



**2025 – 2030**



# **Grant County**

## Pre-Disaster Mitigation Plan

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## **CHAPTER 1 | INTRODUCTION**

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### **INTRODUCTION**

Grant County (County) is vulnerable to natural hazards that have the possibility of causing serious threat to the health, welfare, and security of our citizens. The cost of response and recovery, in terms of potential loss of life or loss of property, from potential disasters can be lessened when attention is turned to mitigating their impacts and effects before, they occur or re-occur.

The Grant County Board of Commissioners, in conjunction with the South Dakota Office of Emergency Management (SD OEM) and the Federal Emergency Management Agency (FEMA), has agreed to update this plan to assist all participating entities in the county in their mission to mitigate losses from natural hazards throughout Grant County, South Dakota, and the communities located therein.

This plan is an update of the Pre-Disaster Mitigation Plan (PDM) that was developed by the County in 2007, updated in 2014, and once again in 2020. The document will serve as a strategic planning tool for use by the county and its communities in its efforts to mitigate future disaster events. The plan identifies and analyzes natural disasters that may occur in the County in order to understand the county's vulnerabilities and propose mitigation strategies that minimize future damage caused by those hazards. This knowledge will help identify solutions that can significantly reduce threat to life and property. The plan is based on the premise that hazard mitigation works. With increased attention to mitigating natural hazards, communities can greatly reduce threats to existing citizens and avoid creating new problems in the future. In addition, many mitigation actions can be implemented at minimal cost.

To date, a total of 5,018 Major Presidential Disaster Declarations (all natural hazards) have been proclaimed in the United States, of those declarations, 93 occurred fully or partially within the state of South Dakota. Grant County is no stranger to natural and man-made disasters. All or portions of Grant County have been included in 19 Presidential Disaster Declarations, two of which occurred in the last 10 years. In order to prevent and reduce the cost that is incurred by businesses, citizens, and property owners from these disasters, the Grant County Pre-Disaster Mitigation Plan was developed. This plan identifies hazards that occur throughout Grant County and mitigation projects that will aid in preventing and reducing the effects of those disasters on the property and lives within. Special consideration has been given to critical infrastructure throughout the county.

This is not an emergency response or emergency management plan. Certainly, the plan can be used to identify weaknesses and refocus emergency response planning. Enhanced emergency response planning is an important mitigation strategy. However, the focus of this plan is to support better decision making directed toward avoidance of future risks and the implementation of activities or projects that will eliminate or reduce the risk for those that may already have exposure to a natural hazard threat.

## **AUTHORITY FOR PRE-DISASTER MITIGATION PLAN**

Each year, disasters take the lives of hundreds of people and injure thousands more in the United States. Across the nation, billions of taxpayer-funded dollars are spent annually to help communities, organizations, businesses, and individuals recover from natural disasters. However, these funds can never fully cover the true cost of the disasters.

In October of 2000, the Disaster Mitigation Act (DMA2K) was signed to amend the 1988 Robert T. Stafford Disaster Relief and Emergency Assistance Act. This amendment created the framework for state, local, tribal, and other territorial governments to engage in hazard mitigation planning to receive certain types of non-emergency disaster assistance. Section 322 (a-d) requires that local governments, as a condition of receiving federal disaster mitigation funds, have a multi-hazard mitigation plan in place that:

1. Identifies hazards and their associated risks and vulnerabilities;
2. Develops and prioritizes mitigation projects; and
3. Encourages cooperation and communication between all levels of government and the public.

The objective of this plan is to meet the hazard mitigation planning needs for the County and participating entities. Consistent with the Federal Emergency Management Agency's guidelines, this plan will review all possible activities related to disasters to reach efficient solutions, link hazard management policies to specific activities, educate and facilitate communication with the public, build public and political support for mitigation activities, and develop implementation and planning requirements for future hazard mitigation projects.

## **PURPOSE**

The County PDM is a planning tool to be used by the County, as well as other local, state, and federal units of government, in their efforts to fulfill federal, state, and local hazard mitigation planning responsibilities; to promote pre- and post-disaster mitigation measures, short/long range strategies that minimize suffering, loss of life, and damage to property resulting from hazardous or potentially hazardous conditions to which citizens and institutions within the county are exposed; and to eliminate or minimize conditions which would have an undesirable impact on our citizens, economy, environment, or the well-being of the County. This plan will aid city, township, and county agencies and officials in enhancing public awareness of the threat hazards have on property and life, and what can be done to help prevent or reduce the vulnerability and risk of each County jurisdiction.

## **USE OF PLAN**

The plan will be used to help the county, communities, and their elected and appointed officials:

- Plan, design and implement programs and projects that will help reduce their community's vulnerability to natural hazards.
- Facilitate inter-jurisdictional coordination and collaboration related to natural hazard mitigation planning and implementation.
- Develop or provide guidance for local emergency response planning.
- Be compliant with the Disaster Mitigation Act of 2000.

## **SCOPE OF PLAN**

- Provide opportunities for public input and encourage participation and involvement regarding the mitigation plan.
- Identify hazards and vulnerabilities within the county and local jurisdictions.
- Combine risk assessments with public and emergency management ideas.
- Develop goals based on the identified hazards and risks.
- Review existing mitigation measures for gaps and establish projects to sufficiently fulfill the goals.
- Prioritize and evaluate each strategy/objective.
- Review other plans for cohesion and incorporation with the PDM.
- Establish guidelines for updating and monitoring the plan.
- Present the plan to the Grant County Commissioners and the participating communities within the county for adoption.

## **WHAT IS HAZARD MITIGATION?**

Hazard mitigation is defined as any cost-effective action(s) that has the effect of reducing, limiting, or preventing vulnerability of people, property, and the environment to potentially damaging, harmful, or costly hazards. Hazard mitigation measures, which can be used to eliminate or minimize the risk to life and property, fall into three categories. First are those that keep the hazard away from people, property, and structures. Second are those that keep people, property, and structures away from the hazard. Third are those that do not address the hazard at all but rather reduce the impact of the hazard on the victims such as insurance. This mitigation plan has strategies that fall into all three categories.

Hazard mitigation measures must be practical, cost effective, environmental, and politically acceptable. Actions taken to limit the vulnerability of society to hazards must not in themselves be more costly than the value of anticipated damages.

The primary focus of hazard mitigation actions must be at the point at which capital investment decisions are made and based on vulnerability. Capital investments, whether for homes, roads, public utilities, pipelines, power plants, or public works, determine to a large extent the nature and degree of hazard vulnerability of a community. Once a capital facility is in place, very few opportunities will present themselves over the useful life of the facility to correct any errors in location or construction with respect to hazard vulnerability. It is for these reasons that zoning and other ordinances, which manage development in high vulnerability areas, and building codes, which ensure that new buildings are built to withstand the damaging forces of hazards, are often the most useful mitigation approaches a jurisdiction can implement.

Previously, mitigation measures have been the most neglected programs within emergency management. Since the priority to implement mitigation activities is generally low in comparison to the perceived threat, some important mitigation measures take time to implement. Mitigation success can be achieved, however, if accurate information is portrayed through complete hazard identification and impact studies, followed by effective mitigation management. Hazard mitigation is the key to eliminating long-term risk to people and property in South Dakota from hazards and their effects. Preparedness for all hazards includes response and recovery plans, training, development, management of resources, and mitigation of each jurisdictional hazard.

This plan evaluates the impacts, risks, and vulnerabilities of natural hazards within the jurisdictional area of the entire county. The plan supports, provides assistance, identifies, and describes mitigation projects for each of the local jurisdictions who participated in the plan update. The suggested actions and plan implementation for local governments could reduce the impact of future natural hazard occurrences. Lessening the impact of natural hazards can prevent such occurrences from becoming disastrous but will only be accomplished through coordinated partnership with emergency managers, political entities, public works officials, community planners, and other dedicated individuals working to implement this program.

## **GRANT COUNTY PROFILE**

### **Population**

Grant County is in the northeastern portion of South Dakota. It borders Roberts County to the north, Lac qui Parle County, MN to the east, Codington and Deuel Counties to the south, and Day County to the west. The county has a geographic area of 688 square miles, and its Census 2020 population was 7,556, which averages 11 persons per square mile, which is a slight increase since 2010. According to 2020 Census data, 14.6% of the population is older than age 65. Education levels of persons twenty-five and older include 91.0% high school graduates and 28.8% with college degrees. The number of high school graduates has remained steady since 2010, while the number of college graduates has risen, which shows a positive trend for the County.

The county seat is Milbank, which is situated at the intersection of US Highway 12. Interstate 29 runs through the western edge of the county. Table 1.1 shows the population and number of housing units located in each of the county's municipalities. Table 1.2 lists the twenty-three County Townships and populations. Over the last ten years, the County has experienced a small jump in growth of 2.7%. This trend shows a significant change from the decrease the County has experienced in the previous 30 years. This is likely due to the county's increase Hispanic and Latino residents due to the presence of large employers, such as Valley Queen Cheese, Big Sioux Pork, and Dakota Granite. Another benefit could be the County's proximity to Watertown, which serves as the governmental, education, employment and commerce centers for their counties, as well as the region as a whole.

**Table 1.1: Grant County Municipalities**

<b>Name</b>	<b>2020 Population</b>	<b>2010 Population</b>	<b>Location</b>	<b>Elevation</b>	<b>Housing Units</b>
Big Stone City	412	597	45.294824 -96.462898	1,086	286
LaBolt	66	81	45.049978 -96.677698	1,371	32
Marvin	19	63	45.260146 -96.912613	1,650	17
Milbank	3,544	3,210	45.218583 -96.633721	1,150	1,669
Revilla	99	94	45.016029 -96.570641	1,200	56
Stockholm	102	99	45.100101 -96.800232	1,650	53

Strandburg	63	70	45.043312 -96.761365	1,690	33
Twin Brooks	47	52	45.205510 -96.781717	1,260	26
Unincorporated Areas	3,204	3,090			1,254
Grant County	7,556	7,356			3,426

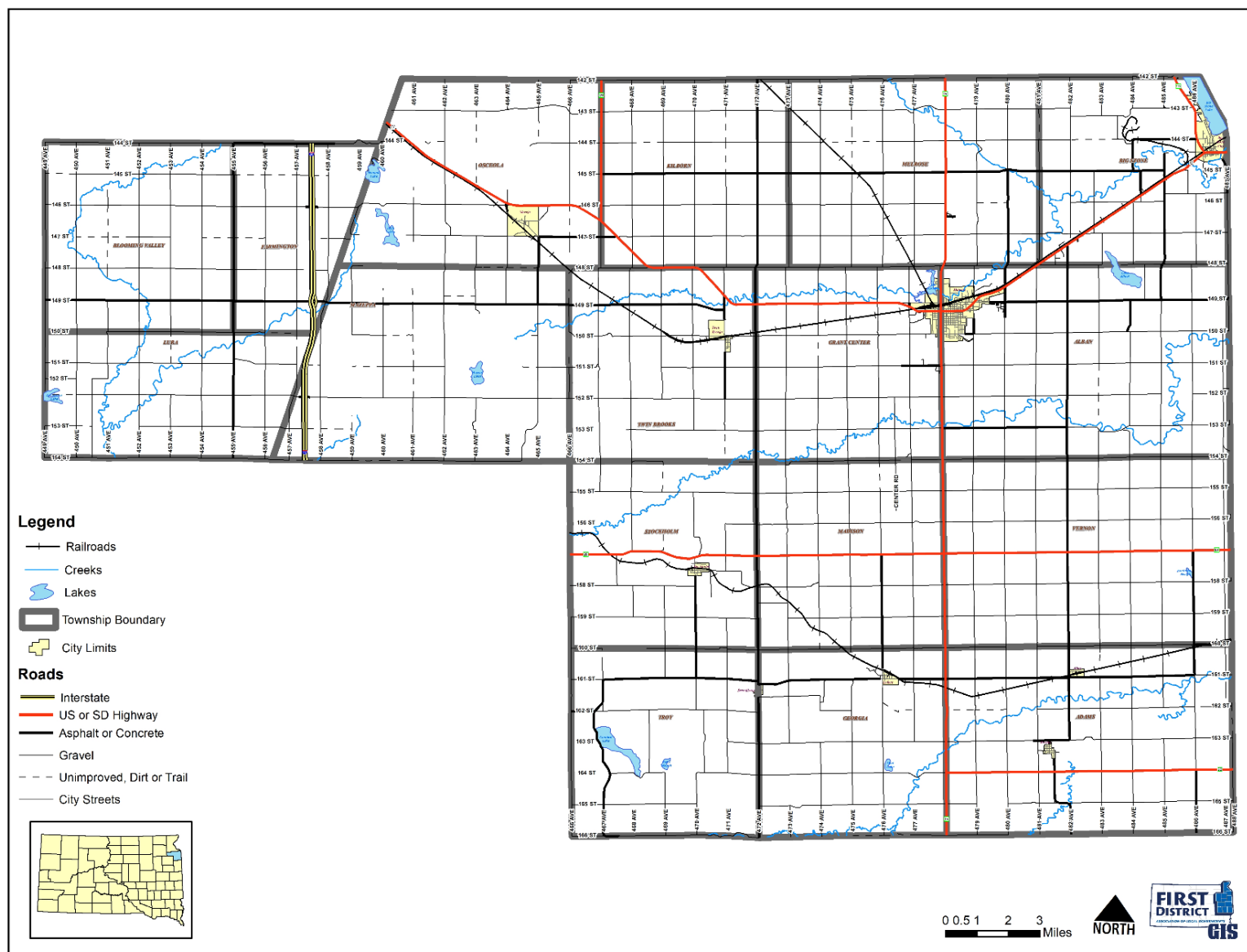
Source : 2020 & 2010 Census, [www.Lat-Long.com](http://www.Lat-Long.com), [www.usbeacon.com](http://www.usbeacon.com)

**Table 1.2: Grant County Townships**

Township	Population
Adams	150
Alban	598
Big Stone	321
Blooming Valley	174
Farmington	77
Georgia	79
Grant Center	397
Kilborn	168
Lura	48
Madison	133
Mazeppa	99
Melrose	349
Osceola	169
Stockholm	72
Troy	67
Twin Brooks	78
Vernon	218

Source: 2020 Census

### Figure 1.1 Political Map



## **Social and Economic Description**

Grant County's economy is dependent upon its health care, agricultural, and manufacturing sectors. Most non-agricultural employment is in manufacturing, health care, or governmental sectors. Notable employers are Valley Queen Cheese Plant, United Hardware Distributing Company, Ottertail Power Company, and Saputo Cheese. The City of Milbank is the governmental center for the County. The primarily rural communities within the County provide a "small town" atmosphere to those residents and serve as bedroom communities to Milbank and the nearby City of Watertown. In conjunction with this, a large majority of the residents within these communities commute to employment centers outside of their hometown.

Most communities within the County have limited retail and service sectors, which only provide basic needs to their residents. Multiple small lakes (Big Stone Lake, Crooked Lake, Lake Farley, Mud Lake, Summit Lake, and Twin Lakes) throughout the County provide recreational opportunities, such as camping facilities, swimming beaches, shooting ranges, boat docks, and fishing.

Overall unemployment rates in South Dakota have remained under 3.5% over the last 5 years with the exception of an 8.9% spike that resulted from the start of the Coronavirus pandemic in April of 2020. Since that date, unemployment rates across the state quickly declined back to around 3.5% by fall of 2020. The state unemployment rates continued to steadily decrease until plateauing and remaining at 2% ( $\pm 0.1\%$ ) in early spring of 2022. According to the Federal Reserve Bank of St. Louis, Grant County followed a similar pattern with unemployment hovering around 2% then spiking to 7.3% in April of 2020 but fell back to about 2% by October of 2020. Grant County unemployment rate tends to spike to around 4% at the start of each year then drop steadily to about 2%. According to the 2022 American Community Survey, 9.9% of the population of Grant County is at or falls below the poverty line.

## **Physical Description and Climate**

Grant County is located in the northeast corner of South Dakota and is bordered by the counties of Roberts, Day, Codington, and Deuel. Grant County is located within the region generally classified as mild and humid continental or Steppe with four well-defined seasons. The weather can be quite changeable with large day to day temperature variations, particularly from the fall to the spring. Days with severe winter cold and summer heat are typical.

Normally the temperature is moderate until the beginning of July, after which short, hot periods are experienced until the end of August. The freeze-free period is the number of days between the average last occurrence of freezing temperatures in the spring and the average first occurrence of 32 degrees F or lower in the fall. The length of the freeze-free period approximates the length of the growing season which ranges from 130 days or more between May 21<sup>st</sup> and September 21<sup>st</sup>. Topography and local weather conditions can produce subfreezing temperatures at the ground surface while the air temperature a few feet above the ground remains above 32 degrees F.

Annual average precipitation is 32.92 inches, with over 75% of the precipitation falling from May through September. Precipitation can vary significantly from year to year, and location to location within a given year. The heaviest most intense precipitation often occurs with localized downpours associated with thunderstorms in June through August. Significant flash flooding can result from

these downpours with over 3 inches of precipitation reported in a few events. Widespread heavy precipitation events of 1 to 2 inches can occur every few years and is most common from April through June and September through early November.

Average winter snowfall ranges up to 37 inches. The heaviest snowstorms often occur from late March through May or mid-October to mid-December. These storms can produce more than 12 inches of snow and are often made more severe as temperatures are warmer, and therefore the snow is heavier and more difficult to travel in and remove. These storms are often accompanied by high winds resulting in blizzard conditions. In spring these storms can coincide with the calving season resulting in livestock loss. Mid-winter snowstorms in general produce less than 6 inches of snow, but heavier amounts up to 19 inches or more have occurred. Despite the generally lighter amounts and drier snow, high winds can result in blizzard conditions. Even without falling snow, in the colder conditions of mid-winter, high winds can pick up loose snow, resulting in local ground blizzards.

Above normal snowfall can lead to exceptionally deep snowpack levels. Unusually cold late spring temperatures will allow the deep snowpack to persist until early April. Unpredictable weather patterns can shift to abnormally warm conditions with temperatures from the 40s to the 70s. These abnormally high temperatures can cause rapid snowmelt which may result in overland flooding in the region. With ever changing weather patterns and associated climate change related severe storms, it is important to understand a new normal higher level of precipitation is expected across the county and state.

Severe thunderstorms are common from June into early September. Typically, the greatest hazards associated with these thunderstorms are very high winds and large hail. Damage to structures and crops occurs every summer from these storms. Tornadoes have been reported but are relatively rare.

An important element of the climate in Grant County is the often-windy conditions. Average wind speeds in Grant County is 12.8 mph. The average and peak sustained winds tend to be stronger over higher more exposed terrain. The highest wind gusts often occur with thunderstorms during the summer, with gusts over 60 mph occurring most years. The highest recorded wind gust of over 100 mph occurred county-wide during severe thunderstorms on June 5-6, 2018 according to the National Weather Service. The highest sustained winds tend to occur in the spring and fall, with sustained winds over 40 mph or greater occurring most years. Grant County reached straight line wind speeds of 90 mph more than once within the last ten years.

For the purposes of this hazard assessment and mitigation plan, weather is of interest when it threatens property or life and thus becomes a hazard. The National Weather Service (NWS) provides short-term forecasts of hazardous weather to the public. In addition to issuing tornado and severe thunderstorm watches, the NWS also produces regularly scheduled severe weather outlooks and updates on various forms of hazardous weather including heavy rain and winter storms.

## **Hydrology**

Grant County is located at the top of Coteau des Prairies, a flat iron shaped plateau region extending along the Minnesota – South Dakota border. Topographically, the County is split between hills and valleys with the latter occupying the east half of the county with which the Whetstone and Yellow Bank rivers run through.

The hills begin four miles north of Marvin and gradually slope south to the county line with Deuel County. Big Stone City sits at an elevation of 967 feet, making it the lowest point in the State of South Dakota and in comparison, Marvin's elevation sits at 1,650 feet.

Grant County lays over several different watersheds, but is primarily within the Upper Little Minnesota River and Yellow Bank River watersheds. More specifically, the County is part of the Upper Little Minnesota River Basin and includes the North and South forks of the Yellow Bank River. The Whetstone River is also located in Grant County and is a significant tributary to the Little Minnesota River.

## **Transportation and Utility Infrastructure**

The County's road network is composed of a total of 458 miles including a mixture of state and federal highways, railroads, county roads, municipal road systems, township roads, and private roads. The rural road system performs two basic functions: (1) providing general mobility for the residents in rural areas, and (2) accommodating the movements of agricultural products to market. The rural transportation system was not designed to accommodate large volumes of traffic on a daily basis.

The major transportation infrastructure in the county includes roads and railroads. Interstate 29 passes north-south, through the western side of the county. US Highway 12 and SD Highway 15 and 20 and the Burlington Northern Santa Fe Railroad run east and west. The County is well-served by these routes and allows local businesses the ability to ship their products nationwide. An extensive network of county highways and township roads complete the infrastructure used for rural transportation involving residents, agricultural products, and other commodities.

The County's 458-mile road system includes 280 gravel road miles, 178 hard surface rural road miles, and 221 bridges. In Grant County, the transportation choices are limited to mostly private vehicles traveling over state and federal highways and county roads.

The cities of Milbank, Big Stone City and Marvin have their own water systems, while Grant Roberts Rural Water System serve rural households in the county, including the residents of Albee, Stockholm, and Strandburg. Brookings-Deuel Rural Water System serves the communities of Revillo and LaBolt.

Regarding wastewater disposal, all of the municipalities, with the exception of Marvin and Twin Brooks, within the County have municipal wastewater collection and treatment systems. Rural residences and those residents in Marvin and Twin Brooks rely on individual septic tanks and drain-fields. The density of septic systems and their potential to cause water contamination is an environmental concern. Although residential growth is not expected to be significant in the county, new developments need to be controlled through planning and development guidelines.

Electric power is provided to rural county residents and people in the communities by the Whetstone Valley Electrical Co-Op and Otter Tail Power Company. The primary telephone companies serving the County's rural population are Interstate Telephone Company (ITC), Century Link and RC Technologies. Cellular phone service is available in most parts of the county, but there are still places in the county where signals are weak.

## **Medical and Emergency Services**

Avera Medical Group in Milbank serves the needs of Milbank and the surrounding communities of Big Stone City, LaBolt, Marvin, Reville, Stockholm, Strandburg, Twin Brooks and the rural residents of Grant County.

Grant-Roberts Ambulance operates four modern Type III ambulances and one Type II Special Operations Vehicle in Grant and Roberts County. They provide emergency 911 Advanced Life Support (ALS) services for the communities of Milbank and Sisseton as well as the surrounding municipalities. 911 calls are dispatched through the Watertown Dispatch Center in conjunction with the Grant County Sheriff's Office.

The County is governed by five-member board of commissioners. The Sheriff's Department including a Sheriff, four deputies, five dispatchers/jailers, and Milbank Police Department provide law enforcement/safety throughout the county. South Dakota Highway Patrol and South Dakota Game, Fish and Parks provide additional enforcement throughout the County when needed.



## CHAPTER 2 | PREREQUISITES

### ADOPTION BY LOCAL GOVERNING BODY

The local governing body that oversees the update of the Grant County Pre-Disaster Mitigation Plan is the Grant County Board of Commissioners. The Commission has tasked the Grant County Emergency Management Office with the responsibility of ensuring that the PDM is compliant with Federal Emergency Management Agency (FEMA) Guidelines and corresponding regulations.

### MULTI-JURISDICTIONAL PLAN PARTICIPATION

*Requirement 44 CFR § 201.6(c)(1). Local Mitigation Plan Review Tool – A1*

*Requirement 44 CFR § 201.6(c)(5). Local Mitigation Plan Review Tool – F2*

This plan is a multi-jurisdictional plan which serves the entire geographical area located within the boundaries of Grant County, South Dakota. The County has eight incorporated municipalities. All of the incorporated municipalities located entirely within the County elected to participate in the planning process and the update of the existing PDM. Emergency Management Directors of the adjoining counties were also included on the March 2025 invitation correspondence to participate in the Grant County PDM Plan update process. Others invited to participate in the County PDM plan update process include local law enforcement providers, emergency services providers, area utility providers, area health providers, and county school superintendents. Table 2.1 shows the participating local jurisdictions including the following municipalities:

**Table 2.1: Plan Participants**

Continuing Participants	Do Not Participate*
Big Stone City	All 23 Townships
LaBolt	
Marvin	
Milbank	
Reville	
Stockholm	
Strandburg	
Twin Brooks	
Grant County	

\* Non-participating communities are still eligible for hazard mitigation funding, however, may not directly apply for assistance. Instead, any assistance would need to be applied for on behalf of the non-participating communities by Grant County. While none of the unincorporated communities directly participated in the PDM update, they were represented by their local Township Officials.

The townships were invited to participate in the PDM update and asked to identify hazard risks, vulnerability and critical infrastructure via mail and return the information to the team for incorporation in the plan. All twenty-three townships responded to the request.

The Grant County Commission and each of the listed participating municipalities will pass resolutions to adopt the updated PDM. The dates of adoption by resolution for each of the jurisdictions are summarized in Table 2.2.

**Table 2.2: Dates of Plan Adoption by Jurisdiction**

<b>Jurisdiction</b>	<b>Date of Adoption</b>
City of Big Stone City	
Town of LaBolt	
Town of Marvin	
City of Milbank	
Town of Reville	
Town of Stockholm	
Grant County Commission	

All the participating jurisdictions were involved in the plan update. Representatives from each municipality and the County, adjacent county Emergency Managers, law enforcement providers, rural utilities providers, emergency services, school district superintendents and local health providers were invited to the planning meetings. Those in attendance provided valuable perspective on the changes required for the plan. All representatives attending took part in the risk assessment exercise at the March 31, 2025 kickoff meeting.

Representatives in attendance took information from the PDM planning meetings back to their respective boards/agencies and presented the progress of the plan update. First District staff also presented progress reports when meeting individually with communities. The local jurisdictions reviewed and commented (via email or telephone) on updated information placed in the 2025 plan. The local jurisdictions have also presented the Resolution of Adoption to their councils and will pass the resolutions upon FEMA approval of the PDM update. The Resolutions are included in the Appendix.

Table 2.3 was derived to help define “participation” for the local jurisdictions who intend on adopting the plan. To be considered “participating”, each jurisdiction must have at least seven of the ten participation requirements fulfilled.

**Table 2.3: Record of Participation**

<b>Nature of Participation</b>	<b>Big Stone City</b>	<b>LaBolt</b>	<b>Marvin</b>	<b>Milbank</b>	<b>Revillo</b>	<b>Stockholm</b>	<b>Strandburg</b>	<b>Twin Brooks</b>	<b>Grant County</b>
Attended Meetings or work sessions (a minimum of 1 meeting will be considered satisfactory).	■	■	■	■	■	■	■	■	■
Submitted inventory and summary of reports and plans relevant to hazard mitigation.	■	■	■	■	■	■	■	■	■
Submitted the Risk Assessment Worksheet.	■	■	■	■	■	■	■	■	■
Submitted description of what is at risk (including critical facilities and infrastructure at risk from specific Hazards worksheet).	■	■	■	■	■	■	■	■	■
Submitted a description or map of land-use patterns (current and proposed/expected).	■	■	■	■	■	■	■	■	■
Developed goals for the community.	■	■	■	■	■	■	■	■	■
Developed mitigation actions with an analysis of why those actions were selected.	■	■	■	■	■	■	■	■	■
Prioritized actions emphasizing relative cost-effectiveness.	■	■	■	■	■	■	■	■	■
Reviewed and commented on the draft plan.	■	■	■	■	■	■	■	■	■
Hosted opportunities for public involvement (allowed time for public comment at a minimum of 1 city council meetings after giving a status report on the progress of the PDM update).	■	■	■	■	■	■	■	■	■



## CHAPTER 3 | PLANNING PROCESS

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### BACKGROUND

*Requirement 44 CFR § 201.6(c)(1). Local Mitigation Plan Review Tool – A1.*

The effort that led to the development of this plan is part of the larger, integrated approach to hazard mitigation planning in South Dakota that is led by the South Dakota Office of Emergency Management. Production of the plan was the ultimate responsibility of the Grant County Emergency Management Director, who served as the county's point of contact for all activities associated with this plan. Input was received from the PDM Planning Team that was put together by the Emergency Management Director. All invited Planning Team members are listed below in Table 3.1.

The plan itself was written by an outside contractor, First District Association of Local Governments (First District) of Watertown, South Dakota, one of the state's six regional planning entities. The office has an extensive amount of experience in producing various kinds of planning documents, including municipal ordinances, land use plans, and zoning ordinances, and is an acknowledged leader in geographic information systems (GIS) technology throughout South Dakota. First District assisted the County in the development of the county's original PDM in 2007 in addition to the 2014 and 2020 PDM plan updates. The following staff members of the First District Association of Local Governments were involved in the 2024 plan update process: Todd Kays, Director; Luke Muller, Senior Planner; Amy Arnold, Geographic Information System Analyst; Kelli Henricks, Geographic Information System Specialist, and Greg Maag, Planner. Staff attended the PDM Planning Team and community meetings as the plan was being developed. Additional research and information gathering was provided by Payton Carda, an independent technical writing specialist. Carda compiled and formatted all data, information, forms, and maps into the draft and final PDM plan. Arnold assisted by producing many of the maps for the plan and Muller directed the floodplain risk analysis (see next section) and completed the county land cover analysis discussed in the previous chapter. Several other individuals at the state level provided additional support and information that was quite useful. They include:

- James Poppen, CFM Mitigation Branch Chief/State Hazard Mitigation Officer, SD OEM – provided guidance and direction as the plan was being developed.
- Blaire Jonas, South Dakota State NFIP/Mitigation Specialist, SD OEM – provided guidance and direction as the plan was being developed.
- Kyle Kafka, South Dakota Hazard Mitigation Specialist, SD OEM – provided guidance and direction as the plan was being developed.
- Doug Hinkle, SD State Fire Marshall Office – provided information on fires events throughout the County.
- Greg Pollreis, SD Department of Transportation – provided bridges and road mileage information within the County's Road system.

- Marc Macy, South Dakota National Flood Insurance Program Coordinator – provided classification and information regarding value and number of flood insurance policies and claims, as well as guidance and direction as the plan was being developed.

## **DOCUMENTATION OF THE PLANNING PROCESS**

*Requirement 44 CFR § 201.6(c)(1). Local Mitigation Plan Review Tool – A1*

*Requirement 44 CFR § 201.6(b)(2). Local Mitigation Plan Review Tool – A2*

*Requirement 44 CFR § 201.6(b)(1). Local Mitigation Plan Review Tool – A3*

## **Methodology**

Mitigation planning is a process that communities use to identify policies, activities, and tools to implement mitigation actions. The process that was used to develop this plan consisted of the following steps:

1. Planning Framework (*Chapter 3*)
2. Risk Identification and Vulnerability Assessment (*Chapter 4*)
3. Mitigation Strategy (*Chapter 5*)
4. Review of Plan (*Chapter 3 and Chapter 6*)
5. Plan Adoption and Maintenance (*Chapter 1 and Chapter 6*)

## **Planning Framework**

The planning framework component identified five objectives:

- Develop Plan to Plan;
- Identify Governmental Entities/Stakeholders;
- Establish PDM Planning Team;
- Define Scope of the Plan;
- Generate public participation component
- Establish schedule for planning process

Prior to receiving funding, public meetings were held at the Grant County Courthouse to inform the public about the required PDM update. Funding notification from FEMA and the South Dakota Office of Emergency Management to prepare the mitigation plan was received by the county on February 4, 2025. Once funding was secured, the Grant County Emergency Management Director and the First District acted as the PDM Planning Team and began to discuss the strategy to be used to develop the plan. The first task was to identify those entities/stakeholders that would have direct and indirect interests in the update of the PDM.

Prior to the first public informational meeting, the Chairman of the Grant County Commissioners and Grant County Emergency Management Director wrote letters to all potential stakeholders, community organizations, municipalities, townships, utility providers, emergency responders, and concerned residents who might wish to volunteer their time and serve on a committee, and to those who would act as a resource for the PDM Planning Team. The letters included a brief description of the PDM. The same correspondence was sent to the Emergency Management Directors in the adjoining counties inviting them to participate in the Grant County PDM Plan

update process. Public input was solicited via notices regarding the PDM planning process in local media outlets and via the Internet.

Each individual who was contacted for the PDM Planning Team had at least one of the following attributes to contribute to the planning process:

- Significant understanding of how hazards affect the county and participating jurisdictions.
- Substantial knowledge of the county's infrastructure system.
- Resources at their disposal to assist in the planning effort, such as maps or data on past hazard events.

Table 3.1 lists parties that attended as a PDM Planning Team member and records their attendance at the planning meetings, all of which were open to the public and held during the drafting of the plan. Agendas were distributed to the PDM Planning Team prior to each meeting, and the meeting minutes were shared afterward to keep everyone was informed of the discussions and decisions that took place. Though many did not intend, representatives of major employers, school districts, homeowners' associations, utility providers were invited. School districts invited employees to participate in online surveys and encourage families to participate. Employers and lower levels of government (Townships and road or sewer districts) relayed input through elected officials/staff of respective communities and the emergency management director. Utility providers were provided drafts and invitations to all PDM Meetings.

**Table 3.1: PDM Planning Team Members INCLUDE ALL INVITEES**

Invited			Meeting Attendance		
Name	Position	Entity Represented	Meeting 1	Meeting 2	Meeting 3
Alexand Nancy Lee	Finance Officer	Big Stone City			
	Fire Department Chief	Big Stone City			
Steve Brown	Mayor	Big Stone City		■	
Tiffany Leonard	Finance Officer	LaBolt			
	Fire Department Chief	LaBolt			
April Steffensen	Finance Officer	Marvin			
Cynthia Schumacher	Finance Officer	Milbank			■
Steve Pendergrass	City Administrator	Milbank	■		
Corey Hooth	Chief of Police	Milbank	■	■	
	Fire Department Chief	Milbank			
Donna Johnson	Finance Officer	Reville	■		
	Fire Department Chief	Reville			
Jodi Nowick	Finance Officer	Stockholm			
Tammy Rufer	Finance Officer	Strandburg			■
Paul Spolar	Finance Officer	Twin Brooks	■		■
Brian Niseman	Town Board Member	Twin Brooks	■		
Mike Mach	County Commissioner	Grant County	■		
Kathy Folk	County Auditor	Grant County			
Karen Layher	Commission Assistant	Grant County		■	■

Kevin Schuelke	Emergency Management Director	Grant County	■	■	
Kevin Owen	Sheriff	Grant County	■		
Daren Peterson	Highway Superintendent	Grant County	■	■	
Steve Berkner	Planning and Zoning Director	Grant County			
	LEPC Chairperson	Grant County			
Christopher Folk	CEO/ Business Manager	Big Stone City School District			
Justin Downes	Superintendent	Milbank School District			
John Weyh	Staff	Twin Valley Tire/ Milbank Fire Dept.	■		
Kyle Schwandt	Staff	Valley Queen/ Milbank Fire Dept.	■		
Brian Tillman	Director of Maintenance and Operations	Valley Queen	■		
Tom Waletich	Staff	Valley Queen	■		
Jodi Johanssen	General Manager	Big Sioux Rural Water			
Miriah Hicks	Safety Coordinator	Otter Tail Power	■		
Jon Christensen	Operations Manager	Whetstone Valley Electric	■		
Duane Tillman	Staff	Grant-Roberts Ambulance	■		
Brent Hoffman	Director	Grant Roberts Rural Water		■	
Natalie Gauer	Administrator	Milbank Area Hospital	■	■	
Jim Poppen	Hazard Mitigation Officer	State of South Dakota			
Jennifer Meyer	Grant County Health Nurse	State of South Dakota - Department of Health	■	■	
Amy Arnold	GIS Analyst	First District	■		
Luke Muller	Planner	First District	■	■	

Leadership and guidance in the planning effort and at the planning meetings was provided by the First District staff and the Grant County Emergency Management Director. An agenda was distributed to each PDM Planning Team member prior to each meeting, but free-flowing discussion was always encouraged. When PDM Planning Team members had questions about a topic of discussion, either First District staff or the Emergency Management Director would step in.

Generally speaking, the planning process associated with the plan's development was relaxed and informal. No subcommittees were formed, and all decisions were made by mutual consensus of the PDM Planning Team members - no votes were taken, or motions made. Everyone's opinion was respected, nobody was discouraged from voicing their opinion, and no one was made to feel any less important than anyone else.

As the PDM Planning Team was being assembled, arrangements were made for the first PDM Planning Team meeting, which took place in the county 4-H Building in Milbank on March 31, 2025. An agenda was distributed to prospective PDM Planning Team members. Appendix B includes a copy of each meeting notice, agenda, attendance sheet, and minutes.

Those who were invited and/or attended the March 31 meeting for the PDM update were asked to volunteer to serve on the PDM Planning Team. The PDM Planning Team was tasked with fostering coordination between the various entities involved; reviewing the drafts and providing

comments after First District Association of Local Governments staff-initiated changes to the existing plan. Each of the local jurisdictions had a member of their respective boards/councils represent the municipalities in the plan.

The representatives from the municipalities/entities were asked to share the progress of the plan at their own meetings and to ensure that those attending the board/council meetings were aware that they are invited to make comments on and participate in the process of updating the new plan. Comments provided by residents at the local town and PDM Planning Team meetings were collected and incorporated into the plan.

## Opportunities for Public Comment

The public was provided several opportunities to comment on the plan during the drafting stages at the PDM Planning Team meetings, Grant County Annual Townships' meeting, and local community meetings. There were several work sessions and public hearings held to keep the public updated and involved in the plan. A wide array of methods was employed to keep the public aware of the plan update and opportunities to participate. Though it does not include invitations to participate sent directly to PDM Planning Team Members and elected officials of each respective community, Table 3.2 lists manners employed to educate the public of the process and opportunities to participate.

**Table 3.2: Record of Publicity/Notification**

<b>Newspaper Publication</b>			
<b>Newspaper</b>	<b>Date</b>	<b>Jurisdiction Represented</b>	<b>Brief Description</b>
Grant County Review	March 7, 2025	Grant County	Approve Contract with First District to Update Pre-Disaster Mitigation Plan
Grant County Review	March 14, 2025	City of Big Stone City	Minutes from city meeting where PDM updates were discussed.
Grant County Review	March 14, 2025	Town of Strandburg	Minutes from city meeting where PDM updates were discussed.
Grant County Review	March 14, 2025	Town of Marvin	Minutes from city meeting where PDM updates were discussed.
Grant County Review	March 14, 2025	All Jurisdictions/ Planning Team	Notice of PDM Plan Kick-off Meeting of the PDM Planning Team. Public invited.
Grant County Review	March 14, 2025	Town of Twin Brooks	Minutes from city meeting where PDM updates were discussed.
Grant County Review	March 21, 2025	Town of Revillo	Minutes from city meeting where PDM updates were discussed.
Grant County Review	April 7, 2025	Town of LaBolt	Minutes from city meeting where PDM updates were discussed.
Grant County Review	April 25, 2025	City of Milbank	Minutes from city meeting where PDM updates were discussed.

**Website Posting/Social Media**

Website / Social Media	Author	Date Posted	Date removed	Jurisdiction Represented	Brief Description
<a href="https://grantcounty.sd.gov/commission/agenda_minutes.php">https://grantcounty.sd.gov/commission/agenda_minutes.php</a>	Grant County Staff	February 8, 2025	Not Removed	Grant County	Agenda of commissioners meeting where PDM was discussed.
<a href="https://association.1stdistrict.org/pdmplans/">https://association.1stdistrict.org/pdmplans/</a>	1st District Staff	March 1, 2025	Not Removed	All Jurisdictions/ Planning Team	This page includes drafts, notices, and materials from meetings.
<a href="https://bigstonecitysd.gov/agenda-and-minutes/">https://bigstonecitysd.gov/agenda-and-minutes/</a>	City of Big Stone City Staff	March 2, 2025	Not Removed	Town of LaBolt	Minutes and agenda from community meeting discussing the PDM Plan.
<a href="https://www.milbanksd.com/city-of-milbank/city-council-2/meeting/">https://www.milbanksd.com/city-of-milbank/city-council-2/meeting/</a>	City of Milbank Staff	April 4, 2025	Not Removed	City of Milbank	Minutes and agenda from community meeting discussing the PDM Plan.

**Physical Notice**

Location	City	Date Posted	Jurisdiction Represented	Brief Description
Grant County Courthouse	Milbank	February 17, 2025	Grant County Commissioners	Agenda of commissioners meeting where PDM was discussed.
Grant County 4-H Complex	Milbank	February 18, 2025	Township Association	Agenda of township meeting where PDM was discussed.
Ruffee's	Strandburg	March 1, 2025	Strandburg	Agenda of city meeting where PDM was discussed.
Big Stone Community Center	Big Stone City	March 2, 2025	Big Stone City	Agenda of city meeting where PDM was discussed.
Marvin Fire hall	Marvin	March 2, 2025	Marvin	Agenda of city meeting where PDM was discussed.
Revillo Community Center	Revillo	March 9, 2025	Revillo	Agenda of city meeting where PDM was discussed.
Town Hall	Twin Brooks	March 10, 2025	Twin Brooks	Agenda of city meeting where PDM was discussed.
LaBolt Hall	LaBolt	April 6, 2025	LaBolt	Agenda of city meeting where PDM was discussed.
Community Center	Stockholm	April 6, 2025	Stockholm	Agenda of city meeting where PDM was discussed.
Milbank Community Room	Milbank	April 13, 2025	Milbank	Agenda of city meeting where PDM was discussed.

**Radio/Television/Multimedia**

Media Type	Station/Source	Date Aired	Jurisdiction Represented	Brief Description
NONE				

Additionally, the County utilized an online survey to provide individuals that were unable to attend any community meetings, work sessions, or public hearings an option to participate in the PDM planning process. Information collected through the survey was analyzed and included in the plan when appropriate. Notices for the survey were published in the county newspapers, placed on the County website, and posted at most County/community offices to encourage local residents to provide information and participate in the planning process.

Primarily, public input included the involvement in hazard assessment and mitigation projects. Those who were most involved were the representatives PDM Planning Team and representatives from the municipalities. The school districts comprise some of the largest employers in the county. The representatives of the school districts in attendance at the kick-off meeting volunteered to encourage its employees to participate in the on-line survey and to encourage students to tell parents about it. The municipalities put the PDM update on the agenda at their regular meetings and allowed people to comment at the meetings. Members of the elected bodies and staff were tasked with notifying its communities large employers of the plan, and meetings when the plan was discussed. Comments from those individuals were either solicited directly at community meetings, or brought to the Planning Team Meetings. Table 3.2 identifies the location and date of each that was provided for the public to comment and how it was advertised.

At the community meetings elected officials discussed vulnerable populations within their communities. Each community identified where, if at all, elderly individuals; visitors to the community; individuals with developmental, physical, or sensory disabilities; hospitals; mobile home parks; temporary shelters; and non-English speakers live or would be best met to solicit comment. Each community identified those locations (primarily campgrounds, manufactured home courts, elderly/assisted living, schools, and day cares) within their communities. Board members and/or staff volunteered to informally inform individuals and managers of such facilities of the ongoing meetings and opportunities for comment, including directing those individuals to the online survey.

Aside from the inclusion on the PDM Planning Team of some managers of facilities involved in the care or other services to vulnerable populations; most attempts to include such vulnerable populations was passive. It was determined that prior to the next plan update, the list of "populations to protect" should be updated to include places housing or primarily engaged in the service of elderly individuals; visitors to the community; individuals with developmental, physical, or sensory disabilities; hospitals; mobile home parks; temporary shelters; and non-English speakers. A mitigation activity has been added for all communities to include notification regarding the planning process and opportunities to provide comment directly to the list of populations to protect at the beginning of the planning process.

**Table 3.3: Opportunities for Public Comment**

Location of Opportunity	Date	Type of Participation			How Was Meeting Advertised	
		City Council or County Commission Meeting	PDM Meeting	City Staff/Township Annual Mtg/Survey	Public Notice	Website
Big Stone City	03/03/2025	■			■	■
	adoption meeting	■			■	■
LaBolt	04/07/2025	■			■	
	adoption meeting	■			■	
Marvin	03/03/2025	■			■	
	adoption meeting	■			■	
Milbank	04/14/2025	■			■	■
	adoption meeting	■			■	■
Revilla	03/10/2025	■			■	
	adoption meeting	■			■	
Stockholm	04/07/2025	■			■	
	adoption meeting	■			■	
Strandburg	03/02/2025	■			■	
	adoption meeting	■			■	
Twin Brooks	03/11/2025	■			■	
	adoption meeting	■			■	
Grant County	PDM Grant Application 12/01/2022	■			■	
	03/31/2025 (PDM Team)		■		■	■
	02/18/2025			■	■	
	11/07/2024	■			■	■
	12/09/2024 (PDM Team)		■		■	■
	12/19/2024 (PDM Team)		■		■	■
	Adoption Date	■			■	■

## **PDM Plan Process Timeline**

### **February 2025**

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- County receives FEMA/SD OEM funding to update county PDM plan
- Develop PDM Team list
- Invite persons listed for the PDM Team to January 2025 PDM Team meeting
- Invite adjacent county EM Directors to the January 2025 PDM Team meeting
- Public notices published in local newspapers regarding January 2025 PDM Team meeting

### **March 2025**

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- Hold PDM Team kickoff meeting
- Establish the PDM Team
- Review the existing 2020 PDM plan
- Develop PDM Template and planning update process

### **March - July 2025**

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- Risk Assessment/Project Identification/Prioritization
  - Notices published
  - First District Staff attend community/township meetings
- Conduct online hazard mitigation survey
- First District research data/information for PDM plan
- First District completes draft PDM plan preparation
- PDM Team meeting #2 notice published
- Provide adjacent county EM Directors PDM draft for their review (45 day comment period)

### **July 2025**

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- Hold PDM Team meeting #2
- Review draft PDM plan
- First District update draft PDM plan based on comments from PDM Team meeting #2
- Notice published draft PDM plan public comment period
- Draft plan submitted to SD OEM
- PDM Team meeting #3 notice published

### **July 2025**

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- Hold PDM Team meeting #3
- Review/approve final draft PDM plan
- Plan updated based on any comments received
- Draft plan submitted to FEMA

### **July - August 2025**

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- FEMA plan approval received

### **August - September 2025**

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- Approved PDM plan adopted by County and participating communities

## PDM Planning Process Summary

The first meeting of the PDM Planning Team served to introduce the participants to the concept of mitigation planning, why the plan was being updated, and a tentative timeline of how the process would proceed in the months to come (scheduling, assigning responsibilities, etc.). The meeting also included a review of the existing plan, which led to several important decisions. First, it was the consensus opinion of the PDM Planning Team that a rewrite of the plan would be needed. The PDM Planning Team decided that:

- The 2020 PDM plan did not include all the necessary requirements found in the Local Hazard Plan Review Tool (2023). To ensure that the updated plan included everything required by the plan review tool, the PDM Planning Team and community meetings used the plan review tool to guide the discussions.
- Updated information and data regarding the risk assessment was needed, more informative tables and maps would be helpful, and the mitigation strategy needed to be reviewed. FEMA comments received during the approval of the 2020 PDM plan will also be included in the updated plan.
- The risk identification and assessment as well as the identification of critical infrastructure and local municipal goals and objectives should be completed by the First District prior to the next meeting of the PDM Planning Team.

To streamline their efforts, the Planning Team developed and exercised a methodology (see **RISK ASSESSMENT: HAZARD VULNERABILITY SCORE**) to prioritize and reduce the number of hazards to focus on those that occur more frequently or pose the greatest risk of significantly higher damages. This more targeted approach allows the team to allocate the County's resources more effectively and enhance the resilience of its communities. The group noted that, despite public notice efforts, attendance of the first meeting primarily included PDM Planning Team Members. It was determined that a survey should be initiated to solicit public comments from individuals without having to attend meetings.

Grant County and First District staff conducted an online survey regarding natural hazards identification and vulnerabilities. The online survey began on March 6, 2025 and ended on June 13, 2025. Public notices for the survey were posted in several offices of the county courthouse and at the finance offices of the participating communities. Some of the communities posted the notice in their local post offices to encourage participation by the public. Samples of posted notices can be found in Appendix F.

Prior to the second PDM Planning Team meeting, First District Staff met with the participating municipalities and the Grant County Townships at public noticed meetings to identify hazards and critical facilities, assess vulnerability, discuss development trends, and develop mitigation goals. First District also met with each participating jurisdiction to review proposed mitigation actions, including estimated costs, responsibility and priority. Meeting dates are referenced in Table 3.2. Staff members from Grant County, Grant County Townships, and rural utility providers were asked to identify hazards and critical facilities, assess vulnerability, discuss development trends, and develop mitigation goals and review these items with each respective governing body (if applicable). First District staff also conducted research regarding the history of disaster events in the county, including events that had occurred since the 2020 updated plan was developed.

Prior to the second meeting invitations to review and comment on the Plan were sent to all team members. The members were invited to the meeting, especially if they had comments, questions, or edits. At the second meeting, in August of 2025, Risk Identification/Assessment was discussed. The PDM Planning Team reviewed the updates prepared by the First District. First District staff also provided an overview of the information regarding Critical Facilities, Risk Identification, Hazard Vulnerability, and mitigation projects identified by the County's municipalities.

The PDM Planning Team also dealt with the Mitigation Strategy at the August 2025 meeting. Formation of the strategy began with a review of the results of the risk assessment, which led to discussion about the goals to be achieved with the mitigation plan. The list of goals is included in Chapter 5.

The PDM Planning Team reviewed the goals and objectives identified in the 2020 PDM. After review, the Team determined the 2020 goals and objectives were still appropriate and should be included in the updated PDM plan. In addition, the PDM Planning Team reviewed the list of proposed actions included in the previous mitigation plan and discussion followed about the progress that had been made on implementing the actions. Specific mitigation actions recently identified by the participating jurisdictions were also discussed.

The rest of the meeting was spent prioritizing the mitigation actions and discussing how the plan would be implemented. It was emphasized that cooperation between the county and the participating jurisdictions was especially important, and discussion occurred about how this could best be achieved. The Emergency Management Director emphasized the importance of ensuring that no local decisions are made, or actions taken contrary to the goals of this plan.

At the end of the meeting the First District was instructed to conduct an internal review of the document. First District contacted Finance Offices of the towns which were not represented at the second team meeting to ask if there were any questions or comments. The draft plan was also to be posted on the First District Association of Local Governments and Grant County websites. Correspondence regarding the posting of the PDM plan were sent to all the participants and to the emergency managers in the neighboring counties of: Roberts, Codington, Day, and, Deuel. The County published a notice in the newspapers to notify the public regarding availability of the draft PDM plan for their review and comment. Everyone who received the correspondence regarding the plan was allowed forty-five days to comment on the draft.

The final meeting of the PDM Planning Team was subsequently held in on September 29, 2025 to review and discuss final draft as amended based upon comments from the planning team, communities, and the public. Poor visibility and road conditions led the sheriff to advising no travel prior to the meeting, which limited attendance. However, communities' finance officers were contacted prior to the meeting requesting attendance or correspondence with any suggested edits before the meeting. None were provided. At the meeting, the PDM Planning Team recommended that the plan be submitted to SD OEM and FEMA. The final draft of the plan was again posted on the First District Association of Local Governments and Grant County websites.



## CHAPTER 4 | RISK ASSESSMENT

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### RISK IDENTIFICATION AND ASSESSMENT INTRODUCTION

The Risk Identification and Assessment component of this plan was split into three phases: Collect and Organize Data, Develop GIS Data, and Analyze Data. These three phases were applied as necessary to three primary components: Community Capabilities, Hazard Vulnerability, and Hazard Identification.

Communities provided all plans, policies, strategies, regulations, etc. applicable to hazard mitigation, response, recovery, and emergency operations in the event of disaster. Those items were reviewed, summarized, and considered for vulnerability to disaster, establishment of mitigation activities, and implementation of the plan. Since all communities have the capability of GIS data creation, this step ability was merely referenced.

Hazard Identification required research of past occurrences of disasters to determine which are likely to occur throughout the jurisdictions to allow the PDM Planning Team to focus its mitigation efforts on hazards that actually affect the community. Several previously included disasters were eliminated in this manner (ie. Earthquakes, Avalanches, Subsidence, Landslides). A summary of the primary hazards: Extreme Heat, Dam Failure, Fire (wildfire and urban), Drought, Severe Summer Storms (including Tornado, Lightning, Hail, Strong Wind), Severe Winter Storms (including extreme cold, heavy snow and blizzard), and Floods (including rapid snow melt, heavy rain, flash flooding, and ice jam/back-up) included a brief description of them and empirical data regarding past occurrences.

Primarily NOAA information was utilized to determine frequency of these events. That information also included brief summaries of, or specific locations to which these hazards occurred to allow the establishment of the extent of each occurrence. As applicable, that data also included reported economic loss of property, injury, and loss of life associated with each occurrence. Loss of property, injury, and loss of life were agreed upon by the PDM Planning Team to constitute the magnitude of each occurrence. This information was utilized to address the magnitude of each occurrence. Anecdotal information from the community (newspapers, eyewitnesses, etc.) was also utilized as applicable. Finally, trusted sources were used to gather data and/or provide analysis regarding projected future occurrences of these hazards expected due to natural factors and anticipated changes to climatic conditions (global warming.)

Hazard vulnerability was split into multiple components which necessitated the three phases of risk identification and assessment. As referenced with regard to Hazard Identification, extent and magnitude of past occurrences of primary hazards was compiled. Where applicable data were available, geographic information was compiled or created, then all that data was analyzed to provide more detailed vulnerability analysis than is available with readily available published sources. *(It should be noted that further analysis was not necessary for some hazards for which the difference of probability amongst all jurisdictions is negligible.)* However, some data compiled and reference specifically for certain hazards outlines those structures/values/ populations at risk for all hazards (See: **ASSESSING VULNERABILITY: ESTIMATING POTENTIAL LOSSES**).

Although empirical data and community capabilities are important in identifying vulnerability, subjective information is the missing link between probability of hazards occurring and efforts or resources dedicated to mitigating those hazards. The PDM Planning Team and elected bodies of each jurisdiction identified personal and community-wide perceptions of vulnerability to certain hazards and their recollection of experiences with those hazards occurring within the community. Further, a survey was conducted of the community in order to gauge the same information from those that may not have been a part of the publicly noticed public meetings. The PDM Planning Team and elected bodies also identified critical community facilities/infrastructure as well as especially vulnerable populations within its respective communities.

The empirical data providing quantifiable, documented occurrences coupled with the perceived and real vulnerability of each community as identified by its residents guide each respective community in establishing its policies, strategies, plans, regulations, etc. for the mitigation of disasters. Compiling this information, creating a spatial manner to display and review as much of that information as possible (GIS data), allowed for a comprehensive vulnerability analysis to clearly plan for mitigation strategies in the next Chapter.

## **COMMUNITY CAPABILITIES**

*Requirement 44 CFR § 201.6(c)(3). Local Mitigation Plan Review Tool – C1.*

*Requirement 44 CFR § 201.6(c)(3). Local Mitigation Plan Review Tool – C1-a.*

*Requirement 44 CFR § 201.6(c)(3). Local Mitigation Plan Review Tool – C1-b.*

*Requirement 44 CFR § 201.6(d)(3). Local Mitigation Plan Review Tool – E2-c.*

It is necessary to identify and review the capabilities and past practices of participants in implementing and incorporating the 2020 PDM Plan in tandem with identifying the hazards that pose risks to the community. In many cases the veracity or limitations of planning documents, regulations, staffing, infrastructure, emergency services, etc. are tantamount in helping or hamstringing community's disaster preparedness and resiliency.

Each community possesses a unique set of capabilities, including authorities, policies, programs, staff, funding, and other resources for accomplishing effective mitigation. One crucial step in assessing a community's vulnerability is to objectively review the capabilities to implement mitigation strategies and identify any limiting factors.

To achieve this, each community examined its existing administrative documents, procedures, and policies. This review enabled the communities and the planning team to evaluate how current capabilities either alleviate or exacerbate vulnerability to disaster impacts. Table 4.18 identifies the administrative and technical competences of each community, including the individuals responsible for those roles. Table 4.19 encapsulates the efficacy of the specified planning mechanisms regarding disaster mitigation and identifies potential deficiencies in the plans.

**Table 4.1: Administrative and Technical Capabilities**

Administrative/ Staff Composition	Local Jurisdiction								
	<i>Big Stone City</i>	<i>LaBolt</i>	<i>Marvin</i>	<i>Milbank</i>	<i>Revillo</i>	<i>Stockholm</i>	<i>Strandburg</i>	<i>Twin Brooks</i>	<i>Grant County</i>
<i>Board of Adjustment</i>	Planning Commission	Elected Officials	NA	Planning Commission	Elected Officials	NA	Elected Officials	Elected Officials	Planning Commission
<i>Building Official</i>	NA	NA	NA	Appointed	NA	NA	NA	NA	Appointed
<i>Community Planner</i>	NA	NA	NA	Appointed	NA	NA	NA	NA	Appointed
<i>Elected Officials</i>	Aldermanic	Trustee	Trustee	Commission	Trustee	Trustee	Trustee	Aldermanic	Commission
<i>Emergency Manager</i>	NA	NA	NA	NA	NA	NA	NA	NA	Appointed
<i>Engineer/Highway Superintendent</i>	NA	NA	NA	NA	NA	NA	NA	NA	Appointed
<i>Floodplain Administrator</i>	Zoning Officer	NA	NA	Zoning Officer	Finance Officer	NA	NA	Finance Officer	Zoning Officer
<i>GIS Coordinator</i>	NA	NA	NA	NA	NA	NA	NA	NA	Appointed
<i>Planning Commission</i>	Appointed	NA	NA	Appointed	NA	NA	NA	Elected Officials	Appointed
<i>Zoning Officer</i>	Zoning Officer/Public Works	Finance Officer	NA	Zoning Officer	Finance Officer	Finance Officer	NA	Finance Officer	Zoning Officer
<i>Grant Writing Capability</i>	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*
<i>Non-profit organizations focused on environmental protection.</i>	Yes**	Yes**	Yes**	Yes**	Yes**	Yes**	Yes**	Yes**	Yes**
<i>Public-Private partnership initiatives addressing disaster-related issues.</i>	No	No	No	No	No	No	No	No	No

NA: This Jurisdiction has nobody serving in this role.

\* First District Association of Local Governments provides these services without cost.

\*\* East Dakota Watershed Development District.

**Table 4.2: Capabilities of Growth Guidance Instruments**

<b>Capabilities of Community Planning Mechanisms</b>	<b>Big Stone City</b>	<b>LaBolt</b>	<b>Marvin</b>	<b>Milbank</b>	<b>Revilla</b>	<b>Stockholm</b>	<b>Strandburg</b>	<b>Twin Brooks</b>	<b>Grant County</b>
<i>Does the Future Land-Use Map identify natural hazard areas?</i>	Y	NA	NA	Y	NA	NA	NA	NA	Y
<i>Do the land-use policies discourage development or redevelopment within natural hazard areas?</i>	Y	Y	NA	Y	NA	Y	NA	Y	Y
<i>Does the plan provide adequate space for expected future growth in areas located outside natural hazard areas?</i>	Y	Y	NA	Y	NA	Y	NA	Y	Y
<i>Does the transportation plan limit access to hazard areas?</i>	N	N	NA	N	NA	N	NA	N	N
<i>Is transportation policy used to guide growth in safe locations?</i>	Y	Y	NA	Y	NA	Y	NA	Y	Y
<i>Are movement systems designed to function under disaster conditions (e.g., evacuation)?</i>	Y	Y	NA	Y	Y	Y	NA	Y	Y
<i>Are environmental systems that protect development from hazards identified and mapped?</i>	N	N	NA	N	N	N	NA	N	N
<i>Do environmental policies provide incentives to development that is located outside protective ecosystems?</i>	N	N	NA	N	N	N	NA	N	N
<i>Do environmental policies maintain and restore protective ecosystems?</i>	Y	N	NA	N	N	N	NA	N	Y
<i>Are the goals and policies of the comprehensive plan related to those of the FEMA Local Hazard Mitigation Plan?</i>	Y	N	NA	NA	N	NA	N	N	N
<i>Is safety explicitly included in the plan's growth and development policies?</i>	Y	Y	NA	Y	Y	Y	NA	Y	Y

<i>Does the monitoring and implementation section of the plan cover safe growth objectives?</i>	Y	N	NA	N	N	N	NA	N	N
<i>Does the Zoning Ordinance conform to the comprehensive plan in terms of discouraging development or redevelopment within natural hazard areas?</i>	Y	Y	NA	Y	Y	Y	NA	Y	Y
<i>Does the zoning ordinance contain natural hazard overlay zones that set conditions for land use within such zones?</i>	Y	Y	NA	Y	Y	Y	NA	Y	Y
<i>Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use?</i>	Y	N	NA	Y	N	N	NA	N	Y
<i>Does the zoning ordinance restrict development within, or filling of, wetlands, floodways, and floodplains?</i>	Y	Y	NA	Y	Y	Y	NA	Y	Y
<i>Do the subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas?</i>	Y	N	NA	Y	N	N	NA	N	N
<i>Do the subdivision regulations provide for conservation subdivisions or cluster subdivisions in order to conserve environmental resources?</i>	N	N	NA	Y	N	N	NA	N	N
<i>Do the subdivision regulations allow density transfers where Hazard areas exist?</i>	N	N	NA	Y	N	N	NA	N	N

NA: This jurisdiction does not have the specified document.

## **REVIEW AND INCORPORATION OF TECHNICAL DOCUMENTS**

*Requirement 44 CFR § 201.6(b)(3). Local Mitigation Plan Review Tool – A4.*

*Requirement 44 CFR § 201.6(b)(3). Local Mitigation Plan Review Tool – A4-a.*

*Requirement 44 CFR § 201.6(c)(3). Local Mitigation Plan Review Tool – C1-a.*

*Requirement 44 CFR § 201.6(c)(3). Local Mitigation Plan Review Tool – C1-b.*

*Requirement 44 CFR § 201.6(d)(3). Local Mitigation Plan Review Tool – E2-c.*

During the 2020 PDM Plan update, First District conducted a technical review of existing documents. This review incorporated existing plans, studies, reports, technical information, zoning, and flood damage prevention ordinances into the PDM Update. It should be noted that most planning documents from each of the communities were previously developed by the First District. However, some of the smaller communities do not have such planning documents. Additionally, the 2020 PDM was used as a resource for the new plan because most of the natural hazard profile research had already been completed when it was drafted. In addition to the 2020 PDM, the First District reviewed several other existing documents including but not limited to the 2019 State of South Dakota Hazard Mitigation Plan and Flood Insurance Rate Maps for all applicable local jurisdictions. A summary of the technical review and incorporation of existing plans is included in Table 3.3.

