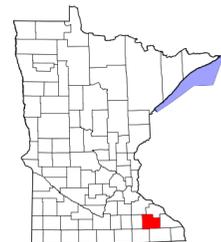
PRESENTER: BONNIE HUNDRIESER

Who the Plan Covers



This is a **multi-jurisdictional plan** that covers Olmsted 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

HMP Deliverables

PDF document:

- Contains FEMA required elements
- Limited figures & Images
- Links to Website integrated
- 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:

- Links to PDF components and document
- Interactive maps and context
- Simple, concise explanations
- Multiple ways to navigate the content
- Public input form on site

PRESENTER: STACEY STARK

Prioritization of Hazards for Olmsted County



Prioritization of hazards by the Olmsted 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)

Natural Hazards	Current Priority
Flooding	High
Windstorms	High
Tornadoes	High
Winter Storms	Moderate
Hailstorms	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Wildfire	Moderate
Drought	Moderate
Landslides	Moderate
Land Subsidence / Karst	Moderate
Lightning	Low
Dam Failure	Low

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

Website Demo

z.umn.edu/OlmstedHMP

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!

PRESENTER: BONNIE HUNDRIESER

FEMA HMA Grant Funding



Example Eligible Activities:

- > 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.

- 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

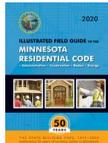
PRESENTER: BONNIE HUNDRIESER

Local Planning & Regulations



Olmsted 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
- Climate change & resiliency planning (integration with mitigation planning)
- 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

Olmsted 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
- ROCHESTER KINGS RUN POND 40 PROJECT (FEMA BRIC grant application in process for submission)



PRESENTER: BONNIE HUNDRIESER

Natural Systems Protection

Olmsted County Examples:

- Conduct vegetation management along roads to reduce the risk of downed trees and branches resulting from severe storms. (County, Local, Electric Coop)
- Bluff/Bank stabilization of steep hillsides
- 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

Olmsted 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 (i.e., Extreme Heat / Cold periods)



PRESENTER: BONNIE HUNDRIESER

Mitigation Preparedness & Response Support

Olmsted 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?



Summer 2024

Following Planning Team Mtg. #2

EM + Local Gov't Review of Draft Plan and Public Review & Comment Period



- EM + Local government review of draft plan
- Public review & comment period (News Release #2)
- Document public outreach
- Incorporate public feedback as appropriate.

PRESENTER: BONNIE HUNDRIESER



Fall 2024

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.
- Final approval letter from FEMA.

PRESENTER: BONNIE HUNDRIESER

Questions?

What questions do you have for us 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

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
<p>Natural Systems Protection</p>	<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>
<p>Education and Awareness Programs</p>	<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>
<p>Mitigation Preparedness and Response Support</p>	<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

Olmsted County MHMP News Release #1 Record of Public Input & Incorporation

Overview: On **June 6, 2023**, Olmsted 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 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. Olmsted 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 Olmsted 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 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, city, and township contacts; other related agency and organizational 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 Olmsted 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: Olmsted County Emergency Management and local jurisdictions did not receive any public input following News Release #1.

From: [Jacobson Jonathan](#)
To: [Jacobson Jonathan](#); [Schoenfelder Taylor](#); [Torgerson Kevin](#); [Welsch Heidi](#); [Indrelie Judy](#); [Johnson Benjamin](#); [Blair-Hoefl Mary](#); [Hill Tony](#); [Daniels Denise](#); [Ellerbusch Jeff](#); [Gross Kristi](#); [Safe Scott](#); [Chezick Janice](#); [Podulke-Smith Laurel](#); [Senjem David](#); [Wright Gregory](#); [Mueller Brian](#); [Rossman Michelle](#); [Kiscaden Sheila](#); [Thein Mark](#); [administrator@byronmn.com](#); [dglassmaker@byronmn.com](#); [jmonosmith@byronmn.com](#); [tricke@byronmn.com](#); [mayormcbroom@ci.chatfield.mn.us](#); [jyoung@ci.chatfield.mn.us](#); [bcarlson@ci.chatfield.mn.us](#); [doverdave@rocketmail.com](#); [Dovercityclerk1@gmail.com](#); [tmyers@cityofeyota.com](#); [tnelson1@live.com](#); [trainingevfd@gmail.com](#); [sunny@oronoco.com](#); [rohe@oronoco.com](#); [Elizabeth.howard@ci.pineisland.mn.us](#); [piem@ci.pineisland.mn.us](#); [Zelms Alison](#); [Norton Kim](#); [kmirehouse@rochestermn.gov](#); [bknapp@rochestermn.gov](#); [triggott@rochestermn.gov](#); [buildingsafety@rochestermn.gov](#); [ekerska@rochestermn.gov](#); [Franklin Jim](#); [wturri@rochestermn.gov](#); [Geistler Kelly](#); [jforstner@rochestermn.gov](#); [Bowman Jenna](#); [SNYhus@rpu.org](#); [Martinson Dale](#); [Mwatela Chao](#); [Spindler Krage Michael](#); [Blum Jason](#); [Michael Nigbur](#); [pwidman@rochestermn.gov](#); [bschimmel@stewartvillemn.com](#); [croeder@stewartvillemn.com](#); [Roger@tcpamn.org](#); [David@tcpamn.org](#); [Jered@tcpamn.org](#); [cascadetownclerk@outlook.com](#); [Jd_loftus@yahoo.com](#); [Annalytical5@gmail.com](#); [maureen.lewis@eyotatownship.com](#); [dschwank@yahoo.com](#); [jamahoney@aol.com](#); [HFclerk@outlook.com](#); [kalmartownship@gmail.com](#); [gramdsr@yahoo.com](#); [Clerkbeyer@aol.com](#); [rivernorthstables@msn.com](#); [lucyoronoco@gmail.com](#); [pgtownship@gmail.com](#); [ruffacres@hotmail.com](#); [rochestertownshipclerk@gmail.com](#); [clerk@rockdellmn.org](#); [Sharon Petersen](#); [nicklayfamily@hotmail.com](#); [Michael.R.Peterson@state.mn.us](#); [PW_SWCD](#); [brian.devetter@usda.gov](#); [laurie.balata@usda.gov](#); [Mark Schoenfelder](#); [chad.hanson@state.mn.us](#); [nicole.lehman@state.mn.us](#); [michael.a.palmer@state.mn.us](#); [tanyaj@pawsandclaws.org](#); [mhenke@peoplesenergy.coop](#); [mkotschevar@rpu.org](#); [Johnson, Jay M., C.E.M. \[RO HR ERG\]](#); [mike.neubeck@byron.k12.mn.us](#); [jeremyfrie@deschools.org](#); [kepekel@rochesterschools.org](#); [belinda.selfors@ssdtigers.org](#); [Michele.heaver@usc.salvationarmy.org](#); [Kris.ihrke@redcross.org](#); [jeromef@uwmolmsted.org](#); [Thompson Amy](#); [smaloney@familyservicerochester.org](#); [armin.budimlic@imaa.net](#); [Earl.merchlewitz@co.goodhue.mn.us](#); [btomlinson@co.wabasha.mn.us](#); [BKlinger@co.winona.mn.us](#); [dkullot@co.fillmore.mn.us](#); [amyl@co.mower.mn.us](#); [matt.maas@dodgecountymn.gov](#)
Cc: [Bonnie K Hundrieser](#)
Subject: Olmsted County Hazard Mitigation Plan update News Release
Date: Tuesday, June 6, 2023 10:31:14 AM
Attachments: [image001.png](#)
[HMP Press Release 06-06-2023.pdf](#)

Greetings,

Olmsted County Emergency Management is commencing work on the update of the Olmsted County Hazard Mitigation Plan (HMP). Attached is a news release for your information. This will be released to the media at 11:00am this morning. I wanted to give you some advance notice and hopefully a little time to get this release on your website (see more information in the highlighted section below).

Your assistance is requested to post this news release to help notify the public about the plan update and to have an opportunity to provide feedback. If you have a website and/or Facebook page, we encourage you to post the news release electronically to those places. You may also post a hardcopy of the news release in locations such as City Hall, the Post Office, or other common area. We welcome as many of ways of posting that you can cover. As part of the plan update, we must document the public outreach that was conducted. Please send me an email with information on your posting as follows:

- **Websites/Facebook Postings:** Please send me an email detailing the date, location, and link of the posting. We will need to get a screenshot of the posting online.
- **Hardcopy Postings:** Please send me an email detailing the date and location of where the news release was posted (i.e., City Hall bulletin board).

-
All city governments within the county are requested to participate in order to meet FEMA

requirements. If you would like to post the news release with your own City logo in addition to Olmsted County's logo, please respond to me only and I will send you the Word document with only Olmsted County's logo so you can add your individual city's logo. Townships, businesses, and other agencies or organizations are also strongly encouraged to participate.

If you receive any return public feedback, please notify me so we may document this and incorporate this feedback into the plan update.

The timely return of your posting documentation is appreciated. We will be working to wrap this up before the end of June.

I look forward to your participation in the Olmsted County HMP update.

If you have any questions, please let me know.

Thank you,

Jonathan P. Jacobson
Captain – Olmsted County Sheriff's Office
Director of Emergency Management
Staff Training and Emergency Management Division

1421 3rd Ave SE
Rochester, MN 55904
(507)328-6101



“Success is not achieved being independent of others.”