**Table 4.3: Record of Review**

Technical Documents	Jurisdiction									Referenced in Plan
	Big Stone City	LaBolt	Marvin	Milbank	Revilla	Stockholm	Strandburg	Twin Brooks	Grant County	
Aquifer Protection Ordinance	NA	NA	NA	NA	NA	NA	NA	NA	The aquifer protection ordinance was reviewed by not determined to be significantly impacted by any natural hazards. (Existing water services are able to handle drought conditions for potable water.)	NA
Building Code	NA**	NA**	NA**	NA**	NA**	NA**	NA**	NA**	NA**	NA**
Comprehensive Plan and Existing Land Use Maps	Reviewed existing and future land use maps, master street plan, and limitations on development due to perceived or objectively probable natural hazards; The goal was to maximize efficacy of mitigation strategies/ projects and align them with development strategies. The communities of Big Stone City & Milbank are reviewing and updating their Comprehensive Land Use Plans and Zoning Ordinances during the Pre-Disaster Mitigation Plan Review	NA	NA	Reviewed existing and future land use maps, master street plan, and limitations on development due to perceived or objectively probable natural hazards; The goal was to maximize efficacy of mitigation strategies/ projects and align them with development strategies. The communities of Big Stone City & Milbank are reviewing and updating their Comprehensive Land Use Plans and Zoning Ordinances during the Pre-Disaster Mitigation Plan Review	NA	NA	NA	NA	Reviewed existing and future land use maps, master street plan, and limitations on development due to perceived or objectively probable natural hazards; The goal was to maximize efficacy of mitigation strategies/ projects and align them with development strategies. The communities of Big Stone City & Milbank are reviewing and updating their Comprehensive Land Use Plans and Zoning Ordinances during the Pre-Disaster Mitigation Plan Review	Chapters 1,3, 4, 6 & Appendix G

Capital Improvement Plan	NA	NA	NA	Reviewed capital improvement plan to review recommended projects and the community's monetary capacity to implement each project. This information assisted in prioritizing all mitigation strategies.	NA	NA	NA	NA	NA	NA
Drainage Ordinance	NA	NA	NA	NA	NA	NA	NA	NA	Drainage regulations were reviewed with specific attention to watershed & water runoff requirements. This information assisted in prioritizing flood-related projects.	NA
Flood Damage Prevention Ordinance	Reviewed recently adopted effective flood maps to determine vulnerable private and public structures; their assessed values; & anticipated number of displaced individuals. This information assisted in prioritizing flood-related projects.		NA	Reviewed recently adopted effective flood maps to determine vulnerable private and public structures; their assessed values; & anticipated number of displaced individuals. This information assisted in prioritizing flood-related projects.	NA	NA	NA	NA	Reviewed recently adopted effective flood maps to determine vulnerable private and public structures; their assessed values; & anticipated number of displaced individuals. This information assisted in prioritizing flood-related projects.	Chapters 4, 5, 6 & Appendices D & E
Economic Development Plan	Reviewed economic development plan to review strengths, challenges, and opportunities with the community. This information assisted in prioritizing all mitigation strategies.	NA	NA	Reviewed economic development plan to review strengths, challenges, and opportunities with the community. This information assisted in prioritizing all mitigation strategies.	NA	NA	NA	NA	Reviewed economic development plan to review strengths, challenges, and opportunities with the community. This information assisted in prioritizing all mitigation strategies.	NA
Emergency Operations Plan	Though not directly referenced in this document, Grant County maintains a Hazardous Materials Plan which identifies facilities storing certain hazardous materials in all jurisdictions within its boundary; and strategies or policies for mitigating or responding to spill events (which may or may not occur due to natural events.) Each community meeting and Planning Team Meeting members were reminded that the HAZMAT plan is the appropriate place to discuss hazardous materials. All discussions involving the major street plan kept evacuation routes in such cases									Chapter 4
Flood Insurance Studies or Engineering Studies for Streams	Reviewed recently adopted effective flood maps to determine vulnerable private and public structures; their assessed values; & anticipated number of displaced individuals. This information			Reviewed recently adopted (pending at the time) effective flood maps to determine vulnerable private and public structures; their assessed values; & anticipated number of displaced individuals.					Reviewed recently adopted (pending at the time) effective flood maps to determine vulnerable private and public structures; their assessed values; & anticipated number of displaced individuals. This information assisted in	Chapters 4, 5, 6 & Appendices D & E

	assisted in prioritizing flood-related projects.			This information assisted in prioritizing flood-related projects.					prioritizing flood-related projects.	
Hazard Vulnerability Analysis (by the local Emergency Management Office)	<p>While not directly referenced in this document, Grant County maintains a Hazardous Materials Plan. This plan identifies facilities that store hazardous materials across all jurisdictions within the county and outlines strategies/policies for mitigating &amp; responding to spill events.</p> <p>During each community and Planning Team meeting, members were reminded that discussions about hazardous materials should be addressed within the HAZMAT plan. Additionally, all discussions regarding the major street plan considered evacuation routes in the event of such incidents.</p>									Chapters 1, 3, 4, & 5
Land Use Regulation Near Pipelines	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
State Hazard Mitigation Plan	The State Hazard Mitigation Plan served as a valuable resource, providing examples and background data. Relevant objective data from the state's plan was considered for inclusion and in some instances, reiterated in this plan.									All Chapters
Stormwater Management/ Drainage Plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Subdivision Ordinance	Subdivision regulations were reviewed with specific attention to installation of infrastructure to an ability to meet fire flows and for streets to meet IFC requirements. Though not reflected here, the community will review IFC requirements to determine whether minimum requirements should be placed in ordinance or standard operating procedures.	NA	NA	Subdivision regulations were reviewed with specific attention to installation of infrastructure to an ability to meet fire flows and for streets to meet IFC requirements. Though not reflected here, the community will review IFC requirements to determine whether minimum requirements should be placed in ordinance or standard operating procedures.	NA	NA	NA	NA	Subdivision regulations were reviewed with specific attention to installation of infrastructure to an ability to meet fire flows and for streets to meet IFC requirements. Though not reflected here, the community will review IFC requirements to determine whether minimum requirements should be placed in ordinance or standard operating procedures.	NA
Transportation Plan	NA	NA	NA	Review master street plan to identify what/if any roads were more / less vulnerable to hazards OR what/if any	NA	NA	NA	NA	Review master street plan to identify what/if any roads were more / less vulnerable to hazards OR what/if any roads	Chapters 1, 3, 4, & 5

				roads were more critical during natural hazards.					were more critical during natural hazards.		
Zoning Ordinance and Site Plan Review	Zoning Ordinance restrictions on setbacks, densities; availability of infrastructure and public facilities to more intensive uses; and Grant County FIS were discussed. It was determined that safety/mitigation related requirements were adequate in the present ordinance. Further, undeveloped lots appropriately zoned for construction within SFHA were reviewed.			NA	Zoning Ordinance restrictions on setbacks, densities; availability of infrastructure and public facilities to more intensive uses; and Grant County FIS were discussed. It was determined that safety/mitigation related requirements were adequate in the present ordinance. Further, undeveloped lots appropriately zoned for construction within SFHA were reviewed.	NA	NA	NA	NA	Zoning Ordinance restrictions on setbacks, densities; availability of infrastructure and public facilities to more intensive uses; and Grant County FIS were discussed. It was determined that safety/mitigation related requirements were adequate in the present ordinance. Further, undeveloped lots appropriately zoned for construction within SFHA were reviewed.	Chapters 3, 4, 5, & 6

\* Document was reviewed in reference to the described section. Portions of the technical document may be included, but often times were merely considered/incorporated with no specific reference to the document.

\*\* South Dakota Codified Law 11-10-6 establishes the most recent version of the International Building Code for all structures, excluding agricultural structures and single-family residential structures, within jurisdictions that have not adopted a building code. SDCL 11-10-6 does not provide for enforcement of this statute.

N/A The jurisdiction does not have this program/policy/regulation/technical document.

All jurisdictions within Grant County possess the legislative authority to establish and/or modify the technical documents referenced in Table 4.3. All communities, including the county recognize the need for further stormwater/drainage planning; however, lack the funding to study community wide improvement/policy needs. As such, all communities have identified stormwater/drainage planning as a mitigation activity in Table 5.1. All communities in Grant County are zoned and have some level of transportation plan. However, only Big Stone City and Milbank have created Comprehensive Land Use Plans.

Zoning Ordinances are updated every 5-10 years; and land use plans are updated (along with transportation plans every 15-20 years. These plans and ordinances are typically paid for by general funds with assistance from First District Association of Local Governments at a discounted cost due to organizational membership. Each community has the opportunity to apply for transportation planning funds every year through the State of South Dakota. The county will likely apply for and conduct transportation plan(s) more frequently than every 15-20 years. Grant County communities are adopting and enforcing regulations and plans that they determine to provide direct benefit to the respective community without significantly increasing administrative costs. Before adopting regulations and policies, these communities are carefully weighing the measurable benefit (or decrease in expense) with the cost (including social cost) of administration. The communities have been doing this since before Pre-Disaster Mitigation Planning. As such, each community determined that the documents referenced in Table 4.3 can be changed, expanded, or enhanced but due to cost/benefit and/or public perception the benefit does not warrant such expansion or enhancement at this time. *(Note: During this planning process circumstances changed to elevate the priority of adopting updated Flood Insurance Rate Maps, and associated ordinances for many communities).* As a result, very few of the policies/documents/etc. in Table 4.3 above have been significantly updated since 2020.

Since 2020, Big Stone City and Milbank have adopted Comprehensive updates to their zoning ordinances. Both jurisdictions reviewed rules regarding bulk, height, and density of development to determine whether consistent, not only with the established planning principles of the community but also to ensure those regulations practicably employed the goals of the pre-disaster mitigation plan with reference to protection from fire, drought (impacts on water supply), limitation of density in flood prone areas and review of regulations for areas determined to be in a 100-year floodplain. Further, Grant County completed an extensive update to its Comprehensive Land Use Plan in which the 100-Year Floodplain is designated as an “Area of Development Limitation” where certain development constraints are listed and expected to be protected or safeguarded for. It further prioritized the adoption of the updated floodplain ordinances and map which became effective on March 27, 2024.

While reviewing those ordinances and changes at publicly noticed meetings, both entities chose to prioritize the adoption of updated special flood hazard areas as soon as possible. The communities subsequently updated their floodplain ordinances and maps prior to the effective date of the updated maps on March 27, 2024. are in the process of adopting their new maps as soon as possible to remain consistent with the goals of this Plan. Each of the communities determined that the public would not support free-board or additional requirements above the minimum requirements to remain compliant.

None of the policies/documents/etc. in Table 4.3 above have been significantly updated since 2020.

Chapter 4 presents a comprehensive list of potential hazards that could affect Grant County. During the initial meeting, the Planning Team initiated the development of a detailed profile for

each hazard. These profiles incorporated insights from all participating jurisdictions highlighting the specific impacts each hazard can have on their community. Discussion also occurred regarding the existing hazard mitigation strategies, with a particular focus on protecting the critical and essential facilities in each community.

## **IDENTIFICATION OF HAZARDS**

*Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B1-a;*

*Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B1-b;*

*Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B1-f.*

In this chapter, the hazards that were identified by the PDM Planning Team as having the most significance for the County are analyzed. As part of the analysis, various maps and tables were produced and are included within this chapter. The planning participants bLaBolt the risk assessment process by reviewing the State of South Dakota Hazard Mitigation Plan (SD SHMP). The PDM Planning Team also reviewed records of hazard events that have occurred in the county since 2000, relying primarily on the Spatial Hazard Events and Losses Database for the United States (SHELDUS), compiled by the University of South Carolina's Hazards and Vulnerability Research Institute and data from the NCDC Storm Events Database. A summary of the findings for hazard occurrences from the past ten years is provided below in Table 4.1. The PDM Planning Team also identified potential hazards by observing development patterns, interviews from towns and townships, public meetings, PDM work sessions, previous disaster declarations and research of the history of hazard occurrences located within the County. Those hazards included: Extreme Heat, Dam Failure (outside of municipalities), Fire (wildfire (outside of municipalities) and urban), Drought, Severe Summer Storms (including Tornado, Lightning, Hail, Strong Wind), Severe Winter Storms (including extreme cold, heavy snow and blizzard), and Floods (including rapid snow melt, heavy rain, flash flooding, and ice jam/back-up).

**Table 4.4: Hazard Occurrences 2015-2024**

<b>Type of Hazard</b>	<b># of Occurrences Since 2013</b>	<b>Source</b>
Dam Failure	0	SD SHMP
Drought	8+	NOAA/UNL
Earthquake	0	SDGS
Extreme Cold	22	NOAA
Extreme Heat	6	NOAA
Fire (Urban and Wildfire)	129	NOAA & State Fire Marshall's Office
Flood	16	NOAA
Hail	28	NOAA
Heavy Rain	0	NOAA
Heavy Snow	19	NOAA

Ice Jams	0	SD SHMP
Ice Storm	4	NOAA
Landslide	0	SD SHMP
Lightning	1+	NOAA
Subsidence	0	SD SHMP
Thunderstorm and High Wind	46	NOAA
Tornado	5	NOAA
Winter Storm and Blizzards	36	NOAA

## **TYPES OF NATURAL HAZARDS IN THE PDM JURISDICTION AREA**

*Requirement 44 CFR § 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B1*

Most descriptions of the natural hazards likely to occur in the County were taken directly from the 2020 Grant County PDM. For the purpose of consistency throughout the plan, additional definitions were included to reflect all the hazards that have a chance of occurring in the area. For all of the hazards identified, the probability of future occurrence is expected to be the same for all of the jurisdictions covered in the PDM. Though not considered a significant hazard a profile for dam failure, was included. Since dam failure has not occurred in the county, and was assigned a vulnerability score below five (5), no mitigation activities have been planned for these statistically insignificant hazards.

Further, hazards or disasters for which there is no record of past occurrence in the area before and are unlikely to occur in the PDM jurisdiction any time in the future were not identified for planning purposes, however are included in the disaster profile for future reference should the intent of future Grant County PDM Planning Teams change. Specifically those hazards for which there is no record of past occurrence such as: landslides, subsidence, dam failures, and earthquakes are profiled but are not identified for planning purposes.

Finally, several types of natural hazards that occur in other portions of the country were not included in the PDM plan hazard assessment due to the zero probability of them occurring in Grant County. The hazards included avalanches, coastal storms, hurricanes, landslides, subsidence and volcanic activity.

## **HAZARD PROFILE**

*Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B1-a-f;*

*Requirement 201.6(c)(2)(ii). Local Mitigation Plan Review Tool – B2a-b*

It should be stated that most of the hazards identified in this section have the potential of occurring anywhere in the County. A brief section about the history of each hazard's occurrence in the county is provided. Table 4.3 below shows all of the Presidential Disaster Declarations that have involved the county. Information on previous occurrences – the location, the extent (i.e., magnitude or severity) of each hazard, and probability of future events (i.e., chance or occurrence) are listed individually by the type of hazard in the following tables.

**Table 4.5: Presidential Disaster Declarations in South Dakota including Grant County**

Date	Disaster Dec #	Type	Total Damage	Public Assistance Cost	Hazard Mitigation Assistance
4/18/1969	257	Flooding	\$4,599,306		
05/03/1986	764	Severe Storms and Flooding	\$5,158,130		
7/2/1992	948	Flooding, Severe Storms, and Tornadoes			
07/19/1993	999	Severe Storms, Tornadoes and Flooding	\$53,068,748		
05/26/1995	1052	Flooding	\$35,649,349		
01/05/1996	1075	Ice Storms	\$13,085,649		
01/10/1997	1156	Severe Winter Storm and Blizzard	\$19,455,263		
04/07/1997	1173	Severe Winter Storm and Severe Flooding	\$87,069,429		
05/19/2000	1330	Winter Storm		\$1,779,886	
05/17/2001	1375	Severe Winter Storm and Flooding	\$10,441,684	\$5,097,819	
12/20/2005	1620	Severe Winter Storm	\$28,071,441	\$24,647,040	
03/10/2010	1887	Severe Winter Storm		\$22,477,753	
05/13/2010	1915	Flooding		\$21,498,619	
05/13/2011	1984	Flooding		\$52,090,678	
8/2/2013	4137	Severe Storms, Tornadoes and Flooding		\$1,129,907	
02/01/2017	4298	Severe Winter Storm		\$9,834,694	\$1,505,299
06/07/2019	4440	Severe Winter Storm, Snowstorm, and Flooding		\$60,762,752	\$9,432,655
06/29/2022	4656	Severe Storm, Straight-line Winds, Tornadoes, and Flooding		\$6,733,541	\$223,607
07/06/2023	4718	Flooding		\$5,693,095	\$308,225

SOURCE : [www.fema.gov/disaster/declarations](http://www.fema.gov/disaster/declarations)

While the PDM Planning Team reviewed all hazard occurrences that have been reported in the last 50 years, the list for some of the hazards was extremely long. The information provided in the tables is not a complete history report, but rather an overview of the hazard events. The PDM Planning Team felt the hazard trend for the last ten years could be summarized in this section and decided to include any new occurrence that have taken place since the previous PDM was drafted.

## DAM FAILURE

The risk of dam breach or failure poses a lesser concern to the citizens of the County compared to the threat of flooding. Grant County is home to numerous structures designed to control or regulate flow of water between bodies. The South Dakota Department of Agricultural and Natural Resources (SD DANR) identifies ten dams within the County, as listed below in Table 4.4.

According to the SD DANR database, all ten dams located in Grant County are rated as having low downstream hazard potential.

A map (Figure 4.1) illustrating high and significant hazard dams throughout South Dakota can be found below. Additionally, the chart below depicts the dam safety and hazard potential classification rating system. Based on the dam data provided for Grant County, the likelihood of a dam failure resulting in the loss of human life, economic impact, environmental damage, or disruption of essential services is unlikely to occur due to the low hazard potential classification.

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

SOURCE: FEMA, *Federal Guidelines for Dam Safety -- Hazard Potential Classification System for Dams*, April 2004

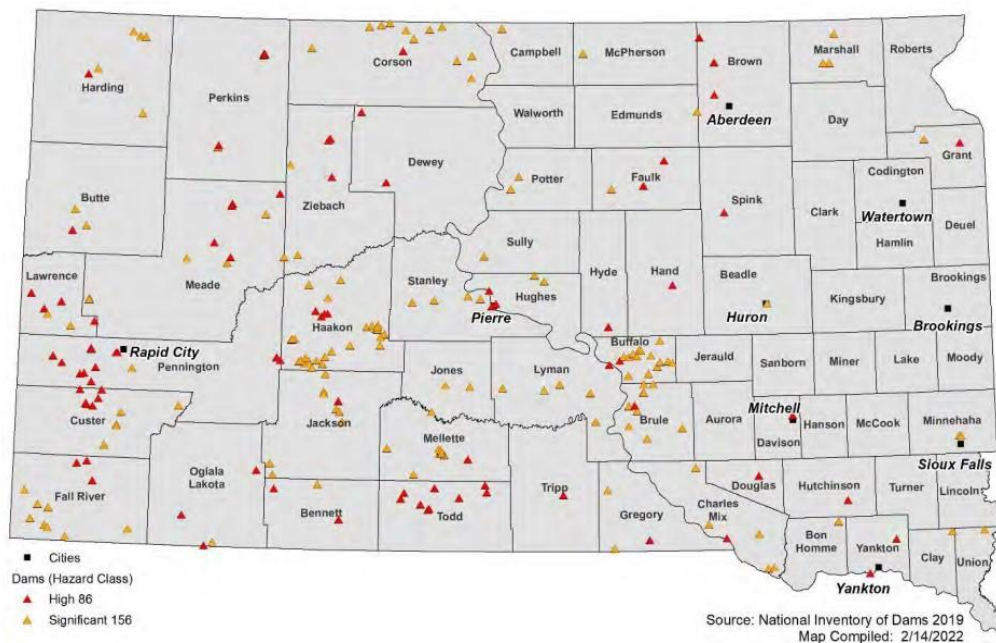
### Climate Change Considerations

There is no comprehensive assessment of how climate change might affect flooding in South Dakota. The TNCA, EPA-Climate Impacts on the Great Plains study plus other studies proposed climate change projections show that future precipitation patterns will vary across the Great Plains. Winter/spring precipitation and very heavy precipitation events are both projected to increase in the northern portions of the Great Plains, leading to increased runoff and potential flooding. Increased snowfall, rapid spring warming, and intense rainfall can combine to produce significant flooding. Since 1990, South Dakota has averaged 22% more 2-inch rain events compared to the long-term average. Some historic rain and flooding events have occurred in recent years. Climate projections for the Great Plains indicate that 1-day, 20-year return events will increase in frequency by 8% to 16% in the coming decades. Grant County is confident that existing dam capacity will be able to accommodate an increase of one flood, every 12 to 25 years (according to data elsewhere in this report, Grant County currently experiences flooding at frequency slightly more often than once annually).

**Table 4.6 Dam Locations in Grant County**

Name/Ownership Type	Location	Water Body
Blue Cloud Abbey Dam #1 (Private)	45.25 -96.89	Whetstone River
Blue Cloud Abbey Dam #2 (Private)	45.25 -96.886667	Whetstone River
Circle Bar Ranch (Private)	45.30068 -96.97183	North Fork Whetstone River
Farley Lake (Local Government)	45.22826 -96.64375545	Whetstone River
Kane Dam (Private)	45.23363 -96.9183	North Fork Whetstone River
Labolt Lake (State)	45.0542 -96.68840507	Yellow Bank Tributary
Mud Creek DT (Local Government)	44.97167 -96.583333	Mud Creek
O'Farrell #1 (Private)	45.30602 -96.94592	North Fork Whetstone River
O'Farrell #2 (Private)	45.3006 -96.95484	North Fork Whetstone River
Rude Hasvold Road (Private)	45.25333 -96.926667	Whetstone River Tributary

**Figure 4.1 South Dakota High and Significant Hazard Dams**



## DROUGHT

South Dakota's climate is characterized by cold winters and warm to hot summers. There is usually light moisture in the winter and marginal to adequate moisture for the growing season for crops in the eastern portion of the state. Semi-arid conditions prevail in the western portion. This combination of hot summers and limited precipitation in a semi-arid climatic region places South Dakota present a potential position of suffering a drought in any given year. The climatic conditions are such that a small departure in the normal precipitation during the hot peak growing period of July and August could produce a partial or total crop failure.

The fact South Dakota's economy is closely tied to agriculture only magnifies the potential loss which could be suffered by the state's economy during drought conditions. Therefore, the primary impacts of drought to Grant County are economic. Throughout droughts rural water and other water providers monitor source water levels to ensure water consumption restrictions are not necessary. Further, the emergency manager and sheriff monitor risk of fire presented as drought conditions persist. The Keetch-Byron and Palmer Drought Indexes measure drought impact. The SD SHMP states that based on historical records, notable droughts have occurred somewhere in the state on average about every 12 years, which is equivalent of an 8% chance any given year. The FEMA National Risk Index (FEMA NRI) states Grant County has an annualized frequency of 6.3 drought events per year.

The following chart depicts the intensity of dry conditions and is used on the U.S. Drought Monitor maps and in reports to show potential drought conditions in the country. This Chart is also used in the maps below which correspond to the severity of drought conditions across Grant County at the severest point during the periods referenced in Table 4.4. Table 4.4 on the following page identifies the ten-year drought history for the County. (For climate change considerations related to drought, see "Extreme Heat." The PDM Team determined those threats to be similar and able to be combined.)

Category	Description	Possible Impacts
D0	Abnormally Dry	Going into drought: <ul style="list-style-type: none"><li>• short-term dryness slowing planting, growth of crops or pastures</li></ul> Coming out of drought: <ul style="list-style-type: none"><li>• some lingering water deficits</li><li>• pastures or crops not fully recovered</li></ul>
D1	Moderate Drought	<ul style="list-style-type: none"><li>• Some damage to crops, pastures</li><li>• Streams, reservoirs, or wells low, some water shortages developing or imminent</li><li>• Voluntary water-use restrictions requested</li></ul>
D2	Severe Drought	<ul style="list-style-type: none"><li>• Crop or pasture losses likely</li><li>• Water shortages common</li><li>• Water restrictions imposed</li></ul>
D3	Extreme Drought	<ul style="list-style-type: none"><li>• Major crop/pasture losses</li><li>• Widespread water shortages or restrictions</li></ul>
D4	Exceptional Drought	<ul style="list-style-type: none"><li>• Exceptional and widespread crop/pasture losses</li><li>• Shortages of water in reservoirs, streams, and wells creating water emergencies</li></ul>

SOURCE : <http://droughtmonitor.unl.edu/archive.html> - (This table used as the legend for maps below.)

Table 4.7 and corresponding maps identify the ten-year drought history for the County. No economic losses were reported in reference to these droughts. Further, there is no record of significant watering restrictions regarding these events. However, in each case, residents were urged to refrain from open burning.

**Table 4.7: Grant County Ten Year Drought History**

Severest Extent (by Week – See Map for Date Below)	Date Start	Date End	Type	Magnitude			
				Crop Damage	Property Damage	Injuries	Loss of Life
03/24/2025	01/06/2015	05/26/2015	Moderate Drought				
04/19/2016	04/19/2016	04/19/2016	Moderate Drought				
06/28/2016	06/28/2016	06/28/2016	Moderate Drought				
08/25/2020	07/07/2020	09/08/2020	Moderate Drought				
07/27/2021	06/22/2021	09/28/2021	Moderate to Severe Drought				
12/20/2022	01/18/2022	04/11/2023	Moderate Drought				
08/08/2023	06/06/2023	10/10/2023	Moderate to Severe Drought				
10/29/2024	09/17/2024	03/11/2025	Moderate to Severe Drought				

SOURCE: <https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?SD>

### Major Drought Occurrences:

- 1880s-1890s: The years 1887, 1894-1896, 1898-1901 were very dry years. The National Weather Service (NWS) has several fire danger informational items located on their website.
- 1930s: During the infamous dust bowl years, Grant County was not spared a fair share of problems. Particularly dry summers were in 1934 and 1936.
- 1987-1990: An abnormally low amount of precipitation in the summer of 1987 combined with a hot and dry summer during 1988, left South Dakota in dire straits. Agricultural income was down 0.8% and wheat price per bushel decreased significantly.

The extent of each period of drought (at its highest severity rating) is displayed in the following maps.

Figure 4.2 Drought Monitor April 19, 2016

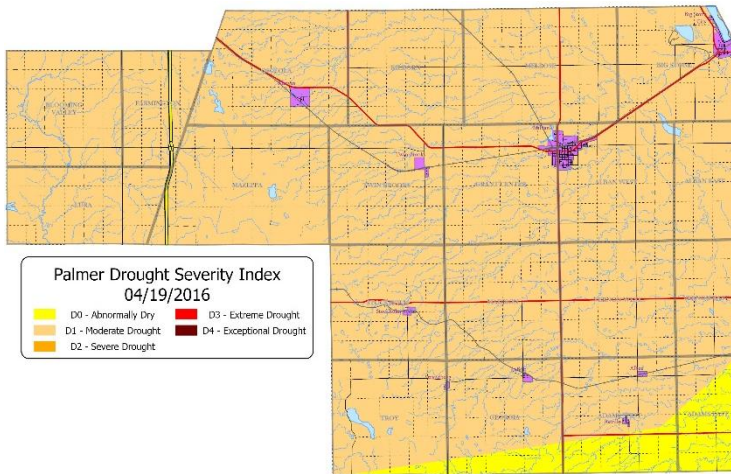


Figure 4.3 Drought Monitor June 28, 2016

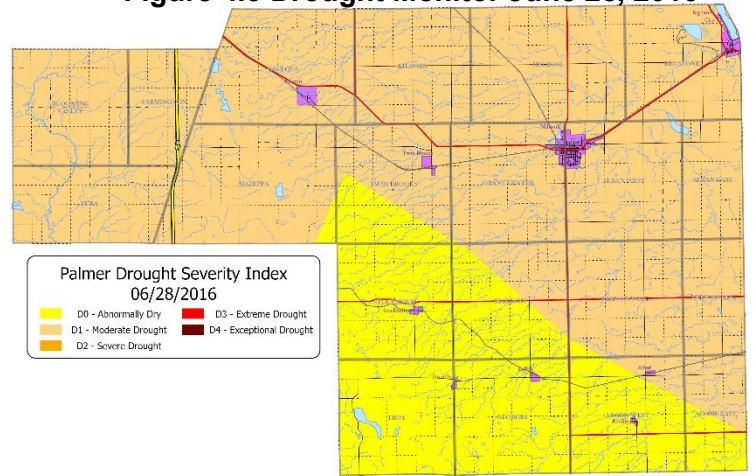


Figure 4.4 Drought Monitor August 25, 2020

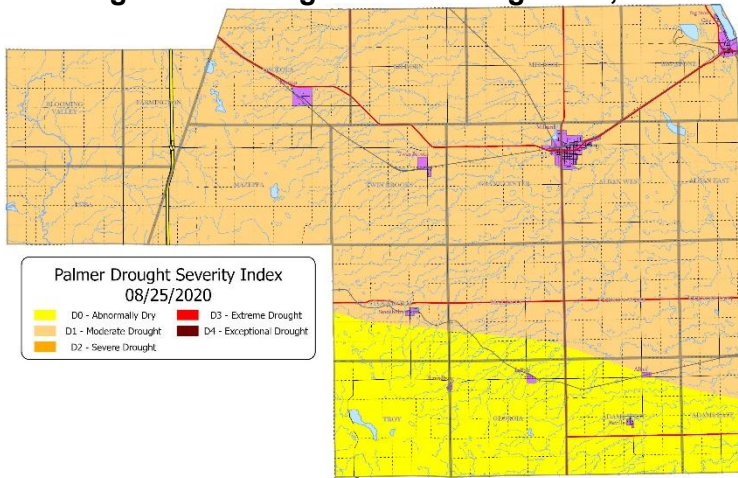


Figure 4.5 Drought Monitor July 27, 2021

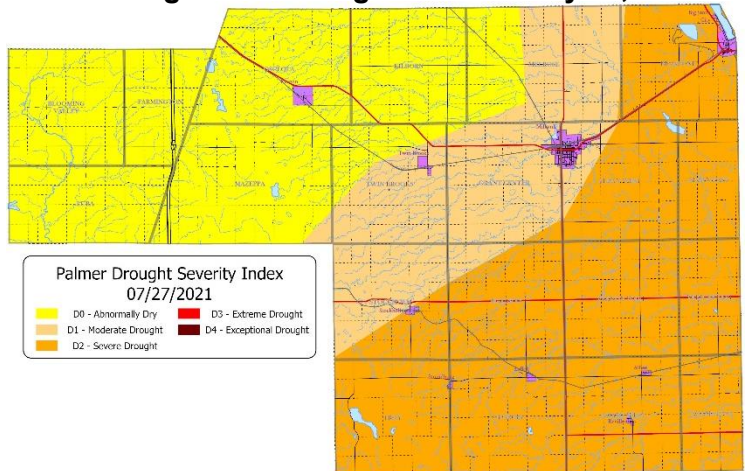


Figure 4.6 Drought Monitor December 20, 2022

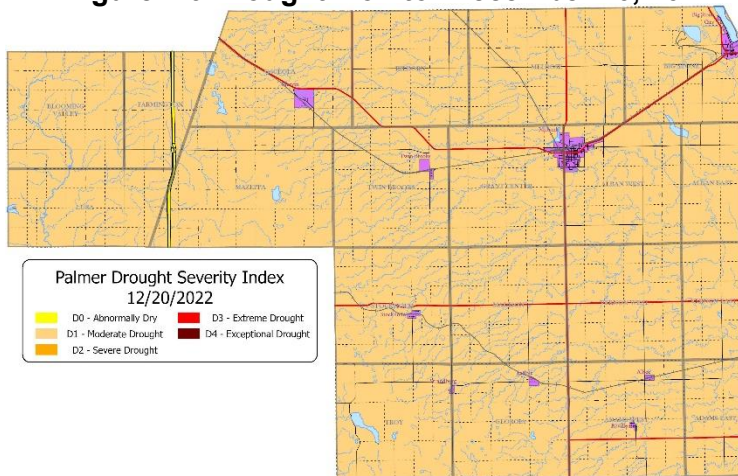


Figure 4.7 Drought Monitor August 8, 2023

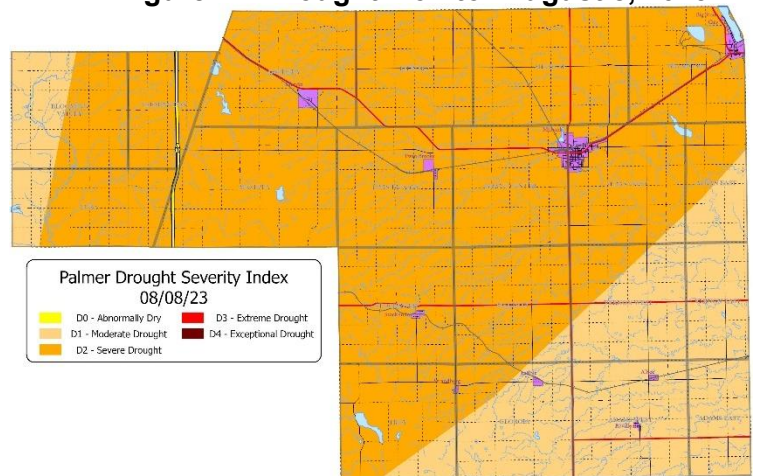


Figure 4.8 Drought Monitor October 29, 2024

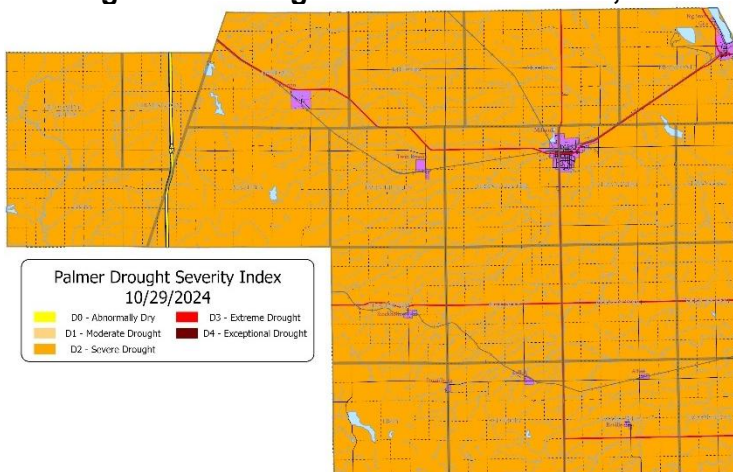
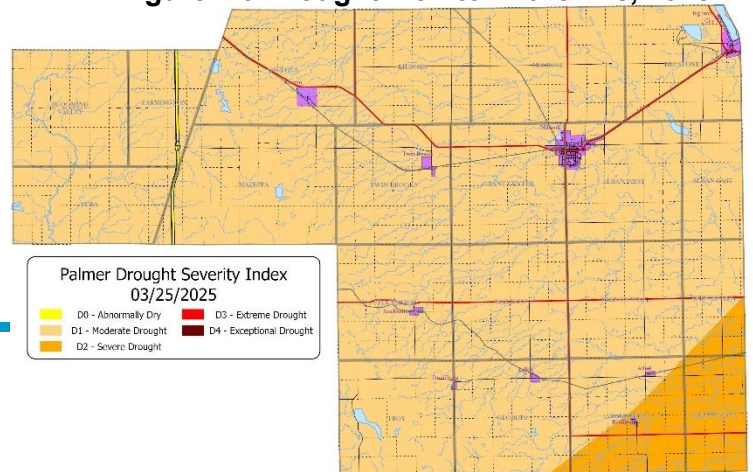


Figure 4.9 Drought Monitor March 25, 2025



Drought can be defined as a period of prolonged lack of moisture. High temperatures, high winds, and low relative humidity all result from droughts and are caused by droughts. Precipitation, streams, rivers, lakes, reservoirs and groundwater are used to meet a diverse set of water resource needs within the State including drinking water. Each of these water sources can be adversely impacted during drought periods. Crops and other vegetation are harmed when moisture is not present within the soil. Roughly every fifty years a significant drought is experienced within the county, while less severe droughts have occurred as often as every three years. The FEMA NRI states Grant County has an annualized frequency of 6.3 drought events per year.

Severe heat waves, a component of drought, have caused catastrophic crop damage, deaths from hyperthermia, and widespread power failures due to increased use of air conditioning. Loss of power and crop damage is the largest vulnerabilities to the county during extreme heat. Both have an effect on quality of life, however, neither are detrimental to the existence of the population of the County.

### Climate Change Considerations (See “Extreme Heat”)

#### Risks to Current and Future Assets by Community

*Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B1-e*

*Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B2-a&b*

*Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – E2*

The Planning Team determined that each respective community should be tasked with identifying its assets needing protection from hazards. Those assets are listed as “critical infrastructure” in Table 4.25, and includes the residents of the county (population – Table 1.1). As a part of the asset/infrastructure listing, each community was asked to identify vulnerable or socially disadvantaged populations within its respective community. Those populations are listed as “populations to protect” in Table 4.25.

Changes in population and land use are not expected to be significantly impacted by the increase in incidence of wildfire expected from climate change. Future assets include expected changes in population, anticipated new structures to be owned by a given jurisdiction during the planning period, and areas of future development. The below tables, as with mitigation activities later in this plan, are grouped into like categories.

**Table 4.8: Risks to Current and Future Assets by Community – Drought**

<i><b>Community</b></i>				<b>Drought</b>	
				<i><b>Impacts</b></i>	
	<i><u>Current Assets:</u></i>	<i><u>Future Assets:</u></i>	<i><u>Expected Changes in Land Use and Development</u></i>	<i><u>Changes in Population and Assets</u></i>	<i><u>Change in Land Use and Development</u></i>
<i><b>Grant County</b></i>	See Table 1.1 [Population]; Table 4.25 Critical Structures in Grant County. Description of effects on	Population increase of 0.4% annually (Table 1.1); no relevant/ significant capital improvements planned.	Continued dependence upon agricultural land uses, will result in conflict with new permanent and temporary residences. Continued redevelopment and expansion of lake development in the northeast and along US HWY 12 corridor.	Increasing dependence on crop farming, leads to rural income becoming increasingly dependent upon adequate rainfall. Rural and municipal water suppliers need secondary (redundant) water source in prolonged drought.	Increase in non-ag residents leads to less dependence on agricultural income and, thus, less direct impact of drought (economically).

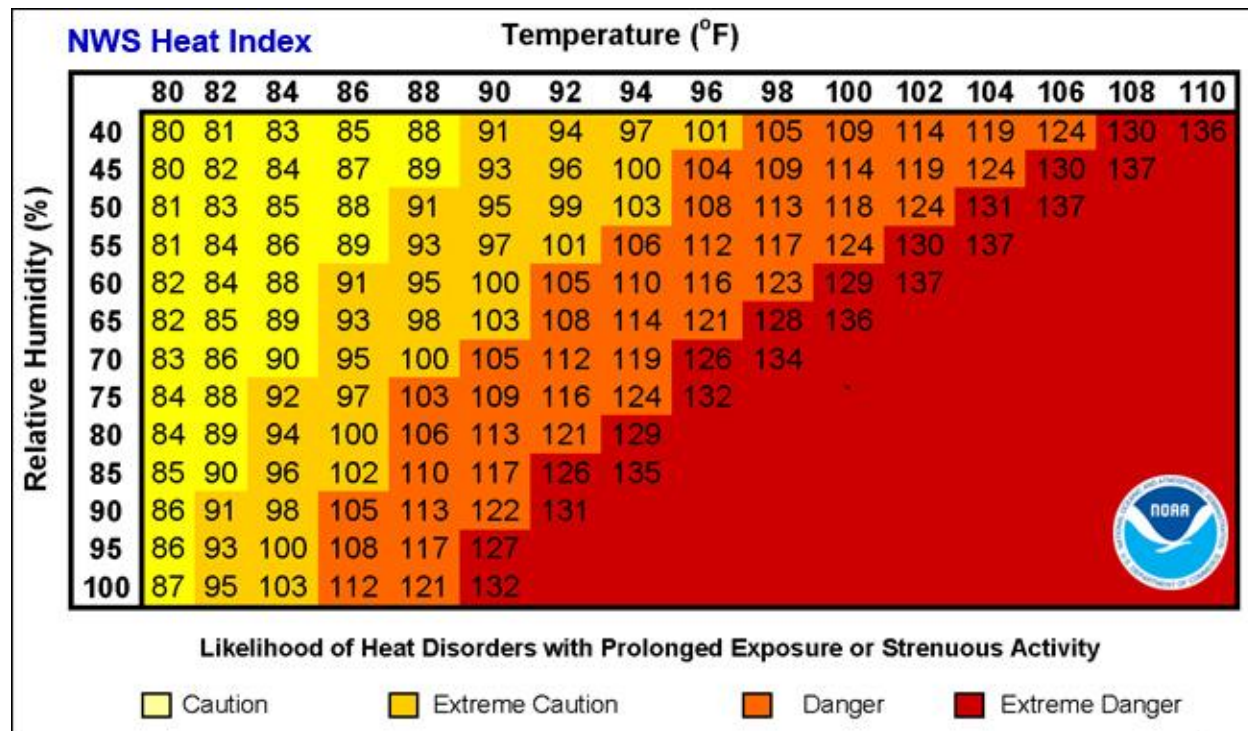
<b><u>Big Stone City</u></b>	current assets are included in Tables 5.2 - 5.14 as part of description of mitigation activities to address specified hazards.	Population decrease (Table 1.1); planned/ recent infrastructure improvements referenced in Appendix.	<i>Residential expansion in the north near the lake, and infill residential south of Cross Street. Expanded Industrial in the West and infill commercial within two blocks of Main Street.</i>	Rural and municipal water suppliers need secondary (redundant) water source in prolonged drought.	No significant impact expected if development according to Future Land Use Map.
<b><u>LaBolt</u></b>		Population decrease (Table 1.1). recent infrastructure improvements referenced in Appendix.	<i>Infill residential development with some new development in the west and south of Bouck Ave; Expansion of Industrial development near railroad and east. Infill Commercial along Main Street.</i>	Rural and municipal water suppliers need secondary (redundant) water source in prolonged drought.	No significant impact expected if development according to Future Land Use Map. Prolonged period of drought would negatively impact operation of primary industry (elevator) in town.
<b><u>Marvin</u></b>		Population decrease (Table 1.1). recent infrastructure improvements referenced in Appendix.	<i>No Land Use Plan</i>	Municipal water suppliers need secondary (redundant) water source in prolonged drought.	<i>No land use plan</i>
<b><u>Milbank</u></b>		Population increase: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	<i>Residential development in the east. Industrial uses in the south central. Infill commercial in the center and new commercial in the east.</i>	Rural and municipal water suppliers need secondary (redundant) water source in prolonged drought.	No significant impact expected if development according to Future Land Use Map.
<b><u>Reville</u></b>		Population increase: 0.5% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	<i>No Land Use Plan</i>	Rural and municipal water suppliers need secondary (redundant) water source in prolonged drought.	<i>No land use plan.</i>
<b><u>Stockholm</u></b>		Population increase: 0.3% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.		Rural and municipal water suppliers need secondary (redundant) water source in prolonged drought.	
<b><u>Strandburg</u></b>		Population decrease: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.		Rural and municipal water suppliers need secondary (redundant) water source in prolonged drought.	
<b><u>Twin Brooks</u></b>		Population decrease: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.		Rural and municipal water suppliers need secondary (redundant) water source in prolonged drought.	

## EXTREME HEAT

Extreme Heat, often referred to as a Heat Wave, is a prolonged period of excessively hot weather that may also be accompanied by high humidity. In the County, temperatures typically range from 0 to 100 degrees Fahrenheit. Therefore, any temperature outside of this range can be considered extreme. This term is applied to both routine weather variations and extraordinary heat spells that might occur only once a century. Extreme heat poses significant risks to people, livestock, and critical infrastructure when certain conditions are present.

The Heat Index, which is detailed below, measures the impact of extreme heat on humans and livestock. According to the FEMA National Risk Index (NRI), Grant County experiences heat

waves at an annualized frequency of 0.4 events per year. Table 4.6, located below, outlines the history of extreme heat events in Grant County. This information is sourced from the National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Information (NCEI) Storm Events Database.



Source: NWS/NOAA

**Table 4.9: Grant County History of Extreme Heat**

Location (Extent)	Date	Time	Type	Magnitude			
				Crop Damage	Property Damage	Injuries	Loss of Life
Grant County	07/20/2016	12:00	Excessive Heat				
Grant County	08/22/2023	12:00	Excessive Heat				
Grant County	09/03/2023	12:00	Excessive Heat				
Grant County	07/13/2024	12:00	Excessive Heat				
Grant County	08/02/2024	12:00	Excessive Heat				
Grant County	08/25/2024	12:00	Excessive Heat				

SOURCE: <https://www.ncdc.noaa.gov/stormevents/>

### **Extreme Heat Occurrences:**

- **July 2011** – A significant upper-level, high-pressure system developed over the region bringing very hot and humid conditions. This was the worst heat wave to hit the region since July 2006. Beginning on Friday July 15, 2011 and persisting through Wednesday July 20th, many locations experienced high temperatures in the 90s to lower 100s, with low temperatures in the 70s at night. In addition, humidity levels rose to extreme levels at times. Surface dew point temperatures in the 70s and lower 80s brought extreme heat index values of up to 110 to 125 degrees. The dewpoints were some of the highest ever recorded in the region. The dewpoint at Aberdeen tied the previous record with 82 degrees. Sisseton also tied their record with 83 degrees. Watertown came a degree shy of tying their record with 80 degrees. The prolonged heat took its toll on livestock with fifteen hundred cattle perishing during the heat. Numerous sports and outdoor activities were cancelled. Some of the highest heat index values included; 110 degrees at Mobridge; 111 degrees at Watertown; 113 degrees at Miller and Gettysburg; 114 degrees at Wheaton and Faulkton; 116 degrees at Pierre; 118 degrees at Sisseton; and 121 degrees at Aberdeen. The highest heat index value occurred at Leola with a temperature of 98 degrees and a dewpoint of 82 degrees; the heat index hit 125 degrees.
- **July 2016** - A very warm and abnormally large upper-level high pressure area along with high dew points brought high heat indices to central and northeast South Dakota on July 20, 2016. High temperatures were in the upper 80s to the 100s with overnight lows in the upper 60s to the mid-70s. A few of the highest heat index values include: 105 degrees at Britton, 106 degrees at Sisseton and Watertown, 107 degrees at Pierre, 108 degrees at Aberdeen and Clark, 109 degrees at Mobridge, 110 degrees at Eureka and Miller, and 111 degrees at Clear Lake. This event and the other two listed below were located throughout regions which include all of Clark County and between fifteen (15) and twenty-five (25) other counties.

### **Climate Change Considerations** *(including Drought)*

According to the Fifth National Climate Assessment, (FNCA) the line of demarcation between the arid west and humid east is moving eastward, beyond the traditional border at the 100<sup>th</sup> Meridian. Since it is known that dryer air, resulting from decreased snowpack in the west/northwest, leads to wider temperature fluctuations it is reasonable to expect increased frequency of extreme temperatures, such as extreme heat and cold. Though stream flow data runs contrary to the prediction of an arid Grant County, it is expected the increased water levels are the result of more frequent extreme moisture events (summer and winter storms) and rapid snow melt.

Since 2000, according the (FNCA), the winter season is warming at a faster rate than any other season in the Northern Plains region, and this is also true for South Dakota. Higher average low temperatures in winter will shorten the time snow spends on the ground, and in turn lead to earlier Spring temperatures and drier air reaching farther east earlier in the year than in the past. While it is true that the warmer air will converge with moist air to the east, resulting in large rain events; it is expected that warm are will be more likely to increase the frequency of prolonged heat/dry events, including drought.

As discussed elsewhere in this plan, climate change is fueling more extreme weather events, such as summer storms and extreme weather variability. Given the increased likelihood of both storms and extreme heat, the importance of temporary emergency shelter with back-up

generators for the facility; and water and sewer services for that facility in the event of loss of service/shelter due to storms leads to displacement of residents for prolonged period of times during extreme heat events.

### Risks to Current and Future Assets by Community

*Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B1-e*

*Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B2-a&b*

*Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – E2*

The Planning Team determined that each respective community should be tasked with identifying its assets needing protection from hazards. Those assets are listed as “critical infrastructure” in Table 4.25, and includes the residents of the county (population – Table 1.1). As a part of the asset/infrastructure listing, each community was asked to identify vulnerable or socially disadvantaged populations within its respective community. Those populations are listed as “populations to protect” in Table 4.25.

Changes in population and land use are not expected to be significantly impacted by the increase in incidence of wildfire expected from climate change. Future assets include expected changes in population, anticipated new structures to be owned by a given jurisdiction during the planning period, and areas of future development. The below tables, as with mitigation activities later in this plan, are grouped into like categories.

**Table 4.10: Risks to Current and Future Assets by Community – Extreme Heat**

Community				Extreme Heat	
				Impacts	
	Current Assets:	Future Assets:	Expected Changes in Land Use and Development	Changes in Population and Assets	Change in Land Use and Development
<b>Grant County</b>	See Table 1.1 [Population]; Table 4.25 Critical Structures in Grant County. Description of effects on current assets are included in Tables 5.2 - 5.14 as part of description of mitigation activities to address specified hazards.	Population increase of 0.4% annually (Table 1.1); no relevant/ significant capital improvements planned.	Continued dependence upon agricultural land uses, will result in conflict with new permanent and temporary residences. Continued redevelopment and expansion of lake development in the northeast and along US HWY 12 corridor.	Less people to provide emergency shelter for; however more communal living and clustered lake development results in higher likelihood of mass shelter need (for displaced worker housing) during extreme heat.	Continued stress on livestock and crops. Continued emphasis on rural water provision to communities and rural residents.
<b>Big Stone City</b>		Population decrease (Table 1.1); planned/ recent infrastructure improvements referenced in Appendix.	Residential expansion in the north near the lake, and infill residential south of Cross Street. Expanded Industrial in the West and infill commercial within two blocks of Main Street.	Need for emergency shelter and emergency provision/storage of daily medical services in event of utility failure.	Most residences are being recycled or improved, however are less energy efficient than newer houses would be.
<b>LaBolt</b>		Population decrease (Table 1.1). recent infrastructure improvements referenced in Appendix.	Infill residential development with some new development in the west and south of Bouck Ave; Expansion of Industrial development near railroad and east. Infill Commercial along Main Street.	Need for emergency shelter and emergency provision/storage of daily medical services in event of utility failure.	Most residences are being recycled or improved, however are less energy efficient than newer houses would be.

<b><u>Marvin</u></b>		Population decrease (Table 1.1). recent infrastructure improvements referenced in Appendix.	<i>No Land Use Plan</i>	Need for emergency shelter and emergency provision/storage of daily medical services in event of utility failure.	Most residences are being recycled or improved, however are less energy efficient than newer houses would be.
<b><u>Milbank</u></b>		Population increase: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	<i>Residential development in the east. Industrial uses in the south central. Infill commercial in the center and new commercial in the east.</i>	Need for emergency shelter and emergency provision/storage of daily medical services in event of utility failure. Medical facilities need to remain operational regardless of strain on utilities in extreme heat.	Most residences are being recycled or improved, however are less energy efficient than newer houses would be. Newer residences will be more energy efficient and provide less strain on electrical usage during extreme heat events.
<b><u>Revillo</u></b>		Population increase: 0.5% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	<i>No Land Use Plan</i>	Aging population and housing stock increase likelihood of need for care	Most residences are being recycled or improved, however are less energy efficient than newer houses would be.
<b><u>Stockholm</u></b>		Population increase: 0.3% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.		Aging population and housing stock increase likelihood of need for care	Most residences are being recycled or improved, however are less energy efficient than newer houses would be.
<b><u>Strandburg</u></b>		Population decrease: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.		Less people to provide emergency shelter for. Aging population and housing stock increase likelihood of need for care	Most residences are being recycled or improved, however are less energy efficient than newer houses would be.
<b><u>Twin Brooks</u></b>		Population decrease: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.		Less people to provide emergency shelter for. Aging population and housing stock increase likelihood of need for care	Most residences are being recycled or improved, however are less energy efficient than newer houses would be.

## FLOOD

Flooding is a temporary overflow of water onto normally dry land, resulting in measurable property damage or necessitating the evacuation of people and resources. Floods can cause injuries and even loss of life, especially when swiftly moving water is involved. As little as six inches of moving water is enough to sweep a vehicle off a road. Floods can develop slowly due to prolonged rainfall causing rivers to swell, or rapidly during a warming trend following a heavy snowfall. Both heavy rains and rapid snowmelt can lead to flooding or flash flooding, both of which are included under this hazard profile. Even small streams or dry creek beds can overflow and create flooding. Two types of flooding hazards are present within the County.

1. Inundation flooding occurs most often in the spring. The greatest risks are realized typically during a rapid snowmelt before ice is completely off all of the rivers. Ice jams occur when warm temperatures and heavy rain cause snow to melt rapidly. Snow melting combined with heavy rains can cause frozen rivers to swell, which breaks the ice layer on top of the river. The ice layer often breaks into large chunks, which float downstream and often pile up near narrow passages and other obstructions, such as bridges and dams causing localized flooding.
2. Flash flooding is more typically realized during the summer months. This flooding is primarily localized, though enough rain can be produced to cause inundation flooding.

Heavy, slow-moving thunderstorms often produce large amounts of rain. The threat of flooding would be increased during times of high soil moisture.

Disruption of communication, transportation, electric service, and community services, along with contamination of water supplies and transportation accidents are very possible.

Inundation flooding occurs most often in the spring. The greatest risks are realized typically during a rapid snowmelt before ice is completely off all of the rivers or ice jams that occur when warm temperatures and heavy rain cause snow to melt rapidly. Snow melting combined with heavy rains can cause frozen rivers to swell, which breaks the ice layer on top of the river. The ice layer often breaks into large chunks, which float downstream and often pile up near narrow passages and other obstructions, such as bridges and dams causing localized flooding. Flash flooding is more typically realized during the summer months. This flooding is primarily localized when enough rain can be produced to cause inundation flooding.

Flooding can result in injuries and even loss of life when quickly moving water is involved. Six inches of moving water is enough to sweep a vehicle off a road. Disruption of communication, transportation, electric service, and community services, along with contamination of water supplies and transportation accidents are very possible.

Grant County has experienced severe damages to roads and culverts periodically from flooding. Drainage issues from the Little Minnesota River, Yellow Bank River, and Whetstone River, along with locally heavy rains continue to keep roads in the county closed and inundated greatly affecting the traveling public.

Conditions, at times, make emergency response and evacuation operations difficult, adversely affecting the safety of residents. The flooding of township roads is a concern for the entire county. Township officials have identified areas that are either vulnerable or have experienced recurring damages. These areas are identified in maps contained in the Appendix E.

Flooding, especially county-wide flooding, causes significant damages and disrupts travel on roads in the county. According to the FEMA NRI, Grant County can expect 1.1 riverine flooding events per year. These are mostly localized events. FEMA flood studies provide mapping and detailed flood information for floodplains where the water body has a one percent chance of occurrence in any given year in identified special flood hazard areas. The data below indicates specific reports of flooding. Flood events listed below were compiled from data available through NOAA. These refer to events where waters subsided over time. It should be noted that, except for flash flooding, the "location" of flooding is considered regional rather than site specific.

National Flood Insurance Rate maps designate 100-year and 500-year floodplain zones. Areas subject to inundation by the 1-percent-annual-chance flood event are designated 100-year floodplain. Moderate risk areas within the 0.2-percent-annual-chance floodplain are designated 500-year floodplain. See Grant County 100-year flood plain map (Figure 4.4). The County should anticipate having at least one flood event each year. According to the FEMA NRI, Grant County has the potential for 1.6 riverine flooding events to occur annually. Table 4.7 contains the County's flood history for the last ten years.

**Table 4.11: Grant County Ten Year Flood History**

Location (Extent)	Type	Date	Time	Magnitude			
				Property Damage	Crop Damage	Injuries	Loss of Life
Twin Brooks	Flash Flood	08/13/2017	01:45				
Albee	Flash Flood	06/24/2018	18:00				
Hiland	Flood	03/22/2019	07:00				
Hiland	Flood	03/22/2019	20:00				
Hiland	Flood	04/01/2019	00:00	75.80K			
Hiland	Flood	05/01/2019	00:00				
Hiland	Flood	06/01/2019	00:00		9.610M		
Hiland	Flood	07/04/2019	17:45				
Hiland	Flood	08/03/2019	20:30				
Hiland	Flood	04/10/2023	00:00	150.00K	150.00K		
Milbank Airport	Flood	04/11/2023	11:45				
Milbank Airport	Flood	04/11/2023	17:45				
Hiland	Flood	04/11/2023	20:00				
Milbank Airport	Flood	04/12/2023	00:00				
Big Stone City	Flood	04/12/2023	00:45				
Milbank Airport	Flood	05/07/2024	18:15				

SOURCE : <https://www.ncdc.noaa.gov/stormevents/>

### Major Flood Occurrences:

- March 1997** – As temperatures began to warm up towards the end of March, the near record to record winter snowpack over central, north central and northeast South Dakota began to melt and runoff, filling up ditches, lakes, creeks, streams, and low-lying areas. The massive amount of water, inundated hundreds of sections of county and township roads as well as several state and federal highways. The inundated sections of roads were either broken up or washed out. Tens of culverts were blown out or damaged and several bridges were either damaged or washed out by chunks of ice and the highwater flow. Thus, road closures were extensive with rerouting taking place for school buses, mail carriers, farmers, ranchers, etc. Many spillways and dams received some damage or were washed out. Also, thousands of acres of farmland and pastureland were underwater. Due to the high groundwater, a countless number of homes received water in their basements.

A few towns were partially flooded, including Twin Brooks in Grant County, Corona in Roberts County, and Raymond in Clark County. On March 27th, in the early morning hours, water flowed into Raymond filling the basements of several homes. In rural areas, several farms

were surrounded by water and were inaccessible, leaving some people stranded and livestock marooned. Many other residences and businesses, mainly across northeast South Dakota, were threatened by highwater while others received significant damage or were a total loss. As a result, several people had to be evacuated. Many long-term residents said this was the most significant flooding they had seen in their lifetimes. The flooding continued into early to mid-April.

- **April 2001** – Heavy rain of 1 to 3 inches combined with snowmelt runoff brought flooding to parts of northeast South Dakota. Many roads across Clark, Grant, Hamlin, Deuel, and Roberts counties were flooded and damaged. Floodwater moving towards the town of Willow Lake overpowered culverts and flooded several homes and several streets. Highway 28 had to be cut through to allow the water to flow away from the town, averting a disaster. Highwater from the creek west of Corona in far southern Roberts County flowed towards Corona. As a result, 3 1/2 feet of water coursed through town flooding several homes and streets and knocking out the sewer system. Also, 1000 feet of railroad track was damaged by the floodwaters. The Big Sioux River and Lake Poinsett in Hamlin County also rose and resulted in some agricultural land and road flooding.
- **April 1997** - Near record to record snowmelt runoff and heavy rains of 1 to 2 inches on April 5th combined to bring Lake Poinsett to a record 6 feet overfull on April 18th. Over 100 cabins, homes, and businesses around the lake became inundated with extensive damage done to most. Extensive sandbagging was done to save property. Periods of strong winds through the end of April combined with debris in the Lake, railroad ties, propane tanks, etc, resulted in broken windows and doors on some of the cabins on the Lake.
- **April 2019** - The continuation of snowmelt from a much above normal snowfall winter combined with a historic heavy snow/blizzard in mid-April resulted in widespread flooding across central and northeast South Dakota. Countless roads along with thousands of acres of cropland were flooded throughout April. Impacts include damaged roads, culverts, and bridges, and livestock, homes, and businesses were affected. Delayed planting resulted across all of the region as well. Cattle and calves were stressed by the cold and wet pattern, as the mud and cold caused some sickness with the livestock. Flooded roads made it difficult for many farmers or ranchers to get to their fields or livestock. There was a water rescue near Frederick on April 7th as someone drove into a washed-out road. The wet pattern along with the flooding continued into May, further delaying planting across the region.

All counties declared emergencies/disasters in March and April due to the widespread flooding and March blizzard. South Dakota's governor declared a disaster for the state in March. This declaration was followed by a disaster declaration by the President of the United States. As a result, 24 of the 26 counties across central and northeast South Dakota were able to have access to public property damage assistance. Overall, damage estimates from the blizzards and floods for the state were at 43 million dollars.

- **April 2023** – The snowfall during the season in northeast and central South Dakota exceeded normal levels, with many locations ranking among the top 10 for the snowiest seasons. Additionally, the late spring conditions were unusually cold, resulting in a persistent and exceptionally deep snowpack until early April. The depth of the snowpack ranged from 15 to 30 plus inches, containing approximately 4 to 8 inches of snow water equivalent. However, the weather pattern shifted to abnormally warm conditions in the middle of April. Starting from April 9th, temperatures rapidly rose into the 40s and 50s in areas with deep snowpack, and

occasionally reached the 60s and 70s thereafter. The rapid snowmelt that followed resulted in extensive overland flooding in the region between April 10th and 18th.

Flooding resulted in severe damage to public infrastructure. Several reports surfaced of county and township roads being washed out or submerged in water across central and northeastern South Dakota. The communities of Wilmot, SD, and Corona, SD, experienced significant and widespread flooding. In Grant County, SD, a water rescue was carried out after a motorist drove into a flooded roadway. Furthermore, flooding impacted infrastructure along Big Stone Lake in Grant County, Lake Kampeska in Codington County, and the Lake Traverse Reservation. A Presidential Disaster Declaration was approved for Brown, Clark, Codington, Day, Faulk, Grant, Hand, Marshall, Potter and Roberts Counties, as well as for the Lake Traverse Indian Reservation, where an estimated \$2,305,362 in total qualifying costs were incurred.

### ***Climate Change Considerations***

There is no comprehensive assessment of how climate change might affect flooding in South Dakota. The TNCA, EPA-Climate Impacts on the Great Plains study, and other studies proposed climate change projections that show future precipitation patterns will vary across the Great Plains. Winter/spring precipitation and very heavy precipitation events are both projected to increase in the northern portions of the Great Plains, leading to increased runoff and potential flooding. Increased snowfall, rapid spring warming, and intense rainfall can combine to produce significant flooding.

Since 1990, South Dakota has averaged 22% more 2-inch rain events compared to the long-term average. Some historic rain and flooding events have occurred in recent years. Climate projections for the Great Plains indicate that 1-day, 20-year return events will increase in frequency by 8-16% in the coming decades. Based upon the above information (duplicated from Table 4.7); over the life of this plan (five (5) years) it should be expected that between 1.2 flood events may be attributed to global warming throughout Grant County or any of the other jurisdictions participating in this plan.

### **Risks to Current and Future Assets by Community**

*Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B1-e*

*Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B2-a&b*

*Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – E2*

The Planning Team determined that each respective community should be tasked with identifying its assets needing protection from hazards. Those assets are listed as “critical infrastructure” in Table 4.25, and includes the residents of the county (population – Table 1.1). As a part of the asset/infrastructure listing, each community was asked to identify vulnerable or socially disadvantaged populations within its respective community. Those populations are listed as “populations to protect” in Table 4.25.

Changes in population and land use are not expected to be significantly impacted by the increase in incidence of wildfire expected from climate change. Future assets include expected changes in population, anticipated new structures to be owned by a given jurisdiction during the planning period, and areas of future development. The below tables, as with mitigation activities later in this plan, are grouped into like categories.

**Table 4.12: Risks to Current and Future Assets by Community – Flooding**

Community				Flooding	
				Impacts	
	Current Assets:	Future Assets:	Expected Changes in Land Use and Development	Changes in Population and Assets	Change in Land Use and Development
<b><u>Grant County</u></b>	See Table 1.1 [Population]; Table 4.25 Critical Structures in Grant County. Description of effects on current assets are included in Tables 5.2 - 5.14 as part of description of mitigation activities to address specified hazards.	Population increase of 0.4% annually (Table 1.1); no relevant/ significant capital improvements planned.	<i>Continued dependence upon agricultural land uses, will result in conflict with new permanent and temporary residences. Continued redevelopment and expansion of lake development in the northeast and along US HWY 12 corridor.</i>	Increased incidence of isolation of residences due to water over roads, but less individuals living on those roads, except those areas of single access to large subdivisions or campgrounds. Clusters of population on arterial or collector streets decreases the chances of large numbers of impacted residences in isolated locations.	With existing regulations and policies, development is not anticipated within floodplains unless elevated above Base flood elevation.
<b><u>Big Stone City</u></b>		Population decrease (Table 1.1); planned/ recent infrastructure improvements referenced in Appendix.	<i>Residential expansion in the north near the lake, and infill residential south of Cross Street. Expanded Industrial in the West and infill commercial within two blocks of Main Street.</i>	Occupancy of structures within mapped floodplain will become tenant occupied or abandoned. Expansion of floodplain and obligated floodplain restrictions will likely result in people seeking residence in other communities or other portions of the community.	With existing regulations and policies, development is not anticipated within floodplains unless elevated above Base flood elevation.
<b><u>LaBolt</u></b>		Population decrease (Table 1.1). recent infrastructure improvements referenced in Appendix.	<i>Infill residential development with some new development in the west and south of Bouck Ave; Expansion of Industrial development near railroad and east. Infill Commercial along Main Street.</i>	No mapped floodplain.	No significant impact expected if development according to Future Land Use Map.
<b><u>Marvin</u></b>		Population decrease (Table 1.1). recent infrastructure improvements referenced in Appendix.	<i>No Land Use Plan</i>	No mapped floodplain.	<i>No Land Use Plan</i>
<b><u>Milbank</u></b>		Population increase: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	<i>Residential development in the east. Industrial uses in the south central. Infill commercial in the center and new commercial in the east.</i>	Occupancy of structures within mapped floodplain will become tenant occupied or abandoned. Industrial uses located in floodplain will need to expand elsewhere or engage in changes at significant cost for compliance if retrofitted.	With existing regulations and policies, development is not anticipated within floodplains unless elevated above Base flood elevation.
<b><u>Reville</u></b>		Population increase: 0.5% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	<i>No Land Use Plan</i>	Occupancy of structures within mapped floodplain will become tenant occupied or abandoned. Expansion of floodplain and obligated floodplain restrictions will likely result in people seeking residence in other communities.	With existing regulations and policies, development is not anticipated within floodplains unless elevated above Base flood elevation.

<u><b>Stockholm</b></u>	Population increase: 0.3% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	No mapped floodplain.	<i>No Land Use Plan</i>
<u><b>Strandburg</b></u>	Population decrease: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	No mapped floodplain.	
<u><b>Twin Brooks</b></u>	Population decrease: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	No mapped floodplain.	

## SEVERE SUMMER STORMS

Summer Storms are generally defined as atmospheric hazards resulting from changes in temperature and air pressure which cause thunderstorms that may cause hail, lightning, strong winds, and tornados.

According to an article by Emily Greenhalgh featured on the NOAA/Climate.gov website, history says mid-to-late June brings a higher probability of severe weather across much of the contiguous United States. As we move from spring to summer, the predominant way severe weather forms across the U.S. changes. Once the jet stream moves north, severe weather occurs mainly due to mesoscale processes as larger areas of the country experience warm, humid conditions. These conditions are, historically, prime ingredients for severe weather events. “Severe weather” is defined as tornados, thunderstorm winds over 58 miles per hour, or hail larger than a quarter (one inch in diameter) and lightning.

Summaries and incidences of occurrence of tornados, hail, lightning, and strong wind events associated with Severe Summer Storms are listed in subsequent sections, but for planning purposes Summer Storms should be deemed to include tornados, hail, lightning, and strong winds. However, “Climate Change Considerations” and “Risks to Current and Future Assets by Community” are combined here, excluding tornados which have separate tables for “Risks for Current and Future Assets,” and “Projected Risks to Future Areas of Development by Community.”

Summer storms can develop anywhere in the County and historically occur from early spring to early fall. Summer storms can quickly progress into thunderstorms that include strong winds, heavy rains and flooding, lightning, and hail. These storms can also spur the development of funnel clouds and tornados. Summer storms range from mild to severe, posing risks of injury or death, destroying property, and killing livestock. This section covers five types of hazards caused by summer storms, particularly thunderstorms: hail, heavy rains, lightning, strong winds, and tornados. Flooding was discussed in a previous section.

Hail can cause damage to property such as crops, vehicles, windows, roofs, and structures. The County and its local jurisdictions are vulnerable to hail, like most other areas in the State due to the nature of the hazard. The average hail stone size for these incidents was a little over 1-inch in diameter. Mitigating hail is difficult and is usually found in the form of insurance policies for structures, vehicles, and crops. The County can expect hail several times each year.

Heavy Rain causes damage to public and private property, such as roads and homes. Roads, culverts, and bridges can be washed out, causing traffic hazards for travelers and commuters. Often the roads have to be closed causing rural traffic to have to take alternate routes which can sometimes be an additional five to ten miles out of the way. All areas of the County are vulnerable when heavy rains occur. Storm sewers are built for the typical storm and therefore do not accommodate excessive or heavy rains. When heavy rains occur in the County, it may cause sewers to back up in homes due to excess water entering the wastewater collection lines. The excess water sometimes has no place to go and thus basements fill up with water which results in damage to water heaters, furnaces, and damage to living quarters for people who live in basement apartments.

Lightning often strikes the tallest objects within the area. In city limits, trees and poles often receive the most strikes. In rural areas, shorter objects are more vulnerable to being struck. Electrical lines and poles are also vulnerable because of their height and charge. Tall trees located near electrical lines can be broken in wind or by lightning strikes and land on electrical lines, severing connections. Limited loss of power is common on an annual basis. Typical power interruptions last around one to three hours. Most residents are prepared to deal with this.

Cloud-to-ground lightning can kill or injure people by direct or indirect means. Objects can be struck directly, which may result in an explosion, burn, or total destruction. Damage may also be indirect, when the current passes through or near an object, which generally results in less damage. Most injuries from lightning occur before rain begins or near the end of thunderstorms. Individuals who sought shelter leave those areas prior to the entire completion of the thunderstorm. Believing it is safe to freely move around, lightning strikes catch them off guard.

One of lightning's most dangerous attributes includes its ability to cause fires. Since the entire county is vulnerable to lightning strikes and subsequent fires, these fires will be treated under the fire section of this PDM.

Strong Winds can be detrimental to the County. Trees, poles, power lines, and weak structures are all susceptible and vulnerable to strong winds. When strong winds knock down trees, poles, power lines, and structures it creates additional traffic hazards for travelers and commuters. Strong winds are a common occurrence in all parts of the County. The farming community tends to be vulnerable because many old farm sites have weak, dilapidated, or crumbling structures or structures such as grain bins which can easily be blown over. Another area of particular vulnerability would be those areas with dense tree growth where dead or decaying trees lose their stability and can be blown over or knocked down easily. High voltage electrical transmission lines run the length of the County. These lines are susceptible to breaking during high winds and hail.

### ***Climate Change Considerations***

The annual risk for intense summer storms is very high and will increase. Climate projections are that the frequency and severity of heavy rainfall events will increase. Often associated with summer storms are hail, lightning and strong winds. It is expected that as summer/thunder storms increase, in conjunction with more of the associated hail, lightning, and strong wind events.

The Fourth National Climate Assessment report states, "since the 1970s, the United States has experienced a decrease in the number of days per year on which tornadoes occur, but an increase in the number of tornadoes that form on such days." According to the SD SHMP, there is a lot of

uncertainty with the influence of climate change on severe summer storms and tornadoes, future updates to the mitigation plan should include the latest research on how the hazards frequency and severity could change.

### Risks to Current and Future Assets by Community

Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B1-e

Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B2-a&b

Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – E2

The Planning Team determined that each respective community should be tasked with identifying its assets needing protection from hazards. Those assets are listed as “critical infrastructure” in Table 4.25, and includes the residents of the county (population – Table 1.1). As a part of the asset/infrastructure listing, each community was asked to identify vulnerable or socially disadvantaged populations within its respective community. Those populations are listed as “populations to protect” in Table 4.25.

Changes in population and land use are not expected to be significantly impacted by the increase in incidence of wildfire expected from climate change. Future assets include expected changes in population, anticipated new structures to be owned by a given jurisdiction during the planning period, and areas of future development. The below tables, as with mitigation activities later in this plan, are grouped into like categories.

**Table 4.13: Risks to Current and Future Assets by Community – Severe Summer Storms**

Community				Severe Summer Storms (Including Thunderstorm, hail, lightning, high wind)	
				Impacts	
	Current Assets:	Future Assets:	Expected Changes in Land Use and Development	Changes in Population and Assets	Change in Land Use and Development
<b>Grant County</b>	See Table 1.1 [Population]; Table 4.25 Critical Structures in Grant County. Description of effects on current assets are included in Tables 5.2 - 5.14 as part of description of mitigation activities to address specified hazards.	Population increase of 0.4% annually (Table 1.1); no relevant/ significant capital improvements planned.	Continued dependence upon agricultural land uses, will result in conflict with new permanent and temporary residences. Continued redevelopment and expansion of lake development in the northeast and along US HWY 12 corridor.	Clustering of residential development near lakes, highways and intensive ag/ religious farm communities increases likelihood of clusters of residences needing services or utilities in severe weather. Primary assets at risk are power lines, substations, water towers.	Demand has increased for permanent, seasonal, and transient housing near Lake Big Stone Lake and US HWY 12. Increased likelihood of that population cluster experiencing catastrophe; thus greater burden on emergency services.
<b>Big Stone City</b>		Population decrease (Table 1.1); planned/ recent infrastructure improvements referenced in Appendix.	Residential expansion in the north near the lake, and infill residential south of Cross Street. Expanded Industrial in the West and infill commercial within two blocks of Main Street.	Decreased population will result in less likelihood of residents being affected by severe storms, however aging housing stock and average age of residents increases likelihood of severe property and physical damage/ harm. Parks and school are at elevated risk and consideration should be made to establish safe rooms/shelters. Further it is important to allow back-up services at the clinic.	Compact, orderly development decreases the chances of isolated severe storms damage

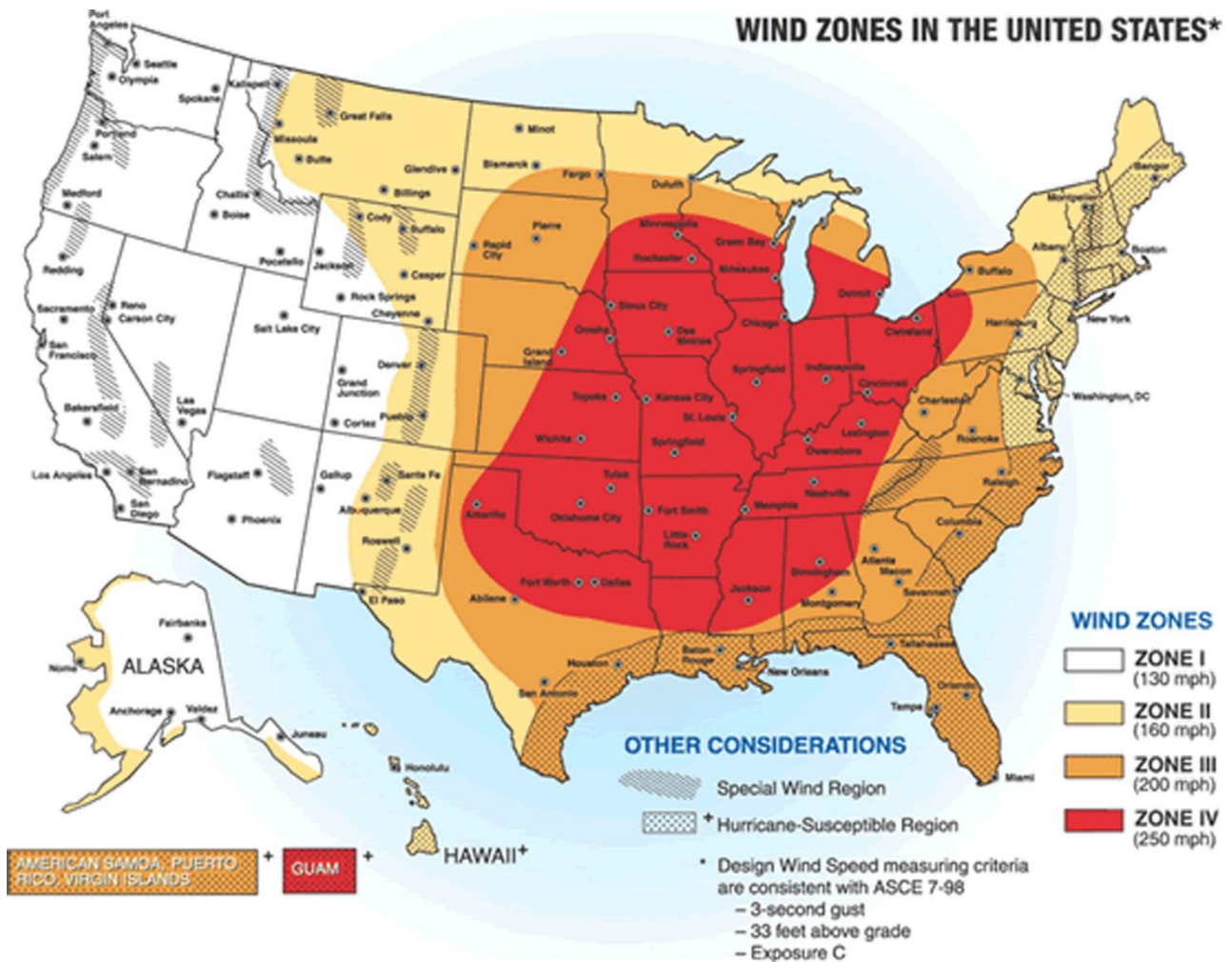
<b><u>LaBolt</u></b>		Population decrease (Table 1.1). recent infrastructure improvements referenced in Appendix.	<i>Infill residential development with some new development in the west and south of Bouck Ave; Expansion of Industrial development near railroad and east. Infill Commercial along Main Street.</i>	Decreased population will result in less likelihood of residents being affected by severe storms, however aging housing stock and average age of residents increases likelihood of severe property and physical damage/ harm. Park is at elevated risk and consideration should be made to establish safe rooms/shelters.	No significant impact expected if development according to Future Land Use Map.
<b><u>Marvin</u></b>		Population decrease (Table 1.1). recent infrastructure improvements referenced in Appendix.	<i>No Land Use Plan</i>	Decreased population will result in less likelihood of residents being affected by severe storms, however aging housing stock and average age of residents increases likelihood of severe property and physical damage/ harm.	No land use plan
<b><u>Milbank</u></b>		Population increase: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	<i>Residential development in the east. Industrial uses in the south central. Infill commercial in the center and new commercial in the east.</i>	Increased population increases likelihood of severe storms causing property or personal damage. However, severe storms disabling emergency/medical services only becomes increasingly catastrophic to the entire county as population increases. The need for portable or fixed generators should be explored for emergency and medical services. Expansion of transient and manufactured housing should occur in areas with Severe storms shelters. Considerations should be made for service areas of existing Severe storms safe rooms and ability to serve expanded child care and previously unaccounted for increase in use of recreational facilities.	Compact, orderly development decreases the chances of isolated severe storms damage. Lack of severe storms safe room poses a risk for increased multi-family residential uses and recreational amenities.
<b><u>Revillo</u></b>		Population increase: 0.5% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	<i>No Land Use Plan</i>	Increased population increases likelihood of severe storms causing property or personal damage. Day cares, schools, and parks are at elevated risk and consideration should be made to establish safe rooms/shelters. The park and elderly housing are at elevated risk and consideration should be made to establish safe rooms/shelters. Further it is important to allow back-up services at the clinic.	No land use plan

<b><u>Stockholm</u></b>		Population increase: 0.3% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	Decreased population will result in less likelihood of residents being affected by severe storms, however aging housing stock and average age of residents increases likelihood of severe property and physical damage/ harm. The park is at elevated risk and consideration should be made to establish safe rooms/shelters.	No land use plan
<b><u>Strandburg</u></b>		Population decrease: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	Decreased population will result in less likelihood of residents being affected by severe storms, however aging housing stock and average age of residents increases likelihood of severe property and physical damage/ harm.	No land use plan
<b><u>Twin Brooks</u></b>		Population decrease: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	Decreased population will result in less likelihood of residents being affected by severe storms, however aging housing stock and average age of residents increases likelihood of severe property and physical damage/ harm.	No land use plan

## TORNADO

Tornados are violent windstorms that may occur singularly or in multiples as a result of severe thunderstorms. They develop when cool air overrides warm air, causing the warm air to rapidly rise. Many of these resulting vortices stay in the atmosphere, though a touchdown can occur. See Figure 4.5 Wind Zones in the United States Map below.

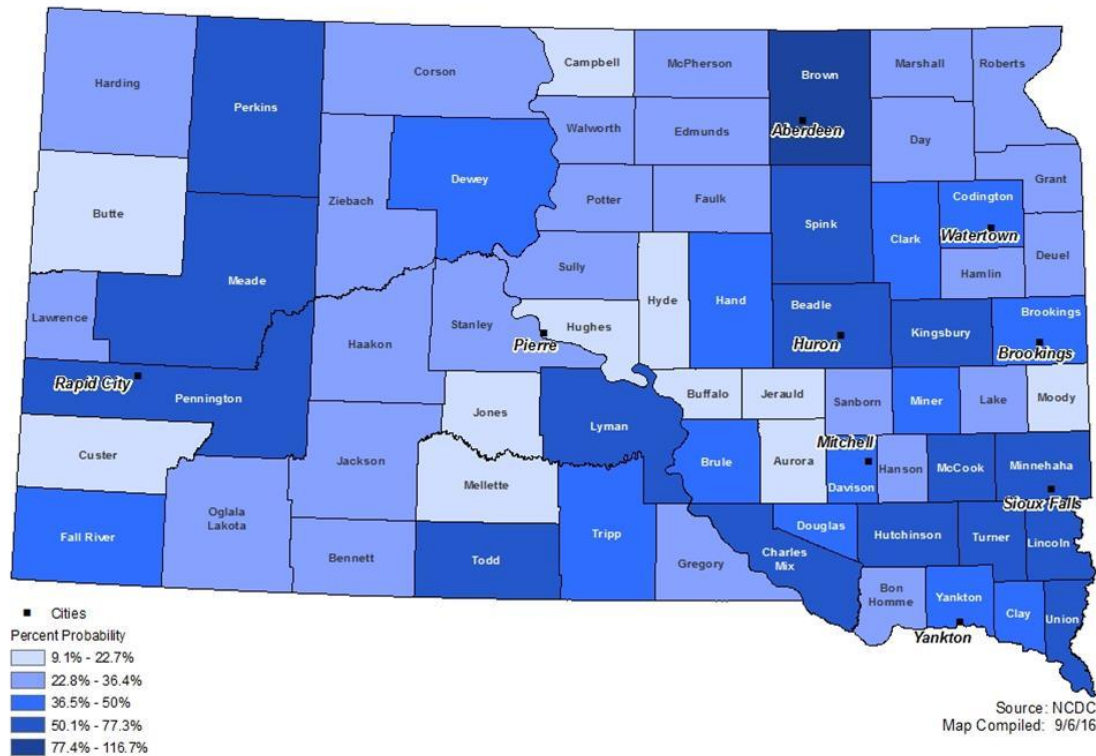
**Figure 4.9 Wind Zones in the United States**



Tornadoes present significant danger and occur most often in South Dakota during the months of May, June, and July. The greatest period of tornado activity (about 82 percent of occurrence) is from eleven a.m. to midnight. Within this time frame, most tornadoes occur between four p.m. and six p.m.

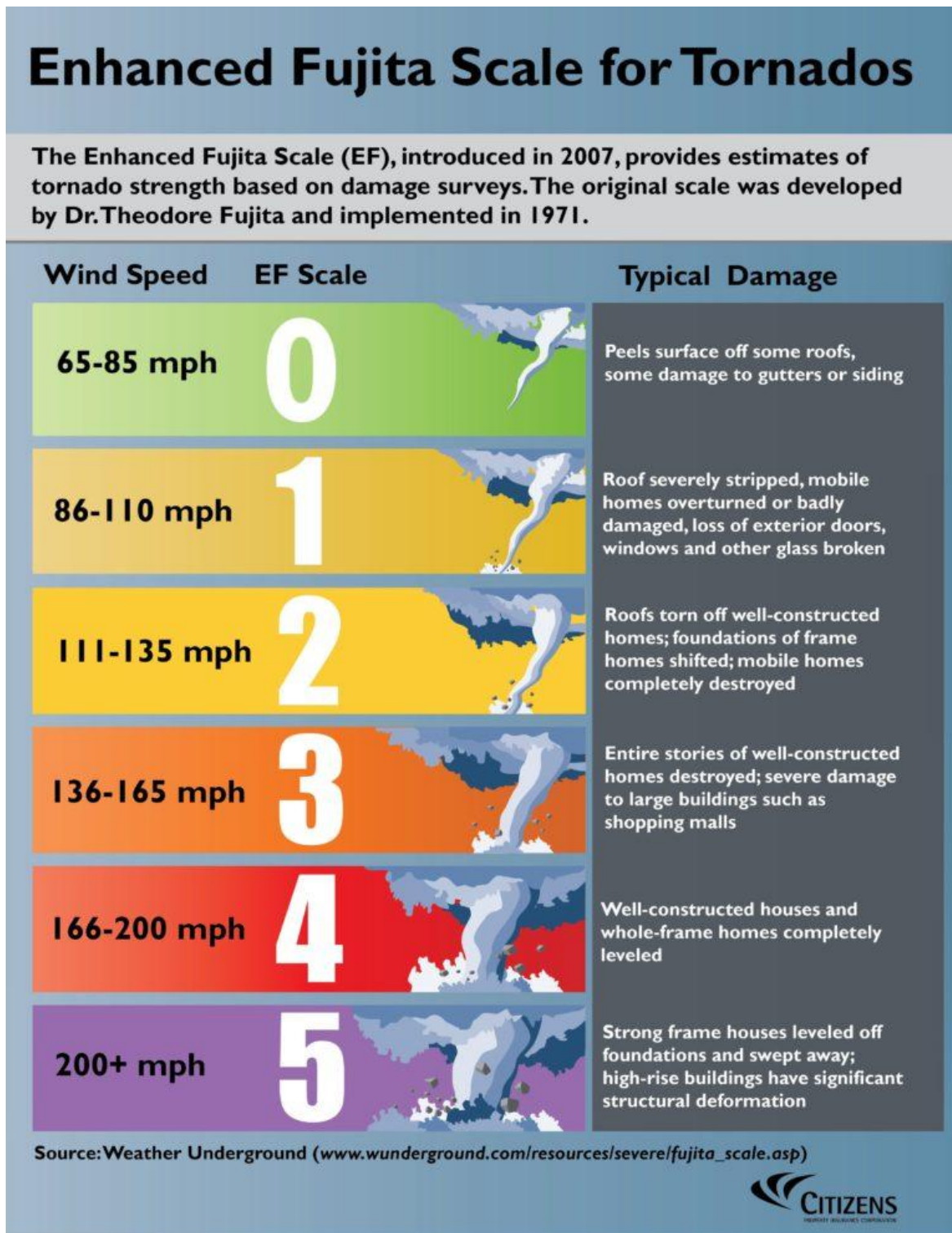
According to the NCDC, there were 1,885 tornadoes, of which 692 were F1 or higher, in South Dakota between 1950 and 2023 (73 years). Based on this information, the probability that at least one tornado will occur in South Dakota is 100%. Annualized losses are estimated at nearly \$11 million. Figure 4.8 depicts the probability of a damaging tornado occurring in each county based on the historical data. FEMA NRI projects the potential for 0.4 tornado events per year.

**Figure 4.10 Damaging Tornado Probability by County**



The Enhanced Fujita Tornado Damage Scale categorizes tornadoes based on their wind speed, see following chart Figure 4.6.

Figure 4.11 Enhanced Fujita Tornado Damage Scale



The annual risk for intense summer storms is high. The entire County is susceptible to summer storms. Warning time for summer storms is normally several hours, sufficient for relocation and evacuation, if necessary. Between the years of 1950 and 2024, the County confirmed twenty-five tornadoes/funnel clouds. However, tornadoes may occur with little or no warning. The table below denotes the tornado history in the County over the past ten years. Throughout these events, most tornadoes caused only minor damages with the exception of a large event in 1981. Grant County has an annualized tornado frequency of 0.4 events per year based on FEMA NRI.

**Table 4.14: Grant County Ten Year Tornado History**

Location (Extent)	Date	Time	Type	Magnitude	Crop Damage	Property Damage	Injury	Loss of Life
Revilla	07/17/2015	20:12	Funnel Cloud					
Albee	05/12/2022	17:15	Tornado	EF1				
Twin Brooks	05/12/2022	17:19	Tornado	EF1				
LaBolt	05/30/2022	14:05	Tornado	EF1				
Albee	05/30/2022	14:10	Tornado	EF1				
Labo	05/26/2023	16:25	Tornado	EF0				

SOURCE : <https://www.ncdc.noaa.gov/stormevents/>

Each year, many storms and a few tornadoes affect the county. Summer storms in the County usually produce a wide range of damage making damage estimates difficult. A complete listing of all summer storms having occurred within the county is not possible due to inaccurate reporting. The NOAA NCDC Storm Events online database was the primary source for this information.

### **Climate Change Considerations (See “Severe Summer Storms”)**

#### **Risks to Current and Future Assets by Community**

*Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B1-e*

*Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B2-a&b*

*Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – E2*

The Planning Team determined that each respective community should be tasked with identifying its assets needing protection from hazards. Those assets are listed as “critical infrastructure” in Table 4.25, and includes the residents of the county (population – Table 1.1). As a part of the asset/infrastructure listing, each community was asked to identify vulnerable or socially disadvantaged populations within its respective community. Those populations are listed as “populations to protect” in Table 4.25.

Changes in population and land use are not expected to be significantly impacted by the increase in incidence of wildfire expected from climate change. Future assets include expected changes in population, anticipated new structures to be owned by a given jurisdiction during the planning period, and areas of future development. The below tables, as with mitigation activities later in this plan, are grouped into like categories.

**Table 4.15: Risks to Current and Future Assets by Community – Tornado**

<b>Community</b>				<b>Tornado</b>	
				<b>Impacts</b>	
	<u>Current Assets:</u>	<u>Future Assets:</u>	<u>Expected Changes in Land Use and Development</u>	<u>Changes in Population and Assets</u>	<u>Change in Land Use and Development</u>
<b>Grant County</b>	See Table 1.1 [Population]; Table 4.25 Critical Structures in Grant County. Description of effects on current assets are included in Tables 5.2 - 5.14 as part of description of mitigation activities to address specified hazards.	Population increase of 0.4% annually (Table 1.1); no relevant/ significant capital improvements planned.	<i>Continued dependence upon agricultural land uses, will result in conflict with new permanent and temporary residences. Continued redevelopment and expansion of lake development in the northeast and along US HWY 12 corridor.</i>	Clustering of residential development near lakes, highways and intensive ag/ religious farm communities increases likelihood of clusters of residences needing services or utilities in severe weather. Primary assets at risk are power lines, substations, water towers.	Demand has increased for permanent, seasonal, and transient housing near Lake Big Stone Lake and US HWY 12. Increased likelihood of that population cluster experiencing catastrophe; thus greater burden on emergency services.
<b>Big Stone City</b>		Population decrease (Table 1.1); planned/ recent infrastructure improvements referenced in Appendix.	<i>Residential expansion in the north near the lake, and infill residential south of Cross Street. Expanded Industrial in the West and infill commercial within two blocks of Main Street.</i>	Decreased population will result in less likelihood of residents being affected by severe storms, however aging housing stock and average age of residents increases likelihood of severe property and physical damage/ harm. Parks and school are at elevated risk and consideration should be made to establish safe rooms/shelters. Further it is important to allow back-up services at the clinic.	Compact, orderly development decreases the chances of isolated severe storms damage
<b>LaBolt</b>		Population decrease (Table 1.1). recent infrastructure improvements referenced in Appendix.	<i>Infill residential development with some new development in the west and south of Bouck Ave; Expansion of Industrial development near railroad and east. Infill Commercial along Main Street.</i>	Decreased population will result in less likelihood of residents being affected by severe storms, however aging housing stock and average age of residents increases likelihood of severe property and physical damage/ harm. Park is at elevated risk and consideration should be made to establish safe rooms/shelters.	No significant impact expected if development according to Future Land Use Map.
<b>Marvin</b>		Population decrease (Table 1.1). recent infrastructure improvements referenced in Appendix.	<i>No Land Use Plan</i>	Decreased population will result in less likelihood of residents being affected by severe storms, however aging housing stock and average age of residents increases likelihood of severe property and physical damage/ harm.	No land use plan

<b><u>Milbank</u></b>		Population increase: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	<i>Residential development in the east. Industrial uses in the south central. Infill commercial in the center and new commercial in the east.</i>	Increased population increases likelihood of severe storms causing property or personal damage. However, severe storms disabling emergency/medical services only becomes increasingly catastrophic to the entire county as population increases. The need for portable or fixed generators should be explored for emergency and medical services. Expansion of transient and manufactured housing should occur in areas with Severe storms shelters. Considerations should be made for service areas of existing Severe storms safe rooms and ability to serve expanded child care and previously unaccounted for increase in use of recreational facilities.	Compact, orderly development decreases the chances of isolated severe storms damage. Lack of severe storms safe room poses a risk for increased multi-family residential uses and recreational amenities.
<b><u>Revillo</u></b>		Population increase: 0.5% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	<i>No Land Use Plan</i>	Increased population increases likelihood of severe storms causing property or personal damage. Day cares, schools, and parks are at elevated risk and consideration should be made to establish safe rooms/shelters. The park and elderly housing are at elevated risk and consideration should be made to establish safe rooms/shelters. Further it is important to allow back-up services at the clinic.	No land use plan
<b><u>Stockholm</u></b>		Population increase: 0.3% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.		Decreased population will result in less likelihood of residents being affected by severe storms, however aging housing stock and average age of residents increases likelihood of severe property and physical damage/ harm. The park is at elevated risk and consideration should be made to establish safe rooms/shelters.	No land use plan
<b><u>Strandburg</u></b>		Population decrease: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.		Decreased population will result in less likelihood of residents being affected by severe storms, however aging housing stock and average age of residents increases likelihood of severe property and physical damage/ harm.	No land use plan

<b><u>Twin Brooks</u></b>		Population decrease: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.		Decreased population will result in less likelihood of residents being affected by severe storms, however aging housing stock and average age of residents increases likelihood of severe property and physical damage/ harm.	No land use plan
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## THUNDERSTORM/STRONG WIND

Thunderstorms and high wind occurrences in the County are very common. Strong winds can be detrimental to the area. According to the SD SHMP, these winds are the most common type of severe weather in South Dakota. They can exceed 100 mph and are responsible for most wind damage related to thunderstorms. Since thunderstorms do not have narrow tracks like tornadoes, the associated wind damage can be extensive and affect entire (and multiple) counties. Trees, poles, power lines, and any weak structures are susceptible to damage from strong winds. In addition to the damage, when strong winds knock down trees, poles, power lines, and structures, additional traffic hazards are created for travelers and commuters.

Strong winds are defined as winds over forty miles per hour (34.76 knots), are not uncommon in the area. Winds over fifty miles per hour (43.45 knots) can be expected twice each summer. Strong winds can cause destruction of property and create safety hazards resulting from flying debris. Strong winds also include severe localized wind blasting down from thunderstorms. These downblasts of air are categorized as either microbursts or macrobursts depending on the amount geographical area they cover. Microbursts cover an area less than 2.5 miles in diameter and macrobursts cover an area greater than 2.5 miles in diameter. Based on past records, multiple strong wind events will occur in the County annually. The FEMA NRI suggests the County will experience 2.7 strong wind events per year.

According to the NCDC Storm Events Database, the County experienced 46 wind events from 2015-2024. Table 4.9 denotes the extent and severity of such hazards occurring in the last ten years. The County continues to educate residents of the dangers of such storms through public service announcements and other printed media.

**Table 4.16: Grant County Ten Year History for Thunderstorms/High Winds**

Location (Extent)	Date	Time	Type	Wind Speed	Magnitude			
					Property Damage	Crop Damage	Injury	Loss of Life
Hiland	06/09/2015	14:35	Thunderstorm Wind	52 kts. EG				
Marvin	07/05/2015	19:00	Thunderstorm Wind	52 kts. EG				
Marvin	07/17/2015	19:28	Thunderstorm Wind	80 kts. MG				
Marvin	08/09/2015	06:40	Thunderstorm Wind	52 kts. EG				
Grant County	10/12/2015	06:00	High Wind	61 kts. MG				

Grant County	11/12/2015	13:20	High Wind	56 kts. MG				
Grant County	11/18/2015	18:30	High Wind	62 kts. MG				
Marvin	07/16/2016	16:25	Thunderstorm Wind	66 kts. MG				
Twin Brooks	08/10/2016	17:15	Thunderstorm Wind	53 kts. MG				
Milbank	08/10/2016	17:37	Thunderstorm Wind	52 kts. EG				
Grant County	03/07/2017	10:00	High Wind	35 kts. ES				
Albee	06/11/2017	04:30	Thunderstorm Wind	70 kts. EG				
Milbank	06/13/2017	19:05	Thunderstorm Wind	74 kts. EG				
Milbank	06/13/2017	19:10	Thunderstorm Wind	65 kts. EG				
Milbank	08/18/2017	13:50	Thunderstorm Wind	58 kts. MG				
Twin Brooks	06/06/2018	01:06	Thunderstorm Wind	52 kts. EG				
Albee	06/24/2018	15:45	Thunderstorm Wind	56 kts. EG				
Reville	07/10/2018	06:15	Thunderstorm Wind	52 kts. EG				
Grant County	10/21/2019	19:00	High Wind	52 kts. EG				
Marvin	06/04/2020	19:31	Thunderstorm Wind	61 kts. EG				
Troy	06/04/2020	20:00	Thunderstorm Wind	52 kts. EG				
Marvin	07/17/2020	23:20	Thunderstorm Wind	65 kts. EG				
Big Stone City	08/28/2020	02:15	Thunderstorm Wind	52 kts. EG				
Grant County	11/08/2020	06:30	High Wind	56 kts. MG				
Grant County	03/29/2021	21:45	High Wind	61 kts. EG				
Hiland	08/28/2021	07:44	Thunderstorm Wind	56 kts. EG				
Big Stone City	08/28/2021	08:44	Thunderstorm Wind	61 kts. MG				
Grant County	11/13/2021	19:00	High Wind	50 kts. EG				

Grant County	12/05/2021	13:00	High Wind	50 kts. EG				
Grant County	12/15/2021	23:00	High Wind	50 kts. EG				
Grant County	01/18/2022	13:00	High Wind	52 kts. MG				
Grant County	02/01/2022	03:21	High Wind	50 kts. EG				
Grant County	03/25/2022	09:00	High Wind	50 kts. EG				
Grant County	04/06/2022	12:00	High Wind	35 kts. ES				
Grant County	04/14/2022	00:00	High Wind	53 kts. MG				
Grant County	04/23/2022	13:00	High Wind	52 kts. MG				
Hiland	05/12/2022	17:20	Thunderstorm Wind	74 kts. EG				
Big Stone City	05/12/2022	17:27	Thunderstorm Wind	70 kts. EG				
LaBolt	05/30/2022	14:25	Thunderstorm Wind	61 kts. EG				
Big Stone City	05/30/2022	14:37	Thunderstorm Wind	61 kts. MG				
Milbank	06/20/2022	21:35	Thunderstorm Wind	78 kts. EG				
Big Stone City	08/05/2022	23:56	Thunderstorm Wind	57 kts. MG				
Grant County	11/06/2022	13:28	High Wind	55 kts. MG				
Grant County	04/16/2023	13:26	High Wind	51 kts. MG				
Grant County	04/30/2023	11:29	High Wind	51 kts. MG				
Grant County	04/06/2024	06:00	High Wind	52 kts. EG				

SOURCE : <https://www.ncdc.noaa.gov/stormevents/>

### Major Wind Occurrences:

- July 2008** - In the early morning hours of July 31st, a line of storms originating in North Dakota began to expand and surge southeast into northeast South Dakota. As the storms moved southeast, they began to tap into warmer, more humid air and rapidly evolve into a line of severe thunderstorms. Widespread damage occurred in a wide swath extending from Long Lake in McPherson County all the way into eastern Grant County and southern Big Stone County in Minnesota. The most extensive damage was generally found along and near US Highway 12 from Aberdeen to Milbank. Several observing stations in the path of this system

measured wind speeds ranging from 70 mph to over 115 mph. Estimated wind speeds from damage surveys indicated even stronger winds with peak speeds of 120 mph.

Over fifty communities in northeast South Dakota and the surrounding rural areas received minor to major tree and structural damage as straight-line winds from 70 to 120 mph raced across the area. Webster and Waubay received the most extensive damage from the storms. Thousands of trees were snapped or uprooted, hundreds of grain bins were damaged or destroyed, hundreds of homes, businesses, and outbuildings were damaged or destroyed along with many power poles and miles of power lines downed. Many mobile homes, campers, and boats were damaged or destroyed along with many road and business signs. Countless homes, vehicles, and campers were also damaged by fallen trees.

Thousands of acres of crops were also damaged or completely destroyed by the winds and hail. The greatest crop damage occurred in the Roslyn, Grenville, Eden, and Pickeral Lake areas in Marshall and Day counties. Many acres of corn were blown down and not able to come back. The large hail combined with the strong winds also broke out countless windows in homes and vehicles along with damaging the siding on homes. Thousands of people were left without power for up to several days. Large hay bales were moved up to 700 yards by the high winds. A semi was overturned on Highway 12 near Webster, injuring the driver. Near Milbank on Highway 12, two other semis were blown off the road resulting in injuries to both drivers. A State Forestry Specialist said it was one of the worst tree damage events he has ever seen in the Webster area. A fifty-eight-year-old man died two miles north of Waubay during the cleanup after the storms when he was pinned between a backhoe and a tree.

- **June 2013** - A strong warm front along with very unstable air and strong deep layer winds brought several supercell thunderstorms along with a damaging line of thunderstorms/bow echo to parts of central and northeast South Dakota during the afternoon hours. Damaging winds up to 90 mph uprooted large trees and caused considerable structural and crop damage and loss of power to those in its path. The worst wind damage was located at Lake Poinsett, Watertown, and Milbank. A woman was killed and her husband was seriously injured on Lake Poinsett when their lake house was destroyed.

Numerous trees were downed along with many structures damaged or destroyed. Many trees had fallen onto homes, cabins, and trailers. Eighty mph winds caused major tree and structural damage in and around Milbank. Many trees were downed. The bowling alley in Clear Lake lost its roof along with numerous pole barns being destroyed along the storm's path. Thousands of people were also left without power. Four tornado touchdowns occurred along with hail up to the size of softballs. Isolated flash flooding also occurred. Codington, Hamlin, Grant, and Deuel counties were all declared in a Federal Disaster Declaration. Total damage estimates were around 1,100,000 dollars.

- **June 2017** - A large upper-level low pressure trough lifting northeast over the region along with a surface cold front interacting with a warm and very humid air mass brought severe thunderstorms to the region. During the midafternoon hours, storms rapidly developed over central and eastern South Dakota, between Pierre and Aberdeen. These storms quickly strengthened and produced large hail, damaging winds, and eventually tornadoes. The storms evolved into mainly a wind and tornado event around 7 pm CDT. Widespread wind damage occurred across northeast South Dakota as the storms formed a line and moved northeast. Many tornadoes occurred across the region, causing EF-0 and EF-1 damage. A large section of the roof on a dairy barn was blown off by estimated eighty to ninety mph winds.

- **June 2022** - A cold front draped from the upper James River Valley down into south central South Dakota triggered a severe thunderstorm during the early afternoon across north central South Dakota, and then a more significant and widespread bowing line of thunderstorms from central into northeastern South Dakota during the evening. The environment featured hot temperatures in the 80s and 90s and muggy conditions. The main thunderstorm complex produced straight-line winds of 60 to 85 mph, including a measured gust of 85 mph three miles south of Bunker, 82 mph ten miles southwest of the Chantler Creek Rec area, 80 mph eighteen miles south of Seneca, and 79 mph at the Pierre Regional Airport. There were several reports of property damage including numerous uprooted or damaged trees. Significant straight-line wind snapped and uprooted many trees at the cemetery northeast of Milbank. It also destroyed a two-stall shed and another outbuilding had roof damage.

***Climate Change Considerations (See “Severe Summer Storms”)***

**Risks to Current and Future Assets by Community (See “Severe Summer Storms”)**

## **HAIL**

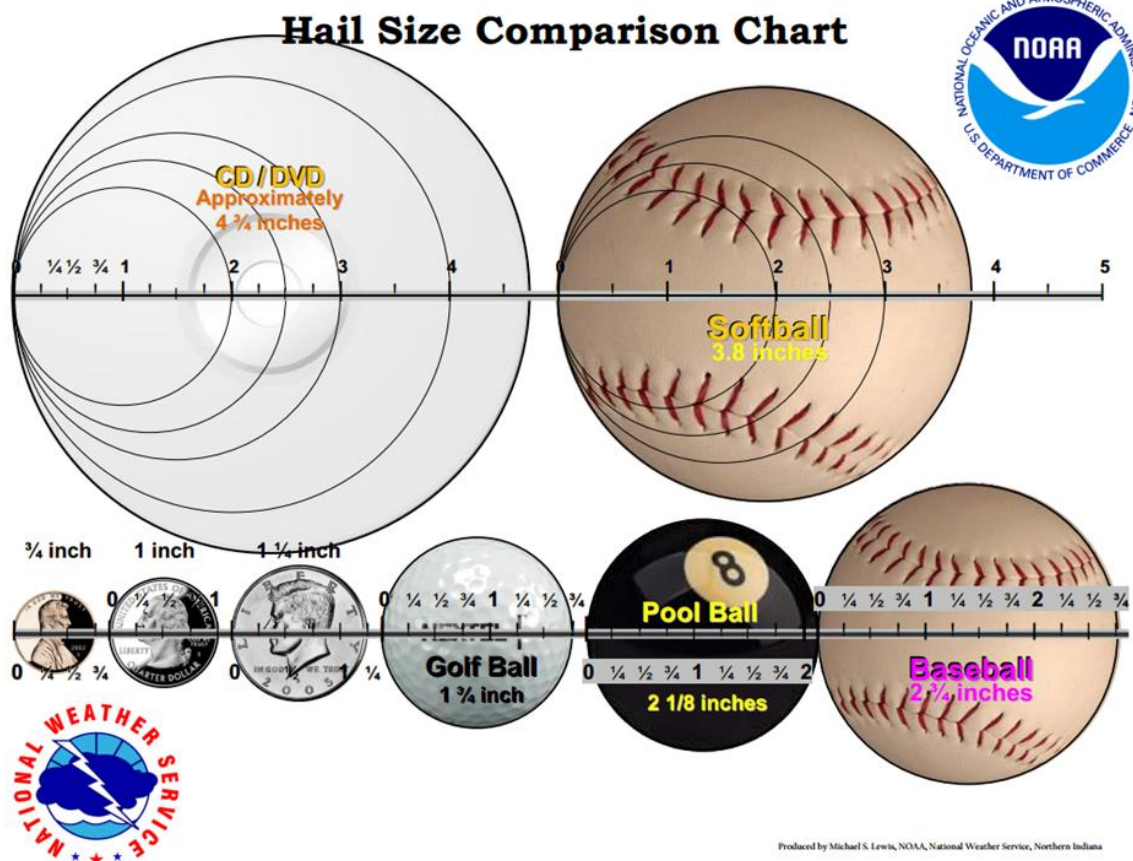
Hail is a form of precipitation consisting of solid ice that forms inside thunderstorm updrafts. The raindrops reach extremely cold areas which causes them to freeze. The semi-frozen droplets grow in size as they come into contact with each other forming the hailstone. Once the updraft can no longer support the weight of the hail, it falls to Earth. Hailstones usually consist mostly of water ice and measure between 5 and 150 millimeters in diameter, with the larger stones coming from severe and dangerous thunderstorms. The largest hailstone recorded in the United States occurred in 2010 in Vivian, South Dakota. The hailstone measured eight inches in diameter. However, even dime sized hail can cause significant damage to vehicles, buildings, livestock, and crops. When viewed from the air, it is evident that hail falls in paths known as hail swaths. These occur as storms move while the hail is falling out. They can range in size from a few acres to an area 10 miles wide and 100 miles long.

The County has a 100% potential for hail occurring each year. The FEMA NRI states 4.2 hail events per year. The following charts shows the hail size comparisons.

Hail Size Description Chart		
Hailstone size	Measurement	
	in.	cm.
bb	< 1/4	< 0.64
pea	1/4	0.64
dime	7/10	1.8
penny	3/4	1.9
nickel	7/8	2.2
quarter	1	2.5
half dollar	1 1/4	3.2
golf ball	1 3/4	4.4
billiard ball	2 1/8	5.4
tennis ball	2 1/2	6.4
baseball	2 3/4	7.0
softball	3.8	9.7
Compact disc / DVD	4 3/4	12.1

Note: Hail size refers to the **diameter** of the hailstone.

Source: NWS/NOAA



The table below indicates hail occurrences throughout the County over the last ten years. However, the information provided by the NOAA website is incomplete due to inconsistent reporting after such hazards occur. Because hail can occur in a high number of occurrences, it is reasonable to expect that at least some property or crop damage was sustained during the events listed, even though the damage may not have been reported or recorded. It is possible that such damage was not reported because it was believed to be insignificant at the time or because those responsible for reporting such information did not report to the proper agencies

**Table 4.17: Grant County Ten Year Hail History**

Location (Extent)	Date	Time	Type	Size	Extent			
					Crop Damage	Property Damage	Injuries	Loss of Life
Hiland	06/09/2015	14:35	Hail	0.88 in.				
Twin Brooks	06/22/2015	01:55	Hail	1.75 in.				
Twin Brooks	07/05/2015	19:03	Hail	0.75 in.				
Marvin	07/05/2015	19:10	Hail	0.88 in.				
Hiland	07/17/2015	19:30	Hail	2.00 in.				
Twin Brooks	07/17/2015	19:41	Hail	1.50 in.				
Marvin	08/09/2015	06:40	Hail	1.00 in.				
Albee	06/11/2017	04:30	Hail	1.00 in.				
Revilla	06/11/2017	05:05	Hail	1.00 in.				
Milbank	08/18/2017	13:35	Hail	1.00 in.				
Milbank	08/18/2017	13:40	Hail	1.25 in.				
Milbank	08/18/2017	13:42	Hail	1.75 in.				
Milbank Airport	08/18/2017	14:06	Hail	1.00 in.				
Albee	08/18/2017	14:51	Hail	1.50 in.				
Twin Brooks	07/10/2018	04:56	Hail	1.75 in.				
Milbank	07/10/2018	05:25	Hail	1.00 in.				
Twin Brooks	06/04/2019	18:06	Hail	1.00 in.				
Marvin	08/21/2020	06:56	Hail	1.00 in.				
Milbank	08/21/2020	17:18	Hail	1.50 in.				
Milbank	08/21/2020	18:18	Hail	1.50 in.				
Revilla	10/11/2020	16:45	Hail	1.00 in.				
Hiland	08/28/2021	05:50	Hail	2.75 in.				
Milbank	08/28/2021	06:33	Hail	1.25 in.				
Milbank	08/28/2021	08:15	Hail	2.50 in.				
Milbank	08/28/2021	08:19	Hail	1.75 in.				

Big Stone City	08/28/2021	08:35	Hail	1.25 in.				
Strandburg	09/08/2022	21:00	Hail	1.00 in.				
Troy	06/18/2024	15:36	Hail	1.00 in.				

SOURCE : <https://www.ncdc.noaa.gov/stormevents/>

### ***Climate Change Considerations (See “Severe Summer Storms”)***

### **Risks to Current and Future Assets by Community (See “Severe Summer Storms”)**

## **LIGHTNING**

Lightning results from a buildup of electrical charges that happens during the formation of a thunderstorm. The rapidly rising air within the cloud, combined with precipitation movement within the cloud, results in these charges. Giant sparks of electricity occur between the positive and negative charges both within the atmosphere and between the cloud and the ground. When the potential between the positive and negative charges becomes too great, there is a discharge of electricity, known as lightning. Lightning bolts reach temperatures near 50,000° F in a split second. The rapid heating and expansion, and cooling of air near the lightning bolt causes thunder. There is a 100% chance of lightning occurring in Grant County each year. The FEMA NRI shows 25.9 lightning events per year.

The extent or severity of lightning can range from significant to insignificant depending on where it strikes and what structures are hit. Water towers, cell phone towers, power lines, trees, and common buildings all have the possibility of being struck by lightning.

Lightning strikes can also start wildfires, structure fires, or damage electrical systems. Most people are struck by lightning before it starts raining or after it stops raining. People who leave shelter during thunderstorms to watch or follow lightning also have the possibility of being struck by lightning. According to the NWS, an average of 43 people a year are killed by lightning strikes.

The NCDC Storm Events Database indicated no lightning occurrences were reported over the past ten years where damage was reported. However, the possibility exists that the information reported is incomplete. It is also important to note that while no damage was reported, lightning strikes are common in all South Dakota counties. Private sources such as “AEM” have published unverifiable reports of lightning pulses, lightning flashes, and thunder days for certain years. Since, to the knowledge of the PDM Planning Team, this source has not been cited in scientific journals or scholastic reports, Grant County does not purport any of the information included in Table 4.10a to be true, nor does it use it for planning purposes. However, it is included merely to fulfill the obligation of meeting the requirements of 44 CFR § 201.6(c)(2)(i).

**Table 4.18: Grant County Privately Compiled Lightning Data**

Year	Total Lightning Pulses	Total Lightning Flash Count	Thunder Days	Source
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2020	81,151	Not available	45	<a href="https://get.earthnetworks.com/hubfs/2021%20State%20Lightning%20Reports/Lightning_Report_SouthDakota.pdf">https://get.earthnetworks.com/hubfs/2021%20State%20Lightning%20Reports/Lightning_Report_SouthDakota.pdf</a>
2021	County data not available			
2022	83,862	33,464	Not Available	<a href="https://aem.eco/2022-united-states-lightning-report/">https://aem.eco/2022-united-states-lightning-report/</a>
2023	26,915	10,453		<a href="https://aem.eco/2023-united-states-lightning-report/">https://aem.eco/2023-united-states-lightning-report/</a>

### ***Climate Change Considerations (See “Severe Summer Storms”)***

### **Risks to Current and Future Assets by Community (See “Severe Summer Storms”)**

## **WINTER STORMS**

Winter storms deposit four or more inches of snow in a twelve-hour period or six inches of snow during a twenty-four-hour period. Such storms are generally classified into four categories with some taking the characteristics of several categories during distinct phases of the storm. These categories include freezing rain, sleet, snow, and blizzard. Generally winter storms can range from moderate snow to blizzard conditions and can occur between October and April. The months of May, June, July, August, and September could possibly see snow, though the chances of a storm are very minimal. Blizzard, freezing rain/sleet/ice, and heavy snow are components of winter storms and included under this profile. The FEMA NRI states the County should anticipate 8.6 winter weather events per year.

**Blizzards** are a snow storm that lasts at least three hours with sustained wind speeds of thirty-five miles per hour (mph) or greater, visibility of less than one-quarter mile, temperatures lower than 20°F and white out conditions. Snow accumulations vary, but another contributing factor is loose snow existing on the ground which can get whipped up and aggravate the white out conditions. When such conditions arise, blizzard warnings or severe blizzard warnings are issued. Severe blizzard conditions exist when winds obtain speeds of at least forty-five mph plus a great density of falling or blowing snow and a temperature of 10°F or lower. At least one blizzard should occur each year in the County.

**Freezing Rain/Ice** occurs when temperatures drop below thirty degrees Fahrenheit, and rain starts to fall. Freezing rain coats objects with ice, creating dangerous conditions due to slippery surfaces, sidewalks, roads, and highways. Sometimes ice is unnoticeable, and is then referred to as black ice. Black ice creates dangerous conditions, especially for traffic. Additionally, a quarter inch of frozen rain can significantly damage trees, electrical wires, weak structures, and other objects due to the additional weight bearing down on them. The potential for ice storms in Grant County annually is minimal, but can cause significant damages when they occur. The FEMA NRI indicates 0.6 ice storm events per year.

**Sleet** does not generally cling to objects like freezing rain, but it does make the ground very slippery. This also increases the number of traffic accidents and personal injuries due to falls. Sleet can severely slow down operations within a community. Not only is there a danger of

slipping, but with wind, sleet pellets become powerful projectiles that may damage structures, vehicles, or other objects. Sleet normally occurs several times each year.

**Heavy Snow** is a common occurrence throughout the County during the months from October to April. Average annual snowfall for the county can range up to thirty-four inches. Accumulations in dry years can be as little as five to ten inches, while wet years can see yearly totals up to eighty inches. Snow is a major contributing factor to flooding, primarily during the spring months of melting. The County should expect approximately several heavy snow events each year.

Table 4.11 shows just how common blizzards, snow and ice storms are in the County. While such storms would be considered extreme in many parts of the State, the consistent nature of such weather hazards are expected in this area. Thus, planning and response mechanisms for snow and ice storms are vital to the County and are routine procedures in the County due to the common nature of such storms. Winter storms in South Dakota are known to cover large geographical areas, often an entire county or multiple counties can be affected by a single storm. All of the storms identified in Table 4.11 were considered to have occurred countywide. Due to the multiple occurrences of storms each year, an exhaustive compilation is not possible.

**Table 4.19 Grant County Ten Year History of Snow and Ice Storms**

Location	Date	Time	Type	Extent		
				Property Damage	Death/ Injury	Crop Damage
Grant County	01/08/2015	13:00	Blizzard			
Grant County	02/10/2015	04:00	Winter Weather			
Grant County	03/03/2015	07:30	Blizzard			
Grant County	11/30/2015	10:00	Heavy Snow			
Grant County	12/01/2015	00:00	Heavy Snow			
Grant County	12/25/2015	23:00	Winter Storm			
Grant County	11/18/2016	06:00	Blizzard			
Grant County	12/10/2016	10:00	Heavy Snow			
Grant County	12/16/2016	11:00	Heavy Snow			
Grant County	12/25/2016	12:00	Ice Storm	1.840M		
Grant County	12/26/2016	06:00	Blizzard			
Grant County	03/12/2017	10:00	Heavy Snow			
Grant County	12/04/2017	17:00	Blizzard			
Grant County	03/05/2018	08:00	Heavy Snow			
Grant County	03/23/2018	19:00	Heavy Snow			
Grant County	04/08/2018	10:00	Heavy Snow			
Grant County	04/13/2018	14:00	Blizzard			
Grant County	12/27/2018	12:00	Blizzard			
Grant County	12/31/2018	07:30	Blizzard			
Grant County	01/18/2019	05:00	Heavy Snow			

Grant County	01/27/2019	12:00	Heavy Snow			
Grant County	02/07/2019	11:00	Blizzard			
Grant County	02/19/2019	19:00	Heavy Snow			
Grant County	02/24/2019	04:40	Blizzard			
Grant County	03/09/2019	07:00	Heavy Snow			
Grant County	03/14/2019	09:30	Blizzard			
Grant County	04/11/2019	05:00	Blizzard			
Grant County	11/29/2019	20:00	Winter Storm			
Grant County	12/1/2019	1:00	Winter Storm			
Grant County	12/28/2019	3:00	Winter Storm			
Grant County	01/17/2020	11:00	Blizzard			
Grant County	01/21/2020	03:00	Blizzard			
Grant County	02/12/2020	09:00	Blizzard			
Grant County	10/20/2020	03:00	Heavy Snow			
Grant County	12/23/2020	09:00	Blizzard			
Grant County	01/14/2021	16:00	Blizzard			
Grant County	03/10/2021	10:00	Heavy Snow			
Grant County	11/11/2021	20:00	Blizzard			
Grant County	12/26/2021	10:00	Heavy Snow			
Grant County	01/04/2022	16:00	Blizzard			
Grant County	01/14/2022	00:00	Winter Storm			
Grant County	12/13/2022	00:00	Ice Storm			
Grant County	12/15/2022	10:00	Blizzard			
Grant County	12/23/2022	09:00	Blizzard			
Grant County	01/03/2023	12:00	Heavy Snow			
Grant County	01/16/2023	05:00	Winter Weather			
Grant County	02/14/2023	23:00	Blizzard			
Grant County	02/20/2023	14:32	Winter Weather			
Grant County	02/22/2023	18:05	Blizzard			
Grant County	03/09/2023	07:00	Heavy Snow			
Grant County	03/12/2023	10:00	Winter Weather			
Grant County	03/16/2023	04:00	Winter Weather			
Grant County	03/31/2023	11:00	Ice Storm			
Grant County	03/31/2023	16:00	Blizzard			
Grant County	04/04/2023	05:00	Heavy Snow			
Grant County	04/04/2023	12:00	Winter Weather			
Grant County	12/25/2023	06:00	Ice Storm			
Grant County	03/24/2024	03:00	Heavy Snow			
Grant County	12/10/2024	14:38	Winter Weather			

SOURCE : <https://www.ncdc.noaa.gov/stormevents/>

The above data was obtained from the storm events database, compiled by the National Oceanic and Atmospheric Administration (NOAA). In all a total of fifty-nine (59) events with blizzards, heavy snow, winter storms, winter weather, or ice storms occurred from 2014-2024 (through Spring). Though a total of \$1,840,000 of property damage was reported over the period; no deaths or injuries were attributed to these events. References within the storm events database are general for the full region affected.

The highest referenced single day snowfall event in Grant County was 27 inches recorded on March 4, 1985. This event ranks among the top 10 biggest one-day snowfalls in South Dakota history, according to NOAA. Though no specific reports in Grant County were provided in the data, anecdotally various parts of the county experienced ice accumulations closer to the top end of the 0.25" to 1.5" reported across the area affected by the storm throughout the state.

### **Major Winter Storm Occurrences:**

- **January 1888** – According to an article on the SDSU website for National History Day in SD, an extreme blizzard in January 1888 led to 170 deaths in South Dakota alone. Many of those who passed away were school children trying to walk home, giving this blizzard its name. This blizzard is also sometimes referred to as the Schoolhouse/Children's Blizzard of 1888.
- **March 1966** – One of the worst blizzards in South Dakota history occurred in the northern Great Plains in March 1966. The blizzard dumped several feet of snow and brought winds of 40-55 MPH with gusts as high as 100 MPH. The storm caused several fatalities, killed numerous livestock and caused structural damages. Roads were blocked and schools and businesses were closed.
- **October 1995** - a severe autumn snow and ice storm caused widespread damage in South Dakota. Winds associated with the storm caused lines to slap together and poles to fail, producing widespread power outages to large portions of rural South Dakota. Tree damage also led to significant damage to electrical utilities. Thirteen rural electric cooperatives reported damage from this storm. The cooperatives lost nearly 9,500 poles and 170 transmission lines. Damage was estimated at \$10 to \$10.3 million to rural electric infrastructure only. Approximately 30,290 households were affected by the power outages. The power outages also caused several rural water system pumping stations to go off line, causing a loss of water utilities to members of rural water systems. The National Guard provided generators to power these pumping stations to restore water service. This storm also forced major transportation delays as portions of Interstates 90 and 29 had to be closed because of the snow accumulation on the roadway and poor visibility. Twenty-eight counties including Grant County were included in the disaster declaration.
- **December 1996** - A powerful Alberta Clipper and a slow moving deep Arctic high pressure brought widespread prolonged blizzard conditions to central, northcentral and northeast South Dakota. The Clipper dropped from 1 to 5 inches of snow on top of the already expansive and deep snow cover of 1 to almost 4 feet. Late in the morning of the 16th across central and north central South Dakota, north winds increased to 25 to 40 mph gusting to 55 mph, temperatures fell, widespread blizzard conditions and dangerous wind chills of 40 to 70 below developed and prevailed to noon on the 18th. Across northeast South Dakota, conditions deteriorated through late in the day of the 16th, with widespread blowing snow, falling temperatures and

dangerous wind chills. Widespread blizzard conditions developed on the morning of the 17th and continued into the evening of the 18th.