From: [Jacobson Jonathan](#)
To: [Aaron Galloway](#); [Aaron Parrish \(City of Rochester\)](#); [Zelms, Alison](#); [Alliance of Chicanos, Hispano, Latino Americans](#); [Andy from KROC](#); [asutor@familyservicerochester.org](#); [Berquam Jennifer](#); [Bill Von Bank - Experience Rochester/Mayo Civic Center](#); [Brent Ackerman](#); [Brianna Cook](#); [Bring me the News](#); [Byron Review](#); [Cassandra Gehling \(RPS\)](#); [Catharine Richert](#); [chatfieldnews@bluffcountrynews.com](#); [Cindy Steinhauser \(City of Rochester\)](#); [City of Chatfield](#); [City of Eyota](#); [City of Oronoco](#); [City of Pine Island](#); [City of Stewartville](#); [Commissioners](#); [Countywide Communications Team](#); [Dave Iseminger - Dover mayor](#); [Dodge County Independent](#); [Dover city clerk](#); [Ehret Miller Debra](#); [Erin O'Brien, Experience Rochester](#); [Sexton, Erin C.](#); [Geno Palazzari \(DMC EDA\)](#); [Giesen Pete](#); [Grace Pesch](#); [Gustavo Mancilla \(MLatino Media\)](#); [Holland Hans](#); [Heather Nessler \(Spark\)](#); [James Rabe](#); [Jamie Rothe](#); [Jeff Kiger](#); [Jeff Pieters](#); [Bowman, Jenna](#); [Jess Abrahamson](#); [Jessica Bringe \(KIMT\)](#); [jmonosmith@byronmn.com](#); [Jose Rivas](#); [Kalun Al Lund - Diversity Council Representative](#); [Katie Adelman](#); [Katie Becker](#); [kdauid@kroc.com](#); [Kevin Sin - Cambodian Community Liaison](#); [KIMT Channel 3](#); [KTTC News](#); [Laura Lee](#); [Imore@threeriverscap.org](#); [Matt Bluhm](#); [Matt McKinney](#); [Matt Stolle](#); [Moeller, Megan](#); [Michele Gors](#); [Mike Bunge](#); [MinnPost](#); [Mohamed Sheik Nur](#); [Mohamud Mohamed](#); [MPR Newsroom](#); [My Fox47 News](#); [News at KROC](#); [news@kaaltv.com](#); [Nicholas Molina](#); [Peter Callaghan](#); [pizinger@mncounties.org](#); [Post Bulletin](#); [pwalsh@startribune.com](#); [Wick Rachel](#); [Randy Petersen](#); [Rene Lafflam \(RNeighbors\)](#); [R-Town](#); [Ryan Parsons](#); [Rochester Chamber of Commerce](#); [Spokesman-Recorder \(African American audience publication\)](#); [Steve Lange](#); [Stewartville Star](#); [Sundve Stacy](#); [Susan Haskamp \(IMAA\)](#); [tara.nelson@imaa.net](#); [The St. Charles Free Press](#); [Tom Overlie](#); [Trey Mewes-Star Tribune](#); [Troy Dunken](#); [WCCO](#); [Welsch Heidi](#); [Williamson Gretchen](#); [zenia@uwolmsted.org](#); [Zumbrota News-Record](#); [anhared@somalcrs.org](#); [info@somalcrs.org](#); [Sen.Carla.Nelson@senate.mn](#); [nicole.warrick@senate.mn](#); [info@barbershopss.com](#); [maknutson@rochesterschools.org](#); [gratefullifedoula@gmail.com](#); [egass@rochestertermn.gov](#); [Lebancroft@rochesterschools.org](#); [chamber@rochestertermnchamber.com](#); [fatuma87@gmail.com](#); [jijayarey@gmail.com](#)
Cc: [Bonnie K Hundrieser](#)
Subject: Olmsted County Hazard Mitigation Plan Update Press Release
Date: Tuesday, June 6, 2023 11:25:36 AM
Attachments: [image001.png](#)
[HMP Press Release 06-06-2023.pdf](#)

Good morning!

Please see the attached Press Release regarding work commencing on Olmsted County's Hazard Mitigation Plan update. I would appreciate your efforts in broadcasting this release. Should you have any questions, please feel free to reach out.

Thank you!

Jonathan P. Jacobson
Captain – Olmsted County Sheriff's Office
Director of Emergency Management
Staff Training and Emergency Management Division

1421 3rd Ave SE
Rochester, MN 55904
(507)328-6101



“Success is not achieved being independent of others.”



OLMSTED COUNTY – CITY OF ROCHESTER NEWS RELEASE
June 6, 2023

Public input wanted as Olmsted County updates hazard mitigation plan

Olmsted County residents, community leaders, business owners, area agencies and organizations now have an opportunity to share how severe weather events impact their property and lives. There is also an opportunity to share ideas on how to reduce local impacts in the future.

The Olmsted County Office of Emergency Management is working with U-Spatial at the University of Minnesota-Duluth to update the county's hazard mitigation plan (HMP). 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, public input is needed.

The Olmsted County HMP is a multi-jurisdictional plan covering Olmsted County, including the cities of Byron, Chatfield, Dover, Eyota, Oronoco, Pine Island, Rochester, and Stewartville. As one of four Minnesota cities of the first class (more than 100,000 inhabitants), the City of Rochester previously developed a separate hazard mitigation plan. In order to address planning for natural disasters more comprehensively and build on shared capabilities, Olmsted County and the City of Rochester are now partnering to address hazard mitigation planning under one joint plan.

The Olmsted County HMP 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 team of representatives from the county, cities, townships, school districts, and other key stakeholders. When completed, the plan will be submitted to the Minnesota Department of Homeland Security and Emergency Management and the Federal Emergency Management Agency (FEMA) for approval.

"Hazard mitigation planning is vital to our emergency management program," said Olmsted County Emergency Management Director Jonathan Jacobson. "Understanding natural hazards that cause serious impacts to our communities and taking action to reduce or eliminate the impact of future disasters makes us more resilient. Hazard mitigation helps us break the cycle of continuous repair caused by events 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:

- Conducting public outreach on severe weather awareness and preparedness.
- Limiting or restricting development in floodplain areas.
- Removing existing buildings from flood or erosion prone hazard areas.
- Using snow fences to limit blowing and drifting of snow over road corridors.
- Constructing tornado safe rooms in vulnerable areas such as mobile home parks.
- Burying overhead powerlines that may fail due to heavy snow, ice, or windstorms.

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, Olmsted County is seeking feedback 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 do you feel would help to reduce damages of future hazard events in your community or the county as a whole?

Comments, concerns, or questions regarding natural disasters and potential mitigation actions can be submitted to Olmsted County Emergency Management by phone, email, or by posting a comment on social media.

There will be additional opportunities for public feedback throughout the planning process. A draft of the plan will be 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 five years to maintain eligibility for FEMA's Hazard Mitigation Assistance (HMA) grant programs.

Contact

Captain Jonathan Jacobson
Olmsted County Emergency Management Director
(507) 328-6101
jonathan.jacobson@olmstedcounty.gov

Olmsted County HMP News Release #1 – June 6, 2023
Chart Documentation of News Release Postings

Jurisdiction or Agency	Posting Representative	Date & Location of News Release Posting
Olmsted County	Jonathan Jacobson, Olmsted County EMD	6/6/23, Olmsted County website, and Sheriff's Office website page
City of Byron	Janna Monosmith, Community Development Planner	6/6/23, City website, City Facebook page, and City Hall bulletin board
City of Chatfield	Kay Wangen, Finance & Information Systems Director,	6/6/23, City website
City of Dover	Gary Pedersen, City Clerk	6/6/23, City Hall bulletin board, City website, and City Facebook page
City of Eyota	Tammy Myers, City Clerk	6/19/23, City website
City of Oronoco	Ranae Rohe, City Clerk	6/6/23, City Hall front entrance bulletin board
City of Pine Island	Elizabeth Howard, City Administrator	6/19/23, City website
City of Rochester	Brett Knapp, Fire Dept. Captain/Deputy EMD	6/9/23, City website, City Facebook page, City Instagram page, Fire Department Facebook page, City Hall bulletin board, and the Rochester Public Library public notice board.
City of Stewartville	Cheryl Roeder, City Clerk	6/21/23, City Facebook page, City website
Rochester Township	Randy Staver, Township Clerk	6/6/23, Township website
Cascade Township	Sara Rudquist, Township Clerk	6/7/23, Township website
Salem Township	Sharon Petersen, Township Clerk	6/7/23, Town Hall bulletin board
Oronoco Township	Lucy Shonyo, Township Clerk	6/16/23, Town Hall bulletin board
Viola Township	Barb Nicklay, Township Clerk	6/11/23, Township Facebook page
KTTC TV	Miranda Johnson, Digital Content Manager	6/6/23, KTTC TV online article
KAAL TV	Brianna Cook, News Director	6/6/23, KAAL TV online article
KIMT3 TV	Dan Clouse, News Director	6/7/23, KIMT3 TV online news article and live footage with interview with Olmsted County Emergency Management Director
Newsbreak	News Editor	6/7/23, Newsbreak online article