Due to the massive amount of blowing snow, widespread heavy drifting occurred across the entire area, blocking roads and making travel impossible. Some snowdrifts from the storm were as high as 15 feet with a few houses almost buried. A Burlington Northern Locomotive became stuck in a 12-foot drift near Hazel and had to be dug out. Due to the weight of the snow, the roof of a hangar at the Gettysburg Airport collapsed onto an airplane, crushing the plane.

All schools were let out early on the 16th with some schools not reopening until the 20th. Several school buses went into the ditch or got stuck in drifts and had to be pulled out. Many people had to be rescued as their vehicles became stuck in drifts or they went into the ditch because they could not see the road. Some people had to wait to be rescued for many hours, for some over a day. There were several accidents, most with minor injuries. Although, one accident in Dewey County resulted in serious injury. Most of the roads, state highways and Interstate-90 were closed for a day or two until road crews could get to them. This left many people stranded to wait out the storm. Interstate-29 also received heavy drifting, with parts of it closed for a while during the storm. Most snow plows had to be called back, because they could not see the roads or the roads would be drifted over shortly after they were plowed. Some county snow removal budgets were already depleted or were close to being depleted. Emergency personnel and road crews were working extended hours to keep up with the storm. Rescue vehicles had a real difficult time responding to emergencies. In one case, a lady from Mobridge had to be brought to Aberdeen. The 100-mile trip took six hours. Also, a rural Westport man died, because the rescue units could not get to him in time.

Airports were closed or flights were canceled or delayed. Mail was delayed for some people up to several days with a huge backup of Christmas packages. Some government offices and many businesses were closed for several days. All sports and other activities were postponed or canceled. Ranchers had a difficult time getting feed to their livestock. Many cattle were lost and had to be found as they walked on snow drifts over fences. Also, several livestock and countless numbers of pheasants were killed by the storm with some buried in the snow. Several dairy producers had to dump thousands of pounds of milk, because trucks could not get to them in time. Fortunately, there were only spotty power outages throughout the storm. For several hours on the night of the 16th in the extreme cold, 3000 people in Pierre were without power for several hours.

- **April 1997** - Before the ice storm and blizzard, an intense area of low pressure brought widespread rain to central and north central South Dakota the evening of the 4th. The rain spread across northeast South Dakota through the morning hours of the 5th. The 1 to 3 inches of rainfall only worsened the flood situation. As the low pressure intensified and a powerful cold front swept southeast, the rain changed to freezing rain, sleet, and then snow with 4 to 12 inches of snowfall. North winds increased to 40 to 60 mph with gusts to 70 mph causing widespread blizzard conditions. Temperatures dropped into the teens and 20s and wind chills fell to 15 to 30 below. Snowdrifts were from 3 to 10 feet across the area. Travel became nearly impossible as roads were either flooded, drifted, or iced over. Many roads were closed including, parts of Interstates 29 and 90.

Hours and hours of freezing rain and the ice buildup brought down many power lines and poles resulting in widespread power outages in a 50-mile-wide band across northern South Dakota. The power was knocked out for many communities from late on the 5th until Monday

the 7th, leaving many people struggling to keep warm. Most people had power restored by late on the 8th except for the town of Hillsvew, where they were without power for a week. Temperatures dropped to 20 degrees inside some homes. Some people used everything from candles to grilling to keep warm, while many went to shelters. Nearly thirty communities, thousands of people, across northern South Dakota from Keldron to Summit experienced power outages along with the surrounding rural areas. For one electric cooperative, at 3 am on the 6th, not one consumer in the service area in Dewey and Corson County had power. This was the first time this occurred in 30 years. Also, this ice storm and blizzard had caused the most damage to lines and poles in 30 years. Many trees and branches were also brought down by the storm.

The area's calf crop was devastated by the storm with total livestock losses nearing 100,000. With several months of severe winter weather and flooding, several dairy and cattle producers were forced out of business. Many schools were called off across the area on Monday and some on Tuesday. President Clinton declared the area a major disaster on April 7th. Some snowfall amounts included, 4 inches at Aberdeen, Redfield, Clear Lake, and Murdo, 5 inches at Britton and Bryant, 6 inches at Iona and Gettysburg, 7 inches at Watertown, Gann Valley and Onida, 8 inches at Clark, Wilmot, Pollock, Mobridge, and Pierre, 9 inches at Webster, Sand Lake NWR, Miller, Onaka, and Timber Lake, 10 inches at Leola, Eureka, Sisseton, and Selby, 11 inches at 22 SSW Keldron, and 12 inches at Roscoe. The total damage estimate for this ice storm and blizzard on rural electric coops and livestock producers was 55 million.

- **December 2006** - An upper level trough of low pressure moving across northern South Dakota along with deep and strong frontogenesis brought widespread snow, freezing rain, and rain to northeast South Dakota. The precipitation began as snow and freezing rain early in the morning on the 30th. During the afternoon and early evening, the temperatures warmed up some to bring rain across much of the far eastern counties. The precipitation then changed back to freezing rain during the evening and then to snow before ending late in the evening of the 30th. Snowfall amounts over Brown and Spink counties ranged from 5 to 12 inches while snowfall amounts over the rest of northeast South Dakota ranged from 1 to 4 inches. Ice accumulations ranged from a quarter to nearly an inch for some places in northeast South Dakota. The roads were very slippery, tree branches were downed along with a few trees, and there were several power outages for several hours.
- **April 2019** - A historic blizzard affected all of central and northeast South Dakota from April 11th into the 12th. The storm came in two waves. The first wave brought a band of moderate to heavy snow and thunder as it lifted from south to north across the region during the early morning hours of the 10th. The thunder snow with this first wave brought snowfall rates of 2 inches or more an hour with initial snowfall accumulations of 2 to 10 inches. There were some areas of light freezing rain from Pierre to Watertown in the early morning hours of the 10th.

The second wave of heavy snow and strong north winds were with the main surface low pressure area moving across the central plains. The heavy snow in combination with winds gusting to 35 to 50 mph brought widespread blizzard conditions along with heavy drifting. At the storm's end, most locations received anywhere from 4 to 15 inches of snowfall with some locations reporting extraordinary snowfall amounts of 16 to 30 inches.

The blizzard had wide ranging impacts across the region, mainly to cattle producers and roadways. Countless roads were blocked or impassable. Thousands of ranchers were affected. There were stranded herds of cows with countless calves buried in the snow (many lost). There were also some spotty power outages. Interstates 29 and 90 were closed, and

most other area roads were designated by the DOT as no travel advised. Many vehicles became stuck across the region with several rescues taking place. There were also several accidents reported. Schools were closed for two days along with state offices throughout central and northeast South Dakota. With the ongoing flooding across the region from the expansive snowmelt from the winter, the additional snowmelt water from this blizzard would only exacerbate the widespread flooding across the region. Many counties declared disasters in March with several more counties declaring disasters in April for the flooding and the March blizzard.

Snowfall amounts include 17 inches at Faulkton and Wilmot; and 18 inches at Webster, Kennebec, and Milbank. Snowfall amounts of over 18 inches include 19 inches at Sisseton, Reliance, and 7 miles east of Hayes; 21 inches at Orient; 22 inches at Summit; 23 inches at Castlewood; 25 inches at Roscoe, Ipswich, Watertown, Miller; 26 inches at Clear Lake; 29 inches at Clark. The 25 inches at Watertown broke their three-day record for snowfall set in March 1937.

- **December 2022** - A strong low-pressure system produced snow and heavy snow prior to the onset of strong northwesterly winds and periods of additional snow, which resulted in blizzard or ground blizzard conditions across much of central and northeastern South Dakota for extended periods of time from the morning of December 14th through the afternoon of December 16th. Heavy snow of at least 6 inches in 12 hours was recorded from December 15th into the 16th in conjunction with the blizzard conditions. Winds gusted generally between 45 and 60 mph.

The South Dakota Department of Transportation placed nearly the entire state under No Travel Advised or had road closures by Thursday, as numerous roads had become impassable. I90 closed from Chamberlain to Rapid City from 10am CST on Tue Dec 13th through mid-day Sat Dec 17th (from Kadoka to Chamberlain), and I29 closed from Watertown to the ND border from 7pm Wed Dec 14th through 9am Sat Dec 17th. Several dozens of semi drivers were stranded for consecutive days and nights at the Coffee Cup Fuel Stop in Vivian, and numerous other vehicle accidents and rescues occurred as well. Additionally, power outages were reported across the area, and school was cancelled at numerous locations for multiple consecutive days.

The blizzard was just one component of a highly impactful, major winter storm. This storm was severe, widespread and prolonged in nature, and produced freezing rain, heavy snow and/or blizzard conditions from December 12th through 16th across the region. A Major Disaster Declaration was declared on February 27th by Governor Noem for several counties across central and northeastern South Dakota for winter weather from December 12-25th.

Winter Storms have a high risk of occurrence in the County. Several snowstorms each resulting in five to ten inches of snow occur in the County area annually. High winds, heavy and blowing snow, freezing rain/ice, and cold temperatures can impair/immobilize transportation, down power lines and trees, cause the collapsing of weaker structures, and potentially cause flooding. Livestock and wildlife are also very vulnerable during periods of heavy snow. Most winter storms can be considered to have occurred countywide.

Blizzards are characterized by high winds, heavy and blowing snow, cold temperatures, and low visibility. Blizzards subsequently create conditions such as icy roads, closed roads, downed power lines and trees. The County's population is especially vulnerable to these conditions because people tend to leave their homes to get to places such as work, school, and stores rather than

staying inside. Traffic is one of the biggest hazards in the County during a blizzard because people often get stuck, stranded, and lost when driving their vehicles which usually prompts others such as family and or emergency responders to go out in the adverse conditions to rescue them.

Freezing rain/ice causes adverse conditions such as slippery surfaces and extra weight buildup on power lines, poles, trees, and structures. The additional weight can often cause weak structures to cave in and cause tree branches and power lines to break and fall. Electric transmission/distribution lines run the length of the County. These lines are susceptible to breaking under freezing rain and icy conditions and severing during high blizzard winds. Loss of power can cause the loss of residential heating and utilities usage. Limited loss of power is not uncommon on an annual basis. A typical power interruption lasts from one to three hours. Most residents are prepared to deal with this type of inconvenience. The elderly and families with children potentially may suffer from a long duration loss of power during winter storms. Traffic on the roads and highways tend to be another hazard during freezing rain and icy conditions because vehicles often slide off the road which prompts emergency responders and others to have to go out on rescue missions in the adverse conditions.

While winter storms would be considered extreme in many parts of the State, the consistent nature of such weather hazards are expected in this area. Thus, planning and response mechanisms for snow and ice storms are vital to the County and are routine procedures in the County due to the common nature of such storms.

### ***Climate Change Considerations***

According to climate reports, there is evidence for the entire Northern Hemisphere of an increase in both storm frequency and intensity during the cold season since 1950, with storm tracks having shifted slightly towards the poles. South Dakota's northern location and proximity to the typical U.S. winter storm track make it highly susceptible to heavy snows, high winds, and low wind chill temperatures. Extremely heavy snowstorms increased in number during the last century in northern and eastern parts of the United States, but have been less frequent since 2000. Total seasonal snowfall has generally increased in the northern Great Plains.

The winter season is warming at a faster rate than any other season in the Northern Plains region, and this is also true for South Dakota. Winter storms and blizzards, however, will continue to be a severe weather hazard in the state. Overall snow cover has decreased in the Northern Hemisphere, due in part to higher temperatures that shorten the time snow spends on the ground. Warmer winter temperatures could mean more ice and freezing rain events, which often impact electrical utilities and communication systems, but can also affect agricultural livestock and roads and transportation. There remains some uncertainty in projections for the coming decades, but the rising trend of extreme precipitation events in general (including winter season) will continue to be a hazard.

### **Risks to Current and Future Assets by Community**

*Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B1-e*

*Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B2-a&b*

*Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – E2*

The Planning Team determined that each respective community should be tasked with identifying its assets needing protection from hazards. Those assets are listed as “critical infrastructure” in Table 4.25, and includes the residents of the county (population – Table 1.1). As a part of the asset/infrastructure listing, each community was asked to identify vulnerable or socially

disadvantaged populations within its respective community. Those populations are listed as “populations to protect” in Table 4.25.

Changes in population and land use are not expected to be significantly impacted by the increase in incidence of wildfire expected from climate change. Future assets include expected changes in population, anticipated new structures to be owned by a given jurisdiction during the planning period, and areas of future development. The below tables, as with mitigation activities later in this plan, are grouped into like categories.

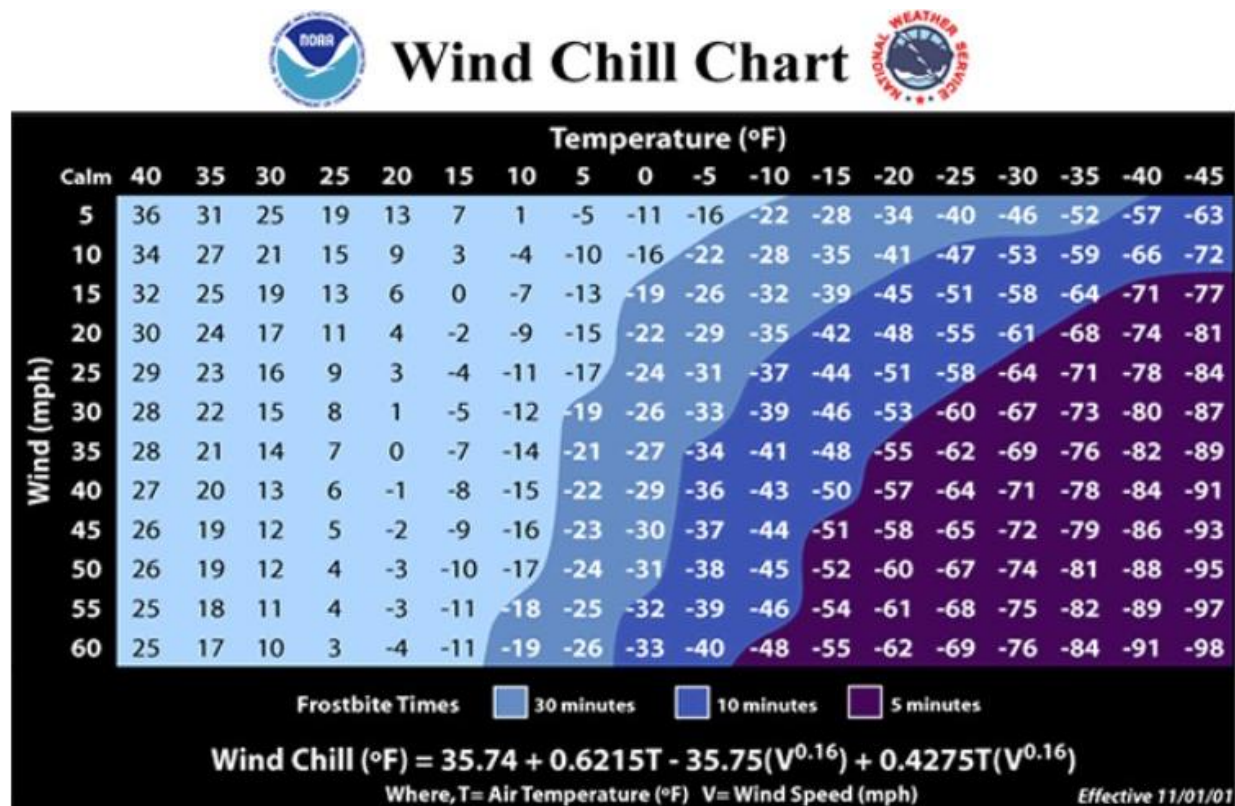
**Table 4.20: Risks to Current and Future Assets by Community – Winter Storms**

Community				Winter Storms (Extreme Cold, Blizzard, Freezing Rain, Heavy Snow)	
				Impacts	
	Current Assets:	Future Assets:	Expected Changes in Land Use and Development	Changes in Population and Assets	Change in Land Use and Development
<b><u>Grant County</u></b>	See Table 1.1 [Population]; Table 4.25 Critical Structures in Grant County. Description of effects on current assets are included in Tables 5.2 - 5.14 as part of description of mitigation activities to address specified hazards.	Population increase of 0.4% annually (Table 1.1); no relevant/ significant capital improvements planned.	Continued dependence upon agricultural land uses, will result in conflict with new permanent and temporary residences. Continued redevelopment and expansion of lake development in the northeast and along US HWY 12 corridor.	Scattered residential development in rural areas will result in more demand exceeding means for clearing roads in winter; and increase in users affected by utility disruption in rural areas.	Increased non-ag residential development increases urgency for snow removal on roads which would have previously been unused, however expense to clear those roads will outpace revenue generated in taxes, specifically as lake development will increase urgency in clearing collector streets leading to clusters.
<b><u>Big Stone City</u></b>		Population decrease (Table 1.1); planned/ recent infrastructure improvements referenced in Appendix.	Residential expansion in the north near the lake, and infill residential south of Cross Street. Expanded Industrial in the West and infill commercial within two blocks of Main Street.	Aging population may need help with care/recovery following storms; more severe events increase difficulty of emergency service provision.	Any new and infill development is at the mercy of aging infrastructure (water/sewer) which periodically fails due to power outages; and freeze-up.
<b><u>LaBolt</u></b>		Population decrease (Table 1.1). recent infrastructure improvements referenced in Appendix.	Infill residential development with some new development in the west and south of Bouck Ave; Expansion of Industrial development near railroad and east. Infill Commercial along Main Street.	Aging population may need help with care/recovery following storms; more severe events increase difficulty of emergency service provision.	Any new and infill development is at the mercy of aging infrastructure (water/sewer) which periodically fails due to power outages; and freeze-up.
<b><u>Marvin</u></b>		Population decrease (Table 1.1). recent infrastructure improvements referenced in Appendix.	No Land Use Plan	Aging population may need help with care/recovery following storms; more severe events increase difficulty of emergency service provision.	No land use plan
<b><u>Milbank</u></b>		Population increase: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	Residential development in the east. Industrial uses in the south central. Infill commercial in the center and new commercial in the east.	Rural and municipal water suppliers need secondary (redundant) water source in prolonged drought.	No significant impact expected if development according to Future Land Use Map.
<b><u>Reville</u></b>		Population increase: 0.5% annually (Table 1.1). Recent	No Land Use Plan	Increased population increases likelihood of need	No land use plan

		infrastructure improvements referenced in Appendix.		for emergency services/ care during winter storms, therefore increased urgency for clearing evacuation routes and collectors.	
<b><i>Stockholm</i></b>		Population increase: 0.3% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.			
<b><i>Strandburg</i></b>		Population decrease: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.		Aging population may need help with care/recovery following storms; more severe events increase difficulty of emergency service provision.	
<b><i>Twin Brooks</i></b>		Population decrease: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.			

## EXTREME COLD

What constitutes extreme cold, and its effects can vary across different areas of the country. In regions relatively unaccustomed to winter weather, near freezing temperatures are considered “extreme cold,” however, Eastern South Dakota is prone to much more extreme temperatures than other areas in the country. Temperatures typically range between zero degrees Fahrenheit and 100 degrees Fahrenheit, so extreme cold could be defined in the Grant County PDM jurisdiction area as temperatures below zero. The Wind Chill Chart is used to measure extreme cold. The NWS/NOAA Wind Chill Chart can be found below. At least one extreme cold event should occur each year. The FEMA NRI suggests 3 cold wave events per year.



Extreme Cold temperatures often accompany a winter storm, so you may have to cope with power failures and icy roads. Whenever temperatures drop decidedly below normal and as wind speed increases, heat can leave your body more rapidly. These weather-related conditions may lead to serious health problems. Extreme cold is a dangerous situation that can bring on health emergencies in susceptible people, such as those without shelter or who are stranded, or who live in a home that is poorly insulated or without heat. Exposure is the biggest threat/vulnerability to human life; however, incidences of exposure are isolated and thus unlikely to happen in masses. The following information was found on the NOAA website. Table 4.12 identifies dates and times of the temperature extremes. The location in this table is not specifically identified in the table by jurisdiction due to the vast area across the State of South Dakota affected by extreme temperatures.

**Table 4.21: Grant County Ten Year History of Extreme Cold Temperatures**

Location	Date	Time	Type	Causalities
Grant County	02/22/2015	09:00	Extreme Cold/Wind Chill	
Grant County	01/17/2016	05:40	Extreme Cold/Wind Chill	
Grant County	12/18/2017	02:00	Extreme Cold/Wind Chill	
Grant County	12/24/2017	08:00	Extreme Cold/Wind Chill	1
Grant County	12/30/2017	08:00	Extreme Cold/Wind Chill	
Grant County	01/01/2018	00:00	Extreme Cold/Wind Chill	
Grant County	01/15/2018	06:00	Extreme Cold/Wind Chill	
Grant County	01/29/2019	09:00	Extreme Cold/Wind Chill	
Grant County	02/08/2019	06:00	Extreme Cold/Wind Chill	
Grant County	03/03/2019	01:00	Extreme Cold/Wind Chill	
Grant County	02/12/2020	15:00	Extreme Cold/Wind Chill	
Grant County	02/06/2021	00:00	Extreme Cold/Wind Chill	
Grant County	12/28/2021	18:00	Extreme Cold/Wind Chill	
Grant County	01/01/2022	00:00	Extreme Cold/Wind Chill	
Grant County	01/06/2022	01:39	Extreme Cold/Wind Chill	
Grant County	01/20/2022	00:00	Extreme Cold/Wind Chill	
Grant County	01/25/2022	03:25	Extreme Cold/Wind Chill	
Grant County	02/22/2022	07:00	Extreme Cold/Wind Chill	
Grant County	12/21/2022	20:00	Extreme Cold/Wind Chill	
Grant County	01/30/2023	05:00	Extreme Cold/Wind Chill	
Grant County	02/24/2023	06:15	Extreme Cold/Wind Chill	
Grant County	01/13/2024	06:00	Extreme Cold/Wind Chill	

SOURCE : <https://www.ncdc.noaa.gov/stormevents/>

- **January 2009** - After a clipper system dropped from 1 to 4 inches of snow on the 13th, Arctic air and blustery north winds pushed into the area. The coldest air and the lowest wind chills of the season spread across much of central and northeast South Dakota. Wind chills fell to

35 to 50 degrees below zero late in the evening of the 13th and remained through the 14th and into the mid-morning hours of the 15th. Across northeast South Dakota, wind chills were as low as 60 degrees below zero by the morning of the 15th. Many vehicles did not start because of the extreme cold and several schools had delayed starts.

The Arctic high pressure area settled in on the morning of the 15th bringing the coldest temperatures to the region in many years. The combination of a fresh and deep snow pack, clear skies, and light winds allowed temperatures to fall to record levels at many locations on the 15th. Daytime highs remained well below zero across the area. This was one of the coldest days that most areas experienced since the early 1970s. The records were broken by 1 to as much as 7 degrees. Some of the record lows included, -30 degrees at Kennebec; -31 degrees at Sisseton; -32 degrees at Milbank; -33 degrees at Mobridge; -35 degrees at Andover and near Summit; -38 degrees at Eureka; In Aberdeen, the low temperature of -42 degrees tied the third coldest temperature ever recorded. The coldest temperature ever recorded in Aberdeen was -46 degrees.

- **January 2014** - The coldest air in recent history moved into the region during the early morning hours of the 5th and continued into the afternoon hours of the 6th. The combination of sub-zero temperatures with north winds produced dangerously cold wind chills from 40 below to around 55 degrees below zero. Winds gusted to over 40 mph at times. Several area activities were cancelled, as well as many schools on Monday the 6th. Some of the coldest wind chills include; 56 below in Summit; 55 below near Hillhead; 54 below in Brandt and Webster; 53 below in Clear Lake and Frederick; 52 below in Herreid; 51 below in Clark and Leola; 50 below in Watertown, Sisseton, Bowdle, Hayti, Peever, Mahto, and McIntosh..
- **December 2017** - Several bouts of Arctic air and blustery winds brought extreme wind chills to all of central and northeast South Dakota. Wind chills of 35 degrees below to near 55 degrees below zero occurred off and on from December 30th into the first day of the new year. Several record lows as well as record low daily highs were set from December 30th into January 1st, 2018. Low temperatures were in the 20s to lower 30s below zero on December 31st. Highs were in the single digits and teens below zero for many locations on the 30th and 31st. Some of the most bitter wind chills include; -45 degrees at Mobridge, -48 degrees at Aberdeen, -50 degrees at Summit. See the storm data for January for the ending of this event. An elderly Revillo woman died of exposure while walking to find help after crashing her vehicle in rural Grant County a couple days before Christmas. An expansive search resulted in her body being found on Christmas Eve.
- **February 2021** – A potent and persistent outbreak of Arctic air affected the entire region. The coldest days of the outbreak for many occurred Valentine's Day weekend, when high temperatures averaged around ten below zero, in northeastern South Dakota, to the single digits above zero, in central South Dakota. On February 14th, low temperatures dropped into the 20s to the 30s degrees below zero range. Extreme wind chills of 35 degrees to 55 degrees below zero also occurred on several days during the outbreak. The magnitude of the cold during this outbreak was fairly rare compared to the past 50 years, at least in terms of the persistence of the Arctic air. This was especially impressive considering the lack of deep, fresh snow cover across most of the area. If there had been widespread deep, fresh snowpack ahead of this Arctic outbreak, low temperatures would have been more severe and more often approaching record territory. Impacts from this extreme and persistent cold included many frozen and/or broken water pipes (the limited snow depth did not help in this regard) and froze-over home sewer vents, dead vehicle batteries, school delays, and church cancellations. The prolonged cold caused significant strains to the power grid as demand spiked both locally and

across several other states. Thousands of customers were at least briefly without power locally, particularly during the morning of Tue, Feb 16th. Concerns for rolling blackouts lingered for several days in this regard due to the continued extreme demand/strain, and people were repeatedly asked to conserve energy however possible.

Extreme cold temperatures in the County are common occurrences. It is expected that at least three times each year there will be extreme cold in the area. It is possible that people in the area have adapted to this type of extreme temperatures and thus such weather events are not reported as often as they occur. Extreme cold and a long duration power outage has the potential to cause harm to vulnerable populations, damage structures that are poorly insulated or without heat and disrupt/impair communication facilities. Many communities have designated emergency shelters with generators to provide a location for persons in need of shelter. In South Dakota, most neighbors and relatives will check on vulnerable persons to ensure their safety during these types of events.

### **Climate Change Considerations (See “Winter Storms”)**

### **Risks to Current and Future Assets by Community (See “Winter Storms”)**

## **URBAN FIRE/WILDFIRE**

According to a United Nations Office of Disaster Risk Reduction (UNODRR) Urban Fire article, all fires regardless of trigger, need three elements to sustain themselves: fuel, oxygen, and heat. The heat thermally decomposes the fuel into a hot gas which mixes with the oxygen which then creates a combustible gas namely the flame, the edge of which is where the combustion reaction happens.

UNODRR urban fire article further states urban fires are fire involving buildings or structures in cities or towns with potential to spread to adjoining structures. Triggers of urban fires are numerous, from human actions (e.g., knocking over a candle, arson) and technological triggers (e.g., power surge overloading appliances), to natural triggers (e.g., wildland fires interacting with urban areas).

Urban fires are linked to density of structures and type of construction. Highly dense settlements are likely to have large areas of structures that are in close proximity to one another which will facilitate fire spread. This, when combined with combustible construction can lead to large-scale fire events.

Wildfires are uncontrolled conflagrations that spread freely through the environment. Other names such as brush fire, bushfire, forest fire, grass fire, hill fire, peat fire, vegetation fire, and wildfire may be used to describe the same phenomenon. A wildfire differs from the other fires by its extensive size; the speed at which it can spread out from its original source; its ability to change direction unexpectedly; and to jump gaps, such as roads, rivers and fire breaks.

Fires start when an ignition source is brought into contact with a combustible material that is subjected to sufficient heat and has an adequate supply of oxygen from the ambient air. Ignition may be triggered by natural sources such as a lightning strike, or may be attributed to a human source such as “discarded cigarettes, sparks from equipment, and arched power lines.

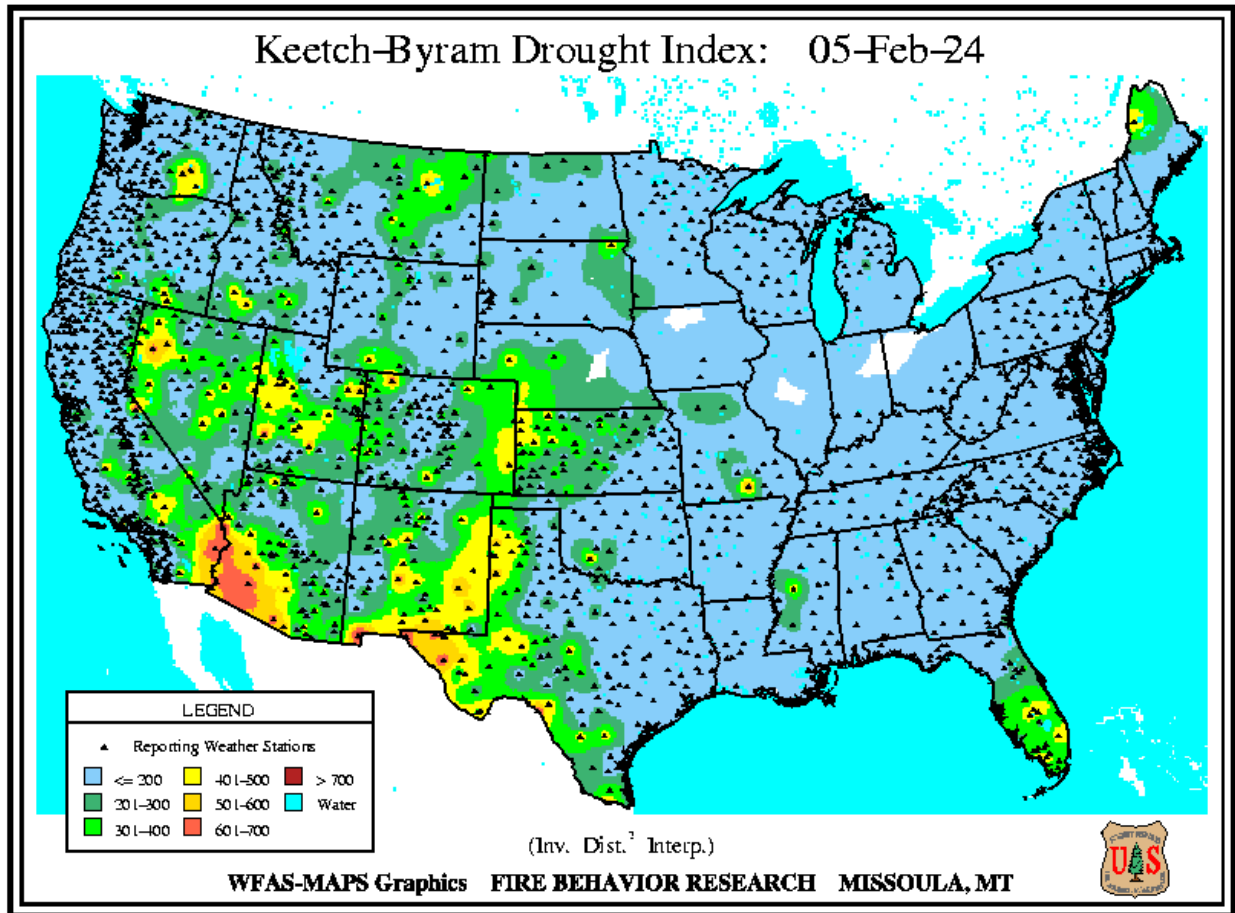
According to the SD Drought Mitigation Plan (SD DMP), lightning fires burn more acreage than human-caused fires, in part, because 1) multiple lightning fire ignitions often occur at the same time; 2) lightning fires can occur throughout the protection area, while most human-caused fires occur in accessible areas; 3) people often detect and report human-caused fires quickly due to their proximity to inhabited areas; and 4) lightning producing thunderstorms typically occur during the hottest portion of the fire season, while many human-caused fires start during spring or fall. When combined with drought, these conditions can create devastating wildfires.

According to Drought.gov and the Wildland Fire Assessment System, the Keetch-Byram Drought Index assesses the risk of fire due to drought. The Keetch-Byram Drought Index (KBDI) assesses the risk of fire by representing the net effect of evapotranspiration and precipitation in producing cumulative moisture deficiency in deep duff and upper soil layers.

The KBDI attempts to measure the amount of precipitation necessary to return the soil to full field capacity. The index ranges from zero, the point of no moisture deficiency, to 800, the maximum drought that is possible, and represents a moisture regime from 0 to 8 inches of water through the soil layer. At 8 inches of water, the KBDI assumes saturation. At any point along the scale, the index number indicates the amount of net rainfall that is required to reduce the index to zero, or saturation.

- KBDI = 0 - 200: Soil moisture and large class fuel moistures are high and do not contribute much to fire intensity. Typical spring dormant season following winter precipitation.
- KBDI = 200 - 400: Typical of late spring, early growing season. Lower litter and duff layers are drying and beginning to contribute to fire intensity.
- KBDI = 400 - 600: Typical of late summer, early fall. Lower litter and duff layers actively contribute to fire intensity and will burn actively.
- KBDI = 600 - 800: Often associated with more severe drought with increased wildfire occurrence. Intense, deep burning fires with significant downwind spotting can be expected. Live fuels can also be expected to burn actively at these levels.

A sample KBDI can be found below.



A strong possibility exists for simultaneous emergencies during droughts. Wildfires are the most common. While researching the hazard occurrences that have taken place in the County, it became evident that the information found on the NCDCE Storm Events Database website was incomplete. Therefore, other sources were contacted whenever possible. Specifically, NCDCE Storm Events Database had zero occurrences listed for wildfires in the County, but the State Fire Marshal's Office (SFMO) was contacted to verify that information.

The information from the SFMO is derived from the reports submitted by local fire departments who respond to the fires. According to SFMO representatives, many of the fire departments in the County are volunteer-based, which often leads to wildfires being extinguished without reports being filed with the State. As a result, the SFMO data is not entirely complete either. For the purpose of this PDM, we have used the numbers provided by the SFMO as a point of reference to assess the likelihood of a wildfire hazard occurring within the jurisdiction.

The information provided by the SFMO identifies 51 structure fire responses, 20 vehicle fire responses, and 58 outdoor fire responses reported from 2015 to 2024. The cause of the outdoor fires is not listed, so it is not known for certain whether all or some of these fires resulted due to a natural hazard occurrence or as a result of human behavior. Additionally, the SFMO provided information about the number of injuries and fatalities reported as a result of these fires.

The table below identifies the number of fire department responses to structural, vehicle and outdoor fires that have been experienced within the county. It should be noted that the number of

responses does not necessarily mean that there were 58 outdoor (wildfire) fires as some events required multiple departments to respond.

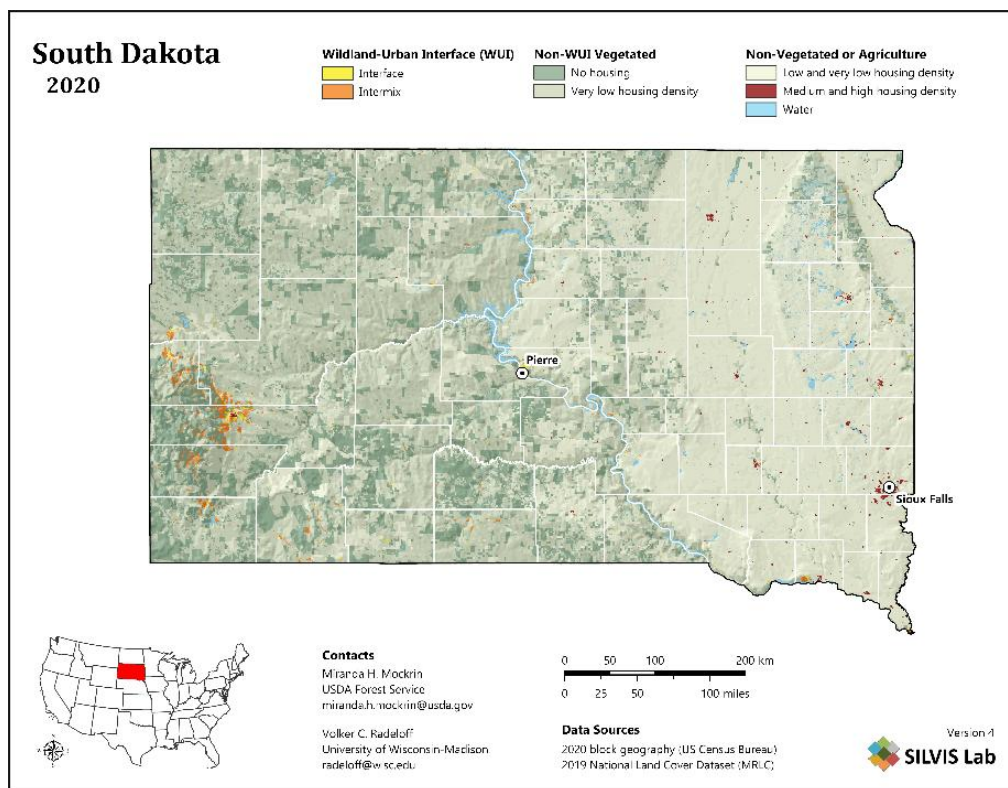
**Table 4.22: Grant County Structural, Vehicular, and Outdoor (Wildfire) Department Responses**

Year	Structural Fires	Vehicle Fires	Outdoor Fires	Magnitude*
2015	9	0	8	Information regarding property damage/crop damage was not readily available. According to the information provided, zero civilian or firefighter injuries or fatalities were reported during that time period.
2016	11	5	6	
2017	5	3	11	
2018	13	4	10	
2019	1	3	1	
2020	6	0	6	
2021	1	2	5	
2022	3	1	5	
2023	2	1	6	
2024	0	1	0	
<b>Total</b>	<b>51</b>	<b>20</b>	<b>58</b>	

*\*Regarding Extent: This data includes reported fire responses from all fire departments in Grant County. Multiple fire departments may have responded to the same fire.*

SOURCE: South Dakota State Fire Marshall Office

**Figure 4.12: SD Wildland-Urban Interface Map**



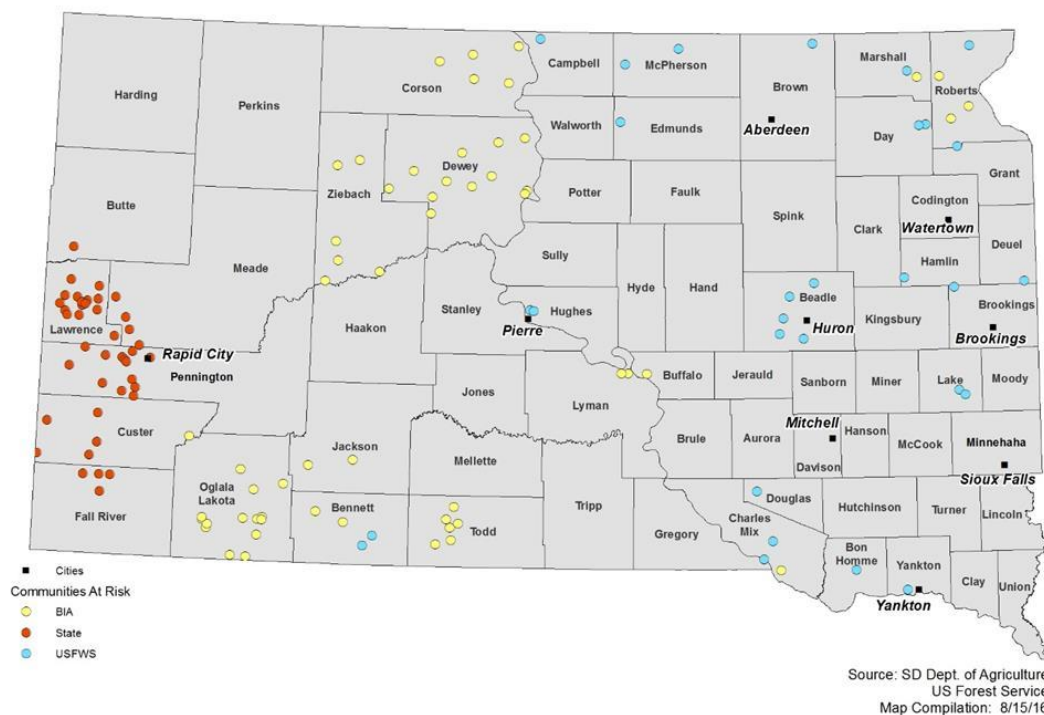
The data compiled by the SMFO is not discriminate enough to determine whether a fire can be classified as an urban or rural. The map from the SD SHMP displayed on the following page shows the South Dakota Wildland Urban Interface areas that can experience wildfires. This shows very little chance of a wildfire occurrence broadly over the entire Grant County jurisdiction. The FEMA NRI shows a 0.091% chance of wildfire per year.

Wildfires occur primarily during drought conditions. Wildfires can cause extensive damage, both to property and human life, and can occur anywhere in the county. Even though wildfires can have various beneficial effects on wilderness areas for plant species that are dependent on the effects of fire for growth and reproduction, large wildfires often have detrimental atmospheric consequences, and too frequent wildfires may cause other negative ecological effects. Current techniques may permit and even encourage fires in some regions as a means of minimizing or removing sources of fuel from any wildfire that might develop.

Moisture amounts have the biggest impact on fire situations. During wet years, fire danger is low. More controlled burns are conducted, and fewer mishaps occur. During dry years, severe restrictions are placed on any types of burns. For information on dealing with open/controlled burning within the county, see SDCL 34-29B and SDCL 34-35. The FEMA NRI states Grant County has a 0.091% chance of wildfire per year.

Since there are no remote forested regions in Grant County, wildfires can be easily spotted and are capable of being maintained. The County does not have any areas that are considered wildland-urban interface. All communities and the golf course receive fire protection from local fire departments. The following map shows the SD communities at risk from wildfire including Grant County.

**Figure 4.13: SD Communities at Risk from Wildfire**



In addition, fire interference with traffic on highways is not a major concern. The most important factor in mitigating wildfires continues to be common sense and adherence to local burning regulations and suggestions disseminated by the area officials.

Urban fires are a potential threat to the County and its communities. According to the US Fire Administration, many urban fires are caused by human related activities such as cooking, smoking, seasonal activities (candles and X-mas tree lights) or intentionally set. Other causes include home appliances, electrical systems and heating systems. The probability of an urban fire increases with population growth. This is due to human error and carelessness, which are other factors contributing to fires. Urban fires can cause extensive losses of property, lives, injuries and livelihood. The urban poor are the persons who are at greatest risk from urban fire. Generally, they have little means of protection against losses. In addition, those at greatest risk of death and injury are the old and the young due to lack of knowledge in how to respond and lack of mobility when trying to respond.

Inadequate planning, infrastructure, and construction practices related to fire prevention and mitigation significantly increase the potential for fire ignition and spread. Fire risk reduction requires established firefighting capabilities, education and training. Many of the communities have a volunteer fire department for fire suppression or are covered by a neighboring department. Most of the communities in Grant County have smaller populations.

Larger communities may implement building and fire regulations, but smaller communities lack personnel for inspections and therefore do not enact building and fire regulations. The State of South Dakota adopted the 2021 International Building Codes (IBC). South Dakota state law requires all commercial and public building to be built to the 2021 IBC standards in the state. Many communities adopt zoning regulations and ordinances to help with development and reduce building densities to reduce fire spread and for fire access. According to the USFA, the number of urban fires, fire casualties, and economic losses has continued to decline over the last several years.

### **Climate Change Considerations**

Driven by increased temperature and decreased relative humidity, fire potential in this region is projected to increase under future climate change, especially in summer and autumn, with fire seasons becoming longer, according to the Fifth National Climate Assessment. Increased evapotranspiration and drought risk raise the probability of large fire occurrence. The number of large grassland wildfires in the four semiarid ecoregional grasslands of the Northern Great Plains increased by 213%, from 128 between 1985 and 1995 to 273 between 2005 and 2014, with total area burned increasing in the western ecoregions of the region by 350% but decreasing in eastern ecoregions by 75% or more. Wildfire numbers and fire-season length increased from the 1970s to the 2000s by 889% and 85 days, respectively, in western Montana and Wyoming forests, with most ignited by lightning strikes rather than humans. Historically, snow cover prevented winter wildfires and increased fuel moisture conditions during snowmelt followed by spring precipitation. However, early spring snowmelt has been correlated with increased fire activity. From 1950 to 2010, the number of snow-cover days declined within the region.

Though urban fires are not expected to be significantly impacted by climate change, wildfires in Grant County may increase. The data for increased frequency of wildfire is based largely west of this County. However, with the creep of earlier warm Spring temperatures will come higher likelihood of existing pasture land being dry enough to ignite in lightning storms. As previously

noted elsewhere in this plan, more intense summer storms can be expected which is expected to lead to a higher risk for lightning; and, in turn, lightning ignited grassland fires.

### Risks to Current and Future Assets by Community

*Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B1-e*

*Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B2-a&b*

*Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – E2*

The Planning Team determined that each respective community should be tasked with identifying its assets needing protection from hazards. Those assets are listed as “critical infrastructure” in Table 4.25, and includes the residents of the county (population – Table 1.1). As a part of the asset/infrastructure listing, each community was asked to identify vulnerable or socially disadvantaged populations within its respective community. Those populations are listed as “populations to protect” in Table 4.25.

Changes in population and land use are not expected to be significantly impacted by the increase in incidence of wildfire expected from climate change. Future assets include expected changes in population, anticipated new structures to be owned by a given jurisdiction during the planning period, and areas of future development. The below tables, as with mitigation activities later in this plan, are grouped into like categories.

**Table 4.23: Risks to Current and Future Assets by Community – Fire**

<b>Community</b>				<b>Fire (includes wildfire and urban fire)</b>	
				<b>Impacts</b>	
	<i>Current Assets:</i>	<i>Future Assets:</i>	<i>Expected Changes in Land Use and Development</i>	<i>Changes in Population and Assets</i>	<i>Change in Land Use and Development</i>
<b>Grant County</b>	See Table 1.1 [Population]; Table 4.25 Critical Structures in Grant County. Description of effects on current assets are included in Tables 5.2 - 5.14 as part of description of mitigation activities to address specified hazards.	Population increase of 0.4% annually (Table 1.1); no relevant/ significant capital improvements planned.	Continued dependence upon agricultural land uses, will result in conflict with new permanent and temporary residences. Continued redevelopment and expansion of lake development in the northeast and along US HWY 12 corridor.	Decreasing population in most communities decreases the number of volunteer firefighters and will result in aging equipment to fight brush fires without outside funding.	Brush fire (wildfire) is decreasing in likelihood due to percentage of area in crop farming. Primary risk is in dry years during harvest.
<b>Big Stone City</b>		Population decrease (Table 1.1); planned/ recent infrastructure improvements referenced in Appendix.	Residential expansion in the north near the lake, and infill residential south of Cross Street. Expanded Industrial in the West and infill commercial within two blocks of Main Street.	Decreased population leads to less demand for fire related services, however aging infrastructure puts existing structures and infrastructure at risk for damage	Replacement of older houses with newer homes decreases likelihood of fire spreading.
<b>LaBolt</b>		Population decrease (Table 1.1). recent infrastructure improvements referenced in Appendix.	Infill residential development with some new development in the west and south of Bouck Ave; Expansion of Industrial development near railroad and east. Infill Commercial along Main Street.	Decreased population leads to less demand for fire related services, however aging infrastructure puts existing structures and infrastructure at risk for damage	Replacement of older houses with newer homes decreases likelihood of fire spreading.

<u><b>Marvin</b></u>	Population decrease (Table 1.1). recent infrastructure improvements referenced in Appendix.	<i>No Land Use Plan</i>	Decreased population leads to less demand for fire related services, however aging infrastructure puts existing structures and infrastructure at risk for damage	No adopted land use plan.
<u><b>Milbank</b></u>	Population increase: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	<i>Residential development in the east. Industrial uses in the south central. Infill commercial in the center and new commercial in the east.</i>	More population increases the likelihood that fires will breakout and eventually wear and use on fire fighting equipment will necessitate expensive upgrades that the community may not be able to afford.	New development is expected to utilize more fire resistant materials and with houses adequately spaced in areas with adequate new water services. Expanded use should help pay for upgrades to water system to fight fires.
<u><b>Reville</b></u>	Population increase: 0.5% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.	<i>No Land Use Plan</i>	More population increases the likelihood that fires will breakout and eventually wear and use on fire fighting equipment will necessitate expensive upgrades that the community may not be able to afford.	No adopted land use plan.
<u><b>Stockholm</b></u>	Population increase: 0.3% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.		Decreased population leads to less demand for fire related services, however aging infrastructure puts existing structures and infrastructure at risk for damage	
<u><b>Strandburg</b></u>	Population decrease: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.			
<u><b>Twin Brooks</b></u>	Population decrease: 1.0% annually (Table 1.1). Recent infrastructure improvements referenced in Appendix.			

## ASSESSING VULNERABILITY: INTRODUCTION

*Requirement 44 CFR § 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B1*

*Requirement 44 CFR § 201.6(c)(2)(ii). Local Mitigation Plan Review Tool – B2*

Vulnerability to the hazard is the susceptibility of life, property, and the environment to injury or damage if a hazard occurs. Past plans for Grant County have included subjective insights by community and PDM Planning Team members to determine each respective community's vulnerability to given hazards. However, the PDM Planning Team determined that the manner of determining vulnerability needed to be changed to better guide the mitigation strategies found later in the plan. For example, past plans for the county identified a high likelihood of drought, and the effects would reach many people in the community. The PDM Planning Team introduced an online community survey to gauge vulnerability throughout the county and to solicit not only recommended mitigation strategies, but also their prioritization or urgency. Further, the PDM Planning Team introduced a scoring system with a brief description of when a corresponding score should be applied when meeting with individual communities and assigned perceived frequency and vulnerability scores on a personal basis as well as community-wide. Finally, the PDM Planning Team retained, reviewed, and updated the full list of "critical infrastructure" for communities within the counties.

## ASSESSING VULNERABILITY: ONLINE SURVEY RESULTS

*Requirement 44 CFR § 201.6(b)(2). Local Mitigation Plan Review Tool – A2*

*Requirement 44 CFR § 201.6(d)(3). Local Mitigation Plan Review Tool – E2*

For the 2025 PDM Plan an online survey was hosted on the First District Association of Local Governments website. Links were provided on several of the communities' webpages. The survey was discussed at community meetings and the link included in minutes of those meetings which were published in local newspapers and online. Notice of the survey (and web address) was displayed at public meeting places, municipal and county offices, community buildings, large employers, schools, and large commercial businesses.

The County received 7 completed responses from citizens/locals and community organizations. A summary of the responses can be found in Appendix F. The most commonly experienced hazard was severe high wind. This is not surprisingly as the east side of the state has experienced significant damage from derechos the past two summers. A derecho is a line of intense, widespread, and fast-moving windstorm, sometimes even thunderstorm, that moves across a large distance with damaging winds.



© CONQUER THE STORM  
*North of Belle Fourche, SD – Courtesy Conquer the Storm, hosted by NWS.*

When asked about the most effective way to receive information, internet/social media and email were by far the top two answers. It is evident that smart devices are heavily relied on in this day and age due to the speed and ease of communication. The County and its local jurisdictions must provide weather safety messaging on platforms where members of the population are already spending the majority of their time.

The respondents also reviewed the twelve main natural hazards that affect the County and ranked them from greatest to least great threat. The top three threats were tornado, flood, freezing rain/sleet/ice. These answers are not entirely surprising considering the nearby County of Hamlin was impacted by a devastating tornado in the early summer of 2022, as well as several EF3 tornadoes in nearby Deuel County. The least threatening hazards were considered to be ice jams, dam failure, and wildfire. This is likely due to their lack of history and unlikelihood of occurring within Grant County. One respondent identified earthquake as an additional hazard. However, the lack of history surrounding this type of event did not warrant including it in the plan.

Lastly, respondents were asked to provide potential mitigation projects to address hazards in the county. Over 50% of the respondents stated their communities or they themselves are currently taking actions to make homes and communities more resistant. Most of the respondents' answers were related to flooding, high wind/tornadoes, and winter weather/blizzard. The most commonly

suggested projects were storm shelters, allocating budgets towards emergency preparedness, and better warning systems/citizen training.

Most of the responses on the completed surveys reflect the same hazard identification, vulnerabilities, and mitigation activity information from the PDM team, County, and the communities that is included in the 2025 PDM plan.

## **ASSESSING VULNERABILITY: HAZARD VULNERABILITY SCORE**

The PDM Planning Team, elected bodies, and attendees of these publicly noticed meetings for each jurisdiction identified personal and community-wide perceptions of vulnerability to certain hazards and their recollection of experiences with those hazards occurring within the community.

Hazards were also analyzed in terms of the level of the community or county's perceived vulnerability to the hazard.

At each respective meeting attendees were asked to complete "Personal" and "Community Wide" hazard identification and vulnerability exercises. Attendees were asked fill out the "Personal" Hazard Identification and Vulnerability exercise on their own, with the "Community Wide" Hazard identification exercise being completed as a group project during the meeting. For both exercises attendees were asked to describe their perception of how often or probable a given hazard was to occur.

Respondents were given six (6) options of answering how often each hazard occurs:

0	• Does not occur in this jurisdiction
1	• Am aware this occurred but not while I lived here
2	• Remember this happening once
3	• This has happened a few times, but not every year
4	• This seems to happen every year
5	• This seems to happen more than once every year

Often in previous plans the vulnerability of the community was blurred by individual vulnerability. For this plan, individuals were first asked to describe their perceptions of vulnerability of their family, friends, neighbors, and other citizens' property to each hazard. Respondents were given six (6) options of answering how vulnerable individuals in the community are to each hazard with an anecdotal explanation of each answer:

- 0**
  - Does not occur in this jurisdiction
- 1**
  - I do not recall the community or anyone in the community experiencing property damage or personal damage from this hazard.
  - *"I'm sure this has happened, but nobody is concerned about what would happen if it occurs again."*
- 2**
  - If this hazard occurs, it is unlikely it will be noticed as more than a nuisance.
  - *"I expect this hazard to occur, and am not concerned with any damage or injury that could occur."*
- 3**
  - If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur.
  - *"I worry about certain properties and/or people that may be significantly vulnerable to this hazard, but not everyone is."*
- 4**
  - If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm.
  - *"I worry what could happen if this hits us wrong."*
- 5**
  - If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it.
  - *"I worry about what would happen if this happened in town, no matter where."*

Then participants were asked to describe their perceptions of vulnerability of the community to respond, recover, and function during or after each hazard. Respondents were again given six (6) options of answering how vulnerable the jurisdiction is to each hazard with an anecdotal explanation of each answer:

- 0**
  - Does not occur in this jurisdiction
- 1**
  - I do not recall the community or anyone in the community experiencing property damage or personal damage from this hazard.
  - *"This would not affect normal community operations."*
- 2**
  - If this hazard occurs, it is unlikely it will be noticed as more than a nuisance.
  - *"Any damage could be addressed with normal staff/community time dedicated at this time."*
- 3**
  - If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur.
  - *"Any damage could be addressed with normal staff/community involvement, but would be noticed as a temporary notice to residents outside the affected area."*
- 4**
  - If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm.
  - *"Damage would require over-time or extra assistance in some form to recover from, assist those affected. Daily life by most residents in the town would be affected negatively during recovery."*
- 5**
  - If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it.
  - *"Normal government business or daily life could not resume until significant recovery occurs."*

These responses were then gathered following each respective meeting and combined with the responses to the same questions in the online survey. An average score was then assigned to the perceived frequency/probability of a hazard; the “personal vulnerability” of a hazard; and the “community wide vulnerability” to a hazard. Based upon the total number of responses for each hazard within each jurisdiction. A formula of:

$$\underline{F} \text{ (Frequency)} \times (\underline{P.V} \text{ (Personal Vulnerability)} + \underline{C.V.} \text{ (Community Vulnerability)}) = \underline{\text{Vulnerability Score}}$$

Those three values were then added together to create a “Vulnerability Score” for each hazard (by community.) See Table 4.24 below.

These scores were used to guide each community in the specificity of mitigation projects necessary. Communities were encouraged to list specific mitigation projects for each hazard which may occur in its community. However, the PDM Planning Team determined that general policies regarding education, exploratory studies, regulatory policies, and other practices were sufficient for mitigating any hazard receiving a “Vulnerability Score” below twenty (20). Any hazard receiving a “Vulnerability Score” greater than or equal to twenty (20) within a given jurisdiction required a specific project to address that hazard.

**Table 4.24: Vulnerability Score by Jurisdiction**

Hazard	Big Stone City				LaBolt				Marvin				Milbank				Reville			
	F	P.V.	C.V.	Vuln. Score	F	P.V.	C.V.	Vuln. Score	F	P.V.	C.V.	Vuln. Score	F	P.V.	C.V.	Vuln. Score	F	P.V.	C.V.	Vuln. Score
Dam Failure	0	0	0	<b>0</b>	0	0	0	<b>0</b>	0	0	0	<b>0</b>	0	0	3	<b>0</b>	0	0	0	<b>0</b>
Drought	3	1	1	<b>6</b>	3	1	0	<b>3</b>	4	1	1	<b>8</b>	3	2	4	<b>18</b>	2	1	2	<b>6</b>
Extreme Cold	2	2	2	<b>8</b>	3	2	3	<b>15</b>	5	2	2	<b>20</b>	5	1	2	<b>15</b>	4	3	2	<b>20</b>
Extreme Heat	2	2	2	<b>8</b>	3	2	2	<b>12</b>	5	2	2	<b>20</b>	1	2	2	<b>4</b>	2	2	2	<b>8</b>
Flood	2	3	4	<b>14</b>	0	0	0	<b>0</b>	0	0	0	<b>0</b>	3	3	3	<b>18</b>	3	3	2	<b>15</b>
Freezing Rain/Sleet/Ice	2	3	2	<b>10</b>	3	3	3	<b>18</b>	4	4	4	<b>32</b>	3	2	4	<b>18</b>	3	2	4	<b>18</b>
Hail	3	3	3	<b>18</b>	2	3	3	<b>12</b>	2	2	2	<b>8</b>	2	3	3	<b>12</b>	2	3	4	<b>14</b>
Heavy Rain	3	3	3	<b>18</b>	3	3	3	<b>18</b>	2	2	2	<b>8</b>	3	3	4	<b>21</b>	3	2	3	<b>15</b>
Heavy Snow	3	3	2	<b>15</b>	3	3	2	<b>15</b>	2	2	2	<b>8</b>	3	3	4	<b>21</b>	3	2	3	<b>15</b>
Ice Jam	1	1	1	<b>2</b>	0	0	0	<b>0</b>	1	1	1	<b>2</b>	1	4	0	<b>4</b>	2	2	0	<b>4</b>
Lightning	3	2	3	<b>15</b>	3	3	1	<b>12</b>	1	1	1	<b>2</b>	3	3	0	<b>9</b>	4	2	2	<b>16</b>
Rapid Snow Melt	4	3	3	<b>24</b>	0	1	2	<b>0</b>	4	4	4	<b>32</b>	2	3	4	<b>14</b>	3	3	3	<b>18</b>
Strong Winds	4	3	4	<b>28</b>	3	4	4	<b>24</b>	5	3	3	<b>30</b>	4	2	4	<b>24</b>	5	4	4	<b>40</b>
Tornado	3	2	5	<b>21</b>	0	0	0	<b>0</b>	3	3	3	<b>18</b>	1	5	5	<b>10</b>	2	1	5	<b>12</b>
Urban Fire	1	1	1	<b>2</b>	0	0	2	<b>0</b>	2	5	5	<b>20</b>	2	3	4	<b>14</b>	1	1	3	<b>4</b>
Wild Fire	1	1	0	<b>1</b>	0	0	1	<b>0</b>	1	5	5	<b>10</b>	2	2	5	<b>14</b>	0	0	0	<b>0</b>

**Table 4.24: Vulnerability Score by Jurisdiction Con't**

Hazard	Stockholm				Strandburg				Twin Brooks				Grant County			
	F	P.V.	C.V.	Vuln. Score	F	P.V.	C.V.	Vuln. Score	F	P.V.	C.V.	Vuln. Score	F	P.V.	C.V.	Vuln. Score
Dam Failure	0	0	0	0	0	1	0	0	0	0	0	0	1	2	0	2
Drought	3	3	2	15	4	3	3	24	2	2	1	6	3	2	3	16
Extreme Cold	4	4	3	28	4	3	3	24	3	2	3	15	4	2	3	22
Extreme Heat	4	4	3	28	3	2	2	12	3	2	2	12	4	3	3	21
Flood	3	3	1	12	2	1	1	4	4	3	3	24	3	2	3	14
Freezing Rain/Sleet/Ice	3	3	2	15	3	3	2	15	3	3	3	18	3	3	3	21
Hail	3	3	3	18	3	3	2	15	3	4	3	21	3	3	3	19
Heavy Rain	3	3	2	15	3	2	2	12	3	3	3	18	4	2	3	20
Heavy Snow	4	4	2	24	4	3	3	24	3	3	3	18	3	2	3	17
Ice Jam	0	0	0	0	0	1	1	0	1	2	3	5	2	2	2	7
Lightning	3	3	1	12	2	2	2	8	3	2	1	9	3	2	2	13
Rapid Snow Melt	3	3	2	15	4	2	2	16	3	3	3	18	3	3	3	21
Strong Winds	3	3	3	18	4	3	2	20	3	3	3	18	4	3	3	22
Tornado	2	2	5	14	0	3	2	0	2	4	5	18	3	4	4	21
Urban Fire	4	4	1	20	0	3	2	0	0	5	4	0	2	2	2	9
Wild Fire	4	4	0	16	0	3	2	0	0	5	4	0	2	2	2	7

## ASSESSING VULNERABILITY: IDENTIFYING STRUCTURES

One of the primary purposes of this PDM is identify and equip critical facilities, emergency shelters, and summer storm shelters with the ability to provide essential energy for continued access to sanitation and maintain vital functions during a natural hazard occurrence. In the event of a disaster resulting from severe summer or winter storms, terrorist attacks, or hazardous materials incidents, the County and participating entities will have the ability to prevent further loss of life with generator-powered shelters. The City of Milbank and Big Stone City have many structures that are vital to emergency operations.

Each jurisdiction was responsible for listing critical infrastructure within their communities. Table 4.25 is a list of critical facilities that would cause the greatest distress in the county if destruction occurred. The information provided in the table below was compiled via survey of the participating communities.

**Table 4.25: Critical Infrastructure in Grant County**

Jurisdiction/ Entity	Location	Address	Sector	Sub sector	Name	Owner Type
Grant County	Rural	47789 151 <sup>st</sup> St	Non-Emergency Response Facility	Building	Highway Shop	Public
Grant/Roberts Rural Water	Osceola Township	Withheld for security	Non-Emergency Response Facility	Utilities	PR 2	Private Utility
Grant/Roberts Rural Water	Twin Brooks Township	Withheld for security	Non-Emergency Response Facility	Utilities	PR 3	Private Utility
Grant/Roberts Rural Water	Grant Center Township	Withheld for security	Non-Emergency Response Facility	Utilities	PR 4	Private Utility
Grant/Roberts Rural Water	Mazeppa Township	Withheld for security	Non-Emergency Response Facility	Utilities	PR 5	Private Utility
Grant/Roberts Rural Water	Mazeppa Township	Withheld for security	Non-Emergency Response Facility	Utilities	PR 6	Private Utility
Grant/Roberts Rural Water	Grant Center Township	Withheld for security	Non-Emergency Response Facility	Utilities	PR 7	Private Utility
Grant/Roberts Rural Water	Stockholm Township	Withheld for security	Non-Emergency Response Facility	Utilities	PR 8	Private Utility
Grant/Roberts Rural Water	Stockholm Township	Withheld for security	Non-Emergency Response Facility	Utilities	PR 9	Private Utility
Grant/Roberts Rural Water	Stockholm Township	Withheld for security	Non-Emergency Response Facility	Utilities	PR 10	Private Utility
Grant/Roberts Rural Water	Madison Township	Withheld for security	Non-Emergency Response Facility	Utilities	PR 11	Private Utility
Grant/Roberts Rural Water	Troy Township	Withheld for security	Non-Emergency Response Facility	Utilities	PR 12	Private Utility
Grant/Roberts Rural Water	Twin Brooks Township	Withheld for security	Non-Emergency Response Facility	Utilities	PR 14	Private Utility
Grant/Roberts Rural Water	Twin Brooks Township	Withheld for security	Non-Emergency Response Facility	Utilities	PR 15	Private Utility
Grant/Roberts Rural Water	Grant Center Township	Withheld for security	Non-Emergency Response Facility	Utilities	PR 16	Private Utility

Grant/Roberts Rural Water	Twin Brooks Township	Withheld for security	Non-Emergency Response Facility	Utilities	Twin Brooks Meter House	Private Utility
Grant/Roberts Rural Water	Osceola Township	Withheld for security	Non-Emergency Response Facility	Utilities	Marvin Reservoir	Private Utility
Grant/Roberts Rural Water	Twin Brooks Township	Withheld for security	Non-Emergency Response Facility	Utilities	Pauli Reservoir	Private Utility
Grant/Roberts Rural Water	Madison Township	Withheld for security	Non-Emergency Response Facility	Utilities	Stockholm Reservoir	Private Utility
Big Stone City	Big Stone City	400 Washington St	Government Facility	Building	City Office	Public
Big Stone City	Big Stone City	450 Main St	Non-Emergency Response Facility	Building	Fire Hall	Public
Big Stone City	Big Stone City	608 Dakota Ave	Government Facility	Building	City Shop	Public
Big Stone City	Big Stone City	709 Lyon Ave	Government Facility	Building	City Shop	Public
Big Stone City	Big Stone City	851 Cross St	Non-Emergency Response Facility	Essential Service	Water Tower	Public
Big Stone City	Big Stone City	216 5th Ave	Non-Emergency Response Facility	Sanitary Sewer	Sewer Lift Station #1	Public
Big Stone City	Big Stone City	808 Lake St	Non-Emergency Response Facility	Sanitary Sewer	Sewer Lift Station #2	Public
Big Stone City	Big Stone City	857 Cross St	Non-Emergency Response Facility	Sanitary Sewer	Sewer Lift Station #3	Public
Big Stone City	Big Stone City	144th St/484th Ave	Non-Emergency Response Facility	Sanitary Sewer	Wastewater Lagoons	Public
Big Stone City	Big Stone City	1st 305 Lake St	Population to Protect	Park	City Park	Public
Big Stone City	Big Stone City	2nd Cross St/Washington St	Population to Protect	Park	City Park	Public
Big Stone City	Big Stone City	451 Main St	Population to Protect	Building	Avera Medical Clinic	Private
Big Stone City	Big Stone City	14450 488th Ave	Population to Protect	Building	Rausch Brothers Monument	Private
Big Stone City	Big Stone City	601 3rd Street	Non-Emergency Response Facility	Essential Service	Water Shed	Public
Big Stone City	Big Stone City	655 Walnut St	Population to Protect	Building	Big Stone City School	Public
Big Stone City	Big Stone City	407 2nd Ave	Population to Protect	Building	Big Stone School	Private
Big Stone City	Big Stone City	110 3 <sup>rd</sup> Ave	Population to Protect	Building	Little Lions Learning Center (Daycare)	Private
Big Stone City	Big Stone City	401 Washington St	Non-Emergency Response Facility	Essential Service	Electrical Substation	Public
Big Stone City	Big Stone City	14451 SD HWY 109	Non-Emergency Response Facility	Essential Service	Electrical Substation	Public
LaBolt	LaBolt	319 E Georgia Ave	Government Facility	Building	City Office/Shop/Fire Hall	Public

LaBolt	LaBolt	East Side of LaBolt	Non-Emergency Response Facility	Sanitary Sewer	Wastewater Holding Pond	Public
LaBolt	LaBolt	Church Street	Population to Protect	Park	City Park	Public
LaBolt	LaBolt	East Bouck Ave	Non-Emergency Response Facility	Essential Service	Electrical Substation	Public
Marvin	Marvin	S Church St	Government Services	Building	Town Hall	Public
Marvin	Marvin	N Church St	Government Services	Building	Fire Hall	Public
Marvin	Marvin	E Division Street	Government Services	Building	Post Office	Public
Marvin	Marvin	Rude Street	Non-Emergency Response Facility	Essential Service	City Wellhouse	Public
Marvin	Marvin	N Church Street	Non-Emergency Response Facility	Building	County Shop	Public
Milbank	Milbank	301 E 4th Ave	Government Facility	Building	Fire Hall/Search & Rescue	Public
Milbank	Milbank	311 W 3rd Ave	Government Facility	Building	Street Shop	Public
Milbank	Milbank	1001 E Park Ave	Government Facility	Building	High School/Middle School	Public
Milbank	Milbank	1001 E 4th Ave	Government Facility	Building	City Hall/Police Department	Public
Milbank	Milbank	1101 E 4th Ave	Non-Emergency Response Facility	Building	Whetstone Valley Electric Co-op	Private
Milbank	Milbank	1001 E Park Ave	Government Facility	Building	National Guard Armory	Public
Milbank	Milbank	507 S 9th Street	Government Facility	Building	Elementary School	Public
Milbank	Milbank	9th St	Non-Emergency Response Facility	Utilities	Water Tower	Public
Milbank	Milbank	623 Flynn Drive	Non-Emergency Response Facility	Sanitary Sewer	4H Lift Station	Public
Milbank	Milbank	E 12th Ave & 5th Street	Non-Emergency Response Facility	Building	South Park Lift Station	Public
Milbank	Milbank	102 Sawrey Dr	Non-Emergency Response Facility	Sanitary Sewer	2nd St Lift Station	Public
Milbank	Milbank	203 E 3 <sup>rd</sup> Ave	Non-Emergency Response Facility	Sanitary Sewer	Valley Queen Lift Station	Public
Milbank	Milbank	402 E Milbank Ave	Non-Emergency Response Facility	Sanitary Sewer	Flannery Lift Station	Public
Milbank	Milbank	310 Lloyd St	Non-Emergency Response Facility	Sanitary Sewer	Wastewater Treatment Facility	Public
Milbank	Milbank	307 14 <sup>th</sup> Street	Non-Emergency Response Facility	Sanitary Sewer	Berens Lift Station	Public
Milbank	Milbank	520 4th Ave W	Non-Emergency Response Facility	Utilities	Pump House/Storage Tanks	Public

Milbank	Milbank	210 E 5th Ave	Government Facility	Building	County Court House	Public
Milbank	Milbank	222 E 5th Ave	Government Facility	Building	Detention Center	Public
Milbank	Milbank	1102 W Milbank Ave	Population to Protect	Building	United Hardware	Private
Milbank	Milbank	200 E Railroad Ave	Population to Protect	Building	Valley Queen Cheese	Private
Milbank	Milbank	301 Flynn Drive	Population to Protect	Building	Milbank Area Hospital	Private
Milbank	Milbank	103 N Viola Street	Population to Protect	Building	St Williams Home	Private
Milbank	Milbank	1103 S 2nd St	Population to Protect	Building	Avantara Nursing Home	Private
Milbank	Milbank	1105 S 2nd St	Population to Protect	Building	Wilkshire Assisted Living	Private
Milbank	Milbank	410 E 10 <sup>th</sup> Ave	Population to Protect	Building	Peaceful Pines Senior Living	Private
Milbank	Milbank	904 E 4th Ave	Population to Protect	Building	Unity Health & Fitness	Public
Milbank	Milbank	222 E 3rd Ave	Government Facility	Building	Post Office	Public
Milbank	Milbank	1706 Morningside Drive	Non-Emergency Response Facility	Sanitary Sewer	Runnings Lift Station	Public
Milbank	Milbank	1402 Morningside Dr	Population to Protect	Sanitary Sewer	Dollar General Lift Station	Public
Milbank	Milbank	1202 S 7 <sup>th</sup> St	Non-Emergency Response Facility	Sanitary Sewer	Valley View Lift Station	Public
Milbank	Milbank	120 Randall Drive	Non-Emergency Response Facility	Sanitary Sewer	Randall Lift Station	Public
Milbank	Milbank	215 Track Ave	Non-Emergency Response Facility	Sanitary Sewer	Track Lift Station	Public
Reville	Reville	401 N 2nd Ave	Government Facility	Building	Fire Hall	Public
Reville	Reville	310 N 2nd Ave	Government Facility/ Non-Emergency Response Facility	Building	City Hall/Community Center/Library	Public
Reville	Reville	309 N 2nd Ave	Non-Emergency Response Facility	Utilities	Water Tower	Public
Reville	Reville	501 N 2nd Ave	Non-Emergency Response Facility	Building	Schmeidings - Gas	Private
Reville	Reville	303 E Lagoon Lane	Non-Emergency Response Facility	Sanitary Sewer	Wastewater Lagoons & Lift Station	Public
Reville	Reville	500 N 3rd Ave	Non-Emergency Response Facility	Sanitary Sewer	Lift Station	Public
Reville	Grant County	16370 482nd Ave	Population to Protect	Building	Spirit of the Cats	Private

Reville	Reville	100 W 5th St	Non-Emergency Response Facility	Population to Protect	City Park	Public
Reville	Reville	305 N 2 <sup>nd</sup> Ave	Non-Emergency Response Facility	Building	Avera Reville Clinic	Private
Reville	Reville	205 W 4th St	Non-Emergency Response Facility	Building	ITC Telephone	Private
Reville	Reville	210 N Dillman Ave	Non-Emergency Response Facility	Building	Reville Elderly Housing	Private
Reville	Reville	401 N 2nd Ave	Government Facility	Building	City Shop	Public
Stockholm	Stockholm	400 E Johnson Ave	Government Facility	Building	Fire Hall/Community Center	Public
Stockholm	Stockholm	206 N Main	Government Facility	Building	Post Office	Public
Stockholm	Stockholm	E Johnson Ave	Population to Protect	Recreational Area	City Park	Public
Stockholm	Stockholm	N Main St	Government Facility	Building	Interstate Telephone Co	Public
Stockholm	Stockholm	3 St/Johnson Ave	Population to Protect	Building	Evangelical Church	Private
Stockholm	Stockholm	W Johnson Ave/Main	Population to Protect	Building(s)	FHA Apartments - 4 Plex	Private
Stockholm	Stockholm	E Johnson Ave & 2nd Street	Population to Protect	Building	Grant Co Tractor Museum	Private
Stockholm	Stockholm	E Johnson Ave	Non-Emergency Response Facility	Utilities	Sewer Lift #1	Public
Stockholm	Stockholm	E Farm Lane	Non-Emergency Response Facility	Utilities	Sewer Lift #2	Public
Stockholm	Stockholm	1st Street NE & Johnson Ave	Population to Protect	Building	Grant County Ag Museum	Public
Strandburg	Strandburg	200 E Axel Ave	Government Facility	Building	Library	Public
Strandburg	Strandburg	119 N Main	Population to Protect	Building	Ruffee's	Private
Strandburg	Strandburg	213 S Main	Population to Protect	Building	Ed Reiners & Sons Lumber	Private
Strandburg	Strandburg	221 S Main	Government Facility	Building	Strandburg Community Center/Gym	Public
Strandburg	Strandburg	16168 472nd Ave	Population to Protect	Building	Tabor Church	Private
Strandburg	Strandburg	East of Church & 162nd Street	Non-Emergency Response Facility	Sanitary Sewer	Sewage Lagoon	Public
Strandburg	Strandburg	214 S Main	Government Facility	Building	City Shop	Public
Twin Brooks	Twin Brooks	471st Ave & Railroad Ave	Government Services	Building	Post Office	Public

Twin Brooks	Twin Brooks	S Lassell Street & Koltke Ave	Government Services	Building	Community Center/Township Hall	Public
Twin Brooks	Twin Brooks	S Lassell St	Population to Protect	Recreational Area	City Park	Public

It should be noted that communities were asked to identify socially disadvantaged populations as populations to protect. In many instances the communities were unable to identify clusters of socially disadvantaged populations. Each community intends to better inventory those groups prior to the next plan. Socially disadvantaged groups would be listed as “populations to protect in the above table. Grant County discussed adding locations of “communal living” in religious farming communities and employee housing at large agricultural operations or campgrounds utilized for special construction projects (roads, wind towers, etc.) as populations to protect. Though not listed as such above, certain mitigation activities are aimed at protecting those residential clusters as they would be particularly vulnerable to certain hazards. That vulnerability reflects many of the higher vulnerability scores for the Grant County Jurisdiction.

Each community intends to better inventory those groups prior to the next plan. Socially disadvantaged groups would be listed as “populations to protect in the above table.

#### **ASSESSING VULNERABILITY: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE**

*Requirement 201.6(c)(2)(ii). Local Mitigation Plan Review Tool – B2-c*

*Requirement 201.6(c)(3)(ii). Local Mitigation Plan Review Tool – C2/C2-a.*

Grant County participates in the National Flood Insurance Program (NFIP), along with the municipalities of Big Stone City, Milbank, Revillo, and Twin Brooks. LaBolt, Marvin, Stockholm, and Strandburg do not participate in the program. All communities that participate in the NFIP recently adopted the new FEMA Floodplain maps. In order to remain in good standing with FEMA, NFIP, each participating community has implemented and continues to enforce the local floodplain management regulations to regulate and permit development in SFHAs in accordance with the model ordinance provided by FEMA.

The Grant County Auditor maintains the flood zone maps and the Grant County Zoning Officer utilizes DFIRMS for all planning mechanisms occurring in the unincorporated areas of the county; specifically, development of new structures. Each individual participating community has flood zone maps available at the Finance Office and is available via interactive map at: <https://www.1stdistrict.org/Grantts/>. Further, each individual community has appointed a designated floodplain administrator that requires elevation certificates and issues floodplain development permits for structures constructed within Zone A of the identified flood hazard areas, including those repairs or replacements on structures requiring permits due to substantial damage for substantial improvement in accordance with adopted floodplain regulations. The DFIRMS are used to determine where the natural drainage occurs and ensures that new development will not interrupt the natural drainage.

**Table 4.26: Communities Participating in the National Flood Program**

Community Name	Community ID	Current Map Effective Date
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Grant County	460266	03/27/24
Big Stone City	460156	03/27/24(M)
LaBolt	<b>Not Participating</b>	
Marvin	<b>Not Participating</b>	
Milbank	460200	03/27/24
Reville	460031	03/27/24(M)
Stockholm	<b>Not Participating</b>	
Strandburg	<b>Not Participating</b>	
Twin Brooks	461208	11/04/09 (NSFHA)

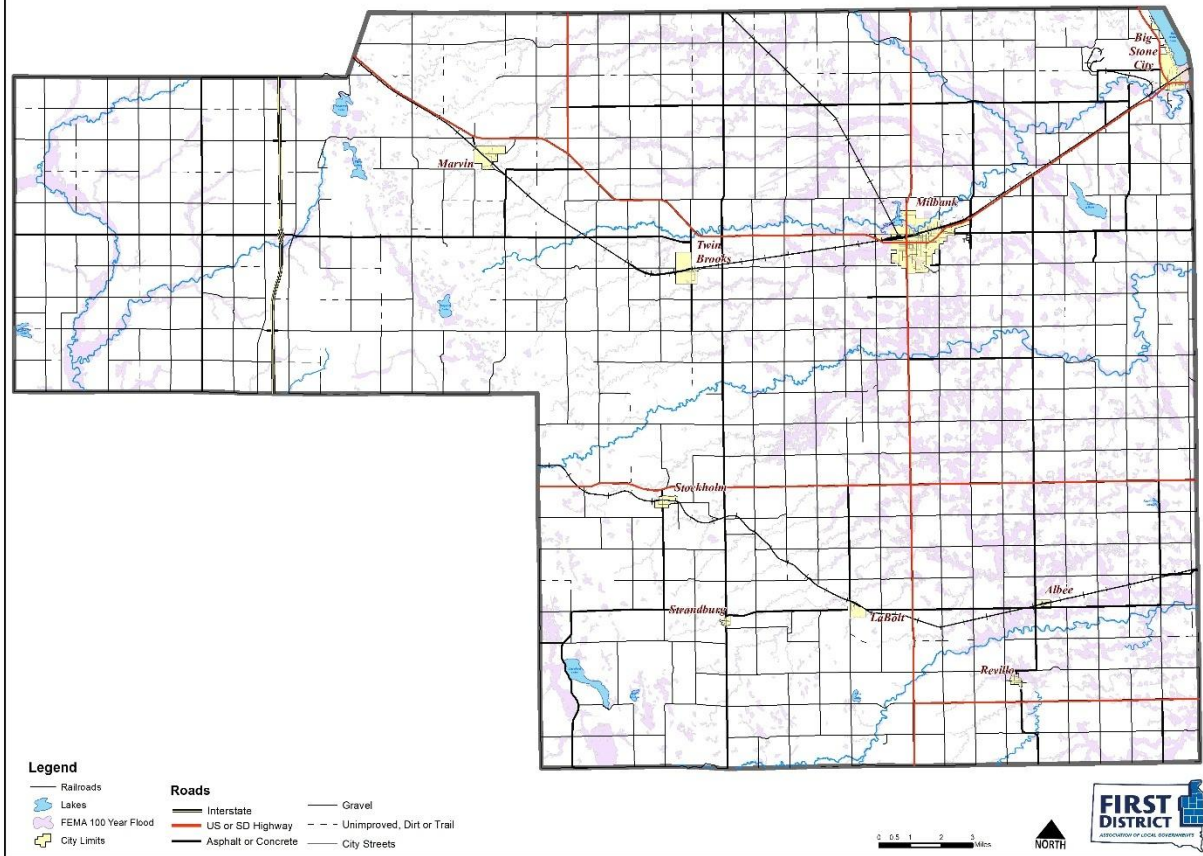
For Grant County, Big Stone City and Milbank any application for building permit, use permit, subdivision, and public project is reviewed by the floodplain administrator of each respective community (see Table 4.18 for floodplain administrator). During the review for compliance with other terms of the zoning ordinance, the administrator (same as zoning officer in all cases) the floodplain administrator/zoning officer determines whether the proposed development is located within the Floodplain Protection District. The floodplain administrators use the interactive map at <https://www.1stdistrict.org/Grantts/> which includes the effective flood hazard areas from the most recent Flood Insurance Study to determine whether proposed development is within the Floodplain Protection District.

If further assistance is needed in the review, staff consults with First District Association of Local Government Staff, representatives of the applicant, state NFIP coordinator, and/or applicable representatives from FEMA Region VIII. If it is determined the proposed development will be within the 100-year floodplain, the applicant is required to contact a surveyor or engineer to complete an elevation certificate. The applicant may choose to add fill to the property, then use the surveyor or engineer to assist in submitting for a Letter of Map Change; or the applicant may choose to use the elevation certificate to complete a floodplain development application. The vast majority of projects completed within the floodplain utilize fill to raise the property above the base flood elevation before construction, are completing projects in which water can freely flow through, such as pillars of a deck.

All of the jurisdictions which are participating in the NFIP require the lowest floor of structures to be constructed above base flood elevation. Requiring any additional free-board was not palatable to the residents, nor elected officials of any of the jurisdictions within Grant County. However, all communities included substantial damage and substantial improvement provisions in accordance with the template provided to communities in South Dakota by FEMA. In all, neither the emergency management director. Historically, when damages occur to structures, staff follows up to find out whether the owner intends to replace or remodel. Typically structures within the floodplain either have minor modifications or are entirely replaced. Figure 4.14 (below) displays all “Zone A’s” (A, AE, AO, Floodway) of the Special Flood Hazard Area (also referred to as “100-year Floodplain) from the effective Flood Insurance Study for Grant County.

**Figure 4.14: Grant County 100 Year Flood**

# GRANT COUNTY 100 YEAR FLOOD



## ADDRESSING VULNERABILITY: REPETITIVE LOSS PROPERTIES

Requirement 201.6(c)(2)(ii). Local Mitigation Plan Review Tool – B2-c.

Requirement 201.6(c)(3). Local Mitigation Plan Review Tool – C2/C2-a.

Residential development occurred adjacent to numerous rivers and flood-prone areas in Grant County prior to the initial flood hazard boundaries being identified on December 20, 1977. As a result, numerous structures already existed at the time of adoption of the first map and continue to be lived in today. Numerous structures, primarily residentially used are located within Flood Hazard Areas currently identified as Zone A.

As a result, many structures located within the County have experienced flooding or are required to be insured against flood due to their proximity to special flood hazard areas. The County has a total of nine hundred five (905) flood insurance policy holders. The vast majority of those policies insure residents adjacent to the numerous rivers in Grant County.

**Table 4.27: Grant County National Flood Insurance Program Statistics**

<b>Community Name</b>	<b>*Current NFIP Policies</b>	<b>*Number of Claims Paid Since 1978</b>	<b>*Total Value of Claims Paid</b>	<b>*Flood Insurance Coverage</b>	<b>**Repetitive Loss Properties</b>
City of Big Stone City	5	8	65,649.56	4	1
City of Milbank	7	9	93,925.02	2	2
Town of Revillo	6	1	4,700.89	6	0
City of Twin Brooks	0	0	0	0	0
Unincorporated areas of Grant County	7	9	77,827.40	3	1
<b>Totals</b>	<b>25</b>	<b>27</b>	<b>242,102.87</b>	<b>15</b>	<b>4</b>

SOURCE: FEMA Region 8 Flood Insurance Liaison & State of South Dakota NFIP/Mitigation Specialist

\*Data obtained December 2022

\*\*Data obtained December 2024

The PDM Planning Team focused attention particularly on flood related issues. An issue of primary concern is the number of times specific properties and structures on those properties flood. There are very few (four) repetitive loss properties in Grant County. Repetitive loss properties are those for which two or more losses of at least \$1,000 each have been paid under the National Flood Insurance Program (NFIP) within any ten-year period. A goal of the County is to protect specific areas in the county from flooding. This goal aims to protect properties prone to flood losses but does not discount the possibility that in some cases structures located in the floodplain may need to be removed.

## **ADDRESSING VULNERABILITY: SEVERE REPETITIVE LOSS PROPERTIES**

*Requirement 44 CFR § 201.6(c)(3)(ii). Local Mitigation Plan Review Tool – C2*

The Flood Insurance Reform Act of 2004 identified another category of repetitive loss: severe repetitive loss, which is defined as “a single-family property (consisting of one to four residences) covered by the NFIP flood insurance that has incurred flood-related damage leading to either:

1. Four or more separate claims payments (paid under flood insurance coverage) exceeding \$5,000 per claim, with a cumulative total exceeding \$20,000; or
2. At least two separate claims payments where the cumulative amount exceeds the reported value of the property.

Currently, Grant County has four properties categorized as “severe repetitive loss.”

## **ASSESSING VULNERABILITY: ESTIMATING POTENTIAL LOSSES**

*Requirement 201.6(b)(3). Local Mitigation Plan Review Tool – A4/A4-a.*

*Requirement 201.6(c)(2)(ii). Local Mitigation Plan Review Tool – B2-a-c.*

*Requirement 201.6(c)(3). Local Mitigation Plan Review Tool – C2.*

*Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – E1-a.*

The 2020 Plan offered details insights regarding potential losses, incorporating estimates of the number and value of structures, as well as the percentage located within identified hazard areas. Most hazards, with the exception of flooding, carry an equal probability of occurring throughout respective Grant County jurisdictions. Therefore, the total number of structures, dollar value, and number of residents in tables 4.28-4.37 are intended to represent vulnerability to all hazards. Though the Planning Team and communities reviewed changes in their respective tables, those net changes from 2020 to 2025 were not included in this plan. New building permits (as available) during the previous planning period is described in the next section, which would indicate the number of new structures vulnerable to all hazards. Infrastructure improvements in each community which may affect (increase or decrease vulnerability) are described in Appendix C. This information came from discussion at public meetings for each respective community. The data presented in the following tables was collected from the Grant County Director of Equalization. Any inconsistencies or gaps in information are due to the absence of existing mechanisms, plans, and technical documents available.

The assessor’s office provided the assessed valuation of all structures on every property within the incorporated and rural areas of the county. The data provides the total value for structures a certain use on property. It was not possible to discern the number of structures per lot, so the actual number of structures is based on the number of parcels with the specified use type. (In this case the differences between residences and accessory uses was discernable and accounted for in the population estimates impacted.) For the purposes of this plan only Residential, Commercial/Industrial, Agricultural, and Manufactured Homes were included. (It should be noted that for the purposes of estimating the number of people in a flood hazard area, the number of dwelling units of any multiple family structure in a specified hazard area was determined.) Structures were identified as being within the flood hazard area in all jurisdictions which were mapped with the Flood Hazard Area Map which became effective for Grant County on March 27, 2024. Average value for structures of a given use type was calculated and applied to the total number of properties identified within the floodplain to establish the value of structures within the floodplain. The information does not account for letters of map amendment or letters of map revision which may have been approved since March 27, 2024.

All properties with structures, whether owner occupied or not were included in the valuations provided in Tables 4.28 through 4.37. The reports provided by the assessor's office did not include the number of people in each structure; thus, many of the tables are missing this information, so the degree to which the number of people of affected may vary depending upon the occupancy status (owner occupied / leased / seasonal). The following tables also do not address information regarding religious, governmental, or utility structures. Although not included in Tables 4.28 through 4.37, the State of South Dakota Hazard Mitigation Plan incorporated HAZUS analysis accounting for potential losses to those structures within Grant County.

**Table 4.28: Grant County (Rural Area)  
Estimated Potential Dollar Losses to Vulnerable Structures**

Type of Structure	Number of Structures			Value of Structures			Number of People		
	# in County	# in HA	% in HA	\$ in County	\$ in HA	% in HA	# in Rural Areas	# in HA*	% in HA*
Residential	1,715	29	1.69%	\$216,299,581	\$2,944,447	1.36%	3,005	33	1.11%
Commercial/Industrial	72	4	5.56%	\$32,476,724	\$682,030	2.10%			
Agricultural	900	23	2.56%	\$94,296,777	\$14,338,885	15.21%			
Manufactured Home	78	6	7.69%	\$4,764,127	\$217,187	4.56%	199	15	7.69%
<b>Total</b>	<b>2,765</b>	<b>62</b>	<b>2.24%</b>	<b>\$347,837,209</b>	<b>\$18,182,549</b>	<b>5.23%</b>	<b>3,204</b>	<b>49</b>	<b>1.52%</b>

**\*Special Note:** The majority of residences in the rural areas located within the floodplain are seasonal residences at Lake Poinsett. Many of these residents are not listed as residents of Grant County in the decennial census. Lack of function of secondary residences, though a concern, is a lower priority for mitigation than the loss of property value.

**Table 4.29: Big Stone City Estimated Potential Dollar Losses to Vulnerable Structures**

Type of Structure	Number of Structures			Value of Structures			Number of People		
	# in City	# in HA	% in HA	\$ in City	\$ in HA	% in HA	# in City	# in HA	% in HA
Residential	319	3	0.94%	\$27,263,865	\$70,267	0.26%	402	0	0
Commercial/Industrial	64	0	0	\$10,788,186	0	0			
Agricultural	0	0	0	0	0	0			
Manufactured Home	7	0	0	\$321,117	0	0	10		
<b>Total</b>	<b>390</b>	<b>3</b>	<b>0.77%</b>	<b>\$38,373,168</b>	<b>\$70,267</b>	<b>0.18%</b>	<b>412</b>	<b>0</b>	<b>0</b>

**Table 4.30: LaBolt Estimated Potential Dollar Losses to Vulnerable Structures**

Type of Structure	Number of Structures			Value of Structures			Number of People		
	# in City	# in HA	% in HA	\$ in City	\$ in HA	% in HA	# in City	# in HA	% in HA
Residential	50	0	0	\$3,132,011	0	0	60	0	0
Commercial/Industrial	8	0	0	\$5,794,102	0	0			
Agricultural	0	0	0	0	0	0			
Manufactured Home	3	0	0	\$109,182	0	0	6	0	0
<b>Total</b>	<b>61</b>	<b>0</b>	<b>0</b>	<b>\$9,026,295</b>	<b>0</b>	<b>0</b>	<b>66</b>	<b>0</b>	<b>0</b>

**Table 4.31: Marvin Estimated Potential Dollar Losses to Vulnerable Structures**

Type of Structure	Number of Structures			Value of Structures			Number of People		
	# in City	# in HA	% in HA	\$ in City	\$ in HA	% in HA	# in City	# in HA	% in HA
Residential	155	0	0	\$588,318	0	0	749	98	13.06%
Commercial/Industrial	54	0	0	\$48,948	0	0			
Agricultural	5	0	0	\$1,179	0	0			
Manufactured Home	1	0	0	\$628	0	0		0	0.00%
<b>Total</b>	<b>215</b>	<b>0</b>	<b>0</b>	<b>\$639,073</b>	<b>0</b>	<b>0</b>	<b>749</b>	<b>98</b>	<b>13.06%</b>

**Table 4.32: Milbank Estimated Potential Dollar Losses to Vulnerable Structures**

Type of Structure	Number of Structures			Value of Structures			Number of People		
	# in City	# in HA	% in HA	\$ in City	\$ in HA	% in HA	# in City	# in HA	% in HA
Residential	1,505	6	0.40%	\$205,632,286	\$986,816	0.48%	3,514	10	0.30%
Commercial/Industrial	312	1	0.32%	\$199,806,499	\$5,570,020	2.79%			
Agricultural	2	0	0	\$562,045	0	0			
Manufactured Home	14	0	0	\$583,743	0	0	30		
<b>Total</b>	<b>1,833</b>	<b>7</b>	<b>0.38%</b>	<b>\$406,584,573</b>	<b>\$6,556,836</b>	<b>1.61%</b>	<b>3,544</b>	<b>10</b>	<b>0.30%</b>

**Table 4.33: Revillo Estimated Potential Dollar Losses to Vulnerable Structures**

Type of Structure	Number of Structures			Value of Structures			Number of People		
	# in City	# in HA	% in HA	\$ in City	\$ in HA	% in HA	# in City	# in HA	% in HA
Residential	70	12	17%	\$2,472,403	\$483,856	19.57%	88	11	12.00%
Commercial/Industrial	18	0	0	\$3,909,997	0	0			
Agricultural	0	0	0	0	0	0			
Manufactured Home	6	1	17%	\$157,365	\$24,003	15.25%	11		
<b>Total</b>	<b>94</b>	<b>13</b>	<b>14%</b>	<b>\$6,539,765</b>	<b>\$507,859</b>	<b>8%</b>	<b>99</b>	<b>11</b>	<b>12.00%</b>

**Table 4.34: Stockholm Estimated Potential Dollar Losses to Vulnerable Structures**

Type of Structure	Number of Structures			Value of Structures			Number of People		
	# in City	# in HA	% in HA	\$ in City	\$ in HA	% in HA	# in City	# in HA	% in HA
Residential	67	0	0	\$3,307,297	0	0	94	0	0
Commercial/Industrial	9	0	0	\$175,144	0	0			
Agricultural	0	0	0	0	0	0			
Manufactured Home	4	0	0	\$69,888	0	0	8		
<b>Total</b>	<b>80</b>	<b>0</b>	<b>0</b>	<b>\$3,552,329</b>	<b>0</b>	<b>0</b>	<b>102</b>	<b>0</b>	<b>0</b>

**Table 4.35: Strandburg Estimated Potential Dollar Losses to Vulnerable Structures**

Type of Structure	Number of Structures			Value of Structures			Number of People		
	# in City	# in HA	% in HA	\$ in City	\$ in HA	% in HA	# in City	# in HA	% in HA
Residential	58	0	0	\$2,346,805	0	0	61	0	0
Commercial/Industrial	5	0	0	\$71,258	0	0			
Agricultural	0	0	0	0	0	0			
Manufactured Home	1	0	0	\$100,39	0	0	2		
<b>Total</b>	<b>64</b>	<b>0</b>	<b>0</b>	<b>\$2,518,402</b>	<b>0</b>	<b>0</b>	<b>63</b>	<b>0</b>	<b>0</b>

**Table 4.36: Twin Brooks Estimated Potential Dollar Losses to Vulnerable Structures**

Type of Structure	Number of Structures			Value of Structures			Number of People		
	# in City	# in HA	% in HA	\$ in City	\$ in HA	% in HA	# in City	# in HA	% in HA
Residential	44	0	0	\$3,028,488	0	0	42	0	0
Commercial/Industrial	4	0	0	\$163,068	0	0			
Agricultural	0	0	0	0	0	0			
Manufactured Home	3	0	0	\$151,355	0	0	5		
<b>Total</b>	<b>51</b>	<b>0</b>	<b>0</b>	<b>\$3,342,911</b>	<b>0</b>	<b>0</b>	<b>47</b>	<b>0</b>	<b>0</b>

**Table 4.37: Grant County (Total) Estimated Potential Dollar Losses to Vulnerable Structures**

Type of Structure	Number of Structures			Value of Structures			Number of People		
	# in County	# in HA	% in HA	\$ in County	\$ in HA	% in HA	# in County	# in HA	% in HA
Residential	3,854	50	1.30%	\$464,062,054	\$4,485,386	0.97%	7,284	54	0.75%
Agricultural	494	5	1.01%	\$253,233,926	\$6,252,050	2.47%			
Commercial/Industrial	903	23	2.55%	\$94,860,001	\$14,338,885	15.12%			
Manufactured Home	117	7	0	\$6,257,744	\$241,190	3.85%	272	15	5.63%
<b>Total</b>	<b>3,489</b>	<b>85</b>	<b>2.44%</b>	<b>\$812,155,981</b>	<b>\$25,076,321</b>		<b>7,556</b>	<b>70</b>	<b>0.92%</b>

Notes:

# in HA: Number of structures in hazard area identifies the number of properties of a given use type, with structures located within the floodplain. Aerial photography, Comprehensive Land Use Plans, and DFIRM boundaries provided by FEMA were used for identification. Some structures included may have received LOMA's, removing them from the flood plain, since the effective date of the current DFIRM.

\$ in HA: Value of structures in hazard area was estimated by extrapolating assessed valuations of structures on parcels which had a primary structure within the hazard area. This data was provided by the Grant County Department of Equalization and is classified by land use.

# in [Jurisdiction]: The number of people was based on the 2020 Census.

# in Hazard Area: The number of people in a hazard area was determined by multiplying the average household size of a given community as identified by the number of structures in the identified hazard area and multiplying that number by the rate of occupancy for the community (All statistics from the US Census 2020). (Occupancy status of the structure was not available, so therefore not considered.)

Grant County and the communities of Big Stone City, Milbank, and Revillo adopted the new flood hazard areas and updated regulations. Those maps alone are responsible for the increased number of structures included in the flood hazard areas, since those communities continued enforcing floodplain development restrictions over the past decade. The increase in value is attributable to the increased number of structures and updates to assessed value which had been neglected for several years in some cases.

## **ASSESSING VULNERABILITY: ANALYZING DEVELOPMENT TRENDS**

*Requirement 201.6(b)(3). Local Mitigation Plan Review Tool – A4.*  
*Requirement 201.6(c)(2)(ii). Local Mitigation Plan Review Tool – B2-a-c.*  
*Requirement 201.6(c)(3). Local Mitigation Plan Review Tool – C2.*  
*Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – D1.*  
*Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – D2.*  
*Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – E1-a.*  
*Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – E2-c.*

The land use and development trends for each jurisdiction were identified by the representatives from each of the jurisdictions. Some communities within Grant County are experiencing growth and have comprehensive land use plans which identify future areas for development. Four of the nine participating communities are showing population growth, including Grant County. Since 2020, Grant County updated its comprehensive land use plan. Maximum density of residences was established for a significant portion of the rural portion of the county in order to discourage scattered residential development which encroaches onto agricultural land uses. Those areas with largest population densities surrounding Milbank and other communities did not see residential densities imposed.

In addition to Grant County, the municipalities of Big Stone City, LaBolt and Milbank all have adopted Comprehensive Land Use Plans with Future Land Use Maps. Big Stone City and Milbank are in the process of updating their land use plans. Further, the Town of Revillo is completing the adoption of land use regulations and a Comprehensive Land Use Plan. Despite none of these plans have been updated or amended since the approval of the last PDM Plan, Big Stone City and Milbank adopted major amendments to update their respective zoning ordinances since 2020. In review of these ordinances, these two communities re-iterated their desire to regulate land uses and structures in accordance with the Floodplain Protection Ordinance template provided by FEMA in anticipation and eventual effective date of the updated FIRM in 2024.

The Comprehensive Land Use Plans for each community were reviewed by each community utilizing one. Specifically, available undeveloped areas projected for residential, commercial, and industrial uses were reviewed. Further, those communities updating their Comprehensive Land Use Plans are considering location of proposed development in reference to emergency shelters, looping of water services (for maximized water pressure), avoiding flood prone areas, and balancing the “wants” of the community regarding setbacks and land uses, with safe and orderly separation of uses and structures. Based upon their own projected density of development for each land use, the communities then identified the potential number of lots which could be created within flood hazard areas given current land use regulations and controls. Communities in Grant County have adopted the most recently prepared National Flood Insurance Program Flood Hazard and approved recommended ordinances for the proper regulation of property within the floodplain. Those maps have changed since the last update to the PDM Plan. Tables 4.38 – 4.44 identify the projected vulnerability for communities which have adopted land use plans. Future

Land Use Maps for each jurisdiction which have adopted Comprehensive Land Use Plans are included in Appendix G.

**Table 4.38: Grant County (Unincorporated Area)  
Potential Floodplain Development – By Land Use Type**

	Community Totals		Flood Hazard Area			
Land Use Category	Projected Development Density (Acres/Unit)	Acres of projected future development	Acres of future development in Hazard Area	% Area for future development	Potential # of Lots for future development	# of Undeveloped Lots Already Appropriately Zoned
Ag – Residential	40	N/A	42,554*	N/A	21,277*	12**
Commercial	.25	N/A	N/A	N/A	0	0
Industrial	.5	N/A	N/A	N/A	0	0

*N/A: Most of the rural area is planned to remain agricultural in use with varying degree of land use restrictions.*  
*\*Though many acres of future development are in the SFHA; restrictions in the subdivision ordinance, zoning ordinance, and common sense in development will limit the number of structures within flood hazard areas. Further, flood hazard areas are identified in the Comprehensive Land Use Plan as “Areas of Development Limitation” to emphasize and legitimize those restrictions.*  
*\*\*These lots are already appropriately zoned and **entirely located within the flood hazard area.***

**Table 4.39: Big Stone City Potential  
Floodplain Development – By Land Use Type**

	Community Totals		Flood Hazard Area			
Land Use Category	Projected Development Density (Acres/Unit)	Acres of projected future development	Acres of future development in Hazard Area	% Area for future development	Potential # of Lots for future development	# of Undeveloped Lots Already Appropriately Zoned
Residential	2.5	25	0.5	2.0	2	2
Commercial	1	8	0.3	3.8	0	0
Industrial	0.25	30	0.0	0	0	0

**Table 4.40: LaBolt Potential  
Floodplain Development – By Land Use Type**

	Community Totals		Flood Hazard Area			
Land Use Category	Projected Development Density (Acres/Unit)	Acres of projected future development	Acres of future development in Hazard Area	% Area for future development	Potential # of Lots for future development	# of Undeveloped Lots Already Appropriately Zoned
Residential	2.5	13	0.0	0	0	0
Commercial	1	11	0.8	0	0	0
Industrial	0.25	26	0.0	0	0	0

**Table 4.42: Milbank Potential  
Floodplain Development – By Land Use Type**

	Community Totals		Flood Hazard Area			
Land Use Category	Projected Development Density (Acres/Unit)	Acres of projected future development	Acres of future development in Hazard Area	% Area for future development	Potential # of Lots for future development	# of Undeveloped Lots Already Appropriately Zoned
Residential	2.5	120	11.8	9.8	29	6
Commercial	1	143	7.6	5.3	7	2
Industrial	0.25	40	11.5	28.6	7	1

Population in Grant County increased by 2.7% between the last two census surveys. If that decrease occurred at a steady rate, it would be reasonable to assume that the population has increased by another 1% since that time. While significant losses in population occurred in some communities in terms of percentage, overall population increases in Milbank and the rural portion of Grant County more than made up for the total number of individuals that no longer reside in the other communities. Milbank's population expanded into previously established growth areas and infill, while Grant County's population increases occurred along highway and county road corridors near communities as well as through communal or employee housing which were established or expanded.

#### **UNIQUE OR VARIED RISK ASSESSMENT**

*Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B1.*

*Requirement 201.6(c)(2)(ii). Local Mitigation Plan Review Tool – B2-a-c.*

After conducting the risk assessment for each jurisdiction, the PDM Planning Team decided that all areas of the county have an equal chance of a natural hazard occurrence in their area. While the extent to which each jurisdiction is affected by such hazards varies slightly between the local jurisdictions, the implications are the same. Thus, the PDM Planning Team decided that all jurisdictions in the County are equally affected by the types of hazards/risks that affect the PDM jurisdiction. Thus, the unique or varied risk requirement is not applicable to the Grant County PDM.

On the following pages, a hazard vulnerability map is shown for each of the jurisdictions participating in this PDM. The maps identify critical infrastructure. The maps identify critical infrastructure and one-hundred-year flood plain. Since most major hazards facing the county are not geographically based. Winter storms and severe summer storms carry an equal probability of occurring throughout the county. While specific locations for above ground electrical distribution lines are not identified on the map(s), they are located throughout the County and are vulnerable to both flooding and severe weather. (See Figures 4.10 through 4.18).