Olmsted County HMP News Release #2 Record of Public Input & Incorporation

Overview: On August 13, 2024 Olmsted 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 Olmsted 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 8/13/24 to 8/27/24 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 Olmsted 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 Olmsted 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
No name provided	<p>Received via HMP Online Comment Form:</p> <p><i>It appears we might be relying too heavily on social media and electronic devices for communication. Many of our elderly aren't consuming information this way and some of our immigrant groups rely on word of mouth plus the entire concept of emergency planning and prep is totally unfamiliar so takes a different strategy. I see some reference to using other means in some sections--and maybe it is implied for others--just don't want us to loose sight of these realities for some of our most vulnerable.</i></p>	<p>No incorporation required. Communities participating in the HMP update were encouraged to utilize numerous means of outreach to the public, including printed hardcopies as well as online means such as websites and social media. The range of public outreach differed for each participating community, as well as additional participating stakeholders.</p>

<p>No name provided</p>	<p>Received via HMP Online Comment Form: <i>I noticed in the mitigation chart for Stewartville, the emphasis appears to be on notifying residents. However, I think focus should also be placed on how to notify local businesses on how to receive emergency alerts and how to access resources. I say this because many of the larger businesses in town (example: manufacturing) have employees that work in different counties so they may not be aware of how to receive alerts locally. If businesses are provided with information on how to receive alerts, they can pass that information on to their staff members.</i></p>	<p>This comment was shared with Schimmel Jr., City of Stewartville city administrator. He agreed that it would be a good idea to revise mitigation action #2 in the city's chart to include "residents <i>and local businesses</i>" as part of the city's outreach efforts on sign up for CodeRED.</p>
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From: [Bonnie K Hundrieser](#) on behalf of hundrieserconsulting@outlook.com
To: jonathan.jacobson@olmstedcounty.gov; taylor.schoenfelder@olmstedcounty.gov; kevin.torgerson@olmstedcounty.gov; heidi.welsch@olmstedcounty.gov; judy.indrelie@olmstedcounty.gov; benjamin.johnson@olmstedcounty.gov; mary.blairhoeft@olmstedcounty.gov; tony.hill@olmstedcounty.gov; denise.daniels@olmstedcounty.gov; david.dunn@olmstedcounty.gov; sandi.goslee@olmstedcounty.gov; kristi.gross@olmstedcounty.gov; scott.safe@olmstedcounty.gov; Janice.chezick@olmstedcounty.gov; laurel.podulke-smith@olmstedcounty.gov; david.senjem@olmstedcounty.gov; gregory.wright@olmstedcounty.gov; brian.mueller@olmstedcounty.gov; michelle.rossman@olmstedcounty.gov; sheila.kiscaden@olmstedcounty.gov; mark.thein@olmstedcounty.gov; administrator@byronmn.com; dglassmaker@byronmn.com; jmonosmith@byronmn.com; tricke@byronmn.com; mayormcbroom@ci.chatfield.mn.us; mpeterson@ci.chatfield.mn.us; bcarlson@ci.chatfield.mn.us; doverdave@rocketmail.com; Dovercityclerk1@gmail.com; tmyers@cityofeyota.com; tnelson1@live.com; trainingevfd@gmail.com; jbaker@oronoco.com; rwhite@oronoco.com; Elizabeth.howard@ci.pineisland.mn.us; piem@ci.pineisland.mn.us; azelms@rochestermn.gov; knorton@rochestermn.gov; bknapp@rochestermn.gov; buildingsafety@rochestermn.gov; ekerska@rochestermn.gov; jfranklin@rochestermn.gov; tniemeyer@rochestermn.gov; kgeistler@rochestermn.gov; jforstner@rochestermn.gov; jbowman@rochestermn.gov; dmartinson@rochestermn.gov; cmwatela@rochestermn.gov; mskrager@rochestermn.gov; jblum@rochestermn.gov; mniqbur@rochestermn.gov; pwidman@rochestermn.gov; AParrish@rochestermn.gov; CSteinhauser@rochestermn.gov; cferguson@rochestermn.gov; hmulholland@rochestermn.gov; cfeine@rochestermn.gov; iwoodward@rochestermn.gov; RYetzer@rochestermn.gov; zwood@rochestermn.gov; banderson@rochestermn.gov; TCampbell@rochestermn.gov; MBransford@rochestermn.gov; mdennis@rochestermn.gov; PKeane@rochestermn.gov; kkrickpatrick@rochestermn.gov; SPalmer@rochestermn.gov; nwahl@rochestermn.gov; jturk@rochestermn.gov; jblahnik@rochestermn.gov; tfaudskar@rochestermn.gov; bschimmel@stewartvillemn.com; croeder@stewartvillemn.com; David@tcpamn.org; Jerred@tcpamn.org; cascadetownclerk@outlook.com; Jd_loftus@yahoo.com; Annalytical5@gmail.com; jamahoney@aol.com; HFclerk@outlook.com; kalmartownship@gmail.com; gramdsr@yahoo.com; afahygust@gmail.com; rivernorthstables@msn.com; oronocomn.township@gmail.com; pgtownship@gmail.com; ruffacres@hotmail.com; rochestertownshipclerk@gmail.com; clerk@rockdellmn.org; sawemtwpetersen@kmtel.com; nicklayfamily@hotmail.com; Michael.R.Peterson@state.mn.us; swcd@olmstedcounty.gov; brian.devetter@usda.gov; laurie.balata@usda.gov; chad.hanson@state.mn.us; nicole.lehman@state.mn.us; michael.a.palmer@state.mn.us; tanyaj@pawsandclaws.org; mhenke@peoplesenergy.coop; tmccollough@rpu.org; Sexton.Meredie@mayo.edu; mike.neubeck@byron.k12.mn.us; jeremyfrie@deschools.org; kepekel@rochesterschools.org; belinda.selfors@ssdtigers.org; Michele.heaver@usc.salvationarmy.org; Kris.ihrike@redcross.org; jeromef@uwolmsted.org; Amy.thompson@olmstedcounty.gov; smaloney@familyservicerochester.org; armin.budimlic@imaa.net; Earl.merchlewitz@co.goodhue.mn.us; btomlinson@co.wabasha.mn.us; BKlinger@co.winona.mn.us; dkullot@co.fillmore.mn.us; amyl@co.mower.mn.us; matt.maas@dodgecountymn.gov
Cc: ["Stacey Stark"](#)
Subject: Olmsted County News Release - Hazard Mitigation Plan Public Review Period is open 8/13 to 8/27
Date: Tuesday, August 13, 2024 12:19:00 PM
Attachments: [Olmsted County News Release HMP Public Review \(8-13-24\).pdf](#)
Importance: High

Greetings,

Attached please find a news release announcing that the **public review and comment period** is now open for the Olmsted County Hazard Mitigation Plan from **August 13 to August 27** prior to submission of the plan to FEMA.

As a jurisdiction, related agency, or neighboring jurisdiction involved in the Olmsted County plan update, your assistance is requested to help post the news release and also to review the draft plan.

Please email me to let me know the date and location(s) of where the news release was posted.

Please post the news release promptly to the areas where you share information with the public, such as your website, Facebook page, bulletin boards, or other locations.

- Olmsted County and each city within the county is requested to fulfill this request.
- Townships and other agency stakeholders are also encouraged to participate in posting the news release.

In addition, if you have not already reviewed the plan during the government review period, you are strongly encouraged to do so. There are website links as well as a QR code in the news release that will take you to PDF of the plan, interactive website, mitigation action charts. There is also an online feedback form where you are encouraged to provide any comments, questions, or other feedback. **If you review the plan, please let me know.**

PLEASE RESPOND NO LATER THAN AUGUST 27th.

If you have any questions or comments, please let me know.

Thank you,
Bonnie Hundrieser

Bonnie K. Hundrieser

Hazard Mitigation Planning Specialist

Part of the **U-Spatial@UMD** HMP Planning Team

Hundrieser Consulting LLC

Phone: 218-343-3468



OLMSTED COUNTY – CITY OF ROCHESTER NEWS RELEASE
August 13, 2024

Public Comment Sought for County's Hazard Mitigation Plan

Olmsted County has completed an updated draft of its Hazard Mitigation Plan (HMP) and is now seeking public feedback. Like all Minnesota counties, Olmsted 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 August 27, 2024. The public can access the plan using the following links:

[Olmsted County HMP website](https://olmsted-county-hmp-umn.hub.arcgis.com/)

[\(https://olmsted-county-hmp-umn.hub.arcgis.com/\)](https://olmsted-county-hmp-umn.hub.arcgis.com/)

[Mitigation Action Charts](https://olmsted-county-hmp-umn.hub.arcgis.com/pages/mitigation-actions)

[\(https://olmsted-county-hmp-umn.hub.arcgis.com/pages/mitigation-actions\)](https://olmsted-county-hmp-umn.hub.arcgis.com/pages/mitigation-actions)

[Public Comment Feedback Form](https://survey123.arcgis.com/share/92f82cf5334b4ea687dc510a1c21d7df)

[\(https://survey123.arcgis.com/share/92f82cf5334b4ea687dc510a1c21d7df\)](https://survey123.arcgis.com/share/92f82cf5334b4ea687dc510a1c21d7df)

The Olmsted County HMP is a multi-jurisdictional plan covering Olmsted County, including the cities of Byron, Chatfield, Dover, Eyota, Oronoco, Pine Island, Rochester, and Stewartville. As one of four Minnesota cities of the first class (more than 100,000 inhabitants), the City of Rochester previously developed a separate hazard mitigation plan. In order to address planning for natural disasters more comprehensively and build on shared capabilities, Olmsted County and the City of Rochester are now partnering to address hazard mitigation planning under one joint plan.

Update of the plan has been under direction of Olmsted 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 infrastructure projects for areas 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 Olmsted 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 Olmsted 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. Olmsted 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 Olmsted County Emergency Management.

Contact

Captain Jonathan Jacobson
Olmsted County Emergency Management
Director (507) 328-6101
jonathan.jacobson@olmstedcounty.gov

Please scan the following QR code to go directly to the Olmsted County Hazard Mitigation Plan interactive website:



Olmsted County HMP News Release #2 – Public Review Period 8/13/24 to 8/27/24
Chart Documentation of Postings for Public Outreach

Jurisdiction or Agency	Posting Representative (name and title)	Date/Location of News Release Posting
Olmsted County	Gretchen Williamson, Communications Director	Posted 8/13/24 as a county news article on the Olmsted County website. It was also shared with our email subscribers via GovDelivery.
Olmsted County	Mary Blair-Hoeft, Director, Property Records & Licensing	8/14/24 a slide of the news article was put up on the carousel that runs in the front entry of the 2122 Building of the Olmsted County campus.
Olmsted County	Emma Diercks, Communications Specialist	Posted on 8/13/24 to the following county social media sites: Olmsted County and Olmsted County Sheriff's Office Facebook pages, and county X and LinkedIn pages
City of Byron	Tom Ricky, Public Works Director	The city of Byron has posted the HMP News Release on their website, Facebook page and placed hard copies at City Hall. These were posted August 14 th .
City of Chatfield	Michele Peterson, City Administrator	8/15/24 The news article was placed on our city website, with an email blast going out to subscribers.
City of Dover		
City of Eyota	Tony Nelson, Emergency Manager / City Councilor	8/14/24, The City of Eyota posted on our website and we posted a paper copy in our window.
City of Oronoco	Ranae While, Deputy Clerk	8/14/24, We posted the news release to our city website, added the link to our Facebook and put a hardcopy up on our bulletin board.
City of Pine Island	Elizabeth R. Howard, City Administrator	8/13/24 The City of Pine Island posted the release on our website and on our official city bulletin board.
City of Rochester	Kelly K. Geistler, City Clerk	The City Clerk's Office posted this notice on Tuesday, August, 13, 2024, on the official City bulletin board right outside the big white doors that lead into the City Hall rotunda, as well as posted in the "Other Notices" section of our public Official Notifications page.
City of Rochester	Brett Knapp, Deputy EM Director	Rochester posted this on our City website and Facebook page on 8/14. Also the Rochester fire department Facebook page 8/16.

City of Stewartville	Bill Schimmel, City Administrator	8/14/24, Our city posted the release at City Hall, Library, Fire Station, and Civic Center (which also serves as our Senior Citizens Center), and then presented it publicly as a communication item for our recent City Council Meeting.
Cascade Township	Sara Rudquest, Clerk	8/13/24 Cascade Township posted this on our website and front door (regular posting places).
Township of Kalmar	Keith Stanich- Clerk/Treasurer	Press release was posted to the Kalmar Township Website on August 13th.
Oronoco Township	Jody Schroeder, Clerk	Press release posted to our Facebook page, township website, and community bulletin board on August 13 th .
KIMT News	KIMT News Editor	8/15/24 KIMT provided an online news video story about the draft plan and encouraging people to provide feedback: https://www.kimt.com/video/olmsted-county-seeks-your-feedback-on-its-hazard-mitigation-plan/video_3145e9dd-4e3f-5c04-8312-d2cd2a913311.html

Appendix H – Mitigation Actions by Jurisdiction

CITY OF BYRON

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 2025-2030	City Admin / City EM	Byron post updates and news on the city website and the city's Facebook page. We use local media outlets for snow emergency notifications.	City Funding
2	All-Hazards	Education & Awareness Programs	Encourage residents in our community to sign up for the county's emergency notification system.	Existing High 2025-2030	City Admin / City EM	We offer Code Red through Olmsted County to all residents. Byron will continue to utilize its social media and monthly newsletter to encourage residents to participate in the Code Red alert system.	City Funding
3	All-Hazards	Local Planning & Regulations	Incorporate mitigation strategies across the city's long-term plans and policies for future growth and development.	Existing High 2025-2030	City Admin in coord with Public Works	In the last 4 years, Byron has updated its Comprehensive Plan and did a complete review and update of its Subdivision and Zoning Code. These updates help to keep us on track with our strategic plan vision of "Being Intentional about our Growth". We also utilize Olmsted County for all our building permit review and inspections. The City Council has adopted a 7-year Street CIP which will help to address aging and undersized infrastructure in our current system.	City Funding
4	Extreme Cold	Mitigation Preparedness & Response Support	Install a generator at City Hall to provide a place of shelter for residents, especially the elderly, in case of power outages during a period of extreme cold.	New High 2025-2030	City Admin / City EM, Public Works	Our fire hall is equipped with a generator that can be a place of shelter. The city would like to work to establish the City Hall as another possible location to use if needed. The city will seek to purchase a generator as funding is available.	City Funding
5	Extreme Cold	Education & Awareness Programs	Conduct outreach to give residents warnings of upcoming extreme cold and provide tips to help avoid freezing water lines.	Existing High 2025-2030	City Admin, Public Works	The city will utilize Byron's website and Facebook to get these messages out to the public.	City Funding

CITY OF BYRON

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
6	Severe Winter & Summer Storms	Structure & Infrastructure Projects	Continue to remove dead or hazardous trees throughout the community to reduce risk of failure to overhead powerlines during severe storms.	Existing High 2025-2030	Public Works, Power Companies	The city continues with the practice of removing dead or hazardous trees throughout the community, especially in areas of overhead lines. Byron has two power companies that serve our residents and they also maintain vegetation around powerlines.	City Funding, Power Companies
7	Severe Summer Storms	Mitigation Preparedness & Response Support	Ensure that our outdoor warning siren system is adequate to reach all residents.	New Moderate 2025-2030	City EM	As Byron continues to expand, we will continue to evaluate our need for any new warning sirens. We will seek outside potential funding to support purchase of a warning siren.	City Funding, outside grant funding (TBD)
8	Severe Summer Storms	Education & Awareness Programs	Continue to participate in Storm Spotter training.	Existing High 2025-2030	City EM in coord with OCEM	The Byron Volunteer Fire Department works with Olmsted County Emergency Management to participate in this annual training.	City Funding, NWS
9	Drought	Local Planning & Regulations / Education & Awareness Programs	Establish watering restrictions during drought conditions and raise public awareness of water conservation measures.	New Moderate 2025-2030	City Admin	Byron has had periods of moderate to severe drought conditions. We have enacted our water conservation plan and odd/even irrigation and will continue to do so when restrictions are recommended by the MN DNR.	City Funding
10	Flooding	Local Planning & Regulations / Structure & Infrastructure Systems	Address flood mitigation measures for the waste water treatment plant, treatment ponds, and roadways that are susceptible to flooding.	Existing High 2025-2030	Public Works / City Consulting Engineer	The city will seek to work with other agencies and landowners to construct stormwater retention ponds upstream from the wastewater treatment plant to help reduce the risk of flooding. Our Public Works dept will continue to address planning for how to mitigate rain impacts on several roadways and stormwater treatment ponds that overtop in larger rain events. Funding may possibly be sought from future outside grants if eligible, such as FEMA HMA grants.	City Funding, outside grants, possible FEMA HMA

CITY OF BYRON

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
11	Flooding	Local Planning & Regulations / Structure & Infrastructure Systems	Identify and plan for future regional ponds as development continues.	In-Progress High 2025-2030	City Admin, Public Works	In 2023, Byron received a Climate Resilience Grant to address the increase rainfall totals and rates at which they occur. This grant has allowed the city to run an analysis of the entire city storm sewer system to show any "hot spots" that may be vulnerable during these increased rainfall events. This data is helping the city to identify and plan for future regional ponds as development continues. These regional ponds will provide some relief to the wastewater treatment facility because all the storm water and runoff from 90% of Byron passes by the plant.	Climate Resilience Grant, City Funding
12	Flooding	Local Planning & Regulations / Structure & Infrastructure Systems	Continue to invest money into street reconstruction projects to update storm sewers.	In-Progress High 2025-2030	City Admin, Public Works	Byron has a seven-year street CIP adopted by the city council to continue with street upgrades.	City Funding
13	Flooding	Mitigation Preparedness & Response Support	Ensure that equipment is in place to handle flood mitigation and response.	Existing High 2025-2030	City Admin, City PW	Byron has been proactive in equipment purchases throughout the last several years (6" portable pump, portable vac trailer, and new lift station with backup power) and will continue to address any new needs.	City Funding