Figure 4.15: Grant County Hazard Vulnerability Map

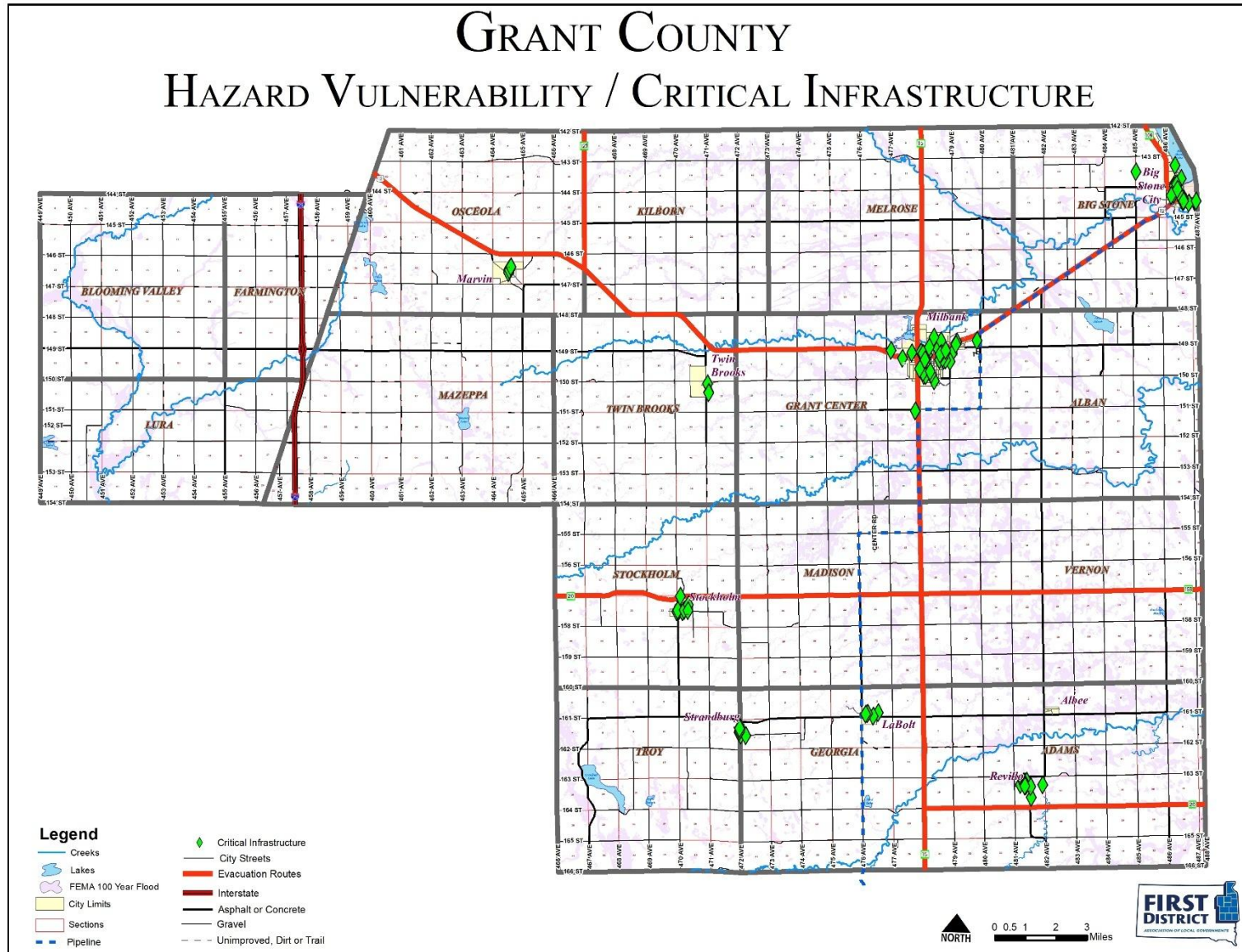


Figure 4.16: City of Big Stone City Hazard Vulnerability Map

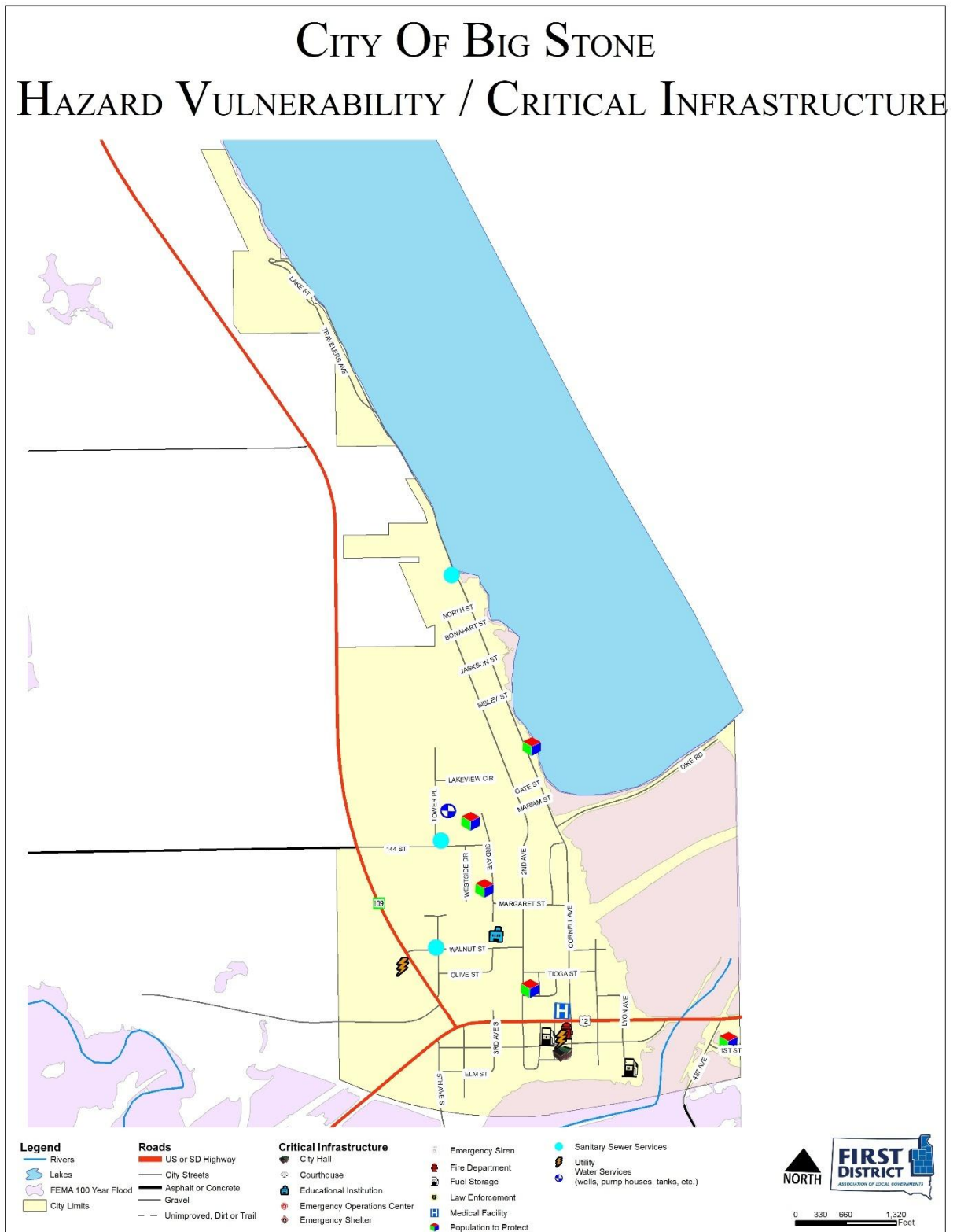


Figure 4.17: Town of LaBolt Hazard Vulnerability Map

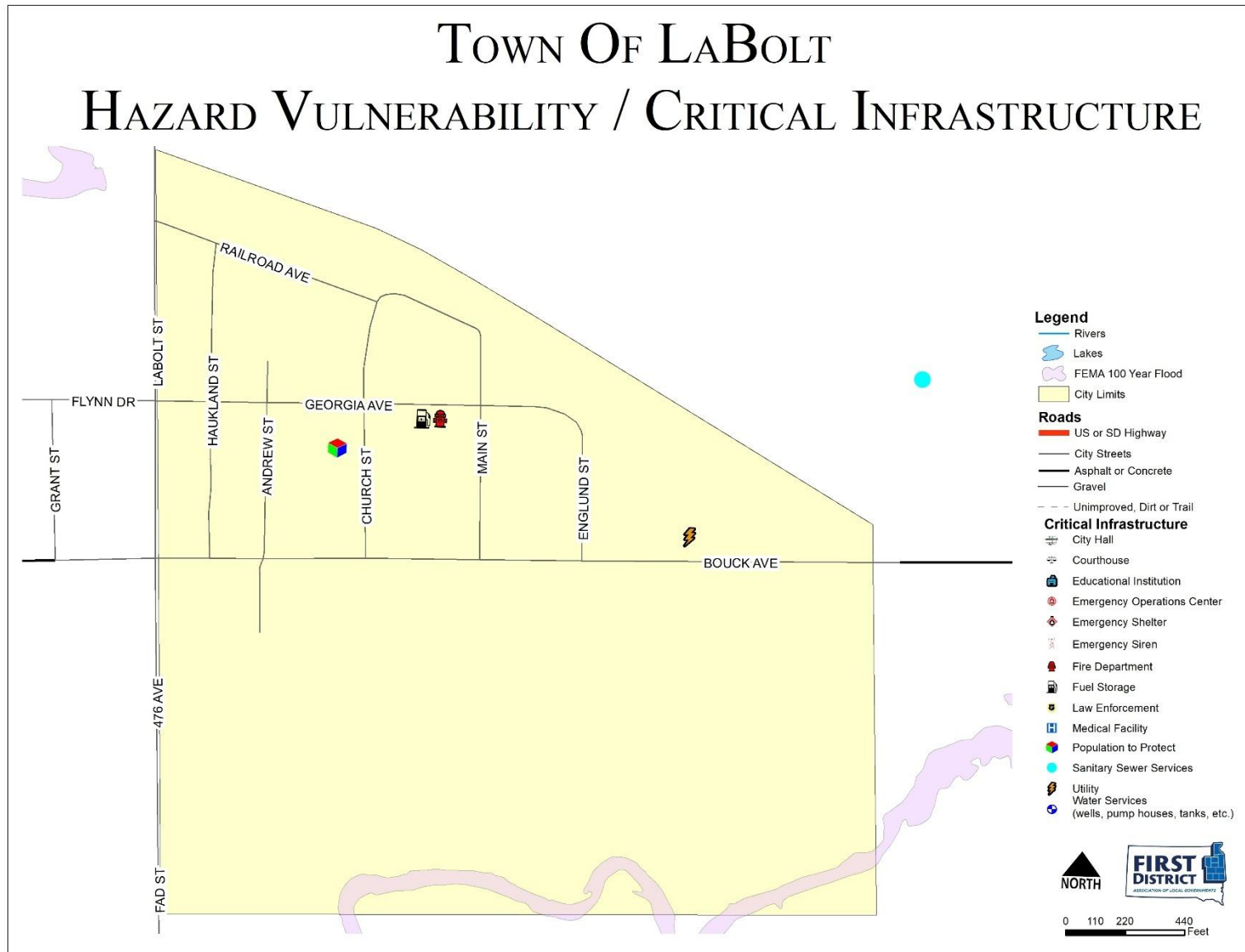


Figure 4.18: Town of Marvin Hazard Vulnerability Map

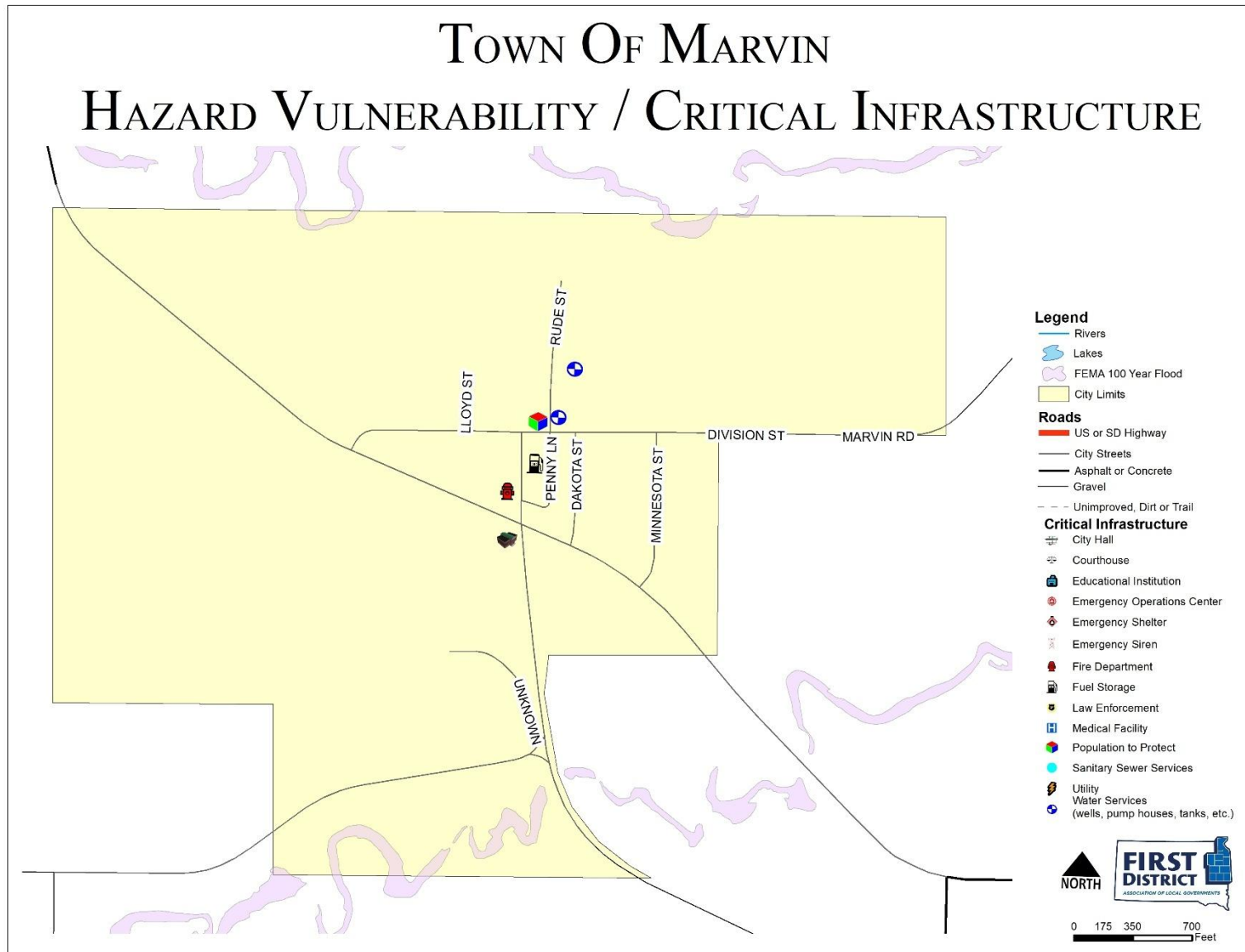


Figure 4.19: City of Milbank Hazard Vulnerability Map

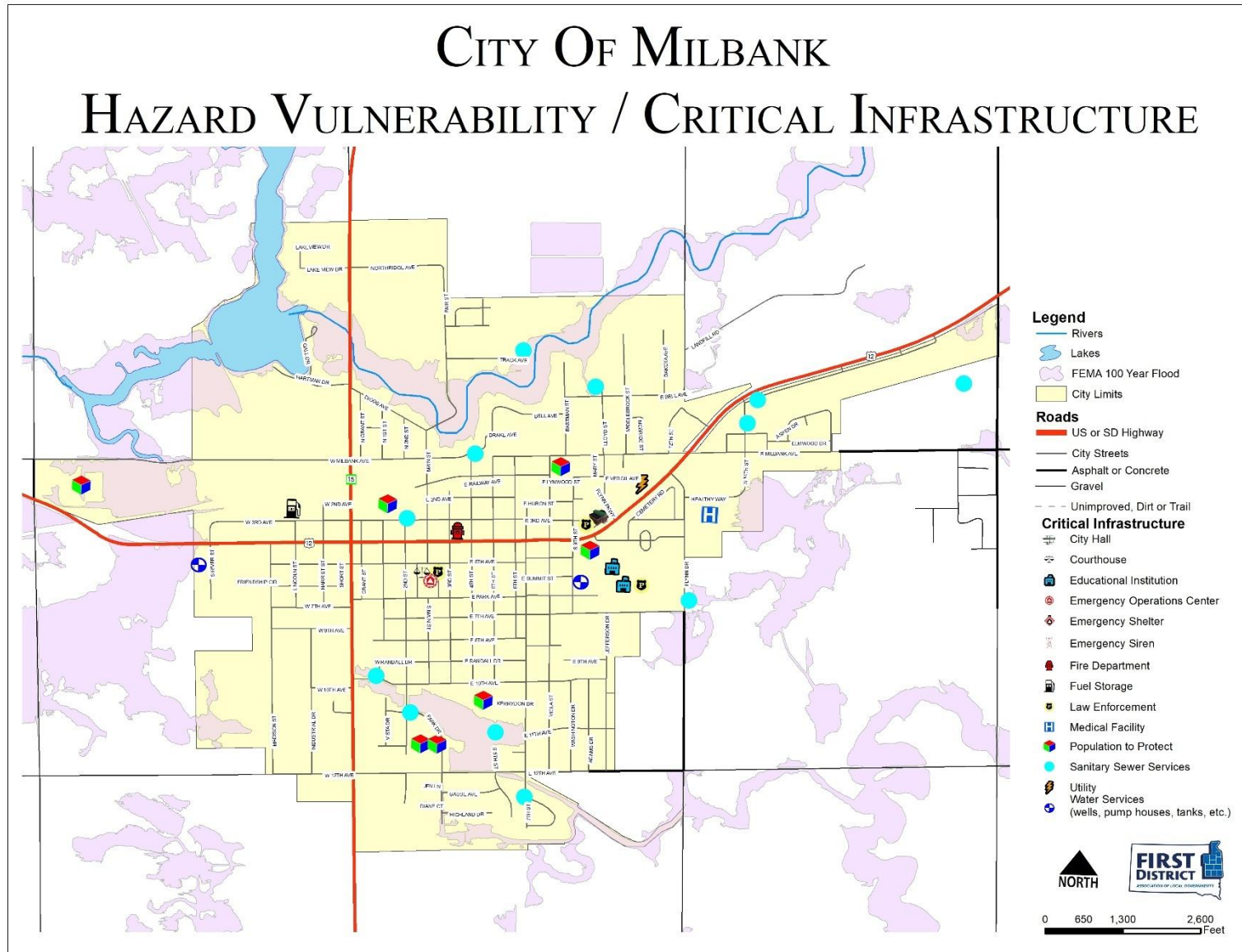


Figure 4.20: Town of Revillo Hazard Vulnerability Map

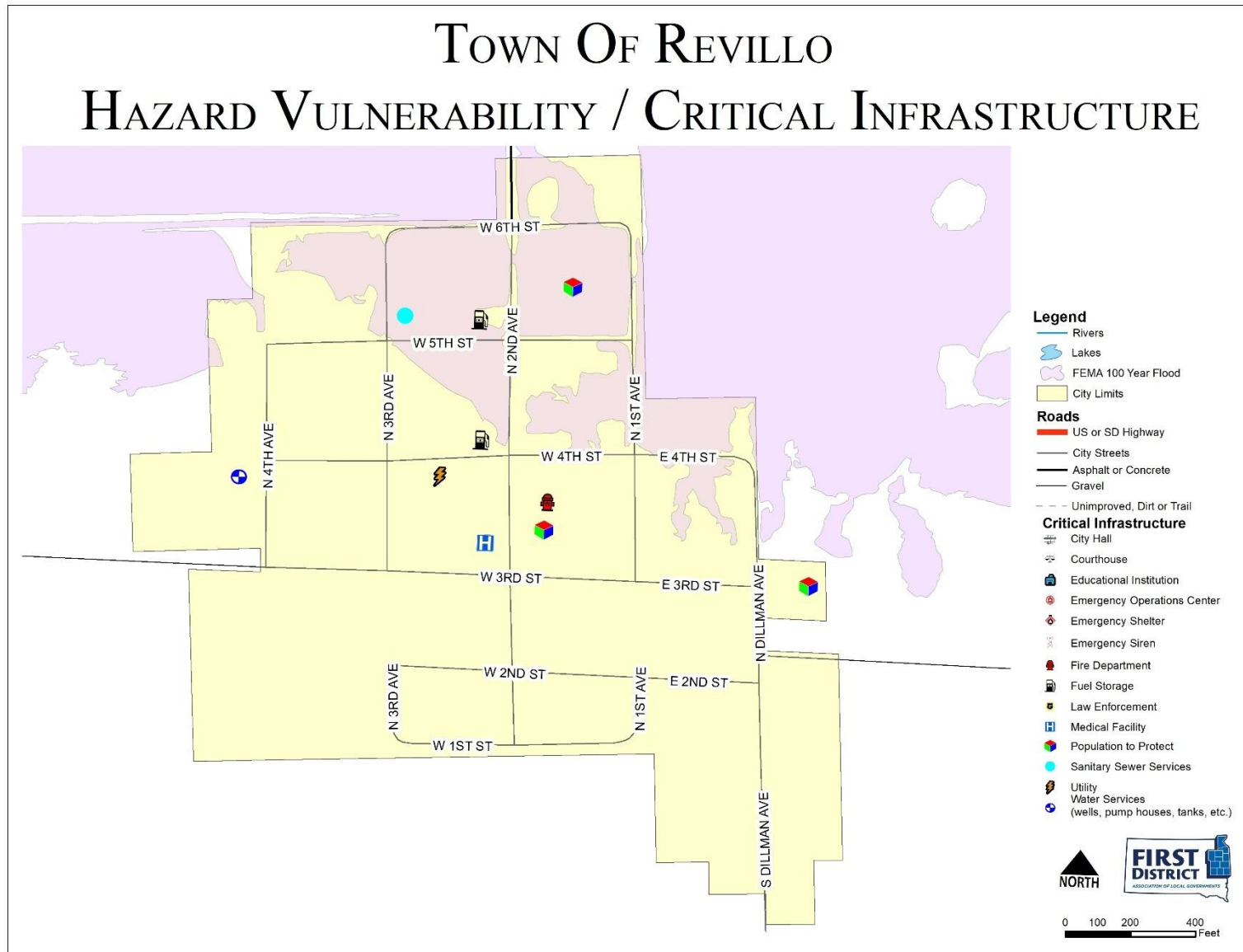


Figure 4.21: Town of Stockholm Hazard Vulnerability Map

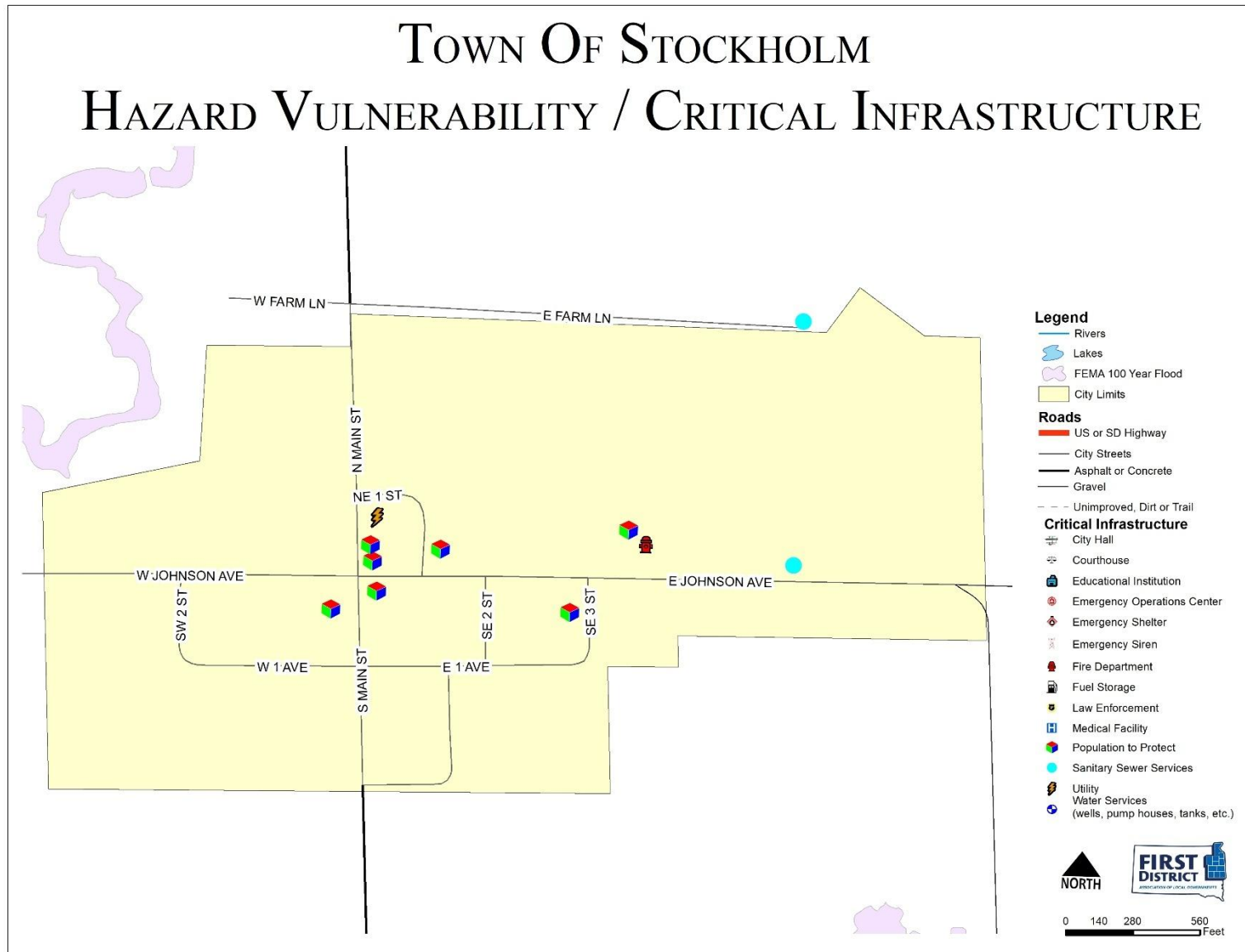


Figure 4.22: Town of Strandburg Hazard Vulnerability Map

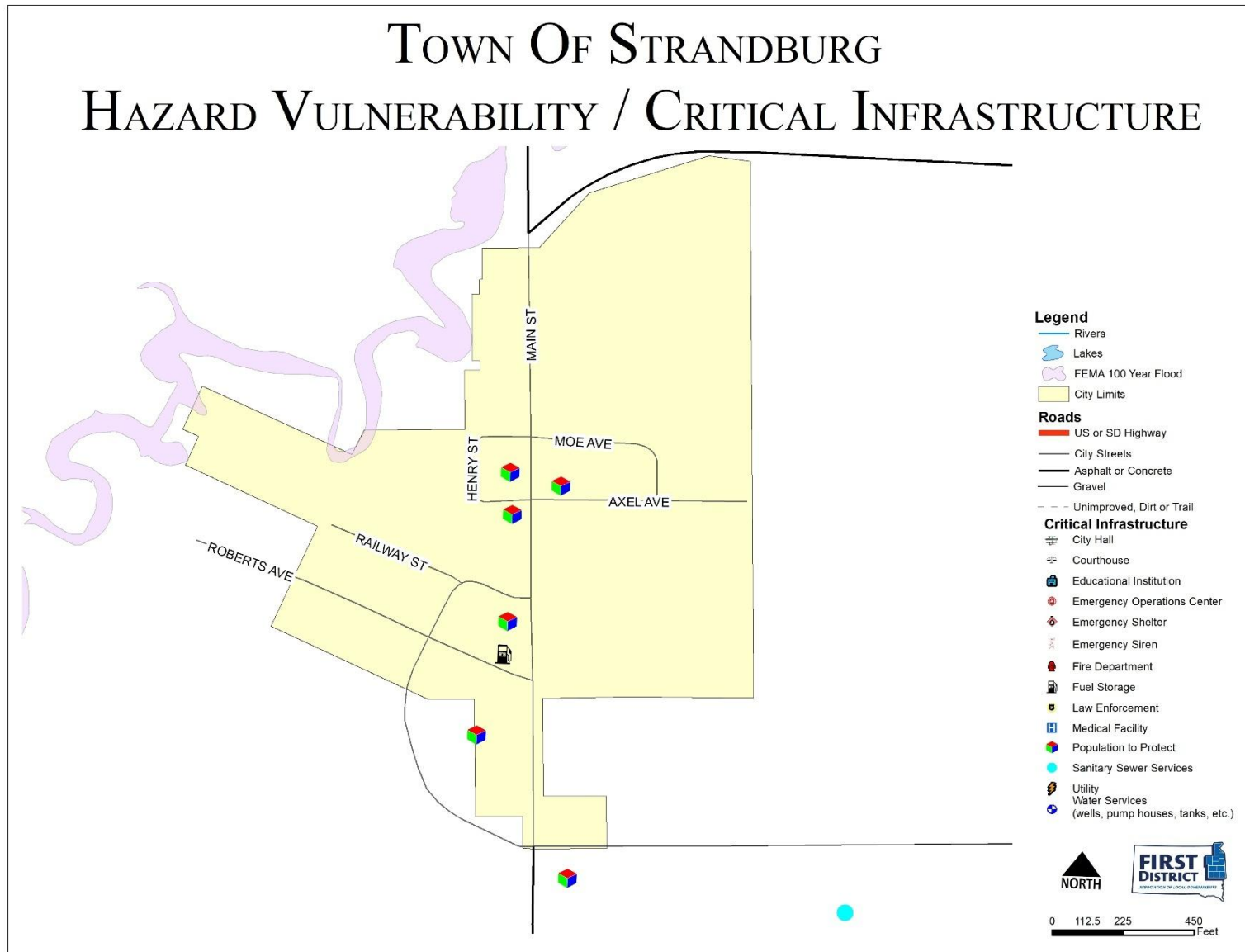
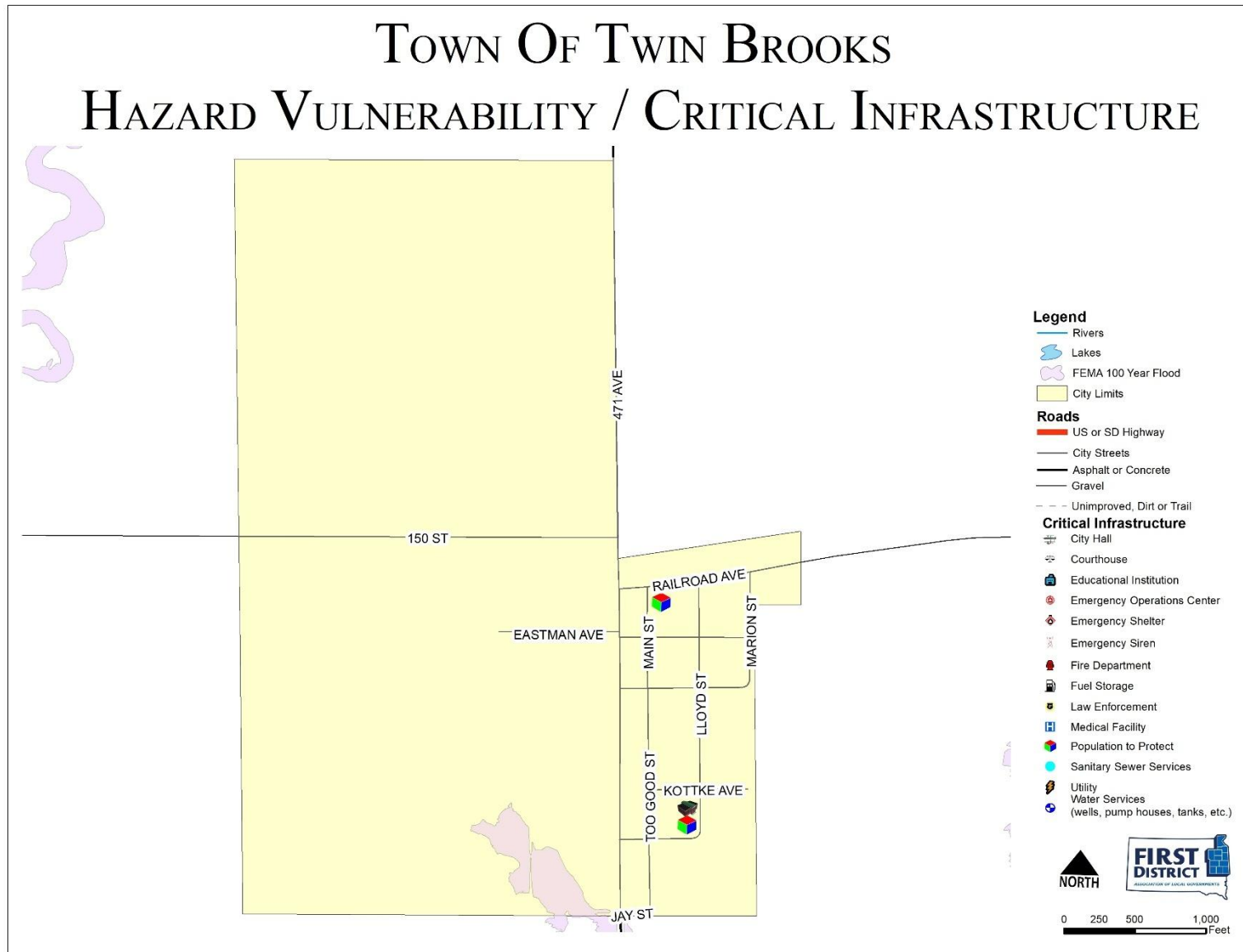


Figure 4.18: Town of Twin Brooks Hazard Vulnerability Map





## CHAPTER 5 | MITIGATION STRATEGY

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### MITIGATION OVERVIEW

*Requirement 201.6(b)(1) ...Local Mitigation Plan Review Tool – A3.*

*Requirement 201.6(c)(3)(i). Local Mitigation Plan Review Tool – C3.*

*Requirement 201.6(c)(3)(ii). Local Mitigation Plan Review Tool – C4 (inc. C4-a&b).*

*Requirement 201.6(c)(3)(iii) & (iv). Local Mitigation Plan Review Tool – C5.*

*Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – E2-a&b.*

Mitigation Strategy component identified five objectives:

1. Review Existing PDM and other Plans
2. Formation of Goals/Objectives
3. Compile Existing Resources to Accomplish Goals/Objectives
4. Public review of Goals/Objectives
5. PDM Planning Team Review of Goals/Objectives

The SD SHMP addresses several mitigation categories, including warning and forecasting, community planning, and infrastructure reinforcement. The County and participating entities' critical needs are mitigating high wind and flood hazards, acquiring backup generators for critical infrastructure, construction of tornado safe rooms and/or storm shelters, and maintaining power community-wide by maintaining around and/or burying powerlines.

Following the completion of the risk assessment (which encompassed identifying hazards, evaluating their probability, and assessing vulnerability), the PDM Planning Team reached a mutual consensus. The team agreed that the mitigation strategies should primarily focus on addressing the following hazards: winter storms, severe summer storms, flooding, and drought/wildfires in both urban and rural areas.

Table 5.1 lists those hazards that the vulnerability score from Table 4.24 indicated the respective community was most vulnerable to. While some of those projects were addressed as a general strategy in tables 5.2-5.13, they may be duplicated with more detail in Table 5.14.

It should also be noted that some communities chose to list projects, specifically relating to tornado and fire protection/mitigation despite the vulnerability score being below twenty. In most cases that was due to the fact that those communities scored their actual vulnerability relatively high, however the frequency held the vulnerability score below twenty.

**Table 5.1: Grant County Most Vulnerable Hazards – By Community**

	Community Vuln. Score							
Dam Failure								
Drought	Strandburg 24							
Extreme Cold	Marvin 20	Revilla 20	Stockholm 28	Strandburg 24	Grant Co 22			
Extreme Heat	Marvin 20	Stockholm 28	Grant Co. 21					
Flood	Twin Brooks 24							
Freezing Rain/Sleet/ Ice	Marvin 32	Grant Co. 21						
Hail								
Heavy Rain	Milbank 21							
Heavy Snow	Milbank 21	Stockholm 24	Strandburg 24	Grant Co. 20				
Ice Jam								
Lightning								
Rapid Snow Melt	Big Stone City 24	Marvin 32	Grant Co. 21					
Strong Winds	Big Stone City 28	LaBolt 24	Marvin 30	Milbank 24	Revilla 40	Strandburg 20	Grant Co. 22	
Tornado	Big Stone City 21	Grant Co. 21						
Urban Fire	Marvin 20	Stockholm 20						
Wild Fire								

The PDM Planning Team began by reviewing the goals, objectives, and priorities of the 2020 Plan. They found the goals and objectives of the previous plan were still relevant, with only minor changes being needed. The goals and objectives were then revised and incorporated into the updated plan. Similarly, the priorities and focuses of the mitigation strategies from the previous plan were also deemed appropriate and integrated into the updated plan.

To complete the goal identification process, the PDM Planning Team assessed the county's and participating jurisdictions' vulnerability to each identified hazard and the severity of the threat posed by each. The discussion largely centered around past event damage and strategies to reduce or eliminate future damage. Though reviewing each jurisdiction's Comprehensive Land Use Plan (if available), the participants were also able to consider how future development might impact each jurisdictions' vulnerability to the hazards they face.

While pinpointing goals, numerous activities or projects were identified with broadly defined benefits for several jurisdictions within the County. Although many actions were acknowledged by the PDM Planning Team to have wide-reaching benefits, due to the scope or varying levels of importance to individual jurisdictions, specific costs, timeframes, or priorities were not assigned. Along with this, while many infrastructure projects and policies throughout all communities would help mitigate hazards, they were not always located in the most vulnerable areas.

Each community reviewed the activities/policies and corresponding problem statements to determine their applicability to their respective jurisdictions. The results of this community review are displayed in Tables 5.2 – 5.13. Unless otherwise noted, the lead contact for all mitigation projects in those tables will be the Finance Officer for each respective municipality and the County Auditor for Grant County.

The funding source for projects in Tables 5.2 – 5.13 will be from the general fund of the applicable jurisdiction unless specifically noted. Projects/policies marked with a "✓" were identified in previous plans and determined to be not completed since the previous plan. Projects/policies marked with a "☑" are new for the respective community. Projects/policies marked with a "☒" were determined no longer viable.

Each project/policy in Tables 5.2 – 5.13 should be considered as a "medium" priority rating in relation to the projects listed in 5.14. Unless otherwise noted, any project listed within 5.2 – 5.13 should be expected to commence within three (3) to five (5) years. Projects with "\*" are already occurring and expected to remain ongoing during the life of the plan. Specific projects for each community are listed in Table 5.14. Projects listed in Table 5.14 may duplicate those listed in 5.2 – 5.13. Table 5.14 represents more specific requests where it may have been determined a different funding source may be sought, or a more specific location or purpose for a strategy may have been determined. Those projects intended to mitigate problems at a specific location are represented in Figures 5.1 to 5.10.

## Principal Goals

1. *Reduce the loss of life, property, infrastructure, critical facilities, cultural resources and impacts from severe weather, flooding and other natural disasters.*
2. *Improve public safety during severe weather, flooding and other natural disasters.*
3. *Improve the County's Emergency Preparedness and Disaster Response and Recovery capabilities.*

## Mitigation Activities for Flooding Hazards

**Goal #1:** Protect specific areas of Grant County from flooding due to heavy rain, rapid snow melt, and ice jams.

**Goal #2:** Educate and inform Grant County residents regarding flooding safety in relation to heavy rain, rapid snow melt, and ice jams.

**Goal #3:** Reduce the extent to which utility interruptions affect areas during flooding events caused by heavy rain, rapid snow melt, and ice jams.

- *Actions/Projects to reduce flood risk through policy implementation. (See Table 5.2)*
- *Actions/Projects to change the characteristics or impacts of flood hazards. (See Table 5.3)*
- *Actions to reduce loss potential of infrastructure to flood hazards. (See Table 5.4)*

## Mitigation Activities for Severe Weather Hazards (summer and winter)

**Goal #1:** Increase public awareness and education on severe summer weather events (includes: thunderstorms, high wind, hail, lightning, and tornadoes), and severe winter weather events (includes: blizzards, freezing rain, and high wind.)

**Goal #2:** Improve public safety during severe summer weather events (as above), and severe winter weather events (as above).

**Goal #3:** Reduce the extent to which utility interruptions affect areas during severe summer weather events (as above), and severe winter weather events (as above).

**Goal #4:** Reduce crippling effects of winter weather events (as above).

- *Actions/Projects to reduce severe weather risk through policy implementation. (See Table 5.5)*
- *Actions/Projects to change the characteristics or impacts of severe weather hazards. (See Table 5.6)*
- *Actions/Projects to reduce loss potential of infrastructure to severe weather hazards. (See Table 5.7)*

**Table 5.2: General Actions/Projects to Reduce Flood Risk through Policy Implementation**

Problem Statements	Actions	Big Stone City	LaBolt	Marvin	Milbank	Reville	Stockholm	Strandburg	Twin Brooks	Grant County
Public is unaware of scope of flood risk and existing emergency plans.	Public education. Disseminate information regarding how to deal with flooding. This would include transportation issues, home protection strategies, safety issues, and how to move forward after a flooding situation.	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Encouraging homeowners in flood-prone areas to purchase flood insurance.	✓	✓	✓	✓	✓	✓	✓	✓	✓
Jurisdiction is unaware of potential hydrologic impacts of drainage/ development projects.	Conduct necessary studies addressing drainage (stormwater flow/runoff, etc.).	✓ 5-10 years	✓	✓	✓ 5-10 years	✓	✓	✓	✓	✓ 5-10 years
Residents are not eligible for flood insurance.	Begin participation in the National Flood Insurance Program.	☒ (done)	✓	✓	☒ (done)	☒ (done)	✓	✓	☒ (done)	☒ (done)
Failure to comply with NFIP programs makes the community ineligible for flood insurance and certain funding.	Ensure continued National Flood Insurance Program compliance by enforcing floodplain management ordinance.	✓*			✓*	✓*			✓*	✓*
Jurisdiction is unaware of opportunities to participate in programs to assist in achieving mitigation goals.	Work to improve the level of communication and coordination with the State NFIP coordinator.	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*
Jurisdiction has no legal mechanism to regulate land use.	Adoption and enforcement of land use regulation.	Adopted	☒	☒	Adopted	☒	☒	☒	☒	Adopted
Jurisdiction needs to continue to regulate minimum land use and development standards.	Continue enforcement of zoning and subdivision ordinances.	✓*			✓*					✓*
Jurisdiction has little legal mechanism to regulate drainage.	Developing a county/city drainage ordinance.									✓*

Problem Statements	Actions	Big Stone City	LaBolt	Marvin	Milbank	Revillo	Stockholm	Strandburg	Twin Brooks	Grant County
Jurisdiction needs to continue to regulate minimum construction standards.	Continue enforcement of building codes.	✓*	✓*		✓*					✓*
Jurisdiction lacks technical analysis or identification of specific mitigation projects.	Identify and prioritize capital/structural mitigation projects that are cost effective and technically feasible.	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*
Jurisdiction lacks physical data on natural drainage and topography.	Purchase LiDAR to generate terrain models, maps, and surveys.									<input checked="" type="checkbox"/>

**Table 5.3: General Actions/Projects to Change the Characteristics or Impacts of Flood Hazards**

Problem Statements	Actions	Big Stone City	LaBolt	Marvin	Milbank	Revillo	Stockholm	Strandburg	Twin Brooks	Grant County
Portions of storm sewer system is not designed to 100-year flood event.	Install or upgrade storm sewer piping/or overland flow.	✓	✓	✓	✓	✓	✓	✓	✓	✓
Drainage patterns have changed; culverts are inadequate for conveyance of water.	Installing or enlarging drainage culverts.	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*
	Install drainage tile.									✓
	Install or enlarge detention/retention ponds.									<input checked="" type="checkbox"/>
Certain streets have substandard or no curb and gutter.	Install curbing and guttering in city streets to improve stormwater flow.	✓ 5-10 years	✓ 10 years	✓ 10 years	✓ 5-10 years	✓ 10 years	✓ 10 years	✓ 10 years	✓ 10 years	
Capacity of rivers, streams, and retention areas is decreased due to accumulation of debris.	Clean out debris in drainage areas, tributaries, etc. to improve water flow.	✓*	✓*	✓*	✓*	✓*	✓*	✓ 10 years	✓ 10 years	✓*

Problem Statements	Actions	Big Stone City	LaBolt	Marvin	Milbank	Reville	Stockholm	Strandburg	Twin Brooks	Grant County
Sanitary and/or storm sewer are vulnerable to back-up in flood event.	Install valves, plugs in sanitary and storm sewer system.	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Install riprap around sanitary sewer ponds.									
Potential for development in flood prone areas.	Preservation and expansion of open space along the river and enhancement of existing berm areas.	✓			✓	✓				✓
	Work with property owners to implement deed restrictions for open lots/vacant properties in the flood hazard areas to prevent development.	✓			✓	✓				✓

**Table 5.4: General Actions/Projects to Reduce Loss Potential of Infrastructure to Flood Hazards**

Problem Statements	Actions	Big Stone City	LaBolt	Marvin	Milbank	Reville	Stockholm	Strandburg	Twin Brooks	Grant County
Many roads and bridges were built prior to identification of flood hazard areas.	Replace and raise bridges.	☑								✓
	Elevating roads in flood-prone areas.	✓	✓	✓	✓	✓	✓	✓	✓	✓
Some utility structures are located in areas vulnerable to flooding.	Flood-proof or replace utility structures in flood-prone areas.	✓	✓	✓	✓	✓	✓	✓	✓	✓
Structures constructed in the floodplain prior to identification of flood hazard areas at risk of flooding or impeding water/ice.	Making structural retrofits to infrastructure.	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*
	Work with property owners to mitigate repetitive loss residences through elevation, acquisition, or relocation.	☑			☑	☑				✓*

**Table 5.5: General Actions/Projects to Reduce Severe Weather Risk through Policy Implementation**

Problem Statements	Actions	Big Stone City	LaBolt	Marvin	Milbank	Reville	Stockholm	Strandburg	Twin Brooks	Grant County
Public is unfamiliar with certain disaster preparation measures.	Public education. Disseminate information regarding how to deal with severe weather (summer/winter).									
	Some of the issues that may be addressed would include: safety issues on downed power lines, electrical and fire dangers, necessity for generators and how to use them, protecting property, survival strategies during storms, and purchasing of back-up power for various household and farming operations. (W/S)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lack of data regarding vulnerability to severe summer & winter storms.	Gather data to create a more precise loss estimate for winter storms. (W)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Gather data to create a more precise loss estimate for summer storms. (S)	✓	✓	✓	✓	✓	✓	✓	✓	✓

Projects denoted with “(S)” are specific to **Summer Storms**, “(W)” for **Winter Storms**.

**Table 5.6: General Actions/Projects to Change the Characteristics or Impacts of Severe Weather Hazards**

Problem Statements	Actions	Big Stone City	LaBolt	Marvin	Milbank	Reville	Stockholm	Strandburg	Twin Brooks	Grant County
Certain areas and populations are not served by storm shelters	Identify areas of need for tornado safe rooms or community shelters. (S)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Identify areas of need for storm shelters at manufactured home and RV parks. (S)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Install backup generators for infrastructure, shelters, and emergency operations. (W/S)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Critical facilities are vulnerable to power failure.	Survey areas in need of snow shelterbelts and plant trees accordingly. (W)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Certain areas are susceptible to snow drifting.	Install or plant living snow fences. (W)									✓*
	Identify areas of need for tornado safe rooms or community shelters. (S)	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*

Problem Statements	Actions	Big Stone City	LaBolt	Marvin	Milbank	Reville	Stockholm	Strandburg	Twin Brooks	Grant County
Certain areas of town cannot hear storm sirens and other emergency warning systems	Construct new warning systems. (S)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Storm sirens and other emergency warning systems are outdated.	Replace or upgrade existing warning systems. (S)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lack of emergency preparedness supplies and equipment.	Ensure emergency shelters are stocked with adequate supplies. (W/S)	✓	✓	✓	✓	✓	✓	✓	✓	✓

Projects denoted with “(S)” are specific to **Summer Storms**, “(W)” for **Winter Storms**.

**Table 5.7: General Actions/Projects to Reduce Loss Potential of Infrastructure to Severe Weather Hazards**

Problem Statements	Actions	Big Stone City	LaBolt	Marvin	Milbank	Reville	Stockholm	Strandburg	Twin Brooks	Grant County
Utility lines and structures are subject to failure in high wind, heavy rain, ice events	Upgrading of utility lines. (W/S)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Burial of utility lines when needed. (W/S)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Require upgrading of overhead lines when age or disasters provide an opportunity. (W/S)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Removal of trees near power lines. (W/S)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Attachment of guy wires to dead-end poles. (W/S)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Testing integrity of poles. (W/S)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Usage of anti-galloping devices. (W/S)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Making structural retrofits to facilities. (W/S)	✓	✓	✓	✓	✓	✓	✓	✓	✓

### **Mitigation Activities for Fire and Drought Hazards**

**Goal #1:** Improve fire prevention education and fire response.

**Goal #2:** Reduce the negative effects droughts have on Grant County.

**Goal #3:** Reduce the negative effects wildfires have on Grant County.

- *Actions/Projects to reduce fire and drought risks through policy implementation.*  
(See Table 5.8)
- *Actions/Projects to change the characteristics or impacts of fire and drought hazards.*  
(See Table 5.9)
- *Actions to reduce loss potential of infrastructure to fire and drought hazards.*  
(See Table 5.10)

### **Mitigation Activities for Hazards Identified That Do Not Occur**

The hazards of landslides, subsidence, earthquakes, and dam failures have no history of occurring in any jurisdiction within Grant County. These hazards were not identified for planning purposes but were listed in exercises merely for comparative purposes. It was determined by the PDM Planning Team that since these hazards have never occurred, and there is no reason to expect them to occur in the future within Grant County's jurisdictions, no mitigation activities are necessary.

### **General Mitigation Activities**

**Technological (See Table 5.11):**

**Planning (See Table 5.12):**

**Administration/Coordination (See Table 5.13)**

**Table 5.8: General Actions/Projects to Reduce Fire and Drought Risk through Policy Implementation**

Problem Statements	Actions	Big Stone City	LaBolt	Marvin	Milbank	Reville	Stockholm	Strandburg	Twin Brooks	Grant County
Community becomes vulnerable to fire hazard while staff is being trained.	Find funding sources to pay for persons to fill positions while individuals are at training courses.	✓	✓	✓	✓	✓	✓	✓	✓	✓
Potential for development in areas vulnerable to wildfire or urban fire.	Adoption and enforcement of property regulations in areas vulnerable to wildfire. <i>(Not a hazard in municipalities)</i>	☒	☒	☒	☒	☒	☒	☒	☒	✓*
	Establish/require minimum fire suppression standards for subdivisions.	✓	✓	✓	✓	✓	✓	✓	✓	✓
Community has no plan/policy for water rationing in emergency.	Develop water rationing measures that will be implemented during a drought situation.	☒	✓*	✓*	☒	✓	✓*	✓*	✓*	✓
Public is unaware of fire safety and benefits of conserving water.	Educate residents on fire safety and the benefits of conserving water at all times, not just during a drought.	✓	✓	✓	✓	✓	✓	✓	✓	✓

**Table 5.9: General Actions/Projects to Reduce Loss Potential of Infrastructure to Fire and Drought Hazards**

Problem Statements	Actions	Big Stone City	LaBolt	Marvin	Milbank	Reville	Stockholm	Strandburg	Twin Brooks	Grant County
Firefighting equipment becomes out of date quickly.	Ensure that fire departments are adequately equipped to respond to wildfires.	✓*	✓*	✓*	✓*	✓*	✓*			✓*
Fire hydrants become unusable.	Locate dry fire hydrants and improve existing infrastructure for hydrant hook-ups.	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*
	Construct additional water supply.	✓			✓					
Fire protection capabilities are limited.	Construct new fire station.									

**Table 5.10: General Actions/Projects to Change the Characteristics or Impacts of Fire and Drought Hazards**

<b>Problem Statements</b>	<b>Actions</b>	<b>Big Stone City</b>	<b>LaBolt</b>	<b>Marvin</b>	<b>Milbank</b>	<b>Reville</b>	<b>Stockholm</b>	<b>Strandburg</b>	<b>Twin Brooks</b>	<b>Grant County</b>
Reservoirs are vulnerable to silting and decrease in efficient provision of water services in emergency situations.	Dredge reservoirs to improve water quality. Reservoirs silt in and dredging, water can flow to more places, more quickly, and more easily.	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dead or dry plant material creates fire hazard/location changes seasonally and annually.	As necessary, burn areas to ensure a fire break rather than ignition fuel.	✓	✓	✓	✓	✓	✓	✓	✓	✓*
Local economy is very dependent on corn/soybean production.	Educate farmers on the benefits of a diversified crop protection plan in the event of a drought.	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Work with local farmers to investigate the use of more drought resistant crops.	✓	✓	✓	✓	✓	✓	✓	✓	✓

**Table 5.11: Technological Activities**

<b>Problem Statements</b>	<b>Actions</b>	<b>Big Stone City</b>	<b>LaBolt</b>	<b>Marvin</b>	<b>Milbank</b>	<b>Reville</b>	<b>Stockholm</b>	<b>Strandburg</b>	<b>Twin Brooks</b>	<b>Grant County</b>
Current data and software can become obsolete or out of date.	Continue utilizing a working computer-aided mapping system for the County. This includes using overlays of GIS data, HazMat, flood zones, and roads.	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*
	Enhance existing computer-aided dispatch.	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*
	Use HAZUS software to estimate losses in flooding situations. Information may also be able to be used for other hazard areas.	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*

**Table 5.12: Planning Activities**

<b>Problem Statements</b>	<b>Actions</b>	<b>Big Stone City</b>	<b>LaBolt</b>	<b>Marvin</b>	<b>Milbank</b>	<b>Reville</b>	<b>Stockholm</b>	<b>Strandburg</b>	<b>Twin Brooks</b>	<b>Grant County</b>
Maintenance of a mitigation plan is beyond the economic capability of this community.	Find funding to review and update the regional and local disaster mitigation plans on a five-year cycle.	✓	✓	✓	✓	✓	✓	✓	✓	✓
Disaster mitigation projects have not always been incorporated into other plans.	Incorporate disaster mitigation actions into appropriate local and regional plans – master plans, land use, transportation, open space, and capital programming.	✓*	☑ *	☑ *	✓*	☑ *	☑ *	☑ *	☑ *	✓*
	Integrate disaster mitigation concerns into subdivision, site plan review, and other zoning reviews. In particular, require the consideration of downstream flooding impacts caused by new projects.	✓*	☑ *	☑ *	✓*	☑ *	☑ *	☑ *	☑ *	✓*
	Integrate disaster mitigation concerns into transportation projects (e.g., drainage improvements, underground utilities, etc.).	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*
This community's mitigation projects are not coordinated with other communities' projects.	Develop a means for sharing information on a regional basis about successful disaster mitigation planning and programs.	✓	✓	✓	✓	✓	✓	✓	✓	✓

**Table 5.12: Administration/Coordination Activities**

<b>Problem Statements</b>	<b>Actions</b>	<b>Big Stone City</b>	<b>LaBolt</b>	<b>Marvin</b>	<b>Milbank</b>	<b>Reville</b>	<b>Stockholm</b>	<b>Strandburg</b>	<b>Twin Brooks</b>	<b>Grant County</b>
This community is not staffed, nor does it have funding mechanisms to apply for and administer funding sources for mitigation projects.	Identify and pursue funding that builds local capacity and supports grant-writing for mitigation actions identified in the PDM.	✓	✓	✓	✓	✓	✓	✓	✓	✓
Need to create manner of mass dissemination of emergency preparedness and response information	Establish social media pages, and identify individual to maintain said pages and establish authority to determine what information is posted.	☑	☑	☑	☑	☑	☑	☑	☑	☑
Populations to protect and socially disadvantaged populations are not identified	Create and update list of vulnerable populations within jurisdiction; and provide notification to those populations of plan updates	☑	☑	☑	☑	☑	☑	☑	☑	☑
Need to improve coordination of activities with other governmental jurisdictions and utility providers.	Increase communication/coordination between federal, state, regional, county, municipal, private, and non-profit agencies in the area of pre-disaster mitigation.	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*
	Maintain and enhance working relationships with the utility providers.	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*

After holding meetings with the PDM Team and local jurisdictions, as well as hosting multiple opportunities for public input, the mitigation goals from the 2020 plan were confirmed as the best aid the County for reducing and lessening the effects of natural hazards. Projects previously identified in the 2020 PDM were carefully analyzed and discussed to determine which of the projects had enough merit to be included in the updated PDM and to determine if the projects meet the hazard mitigation needs of the county. The projects were evaluated based on a cost/benefit ratio and priority.

Although this PDM focuses on disaster mitigation rather than disaster preparedness, most communities conversed over disaster preparedness projects as well. It was difficult for individual communities to recognize the difference between providing storm shelters and making sure the storm shelters function properly (for example). Actions considered in this category included the acquisition of emergency generators, and erecting or replacing warning sirens in areas that are currently underserved.

Most of the mitigation actions proposed by the jurisdictions were identified by city council/town board members, public works personnel, or PDM Planning Team members from the jurisdiction. Natural hazards and vulnerability were discussed. Projects were suggested for inclusion on the mitigation list. Project cost estimates were created based upon similar projects in the region. Local jurisdiction Boards evaluated each project based on importance, need, urgency, benefits, cost, funding availability, and timeline. Projects were then either included on the list or removed. Then assigned a priority metric and other parameters.

Some actions were also proposed by townships and utility providers due to the direct impact of disasters on infrastructure and services they provide. Once each jurisdiction had its list of proposed actions complete, it was submitted to the Emergency Management Director. At the second PDM Planning Team meeting, the actions were reviewed. At the third PDM Planning Team meeting a final opportunity was given for the jurisdictions to add any additional actions or refine information relating to previously identified projects.

Although additional data will be needed in some cases, a timeframe for completion, oversight, funding sources, and any other relevant issues were addressed. These implementation strategies are geared toward the specific goal and area. Often, these projects will not encounter any resistance from environmental agencies, legal authorities, and political entities. Table 5.14 is a presentation of the mitigation actions proposed by the PDM Planning Team. In addition to identifying the proposed actions, the table includes additional information about each action. Elected officials and staff of each municipality and the county were responsible for providing most of this information for actions in their community, but the other planning participants helped in this process.

The following information is provided for each action:

- A statement regarding the specific problem the proposed action will mitigate.
- The local priority rating:
  - **“High”** - greater importance, unanimous Board agreement, meets an essential need, shorter implementation time, and funding availability.
  - **“Medium”** - less urgent need, limited benefits, maintenance activities, and limited funding availability.
  - **“Low”** - least important, minimal benefits, longer term project, and lack of funding availability.

- The time frame to accomplish the action:
  - “Short” means actions that are intended to be initiated within two years.
  - “Medium” is for actions that should be started within five years.
  - “Long” is for actions that are not anticipated to be started for at least five years.
- The party(s) primarily responsible for implementing the action.
- The estimated cost/benefit – projected costs for many of the actions were obtained from knowledgeable sources based on current information. Estimations are subject to change due to details of specific projects. Benefits for most projects were not readily quantifiable.
- Potential sources of funding (discussed below).
- The primary hazard being addressed.
- The goal corresponding to the action.

As mentioned above, jurisdictions and entities integrally involved in the planning for disasters due to their wide breadth implications include townships and most utility providers. Utility providers were represented on the PDM Planning Team. Each utility provider was asked individually to submit their own mitigation actions. The main mitigation activity proposed by utility providers was the burying of overhead lines in rural areas of the county.

In February of 2025, each individual township in Grant County was mailed maps upon which they were asked to identify potential mitigation activities and vulnerable roads or infrastructure and to return the maps to First District for inclusion in the Plan. In addition, a meeting at which all township supervisors were invited was held on February 19, 2025. At this meeting, those townships that had not responded to the mailed maps were asked to identify potential mitigation projects and vulnerable roads or infrastructure. Primarily these activities included replacing culverts with larger culverts, elevating or rip-rapping roads, and reconstructing roads. Not all townships submitted the maps with potential activities; however the Appendix E includes maps of vulnerable sites and potential mitigation actions in the County as proposed by those townships that participated.

Particular attention needs to be paid to sources of funding for the actions. Given the existing financial reality of very tight county and municipal budgets, some of the proposed actions cannot realistically be implemented without substantial grant assistance. With such assistance, it is likely that many of the high priority projects can be undertaken without placing an onerous burden on local budgets. Resources for some of the actions available from FEMA through the South Dakota Office of Emergency Management include the Hazard Mitigation Grant Program, Building Resilient Infrastructure Communities grant program, and Flood Mitigation Assistance grant programs. Other possible sources of funding include:

#### Grant and loan programs/sources

- Community Development Block Grant program
- Economic Development Administration
- FEMA Assistance to Firefighters Grant program
- South Dakota Dept of Environment and Natural Resources
- South Dakota Dept of Transportation
- US Department of Agriculture Rural Development Office

### Local resources

- General obligation bonds
- Revenue bonds
- Tax Increment Financing (TIF) districts

<b>Key for Table 5.14</b>	
<b>Abbreviations:</b>	
<i>Communities</i>	
<b><i>Big Stone City</i></b>	<b>BSC</b>
<b><i>LaBolt</i></b>	<b>L</b>
<b><i>Marvin</i></b>	<b>MN</b>
<b><i>Milbank</i></b>	<b>MK</b>
<b><i>Reville</i></b>	<b>R</b>
<b><i>Stockholm</i></b>	<b>SM</b>
<b><i>Strandburg</i></b>	<b>SB</b>
<b><i>Twin Brooks</i></b>	<b>TB</b>
<b><i>Grant County</i></b>	<b>GC</b>
In reference to Column "Hazards:" these abbreviations will be used where multiple jurisdictions will benefit from a specific project. These abbreviations will ONLY be used if the vulnerability score for a given community is greater than or equal to "20" for the specified hazard.	

**Table 5.14: Proposed Specific Mitigation Activities**  
*(Activities in Italics were listed in the previous PDM Plan and retained in this plan.)*

GRANT COUNTY PROBLEM STATEMENTS	GRANT COUNTY ACTIONS	PRIORITY RATING	TIME-FRAME	CONTACT	COST/BENEFIT	FUNDING SOURCE	HAZARD (Bold Print indicates Vulnerability Score from Table 5.1)	GOAL
<i>Emergency Operation Plan and Mass Shelter Plan need an update.</i>	<i>Update County Emergency Operation Plan.</i>	<i>High</i>	<i>Medium</i>	<i>Emergency Manager</i>	<i>\$20,000</i>	<i>HMGP/PDM</i>	<i>All Hazards</i>	<i>Reduce the extent to which utility interruptions affect area during severe weather conditions.</i>
<i>Culverts along 470th &amp; 480th Ave are deteriorating and frequently flood due to high water levels and seasonal flooding.</i>	<i>Repair and replace critically needed culverts.</i>	<i>High</i>	<i>Medium</i>	<i>County Highway Superintendent</i>	<i>\$50,000</i>	<i>HMGP/DANR</i>	<i>Flooding, Heavy Rain, Rapid Snow Melt (GC (21))</i>	<i>Protect Specific Areas of Grant County from floods.</i>
<i>Culvert along Highway 15 and 150th Street in Milbank frequently floods.</i>	<i>Repair and replace the culvert.</i>	<i>High</i>	<i>Medium</i>	<i>County Highway Superintendent</i>	<i>\$50,000</i>	<i>HMGP</i>	<i>Flooding, Heavy Rain, Rapid Snow Melt (GC (21))</i>	<i>Protect Specific Areas of Grant County from floods.</i>
Grant County allows clusters of employee housing and communal living in rural areas increasing likelihood of single event injury/loss of life	Require Basement/Tornado safe room with back-up power as part of permits for employee housing or religious farming communities	High	High	Zoning Administrator	\$0/Decreases chances of loss of life or prolonged stress/injury due to utility failure	County General Fund	Flood, Heavy Rain, Rapid Snow Melt (GC (21)), Extreme Heat (GC (21)), Extreme Cold (GC (22)), Freezing Precip, Heavy Snow (GC (20)), Strong Winds, Tornado (GC (21))	Reduce the extent to which utility interruptions affect area during severe weather conditions.

Primary population sources are at risk of being without water if one cell (water service) fails due to utility failure, natural disaster, etc. <b>(All Jurisdictions)</b>	Create interconnection and redundancy in Grant-Roberts Rural Water System with valves, booster pumps, etc. in strategic location(s)	Medium	High	Emergency Management Director	~\$500,000/ up to 5,000 Grant County residents continue to receive potable drinking water	HMGP/Private	Drought <b>(SB (24))</b> , Extreme Heat <b>(MN (20)); (SM (28)); (GC 21))</b> , Extreme Cold <b>(MN (20)); (SM (28)); (GC 22)); (SG (24)); (R (20))</b> , Freezing Precip <b>(MN (32)); (GC (21))</b> , Strong Winds <b>(BSC (28)); (L (24)); (MN (30)); (MK (24)); (R (40)); (SG (20)); (GC (22))</b>	Reduce the extent to which utility interruptions affect area during severe weather conditions. <b>&amp;</b> Reduce negative effects of drought.
Large portions of the county (including municipalities) are at risk of loss of water failure if power is lost at a given water storage facility. <b>(Grant County)</b>	Purchase permanent back-up generator for water services (Grant-Roberts Rural Water)	Low	Low	Emergency Management Director	~\$30,000/ up to 5,000 Grant County residents continue to receive potable drinking water during power outage at water source	HMGP/Private	Extreme Heat <b>(MN (20)); (SM (28)); (GC 21))</b> , Extreme Cold <b>(MN (20)); (SM (28)); (GC 22)); (SG (24)); (R (20))</b> , Heavy Snow <b>(MK (21)); (SM (24)); (SG (24)); (GC (20))</b> , Freezing Precip <b>(MN (32)); (GC (21))</b> , Strong Winds <b>(BSC (28)); (L (24)); (MN (30)); (MK (24)); (R (40)); (SG (20)); (GC (22))</b>	Reduce the extent to which utility interruptions affect area during severe weather conditions.
Water sources become depleted during drought. <b>(All Municipalities)</b>	Establish policies to decrease water consumption during specified periods of drought/low water storage. <b>(All Municipalities)</b>	Low	Long	Respective Finance Officer <b>(All Municipalities)</b>	\$2,500 per year for enforcement <b>(Each Municipality)</b>	Municipal General Funds	Drought <b>(SG (24))</b> /Urban fire <b>(MN (20)); (SM (20)) / wildfire</b>	Water sources become depleted during drought.

Arterial streets/evacuation Routes become plugged with snow in heavy snow/strong winds	Establish snow removal plans that prioritize removal of snow from evacuation routes for communities situated with primary access on county roads	High	Long	County Highway Superintendent	\$0 (covered in current expenses) / ensure county roads serving population clusters or towns are plowed at higher priority	County General Funds	Heavy Snow <b>(MK (21); (SM (24)); (SG (24)); (GC (20))</b>	Reduce crippling effects of winter weather events
<i>Flooding in Section(s) 20 and 21 of Vernon Township (East) has made 486<sup>th</sup> Ave hazardous</i>	<i>Study and improve Kaufman Slough drain pipe to lower depth adjacent to road.  Special Note: Installation of culverts in 487<sup>th</sup> Ave and lowering of grade from previous plan was intended to help but did not fully fix problem.</i>	Medium	Medium	Emergency Manager/County Highway Superintendent	\$100k/Reduce risk of catastrophic loss of life and injury, particularly in flood and ice.	HMGP/PDM/SD GFP/County	Flooding, Heavy Rain, Rapid Snow Melt <b>(GC (21))</b>	Protect Specific Areas of Grant County from floods.
<b>CITY OF BIG STONE CITY PROBLEM STATEMENTS</b>	<b>CITY OF BIG STONE CITY ACTIONS</b>	<b>PRIORITY RATING</b>	<b>TIME-FRAME</b>	<b>CONTACT</b>	<b>COST/BENEFIT</b>	<b>FUNDING SOURCE</b>	<b>HAZARD</b> (Bold Print indicates Vulnerability Score from Table 5.1)	<b>GOAL</b>
Old trees are vulnerable to high wind. They fall on power lines.	Bury overhead powerlines.	Medium	Short	Finance Officer/ Respective Rural Electric Provider	\$500,000/help prevent loss of power service to critical infrastructure and population.	HMGP, Municipal general/ enterprise funds	Freezing Precip, Lightning, Strong Winds <b>(28)</b> , Tornado <b>(21)</b>	Reduce the extent to which utility interruptions affect areas during severe weather situations.
Portions of community is subject to flooding in heavy rain or rapid snow melt.	Install curb & gutter along Cornell Ave between US Hwy 12 and Dike Rd.	Medium	Long	Finance Officer	\$1,500,000/reduce flood damages in city.	HMGP, CDBG, Municipal general funds	Flooding, Heavy Rain, Rapid Snow Melt	Protect Specific Areas of Grant County from floods.

The City lacks safe location for residents without a basement during severe weather events.	Construct a tornado storm shelter.	Medium	Medium	Finance Officer	\$400,000/prevent injuries and save lives	HMGP, BRIC, Municipal general funds	Tornado <b>(21)</b>	Improve public safety during severe weather
<b>TOWN OF LABOLT PROBLEM STATEMENTS</b>	<b>TOWN OF LABOLT ACTIONS</b>	<b>RATING</b>	<b>TIME-FRAME</b>	<b>CONTACT</b>	<b>COST/BENEFIT</b>	<b>FUNDING SOURCE</b>	<b>HAZARD</b> (Bold Print indicates Vulnerability Score from Table 5.1)	<b>GOAL</b>
Older overhead power lines prone to failure with resulting loss of power.	Bury overhead powerlines.	Medium	Medium	Finance Officer/ Respective Rural Electric Provider	\$300,000/help prevent loss of power service to critical infrastructure and population.	HMGP, Private (REA)	Freezing Precip, Lightning, Strong Winds <b>(24)</b> , Tornado	Reduce the extent to which utility interruptions affect areas during severe weather situations.
Town does not have adequate storm shelter protection.	Construction of tornado safe room at city park.	Medium	Medium	Finance Officer	\$500,000/prevent injuries and save lives.	HMGP, BRIC, Municipal general funds	Tornado	Improve public safety during severe weather.
Town lacks ability to stop and/or limit fire/wildfire from spreading during drought seasons.	Create and maintain list of local farmers with tillage equipment capable of breaking sod & containing fire.	High	Short	Finance Officer	Minimal/prevent loss of infrastructure and commodities.	Municipal funds	Wildfire	Improve firefighting capabilities.
The city is susceptible to loss of power and other utilities during severe weather events.	Purchase a Portable Back-up Generator for Critical Infrastructure (specifically community shelter)	High	Medium	Finance Officer	\$50,000/prevent loss of services to critical infrastructure.	HMGP, BRIC, Municipal general funds	Extreme Heat, Extreme Cold, Freezing Precip, Lightning, Strong Winds <b>(24)</b> , Tornado	Reduce the extent to which utility interruptions affect areas during severe weather situations.

<b>TOWN OF MARVIN PROBLEM STATEMENTS</b>	<b>TOWN OF MARVIN ACTIONS</b>	<b>RATING</b>	<b>TIME- FRAME</b>	<b>CONTACT</b>	<b>COST/BENEFIT</b>	<b>FUNDING SOURCE</b>	<b>HAZARD</b> (Bold Print indicates Vulnerability Score from Table 5.1)	<b>GOAL</b>
The City Fire Hall is susceptible to loss of utility services during power outage.	Purchase of Back-up Generators for Fire Hall.	High	Short	Finance Officer	\$50,000 each/prevent loss of services & provide safe location.	HMGP, BRIC, Municipal general funds	Extreme Heat <b>(20)</b> , Extreme Cold <b>(20)</b> , Freezing Precip <b>(32)</b> , Lightning, Strong Winds <b>(30)</b> , Tornado	Reduce the extent to which utility interruptions affect areas during severe weather situations.
Older overhead power lines prone to failure with resulting loss of power.	Bury overhead powerlines.	Medium	Long	Finance Officer/ Respective Rural Electric Provider	\$300,000/help prevent loss of power service to critical infrastructure and population.	HMGP, Private (REA)	Extreme Heat <b>(20)</b> , Extreme Cold <b>(20)</b> , Freezing Precip <b>(32)</b> , Lightning, Strong Winds <b>(30)</b> , Tornado	Reduce the extent to which utility interruptions affect areas during severe weather situations.
Trees are vulnerable to high winds & branches fall on power lines.	Trim new growth on trees around overhead powerlines.	High	Short	Finance Officer/ Respective Rural Electric Provider	\$100,000/help prevent loss of power service to critical infrastructure and population.	HMGP, Municipal general/ enterprise funds	Extreme Heat <b>(20)</b> , Extreme Cold <b>(20)</b> , Freezing Precip <b>(32)</b> , Lightning, Strong Winds <b>(30)</b> , Tornado	Reduce the extent to which utility interruptions affect areas during severe weather situations.
The City lacks safe location for residents without a basement during severe weather events.	Construct a tornado storm shelter.	Medium	Medium	Finance Officer	\$400,000/prevent injuries and save lives	HMGP, BRIC, Municipal general funds	Tornado	Improve public safety during severe weather
<b>CITY OF MILBANK PROBLEM STATEMENTS</b>	<b>CITY OF MILBANK ACTIONS</b>	<b>RATING</b>	<b>TIME- FRAME</b>	<b>CONTACT</b>	<b>COST/BENEFIT</b>	<b>FUNDING SOURCE</b>	<b>HAZARD</b> (Bold Print indicates Vulnerability Score from Table 5.1)	<b>GOAL</b>
Storm Sewer System in the City of Milbank is in need of repair.	Conduct Study to determine repair needs of storm sewer system.	Medium	Medium	City Administrator	\$80,000/ reduce flood damages in city	HMGP/PDM/FEMA	Flood, Heavy Rain <b>(21)</b> , Rapid Snow Melt	Reduce the extent to which utility interruptions affect areas during severe weather situations.

The City recreational areas lack safe location for residents during severe weather events.	Construct a tornado storm shelter at Pribyl Park.	Medium	Long	Finance Officer	\$400,000/prevent injuries and save lives	HMGP, BRIC, Municipal general funds	Tornado	Improve public safety during severe weather.
Certain areas of the city cannot hear the existing storm sirens.	Install new Storm Siren on the northeast side of town (northeast of the Berens Market area).	High	Short	Finance Officer	\$80,000/prevent injuries and save lives	Municipal general funds	Hail, Tornado, Lightning, Strong Winds <b>(24)</b> , Heavy Rain <b>(21)</b>	Improve public safety during severe weather.
Critical infrastructure in community is susceptible to loss of utility services during power outage.	Purchase Back-up Generators for City Hall and Unity Health.	High	Short	Finance Officer	\$50,000 each/prevent loss of services & provide safe location.	HMGP, BRIC, Municipal general funds	Extreme Heat, Extreme Cold, Freezing Precip, Lightning, Strong Winds <b>(24)</b> , Tornado	Reduce the extent to which utility interruptions affect areas during severe weather situations.
<b>TOWN OF REVILLO PROBLEM STATEMENTS</b>	<b>TOWN OF REVILLO ACTIONS</b>	<b>RATING</b>	<b>TIME-FRAME</b>	<b>CONTACT</b>	<b>COST/BENEFIT</b>	<b>FUNDING SOURCE</b>	<b>HAZARD</b> (Bold Print indicates Vulnerability Score from Table 5.1)	<b>GOAL</b>
<i>Culverts throughout town continually flood and are in need of replacement.</i>	<i>Replace culverts along 2<sup>nd</sup> Ave North.</i>	<i>High</i>	<i>Medium</i>	<i>Finance Officer</i>	<i>\$40,000/ reduce flood damages in city</i>	<i>FEMA/PDM/HMGP</i>	<i>Flooding, Heavy Rain, Rapid Snow Melt</i>	<i>Protect Specific Areas of Grant County from floods.</i>
<i>Storm Water Drainage system requires continual maintenance and repair.</i>	<i>Reestablish drainage paths along the west edge of town.</i>	<i>Medium</i>	<i>Medium</i>	<i>Finance Officer</i>	<i>Unknown/ reduce flood damages in city</i>	<i>HMGP/PDM/FEMA</i>	<i>Flooding, Heavy Rain, Rapid Snow Melt</i>	<i>Protect Specific Areas of Grant County from floods.</i>
Older overhead power lines prone to failure with resulting loss of power.	Bury overhead powerlines.	Medium	Long	Finance Officer/ Respective Rural Electric Provider	\$300,000/help prevent loss of power service to critical infrastructure and population.	HMGP, Private (REA)	Extreme Heat, Extreme Cold <b>(20)</b> , Freezing Precip, Lightning, Strong Winds <b>(40)</b> , Tornado	Reduce the extent to which utility interruptions affect areas during severe weather situations.