CITY OF CHATFIELD

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 2025-2030	City Admin / City EM	The city works with Olmsted County Emergency Management to share severe weather information with the public such as during Severe Weather Awareness Week. We post informational announcements on our city website, through the Code Red system, through our Police Department Facebook page, and through our cities public access channel (CCTV). Additionally, we can print information in our local newspaper. We often also make announcements at City Council meetings.	City Funding
2	All-Hazards	Education & Awareness Programs	Encourage residents in our community to sign up for the county's emergency notification system.	Existing High 2025-2030	City Admin / City EM	We offer a sign-up link to a City of Rochester/Olmsted County Code Red Alert System offering county and local emergency notifications, on the city website, monthly newsletter, as well as on the local Public Access Channel (CCTV).	City Funding
3	All-Hazards	Local Planning & Regulations	Incorporate mitigation strategies across the city's long-term plans and policies for future growth and development.	Existing High 2025-2030	City Admin, Planning & Zoning	The city's planning and zoning department enforces the MN State Building Code and the City Code zoning requirements for new development. We have a 20-year Comprehensive Plan that is designed to plan for future physical growth of the city and appropriate land uses.	City Funding
4	Severe Summer Storms	Mitigation Preparedness & Response Support	Ensure plans and equipment are in place for the evacuation and sheltering of residents of the mobile home park in the event of a severe windstorm or tornado.	Existing High 2025-2030	City Admin, City EM	The city is evaluating use of our Fire Station to serve as the shelter for residents of the mobile home park, as well as other members of the community as needed. Installation of a natural gas generator at our Fire Station would ensure operation of the building and necessary equipment in times of need.	City Funding

CITY OF CHATFIELD

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
5	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 2025-2030	City Admin in coord with People's Energy Coop	We continue to work with our municipal utility, the People's Energy Coop as needed to address future conversion projects from overhead to underground to reduce power outages from severe storms. Over the last five years our municipal utility has worked to convert overhead powerlines to underground and upgrading power to the city.	People's Energy Coop
6	Extreme Cold	Mitigation Preparedness & Response Support	Establish a plan for temporary warming facilities for those in the community who are more highly vulnerable during periods of extreme cold or winter storms that result in extended power outages (i.e., homeless, elderly).	In-Progress High 2025-2030	City Admin, City EM in coord with OCEM	A generator has been installed at City Hall for creating a community shelter. The city will work with Olmsted County Emergency Management to determine what sort plan & procedures are needed to have in place to provide temporary sheltering should the need arise.	City Funding
7	Drought	Local Planning & Regulations / Education & Awareness Programs	Establish watering restrictions during drought conditions and raise public awareness of water conservation measures.	New Moderate 2025-2030	City Admin	During periods of severe drought, the city of Chatfield enforces it's water Conservation Plan and promotes water conservation awareness measures to residents.	City Funding
8	Flooding	Local Planning & Regulations	Implement specific city plans and policies that help to address flood risk reduction.	Existing High 2025-2030	City Admin, Planning & Zoning, Public Works	The city has a 5-year Transportation Plan that identifies and schedules road, bridge, and culvert improvement projects to reduce over-the-road repetitive flooding. The plan is updated and implemented by our Public Works department. The city also participates in the National Flood Insurance Program and has FEMA mapped high risk areas. The city enforces Chapter 105, Floodplain Management in the city code of ordinances.	City Funding

CITY OF CHATFIELD

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
9	Flooding	Structure & Infrastructure Projects	Plan for and implement measures to reduce the impacts of high rain events to city infrastructure and assets vulnerable to flooding	New High 2025-2030	City Admin, Public Works	The city of Chatfield has one city lift station that is prone to flooding during high rain events as well as two city parks that are prone to flooding and damage to park equipment. We also need to upsize several culverts to better handle high rain events. These are projects that the Public Works department will work to address and budget for in coordination with City Admin.	City Funding, Possible FEMA HMA grant funding
10	Flooding	Mitigation Preparedness & Response Support	Ensure that flood fight equipment is in place.	New Moderate 2025-2030	City Admin, Public Works	In 2023, 2 generators were installed in the water system and both of our wells were added to our SCADA alarm system. A Vac truck has been purchased to pump lift station during power outages. The city's Public Works department will continue to assess and address any equipment needs for flood-preparedness.	City Funding
11	Land Subsidence (Karst)	Local Planning & Regulations	Continue to utilize GIS maps in planning and zoning reviews that show where risk exists in within city limits due to karst features.	Existing Moderate 2025-2030	City Admin / Zoning	The city receives mapped information on its karst geology from the MN DNR and MPCA. This information allows the city to include considerations for karst sensitive features in our land use planning and future development.	City Funding
12	Land Subsidence (Karst)	Local Planning & Regulations	Avoid stormwater runoff in areas of active karst.	Existing Moderate 2025-2030	City Admin / Public Works	Our city public works director manages our stormwater system, which is designed to disperse runoff away from any karst sensitive areas.	City Funding
13	Land Subsidence (Karst)	Local Planning & Regulations	Ensure that the city's drinking water meets state drinking water standards.	Existing High 2025-2030	City Admin, Public Works in coord with MPCA	The city works with the MPCA to keep our wellhead protection plan updated. We also regularly test our drinking to ensure that there is not a public health risk due to nitrate contamination.	City Funding, MPCA

CITY OF DOVER

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 2025-2030	City Admin / City EM	We post information on our city website and Facebook page and at or on our city bulletin board at city hall. The city will work with Olmsted County Emergency Management to participate in the Severe Weather Awareness Weeks in April and November.	City Funding
2	All-Hazards	Education & Awareness Programs	Encourage residents in our community to sign up for the county's emergency notification system.	New High 2025-2030	City Admin / City EM in coord with OCEM	The city will work with Olmsted County Emergency Management post information and a link to sign up on our website.	City Funding
3	All-Hazards	Local Planning & Regulations	Incorporate mitigation strategies across the city's long-term plans and policies for future growth and development.	Existing High 2025-2030	City Admin in coord with Public Works	We have a Comprehensive Plan that is designed to plan for the future physical growth of the city and appropriate land uses. When we next update the plan we will incorporate considerations for hazards such as flooding.	City Funding
4	Extreme Cold	Mitigation Preparedness & Response Support	Obtain portable generator for our Community Center for emergency sheltering.	New High 2025-2030	City Admin in coord with Public Works	The Community Center is our designated local mass care shelter. The city will work to purchase a generator as funding is available. The center would be activated for events such as a period of extreme cold coupled with an extended power outage.	City Funding
5	Extreme Cold	Education & Awareness Programs	Conduct outreach to residents to be prepared for periods of extreme cold and tips to avoid freezing pipes.	New High 2025-2030	City Admin in coord with Public Works	We will use our city website and Facebook page to encourage residents to be prepared for the dangers of extreme cold and provide reminder notices to avoid freezing pipes during sub-zero weather.	City Funding
6	Extreme Summer Storms	Mitigation Preparedness & Response Support	Purchase and install a second siren for the SW side of the city.	New Moderate 2025-2030	City Admin in coord with Public Works	The city will seek to upgrade our outdoor warning siren system with the purchase and installation of a 2 nd siren. Outside grant funding may be needed (to be identified)	City Funding, Outside Grant Funding (TBD)

CITY OF DOVER

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
7	Flooding	Structure & Infrastructure Projects	Implement new storm sewer upgrades as construction projects and purchase additional pumps in the event of flooding.	Existing High 2025-2030	City Admin in coord with Public Works	We have a city engineer and a public works director that address road maintenance issues for flooding (culverts, repetitive flooding). The city engineer works with the county engineer as needed to confer on planning and implementation of local flood reduction measures. We will purchase additional pumps as city funding allows.	City Funding
8	Flooding	Local Planning & Regulations	Enforce city policies and ordinances that reduce the impacts of high rain events and risk of flooding to areas of new development.	Existing High 2025-2030	City Admin in coord with Public Works	The city's planning and zoning department enforces the MN State Building Code and the City Code zoning requirements for new development. Our zoning ordinance has sections devoted to enforcing the flood zones so building in these areas are greatly reduced if not eliminated. The city has worked closely with the county zoning department when we updated our local floodplain ordinance.	City Funding
9	Drought	Local Planning & Regulations / Education & Awareness Programs	Establish watering restrictions during drought conditions and raise public awareness of water conservation measures.	New Moderate 2025-2030	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 Funding
10	Land Subsidence (Karst)	Local Planning & Regulations	Continue to utilize GIS maps in planning and zoning reviews that show where risk exists in within city limits due to karst features.	Existing Moderate 2025-2030	City Admin / Zoning	The city receives mapped information on its karst geology from the MN DNR and MPCA. This information allows the city to include considerations for karst sensitive features in our land use planning and future development.	City Funding

CITY OF DOVER**Mitigation Action Chart**

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
11	Land Subsidence (Karst)	Local Planning & Regulations	Avoid stormwater runoff in areas of active karst.	Existing Moderate 2025-2030	City Admin / City Engineer	Our city engineer shall have oversight for the city to disperse runoff away from any karst sensitive areas.	City Funding
12	Land Subsidence (Karst)	Local Planning & Regulations	Ensure that the city's drinking water meets state drinking water standards.	Existing High 2025-2030	City Admin, Public Works in coord with MPCA	The city works with the MPCA to keep our wellhead protection plan updated. We also regularly test our drinking to ensure that there is not a public health risk due to nitrate contamination.	City Funding, MPCA