The town's sanitary sewer lift stations are vulnerable to electrical failure.	Purchase self-contained, back-up generator for lift stations.	High	Medium	Finance Officer	\$40,000 each / ensure function of service in disaster-reduce likelihood of disease due to sewer back-up.	Municipal enterprise/ general funds, CDBG, USDA Loan	Extreme Heat, Extreme Cold <b>(20)</b> , Freezing Precip, Lightning, Strong Winds <b>(40)</b> , Tornado	Improve public safety during severe weather.
<b>TOWN OF STOCKHOLM PROBLEM STATEMENTS</b>	<b>TOWN OF STOCKHOLM ACTIONS</b>	<b>RATING</b>	<b>TIME-FRAME</b>	<b>CONTACT</b>	<b>COST/BENEFIT</b>	<b>FUNDING SOURCE</b>	<b>HAZARD</b> (Bold Print indicates Vulnerability Score from Table 5.1)	<b>GOAL</b>
Culverts along railroad tracks and Main Street continually flood and are in need of replacement.	Collaborate with railroad authority to replace culverts along Main Street.	High	Medium	Finance Officer/ Railroad Authority	\$100,000/ reduce flood damages in city	PDM/HMGP	<i>Flooding, Heavy Rain, Rapid Snow Melt</i>	Protect Specific Areas of the Town of Stockholm from Flooding.
Lift Stations do not have a backup generator.	Purchase Backup generator for all lift stations in town.	Medium	Medium	Finance Officer	\$150,000/ ensure function of service in disaster-reduce likelihood of disease due to sewer back-up.	HMGP/PDM/FEMA	Extreme Cold <b>(28)</b> , Freezing Precip, Lightning, Strong Winds, Tornado	Reduce the extent to which utility interruptions affect areas during severe weather situations.
Older overhead power lines prone to failure with resulting loss of power.	Bury overhead powerlines.	Medium	Long	Finance Officer/ Respective Rural Electric Provider	\$300,000/help prevent loss of power service to critical infrastructure and population.	HMGP, Private (REA)	Extreme Cold <b>(28)</b> , Extreme Heat, Freezing Precip, Lightning, Strong Winds, Tornado	Reduce the extent to which utility interruptions affect areas during severe weather situations.
Critical infrastructure in community is susceptible to loss of utility services during power outage.	Purchase Back-up Generators for Fire Hall and Community Center.	High	Short	Finance Officer	\$50,000 each/prevent loss of services & provide safe location.	HMGP, BRIC, Municipal general funds	Extreme Cold <b>(28)</b> , Extreme Heat, Freezing Precip, Lightning, Strong Winds, Tornado, Heavy Snow (stranded) <b>(24)</b>	Reduce the extent to which utility interruptions affect areas during severe weather situations.
<b>TOWN OF STRANDBURG PROBLEM STATEMENTS</b>	<b>TOWN OF STRANDBURG ACTIONS</b>	<b>RATING</b>	<b>TIME-FRAME</b>	<b>CONTACT</b>	<b>COST/BENEFIT</b>	<b>FUNDING SOURCE</b>	<b>HAZARD</b> (Bold Print indicates Vulnerability Score from Table 5.1)	<b>GOAL</b>

Older overhead power lines prone to failure with resulting loss of power.	Bury overhead powerlines.	Medium	Long	Finance Officer/ Respective Rural Electric Provider	\$300,000/help prevent loss of power service to critical infrastructure and population.	HMGP, Private (REA)	Extreme Cold <b>(24)</b> , Extreme Heat, Freezing Precip, Lightning, Strong Winds <b>(20)</b> , Tornado	Reduce the extent to which utility interruptions affect areas during severe weather situations.
Trees are vulnerable to high winds & branches fall on power lines.	Trim new growth on trees around overhead powerlines.	High	Short	Finance Officer/ Respective Rural Electric Provider	\$100,000/help prevent loss of power service to critical infrastructure and population.	HMGP, Municipal general/ enterprise funds	Extreme Cold <b>(24)</b> , Extreme Heat, Freezing Precip, Lightning, Strong Winds <b>(20)</b> , Tornado	Reduce the extent to which utility interruptions affect areas during severe weather situations.
Existing storm sirens are unreliable.	Purchase & install new Storm Siren.	High	Short	Finance Officer	\$80,000/prevent injuries and save lives.	Municipal general funds	Freezing Precip, Hail, Heavy Rain, Strong Winds <b>(20)</b> , Tornado	Improve public safety during severe weather.
Critical infrastructure in community is susceptible to loss of utility services during power outage/ Town lacks storm shelter.	Purchase Back-up Generator for Community Center/Gym to provide safe shelter location for residents.	High	Short	Finance Officer	\$50,000 each/prevent loss of services & provide safe location.	HMGP, BRIC, Municipal general funds	Extreme Heat, Extreme Cold <b>(24)</b> , Extreme Heat, Freezing Precip, Lightning, Strong Winds <b>(20)</b> , Tornado	Reduce the extent to which utility interruptions affect areas during severe weather situations.
Town lacks ability to stop and/or limit fire/wildfire from spreading during drought seasons.	Create and maintain list of local farmers with tillage equipment capable of breaking sod & containing fire.	High	Short	Finance Officer	Minimal/prevent loss of infrastructure and commodities.	Municipal funds	Wildfire	Improve firefighting capabilities.
<b>TOWN OF TWIN BROOKS PROBLEM STATEMENTS</b>	<b>TOWN OF TWIN BROOKS ACTIONS</b>	<b>RATING</b>	<b>TIME-FRAME</b>	<b>CONTACT</b>	<b>COST/BENEFIT</b>	<b>FUNDING SOURCE</b>	<b>HAZARD</b> (Bold Print indicates Vulnerability Score from Table 5.1)	<b>GOAL</b>

Town does not currently have an emergency siren to alert residents of dangerous weather.	Purchase & install Storm Siren to place near center of town.	High	Short	Finance Officer	\$80,000/prevent injuries and save lives.	Municipal general funds	Freezing Precip, Hail, Heavy Rain, Strong Winds, Tornado	Improve public safety during severe weather.
The City lacks safe location for residents without a basement during severe weather events.	Construct a tornado storm shelter.	Medium	Medium	Finance Officer	\$400,000/prevent injuries and save lives	HMGP, BRIC, Municipal general funds	Tornado	Improve public safety during severe weather
Critical infrastructure in community is susceptible during power outage.	Purchase Back-up Generator for Community Center.	High	Short	Finance Officer	\$50,000 each/prevent loss of services & provide safe location.	HMGP, BRIC, Municipal general funds	Extreme Heat, Extreme Cold, Extreme Heat, Freezing Precip, Lightning, Strong Winds, Tornado	Reduce the extent to which utility interruptions affect areas during severe weather situations.
Drainage area need to be defined and improved to allow water to move through town	Conduct Study to determine storm sewer/drainage needs	Medium	Medium	Finance Officer	\$50,000/ reduce flood damages in city	HMGP/PDM/FEMA	Flood (24), Heavy Rain, Rapid Snow Melt	Reduce the extent to which utility interruptions affect areas during severe weather situations.
Town lacks ability to stop and/or limit fire/wildfire from spreading during drought seasons.	Create and maintain list of local farmers with tillage equipment capable of breaking sod & containing fire.	High	Short	Finance Officer	Minimal/prevent loss of infrastructure and commodities.	Municipal funds	Wildfire	Improve firefighting capabilities.
Older overhead power lines prone to failure with resulting loss of power.	Bury overhead powerlines.	Medium	Long	Finance Officer/ Respective Rural Electric Provider	\$300,000/help prevent loss of power service to critical infrastructure and population.	HMGP, Private (REA)	Extreme Heat, Extreme Cold, Extreme Heat, Freezing Precip, Lightning, Strong Winds, Tornado	Reduce the extent to which utility interruptions affect areas during severe weather situations.

Figure 5.1: Grant County Potential Mitigation

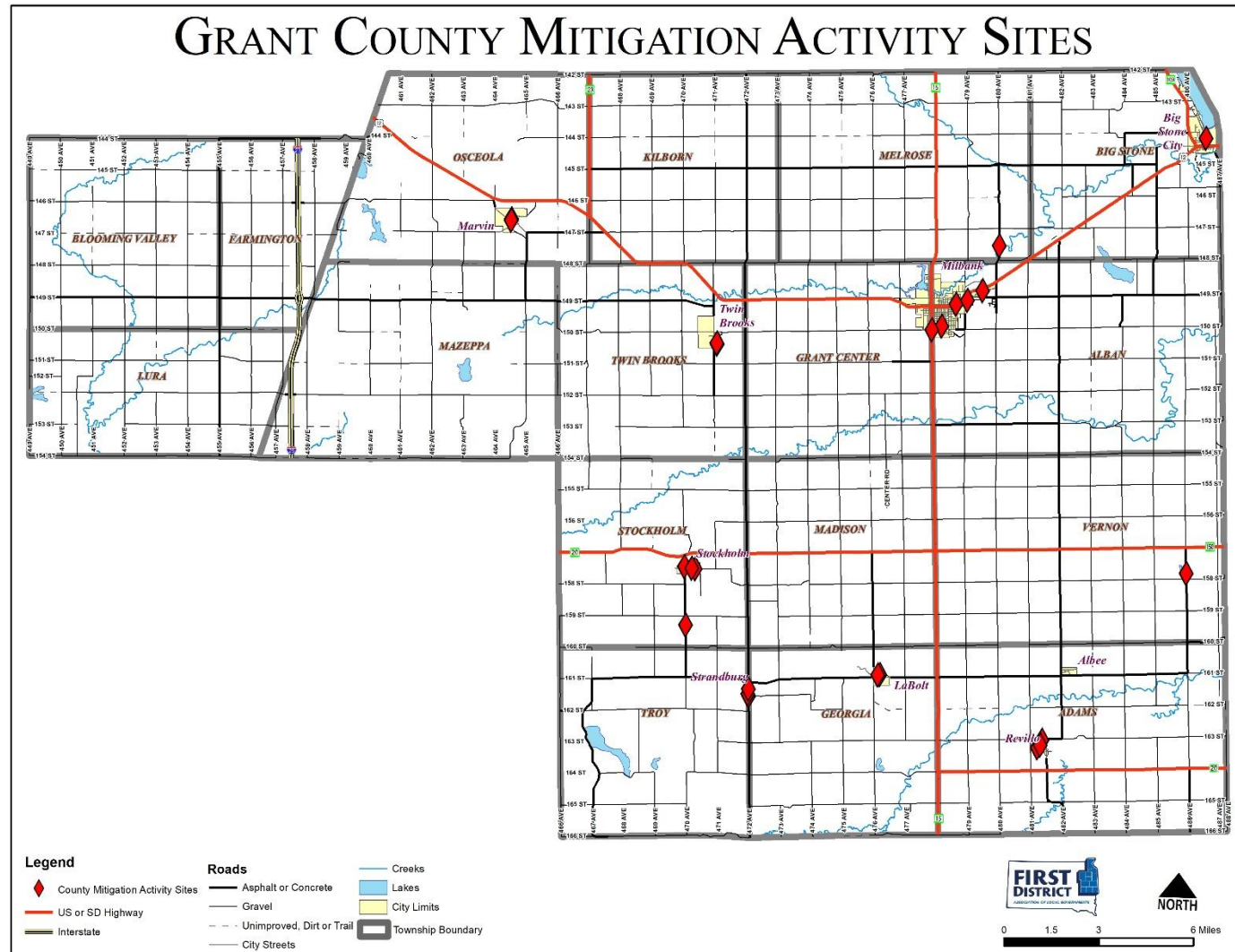


Figure 5.2: City of Big Stone City Potential Mitigation

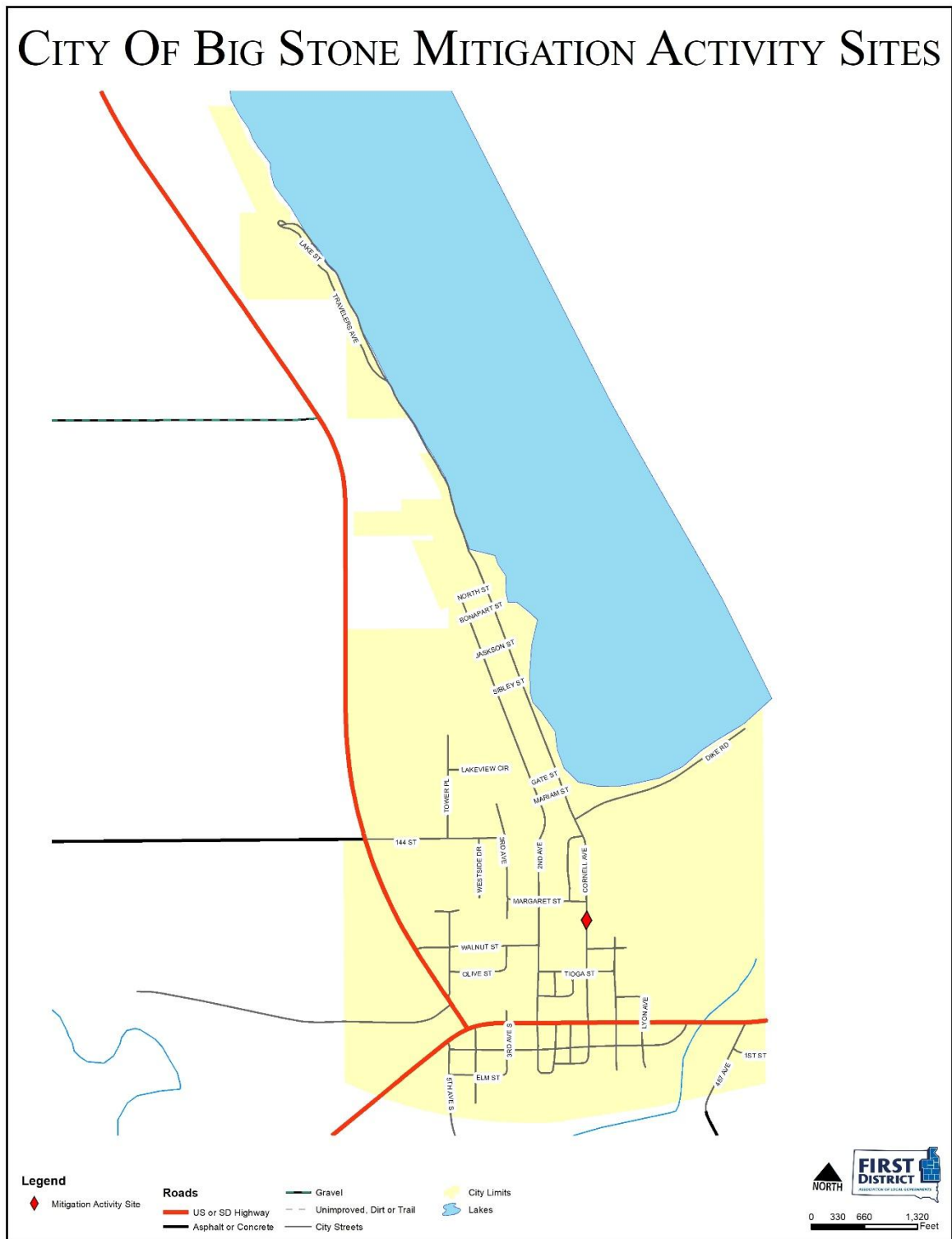


Figure 5.3: Town of LaBolt Potential Mitigation Project Map

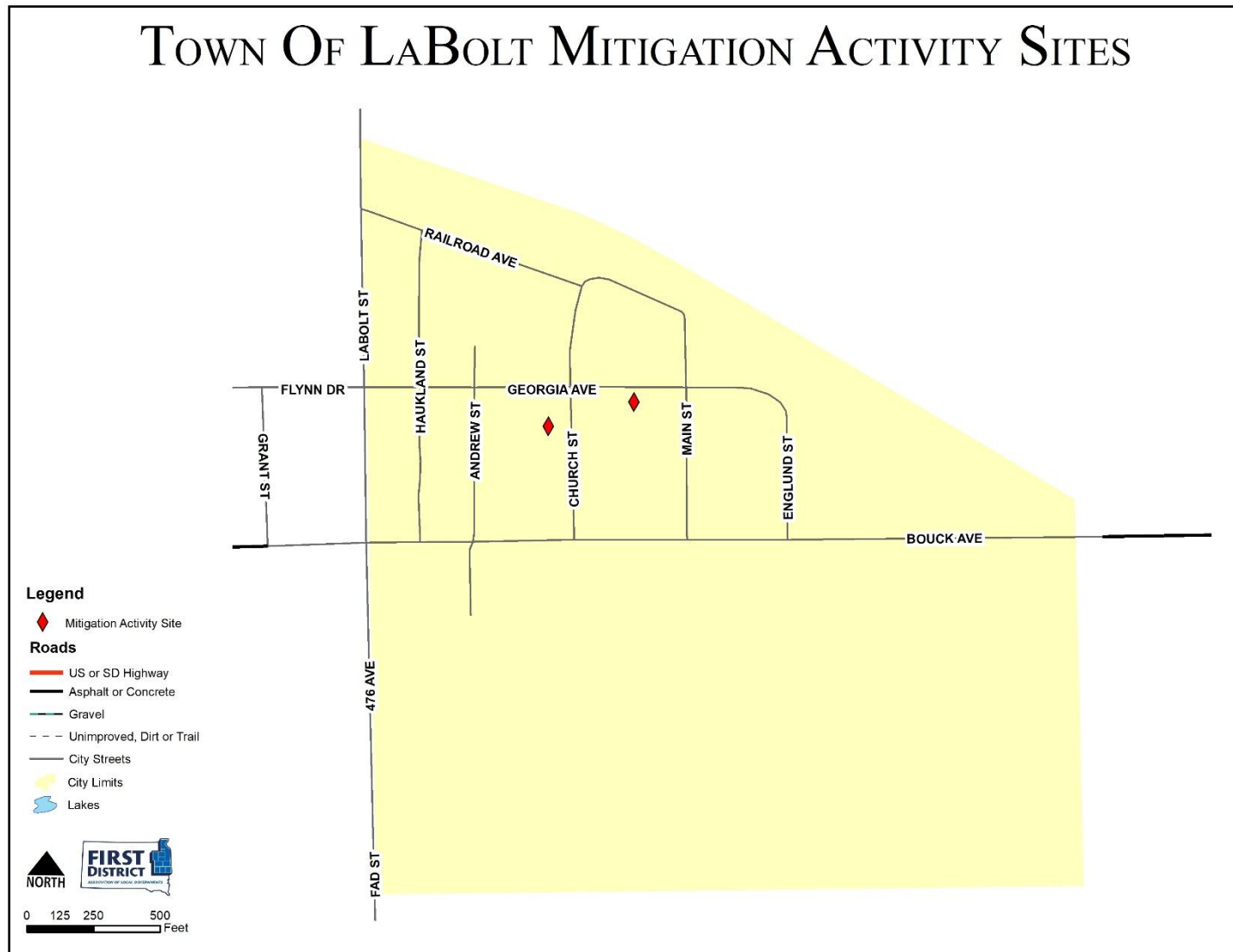
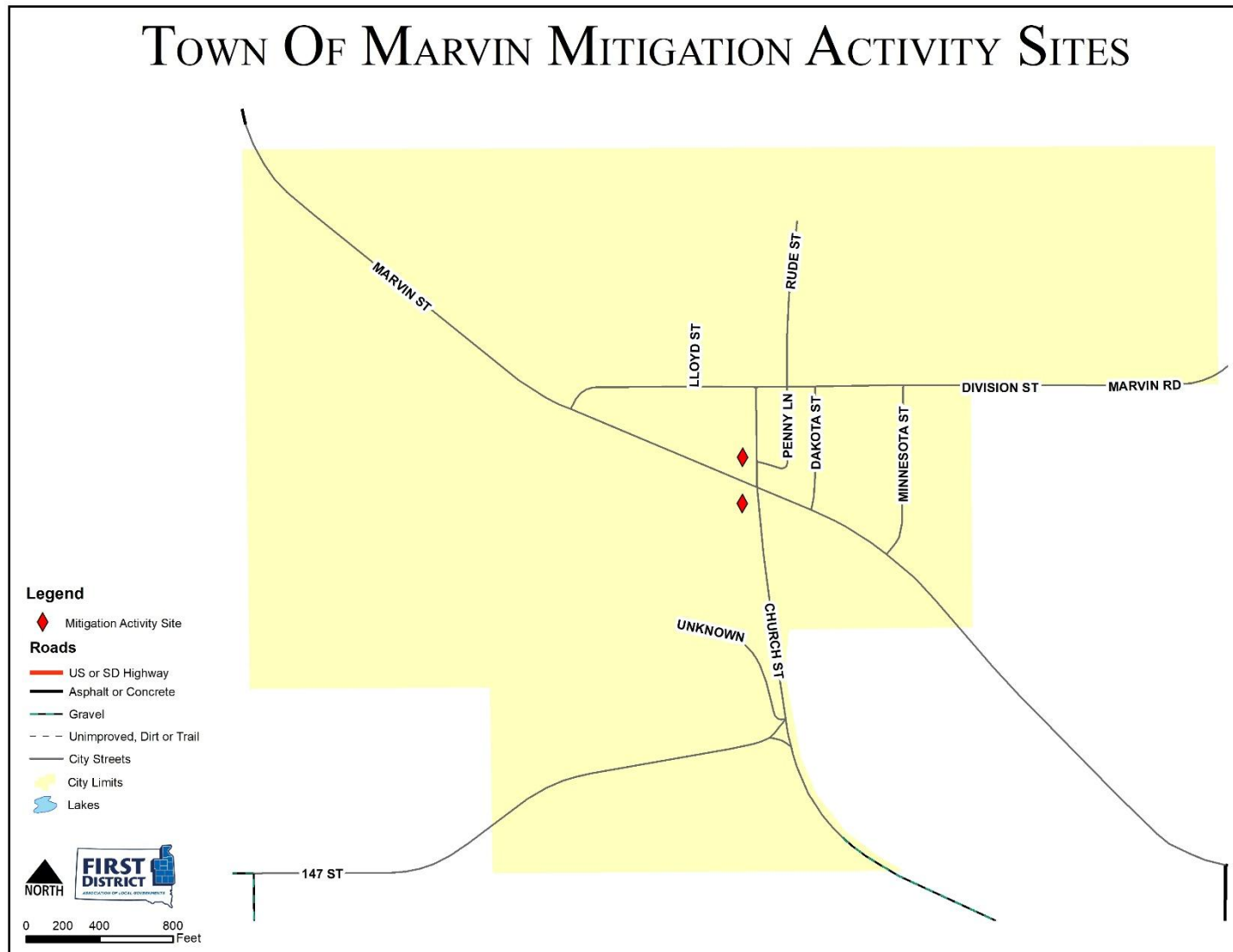


Figure 5.4: Town of Marvin Potential Mitigation Project Map



# CITY OF MILBANK MITIGATION ACTIVITY SITES

**Legend**

- ♦ Mitigation Activity Site
- Roads**
  - US or SD Highway
  - Asphalt or Concrete
  - Gravel
  - - - Unimproved, Dirt or Trail
- City Streets
- City Limits
- Lakes

**Scale:** 0 500 1,000 2,000 Feet

**North Arrow:** NORTH

**FIRST DISTRICT**  
ASSOCIATION OF LOCAL GOVERNMENTS

Figure 5.6: Town of Revillo Potential Mitigation Project Map

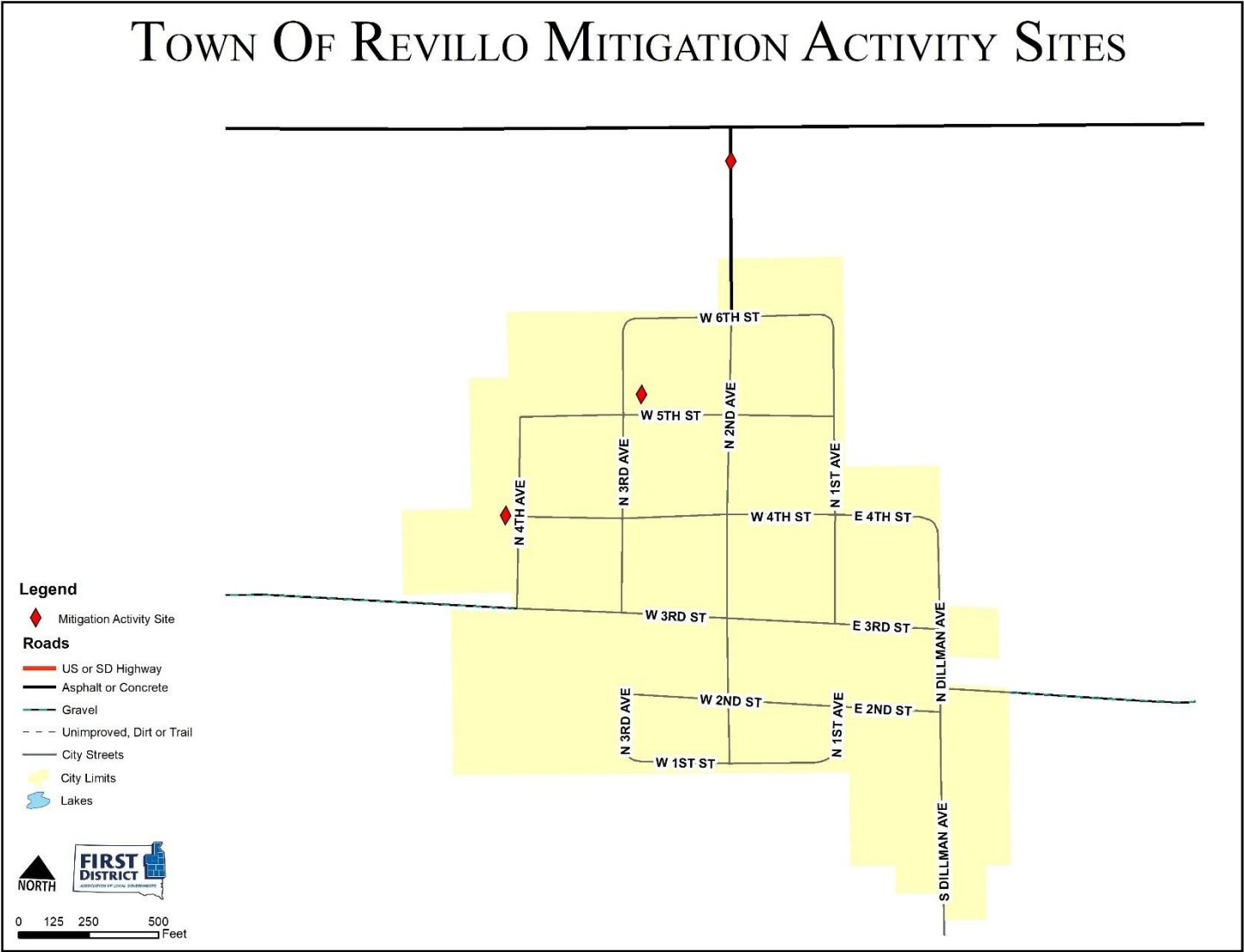


Figure 5.7: Town of Stockholm Potential Mitigation Project Map

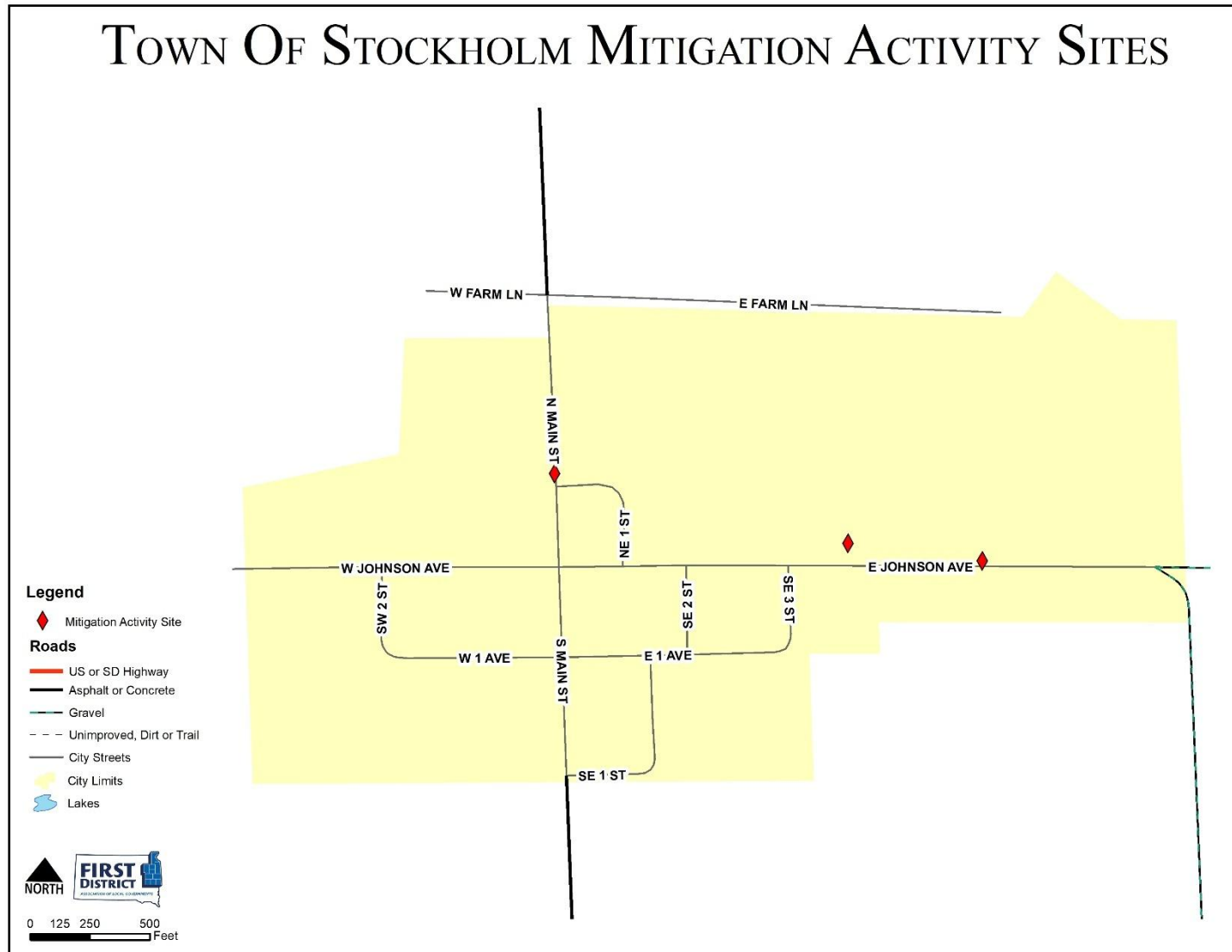


Figure 5.8: Town of Strandburg Potential Mitigation Project Map

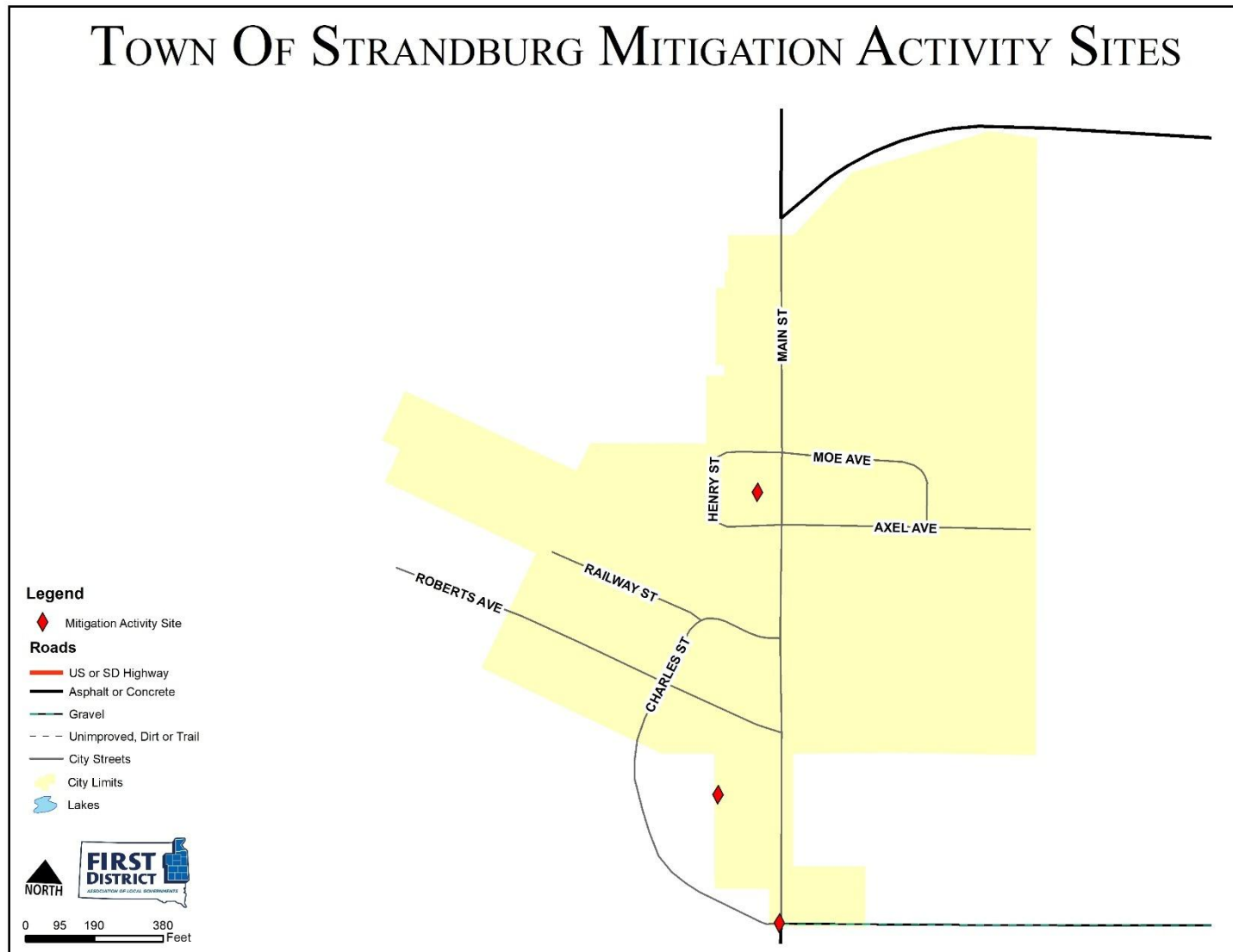
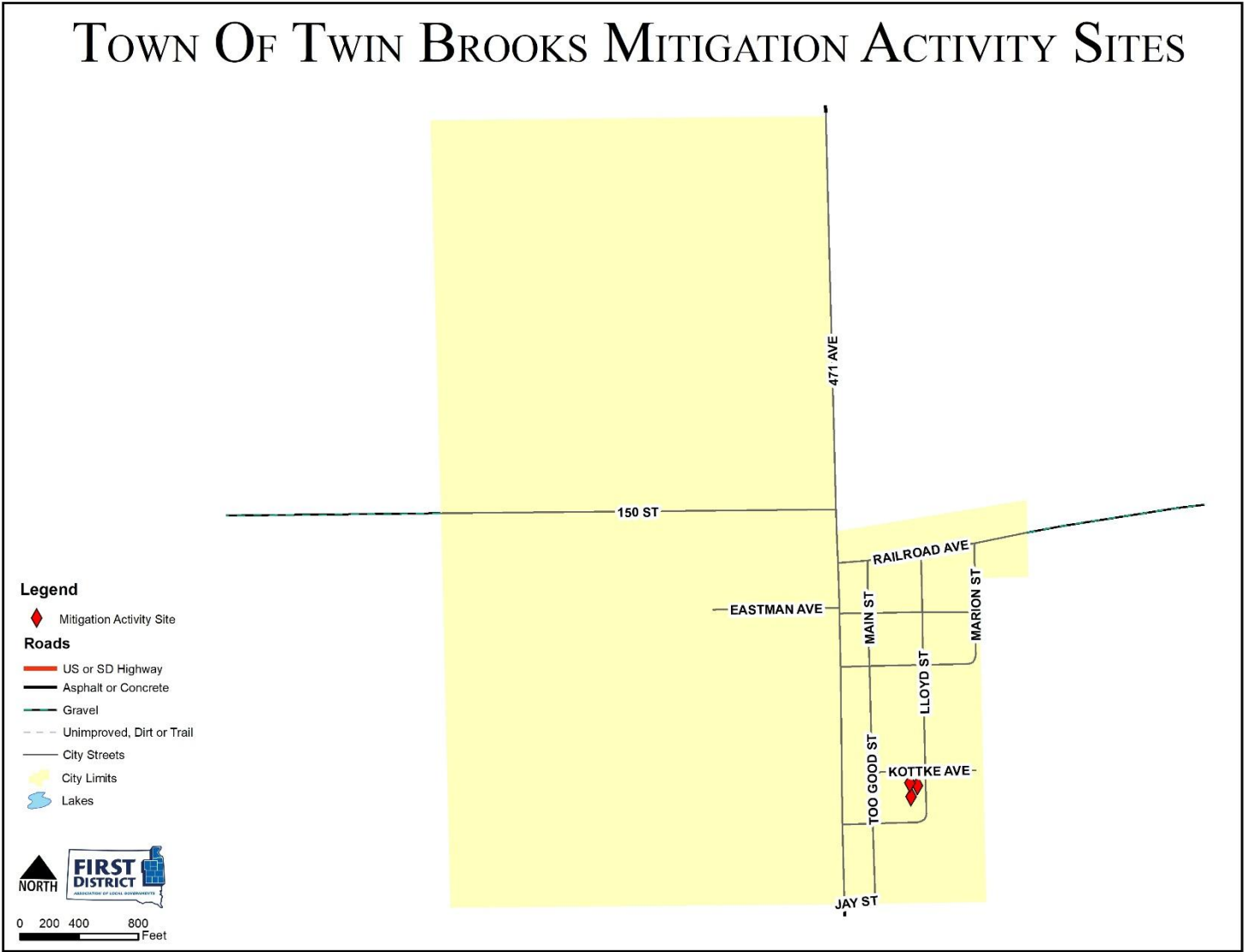


Figure 5.9: Town of Twin Brooks Potential Mitigation Project



## IMPLEMENTATION OF MITIGATION ACTIONS

*Requirement 201.6(c)(4)(ii). Local Mitigation Plan Review Tool – D3 (a-c).*

*Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – E2 (c)*

Upon adoption of the updated Grant County PDM, each jurisdiction will become responsible for implementing its own mitigation actions. The planning required for implementation is the sole responsibility of the local jurisdictions and private businesses that have participated in the PDM update. All of the municipalities have indicated that they do not have the financial capability to move forward with projects identified in the PDM at this time, however, all will consider applying for funds through the State and Federal Agencies once such funds become available. If and when the municipalities are able to secure funding for the mitigation projects, they will move forward with the projects identified. A benefit cost analysis will be conducted on an individual basis after the decision is made to move forward with a project.

The 2007 PDM was the first approved mitigation plan that the County has ever had on file. At that time, the PDM was drafted the requirements for an approved mitigation plan were much different than the current Local Mitigation Plan Review Tool. Since disaster mitigation was a relatively new concept at that time, mitigation plans were approved with less scrutiny. The same depth of planning was not utilized in the 2007 PDM as was used for the 2014 PDM update. The 2007 PDM had the “bare minimum” to meet the FEMA requirements for a mitigation plan, resulting in a lack of relevant information that could be utilized and easily integrated into the County’s and Municipalities’ existing planning mechanisms.

Due to these factors, the 2007 PDM was not used or incorporated into other planning documents or mechanisms. From a practical standpoint the 2014 PDM update required communities to reflect on past disasters, consider future disasters, and think about how or if future disasters would be handled differently, or better. It is anticipated with the amount of time, energy, and professional guidance involved during the drafting process of the updated 2020 PDM, that the County has created a document that has validity and a clear purpose which will be more likely to fit in the existing planning mechanisms that exist county-wide.

Lastly, by involving all the local jurisdictions and bringing the PDM to the attention of neighboring communities, the planning process has brought more awareness of hazard mitigation to the people residing in the County, which will encourage further involvement in the future. The 2014 PDM plan was referenced during the 2020 PDM update process. Similarly, the 2020 PDM plan was referenced during the drafting process for the current 2025 Grant County PDM plan.

Since 2020 (adoption of last PDM Plan), the municipalities of Milbank and Big Stone City have adopted Comprehensive updates to their zoning ordinances. In addition, LaBolt and Grant County reviewed rules regarding bulk, height, and density of development to determine whether consistent, not only with the established planning principles of the community but also to ensure those regulations practicably employed the goals of the pre-disaster mitigation plan with reference to protection from fire, drought (impacts on water supply), limitation of density in flood prone areas and review of regulations for areas determined to be in a 100-year floodplain.

The municipalities of Big Stone City, Milbank, Revillo, and Grant County adopted the newly effective Special Flood Hazard Areas in the newly prepared Flood Insurance Rate Map as part of the Flood Insurance Study as soon as possible to remain consistent with the goals of this Plan. Each of the communities determined that the public would not support free-board or additional requirements above the minimum requirements to remain compliant. While reviewing those ordinances and changes at publicly noticed meetings, Big Stone City, Milbank, Revillo, and Grant

County prioritized the continued enforcement of updated special flood hazard areas as soon as possible.

Updates have been made to the Hazardous Materials Plan and Emergency Operations Plan since 2020. During the revision of those plans the emergency manager reviewed the PDM Plan to ensure harmony. No other plans, policies, regulations have been significantly amended since the 2020 Plan. Thus, changes have not been made to other planning mechanisms to incorporate the 2020 Plan.



## **CHAPTER 6 | PLAN MAINTENANCE**

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### **MONITORING, EVALUATING, AND UPDATING THE PLAN**

*Requirement 201.6(c)(4)(iii). Local Mitigation Plan Review Tool – D1.*

*Requirement 201.6(c)(4)(i). Local Mitigation Plan Review Tool – D2-a-c.*

The County and all of the participating local jurisdictions thereof will incorporate the findings and projects of the PDM in all planning areas as appropriate. Periodic monitoring and reporting of the PDM is required to ensure that the goals and objectives for the County PDM are kept current and that local mitigation efforts are being carried out. Communities will establish an annual review of projects and infrastructure listed in the plan. As funding becomes available, projects are completed, or the inevitable new project needs to be added, communities will report to the Grant County Emergency Management Director. Communities will utilize Worksheet 10: Plan Update Evaluation Form from the Local Mitigation Planning Handbook (see Appendix I) on or before October 31 annually and following any disaster to determine strengths, weaknesses, and consider updates to the existing plan. The Finance Officer or City Council/Town Board's designee will forward the results of said review to the Emergency Manager. Communities should adopt a schedule which corresponds with the annual report of the Emergency Management Director to the County Commissioners in November of each year.

During the process of implementing mitigation strategies, the county or communities within the county may experience lack of funding, budget cuts, staff turnover, and/or a general failure of projects. These scenarios are not in themselves a reason to discontinue and fail to update the PDM. A good plan needs to provide for periodic monitoring and evaluation of its successes and failures and allow for appropriate changes to be made.

### **CONTINUED PUBLIC PARTICIPATION & INVOLVEMENT**

*Requirement 201.6(c)(4)(iii). Local Mitigation Plan Review Tool – D1-a.*

*Requirement 201.6(c)(4)(i). Local Mitigation Plan Review Tool – D2-a-c.*

During interim periods between the five year re-write, efforts will be continued to encourage and facilitate public involvement and input. The PDM will be available for public view and comment at the Grant County Emergency Management Office located in the Grant County Sheriff's Office and the First District Association of Local Governments office. The PDM will also be available for review on the web at the First District Association of Local Governments homepage [www.1stdistrict.org](http://www.1stdistrict.org). Comments will always be received whether orally over the phone, physically by mail, or electronically by e-mail.

All ongoing workshops and trainings will be open to the public and appropriately advertised. Ongoing press releases and interviews will help disseminate information to the general public and encourage participation.

As implementation of the mitigation strategies continues in each local jurisdiction, the primary means of public involvement will be the jurisdiction's own public comment and hearing process. State law as it applies to municipalities and counties requires this as a minimum for many of the proposed implementation measures. Effort will be made to encourage cities, towns and counties to go beyond the minimum required to receive public input and engage stakeholders.

## **ANNUAL REPORTING PROCEDURES**

*Requirement 201.6(c)(4)(iii). Local Mitigation Plan Review Tool – D1.*

*Requirement 201.6(c)(4)(i). Local Mitigation Plan Review Tool – D2-a-c.*

The PDM shall be reviewed annually, as required by the County Emergency Management Director, or as the situation dictates such as following a disaster declaration. The Grant County Emergency Management Director will utilize Worksheet 10: Plan Update Evaluation Form (see Appendix I) from the Local Mitigation Planning Handbook to review the PDM annually in November and ensure the following:

1. The County Elected body will receive an annual report and/or presentation on the implementation status of the PDM;
2. The report will include an evaluation of the effectiveness and appropriateness of the mitigation actions proposed in the PDM, including comments received from specific communities; and
3. The report will recommend, as appropriate, any required changes or amendments to the PDM.

## **FIVE-YEAR PDM REVIEW**

*Requirement 44 CFR § 201.6(c)(4)(i). Local Mitigation Plan Review Tool – D2*

Every five years the PDM will be reviewed, and a complete update will be initiated. All information in the PDM will be evaluated for completeness and accuracy based on new information or data sources. New property development activities will be added to the PDM and evaluated for impacts. New or improved sources of hazard related data will also be included.

In future years, if the County relies on grant dollars to hire a contractor to write the PDM update, the County will initiate the process of applying for and securing such funding in the third year of the PDM to ensure the funding is in place by the fourth year of the PDM. The fifth year will then be used to write the PDM update, which in turn will prevent any lapse in time where the county does not have a current approved PDM on file.

The goals, objectives, and mitigation strategies will be readdressed and amended as necessary based on new information, additional experience and the implementation progress of the PDM. The approach to this PDM update effort will be essentially the same as the one used for the original PDM development.

The Emergency Management Director will meet with the PDM Planning Team for review and approval prior to final submission of the updated PDM.

## **PLAN AMENDMENTS**

*Requirement 201.6(c)(4)(i). Local Mitigation Plan Review Tool – D2-a-c.*

*Requirement 201.6(c)(4)(ii). Local Mitigation Plan Review Tool – D3-c.*

PDM amendments will be considered by the Grant County Emergency Management Director, during the PDM's annual review to take place the end of each county fiscal year. All affected local jurisdictions (cities, towns, and counties) will be required to hold a public hearing and adopt the recommended amendment by resolution prior to considerations by the PDM Planning Team.

## **INCORPORATION INTO EXISTING PLANNING MECHANISMS**

*Requirement 201.6(B)(3). Local Mitigation Plan Review Tool – A4.*

*Requirement 201.6(c)(4)(i). Local Mitigation Plan Review Tool – D2-a-c.*

*Requirement 201.6(c)(4)(ii). Local Mitigation Plan Review Tool – D3.*

All towns with existing comprehensive land use plans will review mitigation projects annually when reviewing their comprehensive land use plan, as is recommended in each of their plans. In addition, all municipalities, including the towns without comprehensive land use plans, will consider the mitigation requirements, goals, actions, and projects when it considers and reviews the budget and other existing planning documents. Preparation of the budget is an opportune time to review the plan since municipalities are required by state law to prepare budgets for the upcoming year and typically consider any expenditure for the upcoming year at that time.

The local jurisdictions will post a permanent memo to their files as a reminder for them to incorporate their annual review of the mitigation actions identified into the budget preparation process. This does not require the projects be included in the budget, it merely serves as a reminder to the city officials that they have identified mitigation projects in the PDM that should be considered if the budget allows for it.

## **POTENTIAL FUNDING SOURCES**

Although all mitigation techniques will likely save money by avoiding losses, many projects are costly to implement. None of the local jurisdictions have the funds available to move forward with mitigation projects at this time; thus, the Potential Funding Sources section was included so that the local jurisdictions can work toward securing funding for the projects. Inevitably, due to their small tax bases and small populations, most local jurisdictions do not have the ability to generate enough revenue to support anything beyond the basic needs of the community. Thus, mitigation projects will not be completed without a large amount of funding support from State or Federal programs.

The County jurisdictions will continue to seek outside funding assistance for mitigation projects in both the pre- and post-disaster environment. Primary Federal and State grant programs have been identified and briefly discussed, along with local and non-governmental funding sources, as a resource for the local jurisdictions.

### **Federal**

The following federal grant programs have been identified as funding sources which specifically target hazard mitigation projects:

**Title: Rural Fire Assistance Grants**

Agency: U.S. Fish & Wildlife Service (DOI)

Each year, the U.S. Fish & Wildlife Service (FWS) provides Rural Fire Assistance (RFA) grants to neighboring community fire departments to enhance local wildfire protection, purchase equipment, and train volunteer firefighters. Service fire staff also assist directly with community projects.

These efforts reduce the risk to human life and better permit FWS firefighters to interact and work with community fire organizations when fighting wildfires. The Department of the Interior (DOI) receives an appropriated budget each year for the RFA grant program. The maximum amount per grant is \$20,000. The DOI assistance program targets rural and volunteer fire departments that routinely help fight fire on or near DOI lands.

**Title: Fire Management Assistance Grant Program**

Agency: Federal Emergency Management Agency

The Fire Management Assistance Grant (FMAG) program provides grants to states, tribal governments, and local governments for the mitigation, management, and control of any fire burning on publicly (non-federal) or privately owned forest or grassland that threatens such destruction as would constitute a major disaster.

The Fire Management Assistance declaration process is initiated when a state submits a request for assistance to the FEMA Regional Director at the time a "threat of major disaster" exists. The entire process is accomplished on an expedited basis and decisions are rendered within a matter of hours.

However, before a grant can be awarded, a state must demonstrate that total eligible costs for the declared fire meet or exceed the individual fire cost threshold. This applies to single fires or cumulative fire cost threshold. The grants are made in the form of cost sharing with the federal share being 75% of total eligible costs. Eligible firefighting costs may include expenses for: field camps, repair and replacement tools, mobilization and demobilization activities, equipment use, and materials/supplies.

**Title: Fire Prevention and Safety (FP&S) Grants**

Agency: Federal Emergency Management Agency

The Fire Prevention and Safety grants support projects that enhance the safety of the public and firefighters from fire and other related hazards. The primary goal is to target high-risk populations and reduce injury and prevent death. Eligibility includes fire departments, national, regional, state, and local organizations, tribal organizations, and/or community organizations recognized for their experience and expertise in fire prevention and safety programs and activities. Private non-profit and public organizations are also eligible.

**Title: Wildland Urban Interface Community & Rural Fire Assistance**

Agency: Bureau of Land Management (DOI)

This program is designed to implement the National Fire Plan and assist communities at risk from catastrophic wildland fires by providing grants, technical assistance, and training for community programs that develop local capability, such as:

Assessment and planning, mitigation activities, and community and homeowner education and action; hazardous fuels reduction activities, including the training, monitoring or maintenance associated with such hazardous fuels reduction activities, on federal land, or on adjacent nonfederal land for activities that mitigate the threat of catastrophic fire to communities and natural resources in high risk areas; and, enhancement of knowledge and fire protection capability of rural fire districts through assistance in education and training, protective clothing and equipment purchase, and mitigation methods on a cost-share basis.

The Rural Fire Assistance (RFA) program funds are appropriated by Congress annually. The maximum award is \$20,000. This funding focuses specifically on enhancing fire protection capabilities of rural and volunteer fire departments through training, equipment purchases, and fire prevention work on a cost-shared basis.

**Title: Western Wildland Urban Interface Grants**

Agency: USDA Forest Service

The National Fire Plan (NFP) is a long-term strategy for reducing the effects of catastrophic wildfires throughout the nation. The Division of Forestry's NFP Program is implemented within the Division's Fire and Aviation Program through the existing USDA Forest Service, State & Private Forestry, and State Fire Assistance Program.

Congress has provided increased funding assistance to states through the U.S. Forest Service State and Private Forestry programs since 2001. The focus of much of this additional funding was mitigating risk in WUI areas. In the West, the State Fire Assistance funding is available and awarded through a competitive process with emphasis on hazard fuel reduction, information and education, and community and homeowner action. This portion of the National Fire Plan was developed to assist interface communities manage the unique hazards they find around them. Long-term solutions to interface challenges require informing and educating people who live in these areas about what they and their local organizations can do to mitigate these hazards.

The 10-Year Comprehensive Strategy focuses on assisting people and communities in the WUI to moderate the threat of catastrophic fire through the four broad goals of improving prevention and suppression, reducing hazardous fuels, restoring fire-adapted ecosystems, and promoting community assistance. The Western States Wildland Urban Interface Grant may be used to apply for financial assistance towards hazardous fuels and educational projects within the four goals of: improved prevention, reduction of hazardous fuels, restoration of fire- adapted ecosystems and promotion of community assistance.

**Title: Community Planning Assistance for Wildfire**

Agency: Private Community Wildfire Planning Center

Established in 2015 by Headwaters Economics and Wildfire Planning International, Community Planning Assistance for Wildfire (CPAW) works with communities to reduce wildfire risks through improved land use planning. CPAW is a grant-funded program providing communities with professional assistance from foresters, planners, economists and wildfire risk modelers to integrate wildfire mitigation into the development planning process. All services and recommendations are site-specific and come at no cost to the community.

**Title: U.S. Bureau of Land Management, Community Assistance Program**

Agency: Bureau of Land Management

BLM provides funds to communities through assistance agreements to complete mitigation projects, education and planning within the WUI.

**Title: Hazard Mitigation Grant Program Post Fire Grant Program**

Agency: Federal Emergency Management Agency

The Hazard Mitigation Grant Program (HMGP) has Post Fire assistance available to help communities implement hazard mitigation measures after wildfire disasters. States, federally recognized tribes and territories affected by fires resulting in a Fire Management Assistance Grant (FMAG) declaration on or after October 5, 2018, are eligible to apply.

The application period for this grant is only open for six months after the state or territory's first FMAG declaration of the fiscal year is made. Prioritized HMGP Post Fire activities include wildfire mitigation, infrastructure retrofit, soil and slope stabilization, and flood prevention.

**Title: Urban and Community Forestry (UCF) Program**

Agency: USDA Forest Service

A cooperative program of the U.S. Forest Service that focuses on the stewardship of urban natural resources. With 80 percent of the nation's population in urban areas, there are strong environmental, social, and economic cases to be made for the conservation of green spaces to guide growth and revitalize city centers and older suburbs. UCF responds to the needs of urban areas by maintaining, restoring, and improving urban forest ecosystems on more than 70 million acres. Through these efforts the program encourages and promotes the creation of healthier, more livable urban environments across the nation. These grant programs are focused on issues and landscapes of national importance and prioritized through state and regional assessments.

**Title: Flood Mitigation Assistance Grant Program**

Agency: Federal Emergency Management Agency

The Flood Mitigation Assistance (FMA) program provides funding to assist states and communities in implementing measures to reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the National Flood Insurance Program (NFIP). FMA was created as part of the National Flood Insurance Reform Act of 1994 (42 USC 4101) with the goal of reducing or eliminating claims under the NFIP.

FMA is available to states, local communities, and federally recognized tribes and territories on an annual basis.. This funding is available for mitigation planning and implementation of mitigation measures that reduce or eliminate risk of repetitive flood damage to NFIP insured buildings only. The federal cost share for an FMA project is 75%. At least 25% of the total eligible costs must be provided by a non-federal source. Of this, no more than half can be provided as in-kind contributions from third parties.

States administer the FMA program and are responsible for selecting projects for funding from the applications submitted by all communities within the state. FMA funds are very limited, which makes the application selection quite competitive. The state then forwards selected applications to FEMA for an eligibility determination. Although individuals cannot apply directly for FMA funds, their local government may submit an application on their behalf.

**Title: Community Development Block Grants**

Agency: U.S. Department of Housing and Urban Development

The Community Development Block Grant (CDBG) program provides grants to local governments for community and economic development projects that primarily benefit low and moderate-income households with decent housing, suitable living environments, and expanded economic opportunities. Eligible activities include community facilities and improvements, roads and infrastructure, housing rehabilitation and preservation, development activities, public services, economic development, planning, and administration.

Public improvements may include flood and drainage improvements. In limited instances and during times of "urgent need" (e.g., post disaster), CDBG funding may be used to acquire a property located in a floodplain that was severely damaged by a recent flood, demolish a structure severely damaged by an earthquake, or repair a public facility severely damaged by a hazard event. CDBG funds can be used to match FEMA grants.

**Title: Hazard Mitigation Grant Program****Agency: Federal Emergency Management Agency**

The Hazard Mitigation Grant Program (HMGP) was created in November 1988 through Section 404 of the Stafford Act. The HMGP is a post-disaster mitigation program that offers assistance to states and local communities in implementing long-term mitigation measures following a Presidential disaster declaration.

HMGP may fund up to 75% of the eligible costs for hazard mitigation projects that will protect property in an area covered by a federal disaster declaration or that will reduce likely damage from future disasters. The state or local cost-share match does not need to be cash; in-kind services or materials may also be used. With the passage of the Hazard Mitigation and Relocation Assistance Act of 1993, federal funding under the HMGP is now based on 15% of the federal funds spent on the Public and Individual Assistance programs (minus administrative expenses) for each disaster.

The HMGP can be used to fund projects to protect either public or private property, so long as the projects in question fit within the state and local governments overall mitigation strategy for the disaster area and comply with program guidelines. Examples of projects include the acquisition, demolition, or relocation of structures from hazard-prone areas, the retrofitting or elevation of existing structures to reduce future damage; and the development of state or local standards to protect the jurisdiction from future damages.

Eligibility for funding under the HMGP is limited to state and local governments, certain private nonprofit organizations or institutions that perform essential public services, Indian tribes, and authorized tribal organizations. Individuals or homeowners cannot apply directly for funding through HMGP, so these organizations must apply on their behalf. In turn, applicants must work through their state because the state is responsible for setting priorities for funding and administering the program.

**Title: Public Assistance (Infrastructure) Program, Section 406**

Agency: Federal Emergency Management Agency

FEMA's Public Assistance Program, through Section 406 of the Stafford Act, provides supplemental funding to local governments following a Presidential Disaster Declaration for mitigation measures in conjunction with the repair of damaged public facilities and infrastructure. The mitigation measures must be related to eligible disaster-related damages and must directly reduce the potential for future, similar disaster damages to the eligible facility. These opportunities usually present themselves during the repair/replacement efforts.

Proposed projects must be approved by FEMA prior to funding. They will be evaluated for cost effectiveness, technical feasibility, and compliance with statutory, regulatory, and executive order requirements. In addition, the evaluation must ensure that the mitigation measures do not negatively impact a facility's operation or risk from another hazard.

Public facilities are operated by state, local, and tribal governments and include infrastructure such as:

- |   |                                   |
|---|-----------------------------------|
| * Roads, bridges & culverts             | * Water, power & sanitary systems |
| * Draining & irrigation channels        | * Airports & parks                |
| * Schools, city halls & other buildings |                                   |

Private non-profit organizations are groups that own or operate facilities that provide services otherwise performed by a government agency and include, but are not limited to the following:

- |                                  |  |
|----------------------------------|--|
| * Universities and other schools | * Power cooperatives & other utilities   |
| * Hospitals & clinics            | * Custodial care & retirement facilities |
| * Volunteer fire & ambulance     | * Museums & community centers            |

**Title: Rural Development Loan and Grant Assistance**

Agency: U.S. Department of Agriculture

The USDA provides grants (and loans) to cities, counties, states, tribes, and other public entities to improve community facilities for essential services to rural residents. Projects can include housing, businesses, utilities, and fire and rescue services (funds have been provided to purchase fire-fighting equipment for rural areas). No match is required.

**Title: EPA – Hazard Mitigation for Natural Disasters: A Starter Guide for Water and Wastewater Utilities**

Agency: US Environmental Protection Agency

The EPA released guidance on how to mitigate natural disasters specifically for water and wastewater utilities.

**Title: Various Homeland Security Grants**

Agency: U.S. Department of Homeland Security

The DHS enhances the ability of states, local, and tribal jurisdictions, as well as other regional authorities, in the preparation, prevention, and response to terrorist attacks and other disasters, by distributing grant funds. Localities can use grants for planning, equipment, training, and exercise needs. The grants include but are not limited to areas of Critical Infrastructure Protection Equipment and Training for First Responders.

**Title: Environmental Quality Incentives Program**

Agency: National Resources Conservation Service

The Environmental Quality Incentives Program (EQIP), administered through the NRCS, is a cost-share program that provides financial and technical assistance to agricultural producers to plan and implement conservation practices that improve soil, water, plant, animal, air, and other related natural resources on agricultural land and non-industrial private forestland.

Owners of land in agricultural or forest production or persons who are engaged in livestock, agricultural, or forest production on eligible land and that have a natural resource concern on that land may apply to participate in EQIP. Eligible land includes cropland, rangeland, pastureland, non-industrial private forestland, and other farm or ranch lands.

**Title: NOAA Office of Education Grants**

Agency: National Oceanic and Atmospheric Administration

The Office of Education supports formal, informal, and non-formal education projects and programs through competitively awarded grants and cooperative agreements to a variety of educational institutions and organizations in the United States.

**Title: EPA – Smart Growth in Small Towns and Rural Communities**

Agency: US Environmental Protection Agency

EPA has consolidated resources just for small towns and rural communities to help them achieve their goals for growth and development while maintaining their distinctive rural character.

**Title: STAR Community Rating System**

Private Agency: Urban Sustainability Directors Network

Consider measuring your mitigation success by participating in the STAR Community Rating System. Local leaders can use the STAR Community Rating System to assess how sustainable they are, set goals for moving ahead and measure progress along the way.

## **Local**

Local governments depend upon local property taxes as their primary source of revenue. These taxes are typically used to finance services that must be available and delivered on a routine basis to the general public. If local budgets allow, these funds are used to match Federal or State grant programs when required for large-scale projects.

## **Non-Governmental**

Another potential source of revenue for implementing local mitigation projects are monetary contributions from non-governmental organizations, such as private sector companies, churches, charities, community relief funds, the Red Cross, hospitals, Land Trusts, and other non-profit organizations.



## **APPENDIX**

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**Appendix A - Resolution of Adoption by Jurisdiction**

**Appendix B - PDM Planning Team Agendas, Sign-in Sheets, and Minutes**

**Appendix C - Community Meeting Agendas and Sign-in Sheets**

**Appendix D - Hazard Identification/Vulnerability Worksheets**

**Appendix E - Township Vulnerable and Potential Mitigation Project Site Maps**

**Appendix F – Online Survey Information**

**Appendix G - Comprehensive Land Use Maps**

**Appendix H - Review of 2020 PDM Mitigation Project Implementation**

**Appendix I – Worksheet 10: Plan Update Evaluation Form**

**Appendix J – References**

**Appendix A**  
**Resolution of Adoption by Jurisdiction**

## Grant County

## City of Big Stone City

## Town of LaBolt

## Town of Marvin

**City of Milbank**

## Town of Revillo

## Town of Stockholm

## Town of Strandburg

## Town of Twin Brooks

**Appendix B**  
**PDM Planning Team Meeting Materials**

## PDM Participation Invitation Letter

To Whom It May Concern:

The County's current FEMA approved Pre-disaster Mitigation Plan will expire in September of 2025. This plan identifies potential natural disasters, their impact and possible projects to mitigate the impact of said disasters. The County is required by FEMA to update this plan every five years. The County applied for federal funding to assist with the cost of an update and was informed in February of 2025 of the grant award. The County has entered into a contract with the First District Association of Local Governments to facilitate the development of the Plan.

The goal of the plan will be to reduce the personal and economic costs of hazard events in the rural and urban areas of Grant County. The County believes this effort is an investment that will enhance and strengthen the economic structure and long-term stability of the rural and municipal areas of the County.

Through this planning process, projects are identified that will make the next disaster event as uneventful as possible. The goal is to enlist the support of community stake holders to sponsor or support a project. The planning process does not happen overnight. We expect this process to last approximately six to nine months. While it might take perhaps years for certain projects to be completed, the Plan is the document that will bring all pre-disaster mitigation efforts to a central location.

Your community/school/utility/entity etc. has been identified as a potential partner in this process. I would be pleased if your organization would select an individual to serve on the Pre-disaster Mitigation Planning Team. The Mitigation Planning Team will meet three times over the next six to nine months. I should note that your representative may not have to attend all the scheduled meetings throughout the process.

An organization/familiarization meeting of the Mitigation Planning Team is set for **12:00 P.M. on Monday, March 31, 2025**. The meeting will be held at the Grant County 4-H Complex, 517 Flynn Drive, Milbank, South Dakota.

Thank you for your serious consideration of the County's request.