CITY OF EYOTA

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 2025-2030	City Admin / City EM	We currently post notices on our website, CCTV (City Channel), cities Facebook page, posting at city hall, post office and local restaurant.	City Funding
2	All-Hazards	Education & Awareness Programs	Encourage residents in our community to sign up for the county's emergency notification system.	Existing High 2025-2030	City Admin / City EM	Once the county has its new CodeRED notification system in place we will put it on our website, Facebook page and CCTV channel.	City Funding
3	All-Hazards	Local Planning & Regulations	Incorporate mitigation strategies across the city's long-term plans and policies for future growth and development.	Existing High 2025-2030	City Admin in coord with Public Works	The city has its Planning and Zoning committee updating ordinances to keep up with new building codes. We continue to update our comprehensive plan.	City Funding
4	Extreme Cold	Mitigation Preparedness & Response Support	Install a gas generator for the Fire Hall and City Hall for emergency backup power in the event sheltering is needed.	New High 2025-2030	City Admin in coord with Public Works	The city will work to purchase generator backup power as funding is available. We would like to have these areas available as shelters for vulnerable residents in the event there is a period of extreme cold or other severe storm with an extended power outage.	City Funding
5	Flooding	Structure & Infrastructure Projects	Work to clean and deepen our creek bed to improve water flow from high rain events.	New High 2025-2030	Public Works	The city will work to obtain approval from the MN DNR for this project. The creek sediment from field run off has greatly decreased the volume of water in the creek, which hinders effective drainage during high rain events.	City Funding
6	Flooding	Structure & Infrastructure Projects	Clean our remaining storm water ponds to help with the impacts of high rain events.	Existing High 2025-2030	Public Works	Our Public works staff work with our city engineers to maintain culverts and city streets. In 2022, we started cleaning our storm water ponds to help with capacity. Of the 4 we currently have we were able to clean 2.	City Funding

CITY OF EYOTA

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
7	Drought	Local Planning & Regulations / Education & Awareness Programs	Establish watering restrictions during drought conditions and raise public awareness of water conservation measures.	New Moderate 2025-2030	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	Land Subsidence (Karst)	Local Planning & Regulations	Continue to utilize GIS maps in planning and zoning reviews that show where risk exists in within city limits due to karst features.	Existing Moderate 2025-2030	City Admin / Zoning	The city receives mapped information on its karst geology from the MN DNR and MPCA. This information allows the city to include considerations for karst sensitive features in our land use planning and future development.	City Funding
9	Land Subsidence (Karst)	Local Planning & Regulations	Avoid stormwater runoff in areas of active karst.	Existing Moderate 2025-2030	City Admin / Public Works	Our city public works director manages our stormwater system, which is designed to disperse runoff away from any karst sensitive areas.	City Funding
10	Land Subsidence (Karst)	Local Planning & Regulations	Ensure that the city's drinking water meets state drinking water standards.	Existing High 2025-2030	City Admin, Public Works in coord with MPCA	The city works with the MPCA to keep our wellhead protection plan updated. We also regularly test our drinking to ensure that there is not a public health risk due to nitrate contamination.	City Funding, MPCA

CITY OF ORONOCO

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 2025-2030	City Admin / City EM	Oronoco continues to provide residents with any updated information provided from state or local officials including Olmsted County Emergency Management. Updated information is posted on the city's website, Facebook page and newsletters are used to keep residents informed. We also livestream board meetings and city council meetings.	City Funding
2	All-Hazards	Education & Awareness Programs	Encourage residents in our community to sign up for the county's emergency notification system.	Existing High 2025-2030	City Admin / City EM	Oronoco will utilize its social media, post flyers at City Hall, the Senior Center, and put a link on our website. We can also include information in our monthly newsletter to encourage residents to participate in the Code Red alert system.	City Funding
3	All-Hazards	Local Planning & Regulations	Incorporate mitigation strategies across the city's long-term plans and policies for future growth and development.	In-Progress Moderate 2025-2030	City Admin in coord with Public Works	The city uses as a land growth and use guideline, a 10-Year Comprehensive Plan (continuously updated) that assists with planning and zoning. The city also has a Planning and Zoning Commission. The city is also in the process of updating its zoning codes.	City Funding
4	Extreme Cold	Education & Awareness Programs	Utilize Oronoco's website and Facebook to give residents warnings of upcoming extreme cold and provide tips to help avoid freezing water lines.	Existing High 2025-2030	City Admin / City EM	This is an ongoing part of Oronoco's public outreach regarding severe winter weather.	City Funding
5	Severe Summer Storms	Structure & Infrastructure Projects	Ensure that our outdoor warning siren system is adequate to reach all residents.	Existing Moderate 2025-2030	City Admin / City EM, City Public Works	As Oronoco continues to expand we will assess if additional outdoor warning sirens are needed. If so, we will work with OCEM to work on how to best purchase and install new sirens that will be connected to the county's automated warning system.	City Funding

CITY OF ORONOCO

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
6	Severe Summer Storms	Education & Awareness Programs	Participate in annual Storm Spotter Training with Olmsted County Emergency Management.	Existing Moderate 2025-2030	City Admin / City EM	The city will continue to coordinate with OCEM and our volunteer Fire Department to participate in this annual training. The event is organized the National Weather Service and OCEM.	NWS, Olmsted County
7	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 Moderate 2025-2030	City Public Works	Oronoco Public Works continues to be proactive in the removal of dead or hazardous tree removal, especially in areas of overhead lines.	City Funding
8	Extreme Temps / Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Install a generator at City Hall to provide a place of shelter for residents, especially the elderly, in the event of prolonged power outages coupled with extreme storms or extreme temperature events.	Existing Moderate 2025-2030	City Admin / City EM, City Public Works	The city will work to purchase a generator as funding is available.	City Funding
9	Flooding	Structure & Infrastructure Projects	Construct stormwater retention ponds upstream from the wastewater treatment plant to help reduce the risk of flooding.	Existing High 2025-2030	City Admin / City Public Works	The city of Oronoco will look for ways to partner with other agencies and landowners to assess how to best address stormwater management through development of stormwater retention ponds. This may be a project where the city would be interested to seek future FEMA HMA grant funding.	City Funding, FEMA HMA
10	Flooding	Structure & Infrastructure Projects	Continue to invest money into street reconstruction projects to update storm sewers.	Existing High 2025-2030	City Admin / City Public Works	The city uses a capital improvements plan for reviewing street and infrastructure use and future planning.	City Funding

CITY OF ORONOCO

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
11	Drought	Local Planning & Regulations / Education & Awareness Programs	Establish watering restrictions during drought conditions and raise public awareness of water conservation measures.	New Moderate 2025-2030	City Admin	Oronoco has experienced moderate to severe drought causing the city to notify water consumers to reduce water usage. The city will establish 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 Funding
12	Land Subsidence (Karst)	Local Planning & Regulations	Continue to utilize GIS maps in planning and zoning reviews that show where risk exists in within city limits due to karst features.	Existing Moderate 2025-2030	City Admin / Zoning	The city receives mapped information on its karst geology from the MN DNR and MPCA. This information allows the city to include considerations for karst sensitive features in our land use planning and future development.	City Funding
13	Land Subsidence (Karst)	Local Planning & Regulations	Avoid stormwater runoff in areas of active karst.	Existing Moderate 2025-2030	City Admin / Public Works	Our city public works director manages our stormwater system, which is designed to disperse runoff away from any karst sensitive areas.	City Funding
14	Land Subsidence (Karst)	Local Planning & Regulations	Ensure that the city's drinking water meets state drinking water standards.	Existing High 2025-2030	City Admin, Public Works in coord with MPCA	The city works with the MPCA to keep our wellhead protection plan updated. We also regularly test our drinking to ensure that there is not a public health risk due to nitrate contamination.	City Funding, MPCA

CITY OF PINE ISLAND

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 2025-2030	City Admin / City EM	We post informational announcements on our city website, through our Community Facebook page, Pine Island Fire Dept Facebook, monthly newsletter and through our cities public access channel (CCTV). We often also make announcements at City Council meetings. The city will continue to work with Olmsted County Emergency Management to share severe weather information with the public such as participating in the Severe Weather Awareness Week and SkyWarn Storm Spotter training.	City Funding
2	All-Hazards	Education & Awareness Programs	Encourage residents in our community to sign up for the county's emergency notification system.	Existing High 2025-2030	City Admin / City EM	We offer a sign-up link to a City of Rochester/Olmsted County/Goodhue County CodeRED Alert System offering county and local emergency notifications, on the city website, and monthly newsletter.	City Funding
3	All-Hazards	Local Planning & Regulations	Incorporate mitigation strategies across the city's long-term plans and policies for future growth and development.	Existing High 2025-2030	City Admin in coord with Public Works	The city's planning and zoning department enforces the MN State Building Code and the City Code zoning requirements for new development. We have a 20-year Comprehensive Plan that is designed to plan for future physical growth of the city and appropriate land uses.	City Budget

CITY OF PINE ISLAND

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
4	Extreme Cold / Severe Winter & Summer Storms	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 2025-2030	City Admin / City EM	A generator has been installed at City Hall that serves as an overflow local shelter if people are displaced from a severe storm event or extended power outage. We are also looking into installing a permanent generator at the Lutheran Church which will be our primary shelter. Pine Island Public School and Pine Island Firehall both have permanent generators and can be used as overflow shelters. The city also works with our mobile home parks owners on emergency evacuation and sheltering of residents.	City Funding
5	Severe Winter & Summer Storms	Structure & Infrastructure Projects	Work with the People’s Energy Coop as needed to address future conversion projects from overhead to underground to reduce power outages from a range of severe storm events.	Existing Moderate 2025-2030	Public Works in coord Utility	We continue to work closely with People’s Energy Coop to reduce long term power outages through conversion projects when possible. Vegetation is also trimmed near powerlines to reduce the chances of downed branches.	Electric Coops
6	Severe Summer Storms	Structure & Infrastructure Projects	Evaluate opportunity to build a storm shelter or tornado safe room for the mobile home park in the city.	Existing Moderate 2025-2030	City Admin / City EM in coord with OCEM	The city will work to evaluate options for construction of a suitable shelter facility. Outside grant funding would be needed to implement construction of a tornado safe room. The city would consider developing an application for FEMA HMA grant funds.	City Funding, FEMA HMA grant
7	Flooding	Structure & Infrastructure Projects	Plan for and implement flood mitigation projects to improve our stormwater management system.	Existing High 2025-2030	Public Works, City Engineer	This is an ongoing effort by our city engineer and public works department. Our city completed street reconstruction projects in 2015, 2017, 2020, and 2023. The projects included storm sewer reconstruction. In 2022 we cleared and regraded one of our retention ponds and we have plans to do another in the near future.	City Funding

CITY OF PINE ISLAND

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
8	Flooding	Structure & Infrastructure Projects	Address flood mitigation measures for our city lift station that is prone to flooding during high rain events as well as our two city parks that are vulnerable to flooding and park equipment.	Existing High 2025-2030	Public Works, City Engineer	This is a current effort by our city engineer and public works department. They are working to evaluate and address solutions for these areas that are impacted by rain events.	City Funding
9	Flooding	Structure & Infrastructure Projects	Address necessary infrastructure improvements to the Waste Water Treatment Plant (WWTP) that is located within the floodplain.	New High 2025-2030	City Admin in coord with City Public Works	The city wishes to address infrastructure improvements to the WWTP as flooding has pushed the city to bypass treatment and send untreated waste water into the Zumbro River. The city is working on a regional WWTP and collection system with neighboring communities. The city may wish to apply for future FEMA grant funding to support the WWTP after necessary improvements have been identified.	City, FEMA BRIC or HMGP grant funding
10	Drought	Local Planning & Regulations / Education & Awareness Programs	Establish watering restrictions during drought conditions and raise public awareness of water conservation measures.	Existing High 2025-2030	City Admin	During periods of severe drought, the city will enforce our water Conservation Plan and promote water conservation awareness measures to residents.	City Funding

CITY OF ROCHESTER

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 2025-2030	Rochester Emergency Management (REM)	We post information on our city website and the Facebook pages, including Police and Fire pages, if relevant. This includes during Severe Weather Awareness Week each April. A link to the City of Rochester FB page is located on the city's website homepage. The city's EM website page includes resources on household, business, and community preparedness. The REM website has a page on "People with Disabilities" that includes emergency preparedness information in multiple languages.	City Funding
2	All-Hazards	Education & Awareness Programs	Encourage residents in our community to sign up for the county's emergency notification system.	Existing High 2025-2030	REM	The city has recently switched over from Rochester Alerts to CodeRED for our alerting and notification software. We did have a community sign-up option with Rochester Alerts, but it was used by a very small percentage of our residents. We are reviewing the efficacy of a similar program in CodeRED. We will use our existing communication platforms as well as local media to encourage residents to sign up.	City Funding

CITY OF ROCHESTER

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
3	All Hazards	Mitigation Preparedness & Response Support	Ensure emergency alerts can reach vulnerable and immigrant communities.	In-Progress High 2025-2030	REM in coord with Olmsted County Emergency Management	As various vulnerable and immigrant communities expand, city departments are actively working to address these issues. The city is developing a new 311 telephone information system, and Rochester EM is working with the 311 team to provide important weather-related information, including warning siren information. The 311 system will have a language translation component that we will utilize. We are also conducting outreach and education efforts with our vulnerable, limited-English, and immigrant communities to better connect them with emergency information that is clear and accessible.	City Funding
4	All Hazards	Mitigation Preparedness & Response Support	Encourage facilities that care for vulnerable populations to have emergency plans in place in the event of severe storms, extreme temperatures, or other events that require emergency measures to save lives.	Existing High 2025-2030	REM	Such facilities are required to have emergency plans in place. REM is available to assist with planning or plan review if requested. There is a "Request for Presentation" section on the REM website page.	City Funding
5	All Hazards	Local Planning & Regulations	Incorporate mitigation strategies across the city's long-term plans and policies for future growth and new development.	Existing High 2025-2030	City Admin, Rochester Community Development,	The Unified Development Code (UDC) regulates all development within the city. The UDC dictates land use and zoning in hazard areas including the Floodplain Overlay District and Shoreland Overlay District that restrict development within and along FEMA designated floodplains and public waters, respectively. The city also follows a Sustainability and Resiliency Plan that includes 104 action items.	City Funding

CITY OF ROCHESTER

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
6	Extreme Cold/Heat Temps	Education & Awareness Programs	Provide outreach and education to vulnerable populations in the community (i.e. senior citizens, young adults, immigrant populations) on personal safety measures to take during periods of extreme cold or extreme heat.	In-Progress High 2024	REM	This falls under REM’s ongoing program of public outreach and education for all severe weather.	City Funding
7	Extreme Cold/Heat Temps	Mitigation Preparedness & Response Support	Plan for/expand the capacity to shelter vulnerable homeless populations during periods of extreme cold or extreme heat.	Existing High 2025-2030	REM in coord with OCEM, OCPH and other agencies	Concerns related to extreme cold are addressed in plans developed by Salvation Army, Olmsted County Community Services, and other community partners. The Olmsted County Public Health EOP contains a Cooling Center protocol. Agency assigned in the protocol is American Red Cross.	City Funding, Agencies
8	Extreme Cold/Heat Temps	Education & Awareness Programs	Continue partnering with Rochester Public Transit to offer the “Cool Place to Be” and “Warm Place to Be” bus transit programs.	Existing High 2025-2030	REM in coord with Rochester Public Transit	This falls under REM emergency response planning for transportation needs. RPT administers these programs in times of extreme cold / heat. Public outreach campaigns are done to make the public aware of this resource.	City Funding, RPT
9	Severe Winter / Summer Storms	Structure & Infrastructure Projects	Implement measures to reduce the risk of failure of overhead powerlines due to extreme storm events.	Existing High 2025-2030	Rochester Public Utilities (RPU)	RPU continues to convert areas of the electric distribution system from overhead to underground. As of 2022, 65.11% of the system is underground. In addition, RPU annually invests over \$1.7 million to trim or remove trees and limbs that could damage electric lines and equipment during high wind events. Rochester Parks & Forestry also manages pruning and timely removal of declining trees.	RPU

CITY OF ROCHESTER

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
10	Severe Summer Storms	Mitigation Preparedness & Response Support	Ensure plans are in place for evacuation and emergency sheltering for mobile home park residents vulnerable to high wind and tornado events.	Existing High 2025-2030	City Admin, City EM	Our local agencies work with the parks to provide information to these residents on what actions to take in case of high winds or tornadoes. When requested, we also advise park management to reach out to the state to determine whether their storm shelter requirements and/or capacity are adequate.	City Funding
11	Severe Summer Storms	Structure & Infrastructure Projects	Construct safe rooms at Rochester's most heavily used park facilities.	New High 2025-2030	Parks and Recreation in coord with REM	Rochester Parks will continue to incorporate facility upgrades or new construction for storm shelters or safe rooms as park improvements are planned & budgeted for.	City Funding and/or State Mitigation Funding
12	Severe Summer Storms	Education & Awareness Programs	Continue participation in SkyWarn Storm Spotter training in coordination with Olmsted County Emergency Management		REM in coord with OCEM	On an annual basis Rochester Emergency Management encourages participation of city fire department / law enforcement personnel and also promotes the training opportunity to the public. The training is held by the NWS and Olmsted County.	National Weather Service
13	Severe Summer Storms	Structure & Infrastructure Projects	Ensure outdoor warning sirens are placed in areas of new development where needed.	New High 2025-2030	REM	Our tornado and high-wind siren system is robust, but our most recent siren study determined that urban development has led to areas in NW and SE Rochester that are on the edge or just outside the desired reach of current sirens in those locations. New sirens will be purchased and installed as funding is available. Outside grant funding may also be explored with help from Olmsted County Emergency Management.	City Funding, other grant funding (TBD)

CITY OF ROCHESTER

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
14	Flooding	Structure & Infrastructure Projects	Apply for FEMA BRIC grant funding to implement flood mitigation project for the Kings Run Pond 40, also known as the Section 7 Pond.	New High 2025-2030	Rochester Public Works in coord with REM and OCEM	Beginning in 2024 the City of Rochester is working with Olmsted County Emergency Management to prepare a grant application to submit for FEMA BRIC grant funding to support this project. This project has been identified as the top flood mitigation project for the city. A series of regional stormwater ponds are designed to reduce peak flows from the western drainage area outside of the city; with the Section 7 pond being the primary pond needed to reduce and stabilize flows on the south side of the Douglas State Bike Trail through the residential areas. The grant will be submitted to FEMA following approval of the 2025 Olmsted County HMP Update.	City Funding, FEMA BRIC Grant Funding
15	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Continue to address stormwater management planning to handle future high-rain events that impact the city.	Existing High 2025-2030	Rochester Public Works	The city's Water Resources (Storm Water Management) Team and Flood Control Project Team, which are part of the Public Works Environmental Services Division, are responsible for the implementation of flood mitigation-related planning and/or projects. The city's Comprehensive Surface Water Management Plan prioritizes implementation of green infrastructure, watershed storage, and increased conveyance capacity. The city is also building out H/H models to complete flood risk assessment analyses and update the model based on development activities.	City Funding

CITY OF ROCHESTER

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
16	Flooding	Local Planning & Regulations	Enforce city ordinances that regulate development in the flood-mapped areas of the city.	Existing High 2025-2030	Rochester Community Development	The city has a designated Shoreland Overlay District (SOD) and Floodplain Overlay District (FOD) that restrict development within designated floodplains and along public waters, respectively. The City's development review process enforces all pertinent building codes including those related to the SOD and FOD.	City Funding
17	Flooding	Local Planning & Regulations	Become a FEMA Community Rating System City.	In Progress High 2024-2030	Rochester Public Works, Rochester Community Development	The last citywide flood risk assessment was completed in 2014. The City of Rochester is currently not participating in FEMA's Community Rating System, which helps ensure the City is going above and beyond to protect its residents from the dangers of flooding. The CRS is a voluntary incentive program that recognizes and encourages community floodplain management practices that exceed the minimum requirements of the National Flood Insurance Program (NFIP). The City's long-standing flood management program, reoccurring flood risk assessments, and floodplain regulations position the City well to participate in FEMA's Community Rating System. City and County staff have begun the process of becoming a Community Rating System City and will participate in a Community Assistance Visit in 2024.	City Funding

CITY OF ROCHESTER

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
18	Flooding	Local Planning & Regulations	Work in partnership with area agencies and organizations to support flood mitigation planning and projects.	Existing Moderate 2025-2030	Rochester Public Works, Rochester Community Development	The city of Rochester and Olmsted County often team with the Minnesota Department of Natural Resources for FEMA floodplain mapping initiatives, as well as mitigation efforts for local stream and habitat restoration projects. The city is also a member of the Watershed Alliance for the Greater Zumbro River (WAGZ) that evolved from the One Watershed One Plan initiative for the Zumbro River.	City Funding, MN DNR, Watershed Orgs.
19	Drought	Local Planning & Regulations / Education & Awareness Programs	Establish watering restrictions during drought conditions and raise public awareness of water conservation measures.	New Moderate 2025-2030	City Admin	The city will establish and enforce watering restrictions 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 Funding
20	Drought / Wildfire	Education & Awareness Programs	Raise public awareness of the risk of wildland fire during periods of drought.	Existing Moderate 2025-2030	REM in coord with OCEM	Rochester Emergency Management works in concert with the Rochester Fire Department and Olmsted County Emergency Management to get out messaging to the public about wildfire risk during periods of extended drought.	City Funding
21	Landslides	Local Planning & Regulations	Ensure plans and policies are in place to address areas of potential landslide concern.	Existing Moderate 2025-2030	Rochester Community Development	The City of Rochester enforces a Decorah Edge Ordinance to protect areas with unstable soils and prevent damage to the integrity of those soils.	City Funding

CITY OF ROCHESTER

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
22	Dam Failure	Local Planning & Regulations	Ensure plans and procedures are in place to address hazard risks to six flood control reservoirs, the 50 th Ave NW Regional Pond, Silver Lake Dam, and the Zumbro Hydroelectric Dam.	Existing Moderate 2025-2030	Rochester Public Works, RPU in coord with Wabasha County	The city of Rochester has dedicated staff to inspect and maintain the reservoirs, the 50 th Ave NW pond, and dams. Required reporting and inspections are done with the USACE and DNR Flood Safety. Standard operating procedures are developed for operation of the infrastructure during flooding events. RPU has detailed notification procedures in place that require collaboration with Wabasha County on the Zumbro Hydroelectric Dam. All of these are drilled on at least once a year.	RPU, City Flood Control Funds, Wabasha County
23	Dam Failure / Flooding	Structure and Infrastructure Projects	Continue to inspect and maintain all flood control systems within the city.	Existing Moderate 2025-2030	Rochester Public Works	The city of Rochester has dedicated Flood Control Engineer and inspection staff to inspect and maintain flood control system. Annual reporting and inspections are done with the USACE and DNR Flood Safety.	City Flood Control Funds
24	Land Subsidence (Karst)	Local Planning & Regulations	Continue to utilize GIS maps in planning and zoning reviews that show where risk exists in within city limits due to karst features.	Existing Moderate 2025-2030	City Admin / Zoning	The city receives mapped information on its karst geology from the MN DNR and MPCA. This information allows the city to include considerations for karst sensitive features in our land use planning and future development.	City Funding
25	Land Subsidence (Karst)	Local Planning & Regulations	Avoid stormwater runoff and infiltration in areas of active karst.	Existing Moderate 2025-2030	City Admin / Public Works	Our city public works department manages our stormwater system, which is designed to disperse runoff away from any karst sensitive areas.	City Funding
26	Land Subsidence (Karst)	Local Planning & Regulations	Ensure that the city's drinking water meets state drinking water standards.	Existing High 2025-2030	City Admin in coord with MPCA	The city works with the MPCA to keep our wellhead protection plan updated. We also regularly test our drinking to ensure that there is not a public health risk due to nitrate contamination.	City Funding, MPCA

CITY OF ROCHESTER**Mitigation Action Chart**

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
27	Land Subsidence (Karst)	Local Planning & Regulations	Continue to utilize geotechnical evaluations to evaluate risks associated with karst and options for mitigation.	Existing High 2025-2030	City Admin / Community Development / Public Works	Our Community Development department ensures geotechnical evaluations are provided as required by building code on private development projects. Public Works performs geotechnical evaluations for significant city-led reconstruction projects and requires them for privately constructed, city-owned infrastructure.	City Funding, Private Funding

CITY OF STEWARTVILLE

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 2025-2030	City Admin / City EM	The city uses our city website and social media as well as local news media to help get information out to the public.	City Funding
2	All-Hazards	Education & Awareness Programs	Encourage residents and local businesses in our community to sign up for the county's emergency notification system.	In-Progress High 2025-2030	City Admin / City EM	The city is now working with Olmsted County on a new revised system – CodeRed, and is in the process of encouraging all citizens and businesses to sign up for delivery on their phones – mobile and/or landline (calls and/or texts) and/or computers (e-mail) for area-wide notification.	City Funding
3	All-Hazards	Local Planning & Regulations	Incorporate mitigation strategies across the city's long-term plans and policies for future growth and development.	Existing High 2025-2030	City Admin in coord with Public Works	The city has a Public Safety Committee & Planning and Zoning Commission that provide guidance and oversight to the city's long-term planning and policies. The city uses as a land growth and use guideline, a 10-Year Comprehensive Plan (last revised 2022) that assists with planning and zoning, as well as a capital improvements plan for reviewing street and infrastructure use and future planning. The city also references Olmsted County's Highway Safety Plan as a guide as well.	City Funding
4	All-Hazards	Mitigation Preparedness & Response Support	Obtain additional generators for emergency backup power to support city operations and provision of emergency sheltering.	New High 2025-2030	City Admin in coord with Public Works	The city will work to obtain portable or permanent generators to assist city facilities in the event of power outages, so that these facilities can continue to function for service necessities, or for safe sheltering needs, and/or for communication and operational needs.	City Funding

CITY OF STEWARTVILLE

Mitigation Action Chart

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
5	Extreme Temps / Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Be prepared to provide emergency sheltering to vulnerable residents during extreme temperature events or other severe storms that result in extended power outages.	New High 2025-2030	City Admin, City EM / Public Safety Committee	In the event of Extreme Cold/Heat/Storm Shelter needs, the city would like to continue finding alternate safe haven sheltering locations to protect the elderly, the vulnerable, and/or those that have lost housing due to severe weather and storm damages, and/or other dangerous or damaging hazards that may have developed. This is an effort that the city will work on in coordination with Olmsted County Emergency Management.	City Funding
6	Flooding	Local Planning & Regulations	Continue participation in the National Flood Insurance program and enforce city ordinances that restrict new development in flood risk areas.	Existing High 2025-2030	City Admin, City Engineer	The city has updated our Floodplain Ordinance and Mapping and the Zoning Ordinance for control of increased development, as the city grows we are working to mitigate the potential hazard of flooding.	City Funding
7	Drought	Local Planning & Regulations / Education & Awareness Programs	Establish watering restrictions during drought conditions and raise public awareness of water conservation measures.	New Moderate 2025-2030	City Admin	In the summer of 2023, the city did have to enact some temporary water use restrictions in coordination with the drought conditions that were experienced in and around the greater Stewartville city and area. The city will continue to enact watering restrictions as per guidance from the MN DNR. The city will also do local outreach to help make residents aware of the ordinance and the limitations on non-essential water usage.	City
8	Land Subsidence (Karst)	Local Planning & Regulations	Continue to utilize GIS maps in planning and zoning reviews that show where risk exists in within city limits due to karst features.	Existing Moderate 2025-2030	City Admin / Zoning	The city receives mapped information on its karst geology from the MN DNR and MPCA. This information allows the city to include considerations for karst sensitive features in our land use planning and future development.	City Funding

CITY OF STEWARTVILLE**Mitigation Action Chart**

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
9	Land Subsidence (Karst)	Local Planning & Regulations	Avoid stormwater runoff in areas of active karst.	Existing Moderate 2025-2030	City Admin / Public Works	Our city public works department manages our stormwater system, which is designed to disperse runoff away from any karst sensitive areas.	City Funding
10	Land Subsidence (Karst)	Local Planning & Regulations	Ensure that the city's drinking water meets state drinking water standards.	Existing High 2025-2030	City Admin, Public Works in coord with MPCA	The city works with the MPCA to keep our wellhead protection plan updated. We also regularly test our drinking to ensure that there is not a public health risk due to nitrate contamination.	City Funding, MPCA