Sincerely,

Kevin Schuelke  
Director  
Grant County Emergency Management  
(605) 432-4637

## PDM Team Kickoff Meeting Notice

Notice Publish Date:  
Friday, March 14, 2025

### Notice Content

NOTICE of Grant County Pre-**disaster Mitigation** Plan Meeting Grant County will begin the process of updating the Grant County Pre-**disaster Mitigation** Plan. This plan identifies potential natural disasters, their impact, and possible projects to mitigate the impact of said disasters. The County is required by the Federal Emergency Management Agency to update this plan every five years. The Pre-**disaster Mitigation** Planning Team will meet at Noon on Monday, March 31, 2025 in the Grant County 4-H Complex located at 517 Flynn Drive, Milbank, South Dakota. The public is welcome to attend. Questions or comments may be directed to Grant County Emergency Manager, Kevin Schuelke (605) 432-4637. Published once at an approximate cost of \$8.88 and can be viewed free of charge at [www.sdpublicnotices.com](http://www.sdpublicnotices.com).

**Grant County  
Pre-Disaster Mitigation Plan Kickoff Meeting  
*Noon - March 31, 2025*  
Grant County 4-H Complex  
517 Flynn Drive, Milbank, South Dakota**

Agenda

- Introduction of PDM Team Members
- What is Mitigation Planning?
- Why is Grant County updating the Pre-Disaster Mitigation Plan?
- Review plan components
- Review timeline/scope

# GRANT COUNTY PRE-DISASTER MITIGATION PLANNING MEETING

## PDM PLANNING TEAM – KICK-OFF MEETING

March 31, 2025

Name	Organization
Phil Sporn - F/OFFICER	Town of Twin Brooks
Jon Christensen - Whetstone Electric	Whetstone Valley Electric Coop
Corry Hoota - Milbank PD	Milbank PD
Dave Peterson	Grant County Hwy
Kerrin Owen	Sheriff
Kyle Schwandt	VQ / MFD
Donna Johnson	Town of Revillo, F.O.
Jennifer Meyer RN	DOH
John Weyls	Twin Valley Fire / MFD
Mike Mach	GC Commission
Miniah Hicks	<del>OTM</del> Tail Powder - Big Bear Plant
CLAY SPANGENBERG	POD
DUANE TILLMAN	GRANT-ROBERTS AMBULANCE
Brian Turner	VQ Cheese
Tom Walatich	VQ Cheese
Brian Niseman	Town of Twin Brooks
Steve Pennington	CITY OF MILBANK
Natalie Gauer	Milbank Area Hospital / Avenue
Luke Muller	1st Dist
Kevin Schuelke	Grant Co EMA
Amy Arnold	1st Dist

**Grant County  
Pre-Disaster Mitigation Plan Kickoff Meeting  
Noon - March 31, 2025  
Grant County 4-H Complex  
517 Flynn Drive, Milbank, South Dakota**

**Minutes**

21 individuals were in attendance (see attendance sheet):

Grant County Emergency Manager, Kevin Schuelke, introduced Luke Muller of First District Association of Local Governments. Muller welcomed those in attendance on behalf of the county and had the Team Members introduce themselves and what entity they represent.

Muller provided an overview of what is mitigation planning and why the county is required to update their Pre-Disaster Mitigation (PDM) Plan. Muller also provided a review of the components to be included within the plan (risk assessment, vulnerability, proposed mitigation actions).

A general review of the existing Pre-Disaster Mitigation Plan started by defining work responsibilities, having the First District doing background and research, and the PDM Team providing oversight and guidance throughout the process. The timeline, scope of project, and the online survey were discussed and reviewed.

Meeting adjourned at 12:50 p.m. Date and time for the next meeting to be scheduled later in summer of 2025.

Minutes recorded by Luke Muller.

Dear PDM Team Members,

As Grant County continues the process of updating the Grant County Pre-disaster Mitigation Plan (Plan), the Pre-disaster Mitigation Planning Team will be holding its second PDM Team Meeting at Noon on Tuesday, August 19, 2025. The meeting will be held in the Grant County 4-H Complex located at 517 Flynn Drive, Milbank, South Dakota. The plan will be available online at: <https://association.1stdistrict.org/pdmplans/> on August 8, 2025. This Plan identifies potential natural disasters, their impact, and possible projects to mitigate the impact of said disasters. The County is required by the Federal Emergency Management Agency to update this plan every five years.

**It is imperative that we have your participation at these meetings.** We do not expect the meetings to last over half an hour.

Questions or comments may be directed to myself or Luke Muller at (605) 882-5115 or [luke.muller@1stdistrict.org](mailto:luke.muller@1stdistrict.org).

Sincerely,

Kevin Schuelke  
Director  
Grant County Emergency Management  
(605) 432-4637

## **GRANT COUNTY PRE-DISASTER MITIGATION PLAN MEETING**

As Grant County continues the process of updating the Grant County Pre-disaster Mitigation Plan, the Grant County Pre-disaster Mitigation Planning Team will meet at Noon on Tuesday, August 19, 2025 in the Grant County 4-H Complex located at 517 Flynn Drive, Milbank, South Dakota.

The plan will be available online at: <https://association.1stdistrict.org/pdmplans/> on August 8, 2025. This Plan identifies potential natural disasters, their impact, and possible projects to mitigate the impact of said disasters. The County is required by the Federal Emergency Management Agency to update this plan every five years.

The public is welcome to attend and participate in the discussion. Questions or comments may be directed to Grant County Emergency Manager, Kevin Schuelke (605) 432-4637.

**Grant County  
Pre-Disaster Mitigation Planning Team Meeting  
Noon - Tuesday, August 19, 2025  
Grant County 4-H Complex  
517 Flynn Drive, Milbank, South Dakota  
Agenda**

- Introduction
- Review of Previous Meetings and Plan Development History
- Review of PDM Preliminary Draft
  - Plan Authority and Purpose
  - Community Profile
  - Plan Process
  - Risk Assessment/Critical Infrastructure
  - Review of Goals and Objectives
  - Project Identification
  - Plan Maintenance
- Questions
- Next Steps in PDM Draft Process

**MINUTES**  
**Grant County**  
**Pre-Disaster Mitigation Planning Team Meeting**  
**Noon - Monday, August 19, 2025**  
**Grant County 4-H Complex**  
**517 Flynn Drive, Milbank, South Dakota**

Seven people were in attendance:

<b>Last</b>	<b>First</b>	<b>Organization</b>
Brown	Steve	Big Stone City
Schuelke	Kevin	Grant County Emergency Management
Muller	Luke	First District
Hooth	Corey	Milbank Police Department
Hoffman	Brent	Grant Roberts Rural Water
Meyer	Jennifer	Department of Health
Gauer	Natalie	Milbank Area Hospital
Peterson	Daren	Grant County Highway Superintendent

Luke Muller of the First District provided a review of research and background activities conducted since the last Team meeting.

Muller also provided an overview of the risk assessment conducted with the communities in Grant County. The risk assessment review with those entities dealt with identification of potential hazards, generating a hazard profile, and vulnerability assessment. After reviewing the risk assessments, Muller provided an overview of historical hazard events in Grant County since 2013.

The Team also reviewed goals and objectives of the previous 2020 PDM Plan. It was determined the 2020 goals and objectives were still appropriate for the update PDM plan. Discussed potential mitigation projects throughout the county.

Muller provided a summary and review of the draft Grant County Pre-Disaster Mitigation Plan. Muller discussed recommended changes from state hazard mitigation office, and highlighted those edits. Other discussion and questions occurred during the summary process. Grant-Roberts Rural Water requested information pertaining to its critical infrastructure and mitigation projects be added to the final draft. There was no objection.

Consensus of the Team was to spend more time on individual review of the document and to provide First District staff with any corrections/updates.

Meeting adjourned at 12:40 p.m.

Minutes recorded by Luke Muller

## GRANT COUNTY PRE-DISASTER MITIGATION PLAN MEETING

(Notice Published September 23, 2025)

Grant County is completing the process of updating the Grant County Pre-disaster Mitigation Plan (Plan). The Pre-disaster Mitigation Planning Team will be holding its final PDM Team Meeting at 1:00 p.m. on Monday, September 29, 2025. The meeting will be held in the Grant County 4-H Complex located at 517 Flynn Drive, Milbank, South Dakota.

The plan is available online at: <https://association.1stdistrict.org/pdmplans/>. This Plan identifies potential natural disasters, their impact, and possible projects to mitigate the impact of said disasters. The County is required by the Federal Emergency Management Agency to update this plan every five years.

The public is welcome to attend and participate in the discussion. Questions or comments may be directed to Grant County Emergency Manager, Kevin Schuelke (605) 432-4637.

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(Memorandum emailed September 22, 2025)

Dear PDM Team Members,

Grant County is completing the process of updating the Grant County Pre-disaster Mitigation Plan (Plan). The Pre-disaster Mitigation Planning Team will be holding its final PDM Team Meeting at 1:00 p.m. on Monday, September 29, 2025. The meeting will be held in the Grant County 4-H Complex located at 517 Flynn Drive, Milbank, South Dakota. The plan is available online at: <https://association.1stdistrict.org/pdmplans/>. This Plan identifies potential natural disasters, their impact, and possible projects to mitigate the impact of said disasters. The County is required by the Federal Emergency Management Agency to update this plan every five years.

**It is imperative that we have your participation at these meetings.** We do not expect the meeting to last over half an hour.

Questions or comments may be directed to myself or Luke Muller at (605) 882-5115 or [luke.muller@1stdistrict.org](mailto:luke.muller@1stdistrict.org).

Sincerely,

Kevin Schuelke  
Director  
Grant County Emergency Management  
(605) 432-4637

**Grant County  
Pre-Disaster Mitigation Planning Team Meeting  
1:00 pm - Monday, September 29, 2025  
Grant County 4-H Complex  
517 Flynn Drive, Milbank, South Dakota  
Agenda**

- Final Review of PDM Plan
- Recommendation of Approval and Submission to FEMA

RESERVED FOR MEETING 3 SIGN IN SHEET

**MINUTES**  
**Grant County**  
**Pre-Disaster Mitigation Planning Team Meeting**  
**1:00 PM - Monday, September 29, 2025**  
**Grant County 4-H Complex**  
**517 Flynn Drive, Milbank, South Dakota**

Seven people were in attendance:

<b>Last</b>	<b>First</b>	<b>Organization</b>
Gobel	Deb	City of Milbank, Mayor
Schutt	Brett	Grant County Emergency Management
Muller	Luke	First District
Olsen	Kelly	Milbank Fire Department

Luke Muller of the First District noted edits as requested by the Grant Roberts Rural Water were incorporated, and references to the vulnerability score(s) were added to the project lists since Meeting #2.

Motion by Gobel, second by Olsen to forward the draft to FEMA subject to the addition of any grammatical or non-substantive changes. Motion passed unanimously.

Muller reviewed the community adoption process.

Meeting adjourned at 1:20 p.m.

Minutes recorded by Luke Muller

## **Appendix C**

### **Community Meeting Agendas and Sign-in Sheets**

Appendix C includes Agendas and “Sign-in Sheets” from the meetings held at the community level for the Grant County Pre-Disaster Mitigation Plan. Meetings were held at the regular monthly meetings for the following Towns:

<b>Town</b>	<b>Date</b>
Grant County	August 5, 2025
Big Stone City	March 3, 2025
LaBolt	April 7, 2025
Marvin	March 3, 2025
Milbank	April 14, 2025
Reville	March 10, 2025
Stockholm	April 7, 2025
Strandburg	March 2, 2025
Twin Brooks	March 11, 2025

At all of the previously described meetings, each individual in attendance was asked to identify the probability of each specific hazard’s occurrence. Following discussion on each individual hazard, Board members categorized these hazards as high probability to occur, low probability to occur, or unlikely to occur. The result was recorded on a master sheet for each town.

Next, each individual in attendance was asked to identify the town’s vulnerability to each specific hazard. Following discussion on each individual hazard, Board members classified the town’s vulnerability to each hazard as high vulnerability, low vulnerability, or noted that the hazard was not a hazard in the jurisdiction. The result was recorded on a master sheet for each town. Following the hazard identification and vulnerability exercises the governing body was asked to rate the level to which they agree with the goals of the Pre-Disaster Mitigation Plan. The result was recorded on a master sheet for each town. Finally, the Boards were asked to identify critical infrastructure within the community. All master worksheets compiled at those meetings can be found in Appendix D. A master infrastructure list was compiled for each town in Table 4.25.

At the previously described meetings Board members were first asked to identify potential hazard mitigation projects for their towns. Members then discussed among themselves and staff before determining a timeframe for these projects to be completed (short-term, medium-term, long-term). Short-term indicates a time frame of two years or less. Medium-term indicates a time frame of two to five years. Long-term indicates a time frame of more than five years.

Finally, members assigned a priority level (high, medium, low) to each project. High priority projects have greater importance, unanimous Board agreement, more cost effective, provide more benefits for the entire community as a whole, shorter implementation time and funding availability. These projects should take precedence over similarly costing projects. Medium priority projects are important projects with less urgency, limited benefits, maintenance activities or projects by virtue of their cost and/or necessity is not considered a high priority. The community should begin planning for completion of these projects. Low priority projects are projects that due to their cost and/or potential minimal benefits to the community are considered a lesser priority, maybe a longer-term project that lacks funding availability.

The Board members and Finance Officers were asked to work with First District Staff to identify who would oversee the potential projects and what a projected cost would be. All projects identified at those meetings are included in Table 5.13.

Each individual township was asked to identify areas most vulnerable to these hazards on a map. Those maps are included in Appendix E.

## **Grant County Commission Agenda for August 5, 2025**

**Meeting Location: COMMISSIONER ROOM 210 E 5<sup>th</sup> Ave – Courthouse Basement (use elevator)**

- 8:00
- Call to Order
  - Quorum present
  - Approve minutes for July 15, 2025
  - Approve agenda
- 8:01
- Call for public comment
    - a. For any item not open to public hearings
    - b. 30-minute open period – 3 minutes per person
- 8:01
- Convene as the Drainage Board
    - a. Permit **DR2025-33** for Grant Street for land located within the NW1/4 of Section 8 in Adams East Twp
    - b. Permit **DR2025-34** for Joe M. Kanthak for land located in Gov't Lots 1–4 of Section 10 in Adams East Twp
    - c. Permit **DR2025-35a** and **DR2025-35b** for Joe M. Kanthak located within the SE1/4 of Section 4 in Adams East Twp
    - d. Permit **DR2025-36a** and **DR2025-36b** for Geoffrey Street for land located within the NE1/4 in Section 18 of Adams East Twp
  - Adjourn Drainage Board and reconvene as the Board of County Commissioners
- 8:30
- Hwy Supt Peterson
    - a. Review and motion on truck bids
- 9:00
- Luke Muller, First District
    - a. Review of Pre Disaster Mitigation Plan
- 9:30
- Jordan Kearns from Ottertail
    - a. Presentation on Big Stone Energy Project
- 10:00
- Risty Benefits and IBC
    - a. Review of service for claim processing
- 10:30
- 2026 Budget Review
    - a. Review of revenue, expenses, cash applied and projected year-end cash balance
    - b. Librarian Tammy Wollschlager for the 2026 budget request

### **Items:**

1. Travel approval
2. County assistance
3. Unfinished business
4. New business
5. Correspondence
6. Executive session for personnel issue(s) per SDCL 1-25-2(1), litigation issue(s) per SDCL 1-25-2(3)
7. Motion to approve claims
8. Motion to adjourn

### **Consent Agenda:**

1. Approve a step increase for Wendy Boerger six-month rate of \$22.85 per hour effective 8-13-25
2. Declare surplus 1965 Int'l Tractor, fixed asset 2585; JD Pull Rotary Mower, fixed asset 2525 effective 7-15-2025

GRANT COUNTY PRE-DISASTER MITIGATION PLANNING MEETING

GRANT COUNTY COMMISSIONERS

August 5, 2025

Name	Organization
David Copeburn	GRC REVIEW
TOM BENCE	ANTORA ENERGY
Jordan Kearns	Antora Energy
DJ Haggerty	POET
Blaine Ganger	POET
Dana Peterson	Grant Co. Hwy
William Short	Commissioner
Marty Buttle	Commissioner
Kevin Schmitt	Grant County Em
Doug Stenge	County Comm
Jackson Schwandt	Grant County SA
Kathy Folk	Grant Co. Auditor
Karen Layher	County Administrator

**NOVEMBER 7, 2024**

[illegible]



**CITY OF BIG STONE CITY  
COUNCIL MEETING AGENDA**  
Monday March 3, 2025

Big Stone City  
Home of Big Stone Lake

Mayor  
Steve Brown

Council Members  
Bruce Redfield, President   Darcy Roscoe, Vice President  
Brad Stoddard   Mike Hughes

Robert Goergen

Meeting called to order

Roll Call

Pledge of Allegiance and South Dakota State Pledge

Minutes of the February 3, 2025 Regular Meeting

Claims Approved:      APPROVAL TO PAY BILLS

Committee Reports:

Sheriff's Office:

Public Comments:

SDCL 1-25-1

(Public comments will offer the opportunity for anyone not listed on the agenda to speak to the council. No action will be taken on questions or items not on the agenda.)

Unfinished Business:      Land Development  
Load Management Remote Transmitter

New Business:      Appoint Ward 1 Council Member  
1<sup>st</sup> District 5 year Mitigation Plan  
Bollig Engineering Contract  
MAC'S FTH LLC Cannabis Dispensary License  
Lucinda Oakes - Park  
Parks Update - Redgey  
Ulteig Engineering Service Agreement  
Electric Superintendents Conference April  
HR/FO Schooling June  
Big Stone City School

Executive Session:      SDCL 1-25-2

South Dakota State Pledge: *I pledge loyalty and support to the flag and State of South Dakota, land of sunshine, land of infinite variety.*

CITY OF BIG STONE CITY  
Big Stone City, South Dakota

March 3, 2025  
5:30 p.m.

The Big Stone City council met in regular session on Monday, March 3, 2025, meeting began at 5:30 p.m. with Mayor Brown presiding. Roll Call: Roscoe, Hughes, Stoddard, Redfield, and B.Goergen. Others present: Attorney Stock, Nancy Lee, Redgey Rademacher, Kathy Rabe, Geven Rabe, Dewane Stoddard, Teresa Goergen, TJ Rabe, Alex Goergen, Abe Dorry, James McFarland, Krista Atyo Gortmaker, Amy Arnold and Paul Jurek.

The Pledge of Allegiance and the South Dakota State Pledge were recited.

Motion to accept the minutes from the February 3, 2025 regular meeting was made by Roscoe and seconded by Hughes. All in favor. Motion Carried.

Motion to pay the presented claims was made by Redfield and seconded by Hughes. Upon roll call Ayes: Stoddard, Goergen, Roscoe, Redfield, and Hughes. Nays: None. Motion Carried.

Big Stone Area Hardware	\$ 60.38	SD Dept Revenue	\$ 4,759.06
City of BSC	\$ 5,695.46	SD Dept Revenue	\$ 1,471.61
Coca Cola	\$ 193.00	Waste Management	\$ 4,830.09
Ellwein	\$ 11,321.20	Postmaster	\$ 210.56
Farner Bocken	\$ 1,050.06	Cintas	\$ 674.98
Johnson Bros	\$ 381.90	Harry Frozen Foods	\$ 893.00
Fluegel Anderson	\$ 756.43	Valley Shopper	\$ 190.36
Johnson Bros	\$ 1,142.70	Ortonville Independent	\$ 120.54
Republic Beverage	\$ 2,080.00	Bollig	\$ 2,617.50
Nelson Electric	\$ 264.60	Health Pool	\$ 7,643.87
Midco	\$ 125.60	MacDaddy's	\$ 830.13
Ortonville Auto Parts	\$ 296.30	Grant Co Review	\$ 182.94
Pepsi	\$ 398.95	Northwestern Energy	\$ 232.19
Plunketts	\$ 50.85	Advanced Technologies	\$ 600.00
Porter Distributing	\$ 851.90	Avera Medicine	\$ 36.60
Southern Glazers	\$ 413.21	Robert Stenzel	\$ 100.00

Valley Office	\$ 9.49	Amaril Uniform Co	\$ 308.00
Verizon	\$ 155.40	Titan	\$ 564.75
Border States	\$ 2,523.71	Irby Co	\$ 435.00
Grant Roberts Water	\$ 8,140.60	Terex	\$ 1,240.24
Missouri River Energy	\$ 1,116.00	Darcy Roscoe	\$ 150.00
Heritage Printing	\$ 66.83	Resco	\$ 930.09
Brewsters Building	\$ 46.99	Big Stone County Sheriff	\$ 1,000.00
SD Municipal Electric	\$ 980.00	Mary Hillman	\$ 100.00
Payroll 2/18/25	\$ 5,485.42	Payroll 2/18/25	\$ 6,238.70
Payroll 3/3/25	\$ 4,981.97	Payroll 3/3/25	\$ 5,809.99

Committee report: Redgey Rademacher discussed Liquor Store parking lot. Council requested it be put on April agenda. Dewane Stoddard updated the council on the Planning And Zoning changes are in the process and will be getting back to the council

Sheriff report for February: Hours worked 95. Activity report: Domestic disturbance investigation, burglar alarm, assault investigation, stolen vehicle, illegal drug investigation and traffic complaint.

Public Comments: Dewane Stoddard was questioning why the Sheriff's Department has not been attending the meetings. Steve Brown will follow up with them.

Paul Jurek, Bollig Engineering discussed the different option with the land development. Council will not know costs unless it's let out for bids. The state has a program that could pay 30% of the cost for development.

Stoddard made a motion to approve Task Order Agreement pending no response from Big Stone Lake Development, LLC. with Hughes seconded. All in favor. Motion Carried.

Stoddard made a motion to approve the contract with Bollig Engineering with Redfield second. All in favor. Motion Carried.

Load Management Transmitter was discussed and no action was taken.

First District's Amy Arnold discussed with council the county's Pre-Disaster Mitigation Plan that is required to be updated every five years in order to maintain eligibility for federal funding for disaster mitigation projects and other federal funding/programs. The last plan was approved by FEMA in 2020.

Hughes made a motion for Alex Goergen to fill the vacant Ward 1 Council Member seat with Redfield second. Upon roll call the Ayes: Roscoe, Stoddard, Hughes and Redfield. Nays: None. Abstain. B. Goergen. Motion Carried.

Nancy Lee administered the Oath of Office to Alex Goergen, Ward 1 Council member.

Redfield made a motion to approve the Medical Cannabis renewal license for MAC'S FTH, LLC with Roscoe second. Upon roll call the Ayes: Hughes, Roscoe, Stoddard, B. Goergen, Redfield and A. Goergen. Nays: None. Motion Carried.

Hughes made a motion that Bruce Redfield will be the authorized signature for Ultieg Engineering with Roscoe second. All in favor. Motion Carried.

Hughes talked on behalf of Lucinda Oakes. The family of Brenda McMahon are wanting to make a memorial for her at the City park in her honor. Hughes, Rademacher and the family will get together.

Redgey Rademacher discussed with council the improvement recommendations from SDPAA/SDML WC on the park equipment. The Park Board, Redgey Rademacher along with Krista Atyo Mortmaker will be working on this together.

Hughes made a motion for Bryan Austin to attend the Electrical Superintendents meetings in Watertown, SD with B. Goergen second. Upon roll call Ayes: Redfield, Stoddard, Hughes, B. Goergen, Roscoe and A. Goergen. Nays: None. Motion Carried.

Hughes made a motion for Nancy Lee to attend the Finance Officer Schooling at Pierre, SD with B. Goergen second. Upon roll call the Ayes: Roscoe, Stoddard, A. Goergen, Hughes, Redfield and B. Goergen. Nays: None. Motion Carried.

Krista Atyo Gortmaker discussed the Big Stone School with the different options the City will have

With no further business Stoddard called to adjourn the regular meeting at 7:37 p.m. Hughes second. All in favor. Motion Carried.

ATTEST:

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Steve Brown, Mayor

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Nancy Lee, Finance Officer

City of Big Stone City  
City Council  
Pre-Disaster Mitigation Plan  
Meeting Outline

## Introduction

Personal introduction:

Introduce the plan:

Why update the PDM?

*Counties are required to update their PDM plan every 5 years to maintain eligibility for federal funding for disaster mitigation projects and other federal funding/programs.*

How are the Communities involved?

What is a PDM?

- *Allows a community to plan for a disaster before it occurs*
- *Helps reduce risk and minimize impact from future events*
  - *Protects people and structures*
  - *Preserves life, health, safety of residents*
  - *Protects the economic health and vitality of the community*
- *Breaks the cycle of disaster-repair-disaster in a community*

## Hazard Exercise

Hazard Probability / Hazard Vulnerability (Personal)

“Personal” is in reference to THE PEOPLE that live in town and their property.

“Community” will refer to critical infrastructure, emergency services, and just RUNNING A TOWN.

Allow to do on own (About 2 – 5 minutes)

Describe or read corresponding answers

- What does “0” mean? What Does “3” Mean? What does “5” Mean?

Briefly describe the ones that have or would wreak the most havoc

- Freezing Rain/Ice – loss of power
- Heavy snow
- Flood/Rapid Snow melt – destruction in low lying areas
- Hail / Strong winds – structural damage
- Tornado
- Ice Jam – compromising bridge structure

## Hazard Probability / Vulnerability – Community

Reiterate what “Community” refers to in this case.

- List here things they found would be specifically difficult to navigate after certain events.

Complete together (Probability should roughly match personal probability)

## Community facilities

Identify/review critical facilities

Are there new facilities/facilities to be removed

- Saputo Cheese USA closed
- School is closing June 30<sup>th</sup>
- Little Lions Learning Center – 110 3<sup>rd</sup> Ave Big Stone City, SD

Have addresses changed/are they correct

Where are the populations to protect

Daycares: Little Lions Learning Center

## Project review

Review past projects

- Are they completed/still necessary/ongoing
  - Rip Rap along Lake Street / Chictaqua Park completed

Ask about other projects (not all require FEMA funding)

- Continue burying overhead lines to reduce power outages
- Continue hazardous tree removal near power lines within and leading to town to limit chances of power failure.
- Drainage improvements – add curb and gutter along Cornell Ave between US 12 and Dike Rd

Ask about Policies/activities that already help mitigate Disaster

Do you currently have any policies or activities that help mitigate disaster?

## Conclusion

Coming up there will be a series of Team Meetings that you will be invited to. Kickoff – Review and Final Review

Please participate in online survey which will be out in March.

## **Town of LaBolt Agenda**

### LaBolt Town Council Agenda

April 7th, 2025 Meeting @ 7 pm LaBolt Hall

Call to Order

Roll Call: Jon Larry Kenny Tiffany John

Reading of minutes and approval

Financial statement and bill reading and approval

Reports:

Lagoon Report – Jon Wold

Park Report:

John Wollenberg – Maintenance

Tiffany Leonard – Report on park & reservations for 2025

Old Business:

Report on future plan of lots for town

New lawyer for town

2025 Town Anniversary Celebration

New Business:

LaBolt Pre Disaster Mitigation Plan Review

Executive Session if needed

Next meeting: Monday, May 5th, 2025 @ 7 p.m.

Adjournment \_\_\_\_\_motion\_\_\_\_\_second\_\_\_\_\_vote



## Town of LaBolt Minutes

### PROCEEDINGS LABOLT TOWN COUNCIL

The LaBolt Town Council met April 7th, 2025 at the LaBolt Hall. Present were Jon Wold, John Wollenberg, Kenny Wold, Larry Erp, Garrett Novy, Amy Arnold, and Tiffany Leonard.

The meeting was called to order at 7:00 p.m.

The minutes from the last meeting were read and approved. Financial report was given and approved.

The following bills were approved for payment from the general fund; Ottertail Power (street lights) \$210.97; Ottertail Power (fire hall) \$123.41; Ottertail Power (sign) \$6.32; Brookings Deuel Water \$36.00; Northwestern Energy \$12.00; Grant County Review \$167.36; Midland Publishing \$105.00; My Favorite Headache \$700.00; Quickbooks \$1,787.35; Tiffany Leonard \$20.00; Kenneth Wold; 37.00; Jonathan Wold \$45.50; and Larry Erp \$71.00.

We discussed the old business of selling the four lots in LaBolt, hiring a new lawyer for Town of LaBolt, and details of the 125<sup>th</sup> Celebration Party.

We discussed new business of the LaBolt Pre Disaster Mitigation Plan Review.

Next meeting will be Monday, May 5th, 2025 at 7 pm.

Submitted by Tiffany Leonard  
Finance Officer

Town of LaBolt  
Town Council  
Pre-Disaster Mitigation Plan  
Meeting Outline

## Introduction

Personal introduction:

Introduce the plan:

Why update the PDM?

*Counties are required to update their PDM plan every 5 years to maintain eligibility for federal funding for disaster mitigation projects and other federal funding/programs.*

How are the Communities involved?

What is a PDM?

- *Allows a community to plan for a disaster before it occurs*
- *Helps reduce risk and minimize impact from future events*
  - *Protects people and structures*
  - *Preserves life, health, safety of residents*
  - *Protects the economic health and vitality of the community*
- *Breaks the cycle of disaster-repair-disaster in a community*

## Hazard Exercise

Hazard Probability / Hazard Vulnerability (Personal)

“Personal” is in reference to THE PEOPLE that live in town and their property.

“Community” will refer to critical infrastructure, emergency services, and just RUNNING A TOWN.

Allow to do on own (About 2 – 5 minutes)

Describe or read corresponding answers

- What does “0” mean? What Does “3” Mean? What does “5” Mean?

Briefly describe the ones that have or would wreak the most havoc

○

Hazard Probability / Vulnerability – Community

Reiterate what “Community” refers to in this case.

- List here things they found would be specifically difficult to navigate after certain events.

Complete together (Probability should roughly match personal probability)

## Community facilities

Identify/review critical facilities

Are there new facilities/facilities to be removed

No changes

Have addresses changed/are they correct

No changes

Where are the populations to protect

- LaBolt Dam 6 campsites - outside of City Limits

## Project review

Review past projects

- Construct storm shelter at city park
- Bury overhead lines

Leave all in next plan

Ask about other projects (not all require FEMA funding)

- Maintain list of farmers with a disk to help in the event of a wildfire
- No generator on hand to provide a place with heat/shelter if they lose power.

Ask about Policies/activities that already help mitigate Disaster

## Conclusion

Please participate in online survey – Will email Tiffany direct link to pass along

Timeline:

June/July – PDM Team Meeting #2 – Review of PDM Draft

August – PDM Team Final Draft review/Approval and submit to State and FEMA

September/October – State and FEMA approval

November/December – Approval by County and Municipalities

## Town of Marvin Agenda

Town of Marvin  
March 3, 2025

Meeting called to order at \_\_\_\_\_. Board Members Present: \_\_\_\_\_

Others Present: \_\_\_\_\_

Minutes of January meeting read – additions/corrections: \_\_\_\_\_

### Old Business:

- Grant Roberts Rural Water easements
- Volunteers to assume board positions on-going search
- New contractor for March cleaning
- Town Hall rental

### New Business:

- Amy Arnold – Pre Disaster Mitigation Plan Update
- Street light on Minnesota Street
- Annual Statement of Account for 2024 review

Bills: Sabrina Hall, ~~Otter Tail~~, SD DOH, Grant County Review, Whetstone Sanitation, Chuck, April.

Motion to pay bills:

Motion to adjourn

Next Meeting Monday April 14<sup>th</sup> – 7:30pm

**March 3<sup>rd</sup>, 2025**

[illegible]

## Town of Marvin Minutes

**Town of Marvin Council** Proceedings March 3, 2025 Meeting called to order at 7:30 p.m. Board Members Present: Matt, Travis and Rodney Others Present: Joan Wagner and Stacy Thaden Minutes of February meeting read; no additions or corrections. Motion to accept February minutes by Rodney, 2nd by Matt. Old Business: Grant Roberts Rural Water will be contacting all residents regarding easements. Additional information at April meeting. Volunteers to assume board positions on-going search. League of Municipalities to be contacted for further instruction. New contractor completed March cleaning; bug bombing completed. Town Hall rental is FREE-WILL offering. Contact April or a Board member for rental. No other old business. New Business: Pre-Disaster Mitigation presented by Amy, First District – Pre-planning maintains ability to receive federal funding. Plan to identify hazards and plan to mitigate risk for community. Discussion on street light on Minnesota Street – Otter Tail has been out to work on it but it is still flickering. If there are issues with street lights not working, please notify a board member or April. Annual Statement of Account for 2024 reviewed – motion to accept and send to State by Travis, 2nd by Matt. Bills: Sabrina Hall, \$200; Otter Tail, TBD; SD DOH, \$15.00; Grant County Review, TBD; Whetstone Sanitation, TBD; Chuck, \$92.35, and April, \$323.22. All March bills to be paid, then reported at next Meeting - Motion to pay bills by Rodney; 2nd by Travis. Motion to adjourn by Rodney with 2nd by Matt. Next meeting: Monday, April 14, at 7:30 p.m. Published once at an approximate cost of \$19.98 and can be viewed free of charge at [www.sdpublicnotices.com](http://www.sdpublicnotices.com).

Town of Marvin  
Town Board  
Pre-Disaster Mitigation Plan  
Meeting Outline

## Introduction

Personal introduction:

Introduce the plan:

Why update the PDM?

*Counties are required to update their PDM plan every 5 years to maintain eligibility for federal funding for disaster mitigation projects and other federal funding/programs.*

How are the Communities involved?

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- *Allows a community to plan for a disaster before it occurs*
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## Hazard Exercise

Hazard Probability / Hazard Vulnerability (Personal)

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Allow to do on own (About 2 – 5 minutes)

Describe or read corresponding answers

- What does “0” mean? What Does “3” Mean? What does “5” Mean?

Briefly describe the ones that have or would wreak the most havoc

Hazard Probability / Vulnerability – Community

Reiterate what “Community” refers to in this case.

- List here things they found would be specifically difficult to navigate after certain events.
  - **Strong winds and wildfire were two that the board ranked higher. They discussed sparks from the nearby railroad track and drought conditions making wildfire a higher probability. The community has a lot of mature trees that lose branches/limbs in periods of strong winds.**

Complete together (Probability should roughly match personal probability)

## Community facilities

Identify/review critical facilities

Are there new facilities/facilities to be removed

No changes

Have addresses changed/are they correct

No changes

Where are the populations to protect

## Project review

Review past projects

- Are they completed/still necessary/ongoing
  - Support burial of overhead powerlines leave in plan

Ask about other projects (not all require FEMA funding)

- Work with Ottertail to re-trim new growth around overhead lines
- Town of Marvin doesn't have a designated storm shelter – Community members discussed how they used to utilize Abbey of the Hills as a storm shelter (roughly 1.5 miles from the center of town)
- Backup generator for the Fire Hall

Ask about Policies/activities that already help mitigate Disaster

Do you currently have any policies or activities that help mitigate disaster?

## Conclusion

Coming up there will be a series of Team Meetings that you will be invited to. Kickoff – Review and Final Review

Please participate in an online survey which will be out in March.

## City of Milbank Agenda

### AGENDA MILBANK CITY COUNCIL MEETING April 14, 2025

NOTICE is hereby given that a Regular Meeting of the governing body of the City of Milbank will be held on the 14<sup>th</sup> day of April 2025 at 6:00 pm, in the Milbank Community Room, 1001 East Fourth Avenue, Milbank, South Dakota. At this time, the following subjects will be discussed.

#### I. Call to Order & Roll Call

#### II. Approve the Agenda

##### Consent Agenda

1. Approve the minutes of the March 10, March 19, and March 28, 2025, meetings.
2. Approve the claims list.
3. Approve the treasurer's report.
4. Authorize the Mayor to sign the request for fuel tax funds, \$3,193.72, to be allocated toward upgrades and repairs to the airport fuel system.
5. Declare the Clarke Boost cleaning machine surplus and advertise.
6. Approve advertising for bids for the Milbank Industrial Park Expansion.
7. Approve 2025 seasonal staff: Karson Weber-\$16.72/hr., Jason Karels-\$15.30/hr, Micah Tostenson-\$14.42/hr. Bree Townsend- \$ 14.42/hr. Brooke Hendricks- \$ 14.42/hr. Angel Peiker-\$15.30.
8. Approve the hiring of Trey Jankord, part-time Unity and wastewater maintenance, \$24.96/hr.
9. Appoint David Bergan and Shannon Job to the Parks Committee to replace Rondi Scouler and Matt Wilson.

#### IV. Presentations & Public Input

1. Representative Kent Row.
2. Amy Arnold, First District Association of Local Governments-Pre-Disaster Mitigation Plan Update.

## VI. Action Items

1. Use of Public Property for Milbank Area Chamber Events:  
Cinco De Mayo Fiesta, Farmers Market, Farley Fest, 4<sup>th</sup> of July Fireworks, Treat Street, Hometown Christmas. Request to wave park usage and electrical fees.
2. Public Hearing: Milbank Area Chamber alcohol applications. Request to wave license fees.
3. Approve Resolution 4-14-25A, Plat of Lot 3 of Twin Valley Tire Addition, in the SE Sec 12-T-120 N, R- 49 W of the 5<sup>th</sup> PM
4. Approve Bids: 1<sup>st</sup> Street Reconstruction Project & Street Materials.
5. Approve Resolution 4-14-25, authorizing the City to apply for a Land and Water Conservation Fund Grant for Farley Recreation Area Parking Lot and Fencing Projects.
6. Approve or reject the Surveillance Project Bid(s).
7. Approve the engineering agreement with Banner Associates for the development of a Wastewater Treatment Facility Plan, not to exceed \$127,100.
8. Approve test drilling for an irrigation well at Farley Park.
9. Approve Retail (On-Off) Malt Beverage & SD Wine renewal applications.
10. Approve the engineering agreement with Banner Associates for ArcGIS Services, not to exceed \$12,000 + \$700 annual subscription fee.
11. Milbank Water Supply Improvements, Change Order, + \$7,481.00. Added costs to remove the existing control panel at existing well house #1 and reinstall at new well house #1 for temporary control until new controls are installed.

### Discussion Items, Department Reports

1. Discolored water and plan update
2. Milbank Clean-Up Days

VIII. Council closing comments.

IX. Executive Session under SDCL 1-25-2(1) personnel and 1-25-2(3) Legal.

X. Special meeting – April 23, 2025, 6:00 PM.

XI. Next regular meeting – May 12, 2025, 6:00 PM.

XII. Adjourn

NOTE: The agenda is produced in advance of the council meeting. The actual meeting may consist of additional items, which may come before the Council after the agenda is posted or during the meeting itself. No action will be taken by the Council on items presented after the posting of the agenda. All items listed as part of the Consent Agenda require little or no deliberation by the City Council. Withdrawn items will be individually considered following the approval of the Consent Agenda.

MILBANK CITY COUNCIL MEETING

11-14-25

PLEASE PRINT NAME

Would you like to address the Council?

1 Pat Carey - Banner Assoc.

2 Shana VanderGrift G.C. Review

3 Amy Arnold First District

4 Matt Scott - Chamber

5 Ryan Coruba

6 Dan Sorenson

7 Nathan Watson

8 Kent Roe

9 Jamie Henderson

10

## MILBANK CITY COUNCIL PROCEEDINGS

April 14, 2025

Call to Order – The City Council met in regular session on April 14, 2025, at 6:00 pm in the Visitor Center, 1001 East Fourth Avenue, with Mayor Raffety presiding.

Roll Call – Present were Mayor Raffety and Councilmembers Roger Briggs, Mike Hanson, Josh Karels, John Weyh, and Craig Weinberg. Absent: Councilmember Mindy Rogers.

Staff members present included Attorney Mark Reedstrom, Steve Pendergrass, Cynthia Schumacher, Corey Hooth, Kevin Schuelke, Boyd VanVooren, Dick Poppen, and Don Settje.

Pat Carey, Shana VanderGrift, Amy Arnold, Matt Scott, Ryan Gruba, Dan Sorenson, Nathan Watson, Kent Roe, and Jamie Henderson were present from the public.

Mayor Raffety requested amendments to the consent agenda to include a payment of \$42,500 to Hasslen Construction for soffit repairs around the Unity pool. Additionally, the appointment of Brian Sandvig to the Parks Committee. A motion was made and seconded to approve the agenda along with the amended consent agenda. The motion carried with a vote of 4-1, Weinberg voting against.

Consent Agenda amended as follows:

1. Approve the minutes of the March 10, March 19, and March 28, 2025, meetings.
2. Approve the claims list \$723,759.61.
3. Approve the January (updated) treasurer's report.
4. Authorize the Mayor to sign the request for fuel tax funds, \$3,193.72, to be allocated toward upgrades and repairs to the airport fuel system.
5. Declare the Clarke Boost cleaning machine surplus and advertise.
6. Approve advertising for bids for the Milbank Industrial Park Expansion.
7. Approve 2025 seasonal staff: Karson Weber-\$16.72/hr., Jason Karels-\$15.30/hr, Micah Tostenson-\$14.42/hr. Bree Townsend- \$ 14.42/hr. Brooke Hendricks- \$ 14.42/hr. Angel Peiker-\$15.30.
8. Approve the hiring of Trey Jankord, part-time Unity, and wastewater maintenance, \$24.96/hr.
9. Appoint Brian Sandvig, David Bergan, and Shannon Job to the Parks Committee to replace Rondi Scouler and Matt Wilson.  
Mayor Raffety and the Council thanked Rondi and Matt for their time dedicated to the Parks Committee.

**Presentations and Public Input –**

Representative Kent Roe was present and stated he was there to answer any questions about the legislative session. He noted the session did not have many bills that would impact the cities. Roe explained HB 1050 did not pass; This bill would have authorized municipalities to impose a new tax to fund capital improvement projects.

Amy Arnold from the First District Association of Local Governments was present to go through the Grant County Pre-Disaster Mitigation Plan. In this plan, the municipalities are considered a participating unit of government. It is required to update the plan every five years. A component of the PDM Plan involves identifying critical infrastructure that needs protection from potential hazards.

Arnold reviewed several potential hazards to assess the frequency, probability, and the city's vulnerability. The 2020 Plan identified ongoing issues with insufficient and frequent flooding in Pribyl Park and the surrounding area. That project was addressed in 2024 and can now be removed from the study.

Additionally, the 2020 list included a storm sewer study to identify repair needs and minimize utility interruptions during severe weather. The city is currently working with Banner Associates to complete this study, and this vulnerability should remain in the plan. For the 2025 Plan, proposed additions include installing an additional storm/fire warning siren in the northeast area of Milbank and procuring generators for City Hall and Unity Health & Fitness.

**ACTION ITEMS –**

Milbank Area Chamber – The Milbank Area Chamber's request to utilize public property for several events was reviewed. These events include the Cinco De Mayo Fiesta, Farmers Market, Farley Fest, 4th of July fireworks, Treat Street, and Hometown Christmas. After a lengthy discussion, Hanson made a motion, seconded by Weyh, to approve the request and waive all usage and electrical fees for 2025. A summary of the events and vendor usage will be submitted to the council following the events. The motion carried with a vote of 4-1, with Weinberg voting against.

A public hearing was held regarding the Milbank Area Chamber's alcohol applications for the Cinco De Mayo Fiesta and Farley Fest. No one spoke in opposition to the licenses. After a thorough discussion, Weinberg made a motion, seconded by Hanson, to approve the licenses and waive the fees for 2025. The motion passed 5-0.

Resolution 4-14-25A – A motion was made by Weinberg and seconded by Karels to approve Resolution 4-14-25A, a plat of Lot 3 of Twin Valley Tire Addition, in the Southeast Quarter (SE ¼) of Section 12, Township 120 North, Range 49 West of the 5<sup>th</sup> Principal Meridian, Grant County, South Dakota. Motion carried 5-0.

**RESOLUTION 4-14-25A**

Whereas, Grant County Development Corporation, and Laroche-Vansambeck Rentals, LLC, owners of the tract of land shown in the above plat, have submitted to the governing board a proposed plat in the City of Milbank. It was moved by Weinberg and seconded by Karels, and the motion carried that the plat as

shown hereon and as described in the accompanying certificates of and designated as Lot 3 of Twin Valley Tire Addition, in the Southeast Quarter (SE ¼) of Section 12, Township 120 North, Range 49 West of the 5<sup>th</sup> Principal Meridian, Grant County, South Dakota, be approved and accepted and it appearing that all municipal taxes and special assessment, if any, upon said plat and survey have been executed according to the law and the finance officer is hereby instructed to endorse on such plat a copy of the resolution and to certify the same. Dated this 14<sup>th</sup> day of April 2025

Pat Raffety, Mayor, City of Milbank

Cynthia Schumacher, Finance Officer, City of Milbank

First Street Reconstruction Bids – A motion was made by Briggs, seconded by Weinberg, to approve the First Street Reconstruction Project submitted by J&J Earthworks for \$389,579.50. The engineer's estimate was \$450,350. Six additional bids were received: LL & Sons Excavating-\$399,501.14. AP & Sons-\$410,466.00. Duinick, Inc.- \$ 421,918.80. First Rate Excavating-\$478,000.00. Flatland Enterprise-\$489,060.20. Crow River Construction-\$498,807.25. Motion carried 5-0.

Street Material Bids – A motion was made by Hanson and seconded by Karels to approve street material bids as follows: BS 1, hot mix bituminous material, picked up- BPI - \$81.00/ton (only bid). BS 2, asphalt machine laid- BPI - \$87.00/ton (only bid). BS 3, asphalt milling-BPI \$3.30/sq yd (only bid). BS 4, chip seal-BPI - \$2.45/sq yd (only bid). No bids were received for BS 5 or 6 for the street base. Motion carried 5-0.

Resolution 4-14-25 – A motion was made by Karels and seconded by Briggs to approve amended Resolution 4-14-25, Authorizing the application of a \$200,000 Land Water Conservation Fund Grant for the Lake Farley Recreation Project. Motion carried 5-0.

#### RESOLUTION 4-14-25

A Resolution to Authorize City Staff to Apply for a Land And Water Conservation Fund (LWCF) Grant for the City of Milbank, SD.

WHEREAS, the United States of America and the State of South Dakota have authorized the making of grants from the Land and Water Conservation Fund (LWCF) to public bodies to aid in financing the acquisition and/or construction of specific outdoor recreation projects;

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Milbank, South Dakota, as follows:

1. The Mayor is hereby authorized to execute and file an application on behalf of the City of Milbank with the National Park Service, U.S. Department of the Interior, through the State of South Dakota, Department of Game, Fish and Parks, Division of Parks and Recreation, for an LWCF grant to aid in financing Lake Farley Recreation Project for the City of Milbank, South Dakota, and its Environs.

2. That the City Administrator is hereby authorized and directed to furnish such information as the above-mentioned federal and/or state agencies may reasonably request in connection with the application, which is hereby authorized to be filed.
3. That the City of Milbank shall provide a minimum of 50% of the total cost of the project and will assume all responsibility in the operation and maintenance of the project upon completion of construction for the reasonable life expectancy of the facility.

The City Council hereby approves City staff to apply for the Rural Development Water and Environmental Grant Program.

Aye: 5              Nay: 0              Absent: Mindy Rogers

Pat Raffety, Mayor

ATTEST: Cynthia Schumacher, Finance Officer

Surveillance Project Bids – Administrator Pendergrass and Councilman Weinberg stated that they have dedicated several hours to reviewing and discussing the bids for the surveillance project with the individual integrators. At this point, they feel confident about proceeding with the project as outlined for at least what was planned for phase one. They recommend rejecting all the bids and instead moving forward with the necessary steps before collaborating with CorpTech and ITS, our current IT service integrators. We should focus on upgrading the servers now to address immediate gaps in coverage and continue to build upon this as we identify further needs.

Wastewater Facility Plan - A motion was made by Karels and seconded by Briggs to approve the engineering agreement with Banner Associates for the development of a Wastewater Treatment Facility Plan, not to exceed \$127,000. Mayor Raffety explained that the wastewater facility was built approximately 20 years ago, which is roughly the life expectancy. The facility is going to need costly updates soon. The study will evaluate Milbank's facility and select portions of the collection system, set the basis of design, analyze alternatives, select improvements, and prepare needed improvements. The product will be a facility plan recommending improvements to meet the needs of Milbank while recognizing the impacts of future discharge permit requirements. The motion carried 5-0.

Lake Farley Test Well - Due to the irrigation needs at Lake Farley and the upcoming water restrictions, it has been suggested that we utilize water from the lake or well water to meet these needs. However, there are restrictions on water extraction, allowing only eighteen gallons per hour without a water rights permit. A motion was made by Weinberg and seconded by Briggs to table the discussion on test wells until the special meeting scheduled for April 23, 2025, in an effort to obtain a cost estimate. The motion carried 5-0.

Alcohol Renew Applications – A motion was made by Weinberg and seconded by Briggs to approve the Retail (on-off) Malt Beverage & SD Wine renewal applications. Motion carried 5-0.

Triple C Bar, 220 East Second Avenue. Comes Investments Inc., Pizza Hut, 1201 East Milbank Avenue. The Pump 2.0 LLC, 205 South Main Street. DCDS LLC, Top Hat Lanes, 314 West Fourth Avenue. Berens Market, LLC, 1612 Morningside Drive. 15 Hotel Group Inc., Grandstay Hotel & Suites, 1005 S Dakota Street.

ArcGIS Agreement – A motion was made by Karels and seconded by Hanson to approve an agreement with Banner Associates for ArcGIS services. The total cost will not exceed \$12,000, along with an annual subscription fee of \$700. Banner Associates will establish the GIS program and provide ongoing support and management of the ArcGIS program. They will integrate it with the city's iWorq program, staff training, and assistance with data collection. The motion was carried 5-0.

#### Discussion and Department Reports –

Milbank Clean UP Days – The 2025 Clean Up Days will be scheduled for May 1 to May 10, 2025. Details will be provided soon.

Wastewater- Jeremy Breon and Darin Theile attended the water distribution course. The service body has been installed on the 2015 Ford. The older meters are being replaced with new radio-read meters. The utility box has been installed on the 2019 Chevy. Hydrant flushing in Zones one and two is complete. The city is averaging 19% spring water.

Street-Don Weber passed his class four and class nine applicator tests. Jesse Morton attended the street maintenance conference and received the road safety and flagger certification.

Police-SRO Folk attended the National Association of School Resource Officers conference. The course covered topics such as relationship building, case law, threat assessment, youth mental health, and networking with other SROs across the state.

Officers attended a Special Olympics basketball scrimmage where the students played against the school faculty, including SRO Folk.

Chief Hooth and the Council extended a shout-out to the Grant County FOP Lodge NE #14 for their hard work and dedication to fundraising efforts that benefit members of our county during their times of need.

Fire – Department members have been busy attending the NE District Fire School, Wildland training and a SD Pipeline Association training.

Recreation & Unity – The Recreation department is gearing up for the season. Seasonal staff have been hired, and registrations are now underway.

#### March Permits –

Building: JoAnn Volkenant-503 S 3rd St-accessory structure. Agtegra Cooperative-313 W 4<sup>th</sup> Ave-business sign. Roofing: Central Church- 201 S 5<sup>th</sup> St, rubber.

March Salaries: Mayor/Council- \$ 1,600. Finance-\$20,175 Police-\$45,975. Fire-\$1,829. Streets-\$20,902. Rubble Site-\$958. Recreation-\$5,914. Pool-\$1,140. Fitness-\$5,502. Unity-\$16,125. Park-\$10,327. Water-\$13,727. Sewer-\$20,594.

Executive Session – A motion was made by Weinberg and seconded by Rogers to enter Executive Session at 8:10 pm, pursuant to SDCL 1-25-2(1) Personnel and 1-25-2(3) Legal. The Mayor left the Executive Session at 9:00 pm. Council President Weinberg called the council out of executive session.

Adjournment – Special meetings will be held on April 23, 2025, at 6:00 pm. The next regular meeting is on May 12, 2025, at 6:00 pm. A motion was made by Briggs and seconded by Weyh to adjourn at 9:20 pm. The motion carried 5-0.

\_\_\_\_\_  
Pat Raffety, Mayor

ATTEST

\_\_\_\_\_  
Cynthia Schumacher, Finance Officer

4/14/2025

Vendor Name		Amount
Apple Store	subscription	13.80
Ace Industrial Supply Inc.	toos/headlamp	487.90
Adobe	subscription	21.23
Advanced Technologies Inc.	supplies/shipping	700.23
Agtegra	gas/propane	3,134.04
Alex Air Apparatus	equipment testing, repairs	961.06
Amazon	filters, winch, purifier, supplies	649.56
American Engineering Testing	testing	1,045.75
Associated Supply Co.	chemicals	1,160.67
AT&T Mobile	cell phone	745.51
Auto Value Parts Store	parts	102.99
Avera Medical Group	vaccine	258.00
Banner Associates, Inc.	engineering	170,421.00
Beckman, Rhonda	refund	153.08
Berens Market	supplies	2.85
Berkner Excavating	gas line repairs	3,920.84

Black Mountain Software Inc.	cash receipting program	2,971.25
Breon, Jeremy	travel expense	60.00
Card Pointe	card fees	1,016.65
Carquest of Ortonville	parts	983.24
Central Square Technologies, LLC	annual subscription/license fee	3,151.20
Chappell Central Inc.	repairs	3,068.86
CHS	gas	2,019.60
City of Milbank	deposit refund to bill	82.93
Climate Systems, Inc.	system repairs	2,989.50
Cole Papers Inc.	supplies	3,569.84
Corporate Technologies Inc.	IT managed services	16,770.93
Courtyard	travel expense	264.20
Creative Product Sourcing	DARE supplies	1,135.92
Crimestar USA, LLC	annual support	400.00
Eastside Car Wash	truck wash usage	383.59
Emergency Apparatus Maintenance	truck repair	2,838.23
Energy Laboratories, Inc.	testing	3,668.00
Fastenal Company	parts	44.84
First Bank & Trust	travel expense	122.93
Fleet Pride	filters	161.72
Flexible Pipe Tools & Equipment	tools	125.75
Food-N-Fuel	gas	498.86
Frerichs, David	install flooring	930.40
Galls, Inc	equipment	69.70
Good Sportsman	subscription	26.08
Grant County Auditor	county services	1,000.00
Grant County Review	publications	481.40
Grant Roberts Rural Water	water service	67.00
Hach Co.	supplies	2,302.46
Hampton Inn	travel expense	734.94
Hasslen Construction	water supply improvements, building repairs	339,023.80
Hawkins	chemicals	9,650.16
Helms Engineering	engineering	3,963.52
Hillyard	supplies	16,156.58
Home Depot	paint	112.53
Howell, Nicholas	tow bar	140.00
Interstate All Battery Center	batteries	121.20
ITC	phone, internet	1,851.75
Jack's Body Shop	vehicle repairs	2,357.00
Jefferson Lines	shipping-testing	167.50
John Deere Financial	parts	55.31
Kelly Kutters	dethatch fields	200.00

Kromer Co. LLC	parts	703.80
Lacal Equipment Inc.	parts	1,730.44
Lesnar, Kiefer	shop lights	173.37
Lewis Drug Stores	supplies	42.34
Linde Gas & Equipment	system maintenance	53.22
Lowes	paint	226.08
McLeod's Printing	supplies	243.37
Midwest Power Sports	service equipment	1,782.59
Midwestern Mechanical	repair fire sprinkler system	668.21
Milbank Winwater Co.	parts	693.58
MnB Cleaning Services LLC	cleaning service	3,800.00
Money Movers	NIHCA membership	14.75
Morton, Jesse	travel expense	80.00
NAPA Auto Parts	parts, supplies	2,415.31
Northern Truck Equipment	parts/service	14,470.10
NW Energy	natural gas	5,025.09
O'Reilly Store	parts	294.38
Otter Tail Power Co.	electric	24,408.91
Performance Crane & Heavy Haul	storage units	10,200.00
Peterson, Connie	sew patches	4.00
Petty Cash	supplies, postage	27.75
Plunkett's Pest Control	pest control	351.00
Pollardwater	supplies	243.35
Racarie Software	HR Software	109.99
Reedstrom, Mark	retainer fee	1,000.00
Reyes, Evaristo Martinez	deposit refund	17.07
Rockbot	media subscription	31.86
Roger's Electric Motor	parts	1,207.67
Runnings Supply Inc.	supplies, parts	1,444.72
Schafer, Michelle	overpayment refund	112.57
Scribe	software	29.00
SD Dept of Labor & Regulation	unemployment compensation	1,596.00
SD Dept of Public Safety	inspections	440.00
SD Dept of Public Safety	teletype service	3,090.00
SD Dept of Revenue & Regulation	sales tax	8,605.76
SD Public Health Lab	testing	172.00
SDML	district meeting	140.00
SDML Workers Compensation	work comp premium	1,139.00
Shade Vally Farms	FBO Agreement	2,250.00
South Dakota 811	one calls	15.75
Stahl, Lenny	overpayment refund	110.57
Star Laundry & Cleaners	laundry service	387.49
Stoney Brook	supplies	2,851.46

Street Graphex Inc.	supplies	822.87
Stuntcams LLC	equipment	100.00
Syn-Tech Systems	hosting fee/maintenance	3,538.00
The Ortonville Independent	sponsorship signs	408.00
Thiele, Darin	travel expense/clothing allowance	198.05
Tillman, Duane	CPR/AED training	360.00
Twin Valley Tire	vehicle & tire service	1,313.25
US Bank	admin fee	600.00
US Postal Service	postage/permit fee	950.00
USA Bluebook	testing supplies	1,824.91
Valley Office Products	supplies	35.37
Valley Rental & Recycling	recycling agreement	650.00
VanVooren, Boyd	pool chairs	40.00
Vista Print	signs	156.41
VPD Studio	Legion Field Commission	4,012.23
Walmart	pool chairs	204.30
Whetstone Home Center	supplies, parts	992.14
Whetstone Sanitation	garbage service	200.00
Whetstone Valley Electric	electric	4,958.99
Xerox Corp.	copier leases	442.82
YouTube	subscription	14.86
Zoom Video Communications	zoom subscription	16.98

723,759.61

City of Milbank  
City Council  
Pre-Disaster Mitigation Plan  
Meeting Outline

## Introduction

Personal introduction:

Introduce the plan:

Why update the PDM?

*Counties are required to update their PDM plan every 5 years to maintain eligibility for federal funding for disaster mitigation projects and other federal funding/programs.*

How are the Communities involved?

What is a PDM?

- *Allows a community to plan for a disaster before it occurs*
- *Helps reduce risk and minimize impact from future events*
  - *Protects people and structures*
  - *Preserves life, health, safety of residents*
  - *Protects the economic health and vitality of the community*
- *Breaks the cycle of disaster-repair-disaster in a community*

## Hazard Exercise

Hazard Probability / Hazard Vulnerability (Personal)

“Personal” is in reference to THE PEOPLE that live in town and their property.

Allow to do on own (About 2 – 5 minutes)

Describe or read corresponding answers

- What does “0” mean? What Does “3” Mean? What does “5” Mean?

Briefly describe the ones that have or would wreak the most havoc

- Tornado and Strong winds were identified.

Hazard Probability / Vulnerability – Community -- will refer to critical infrastructure, emergency services, and just RUNNING A TOWN.

Reiterate what “Community” refers to in this case.

- Freezing Rain/Sleet/Ice, heavy snow were identified by all as one that usually causes the most disturbance.

Complete together (Probability should roughly match personal probability)

## Community facilities

### Identify/review critical facilities

Are there new facilities/facilities to be removed

- Add Peaceful Pines Senior Living – 410 E 10<sup>th</sup> Ave
- United Square Building is now Unity Health and Fitness – Public
- Add Lift Stations – Randall Drive, Highview Drive, Berens, and Runnings
  - 3<sup>rd</sup> Ave Lift Station in table – Valley Queen
  - Berens in table should be Dollar General

Have addresses changed/are they correct

No additional changes

Where are the populations to protect

## Project review

### Review past projects

- Drainage study for Pribyl Park has been completed.
- Have not completed a study to determine repair needs of storm sewer system

Ask about other projects (not all require FEMA funding)

- Storm shelter at Pribyl Park
- Could use an additional storm siren on the NE side of town – NE of Berens Market area
- Generator for City Hall and Unity Health to help provide shelter in event of loss of power.

Ask about Policies/activities that already help mitigate Disaster

## Conclusion

Please participate in online survey – will email direct link to Steve

Timeline:

June/July – PDM Team Meeting #2 – Review of PDM Draft

August – PDM Team Final Draft review/Approval and submit to State and FEMA

September/October – State and FEMA approval

November/December – Approval/Resolution by County and Municipalities

## Town of Revillo Agenda

*AED*  
*add one @ School ?*

REVILLO COUNCIL MEETING  
March 10<sup>th</sup>, 2025  
7:00 p.m.

*Absent: Bob A.*  
*Present: Amber*  
*Wayne*  
*Donna*  
*Amy Arnold*

- 1) Call meeting to order/establish quorum. *7:03*
- 2) Adopt agenda as proposed. M: *S* S: *E*
- 3) Approve minutes. M: *S* S: *E*
- 4) Approve financial statement. M: *S* S: *E*
- 5) Approve Claims. M: *S* S: *E*
- 6) Reports - James Nelson \*

*\* Team Mtg*  
*March 31<sup>st</sup>*  
*4-H Complex*  
*Noon - Monday*  
*Surgery on*  
*1<sup>st</sup> District*  
*website*  
*under download*

**New Items**

- ☒ Amy Arnold - Pre-Disaster Mitigation 5 year review
- ☒ First District letter - any changes to town map/streets?
- ☒ Attorney opinion info
- ☒ Tax call information
- ☒ Light bulbs replaced - credit?
- ☒ JD mower safety notice
- ☒ Election notices
- ☒ *AED* - *Thank you to Gary Covert and thank you \**
- ☐ \*No discharge of sump pump water into sewer system

Correspondence: Mail - Info (emails) -

**Old Items:**

Property nuisances

**Center Reserve Dates:**

- February 11<sup>th</sup>, 2025 - Pie days begin (Every Tuesday)
- March 4<sup>th</sup>, 2025 - 10am Vernon Township
- April 3<sup>rd</sup>, 2025 - Bloodmobile
- April 20<sup>th</sup>, 2025 - Easter - Tiffanie R
- April 26<sup>th</sup>, 2025 - Bridal shower - A Wollschlager
- April 27<sup>th</sup>, 2025 - Birthday party - C. & Desi Street
- May 24<sup>th</sup>, 2025 - Class of '75 reunion
- Memorial Day - Auxiliary
- June 14<sup>th</sup>, 2025 - K. Wollschlager shower
- July 16, 2025 - Bloodmobile
- July 19<sup>th</sup>, 2025 - Schafer/Collins Reunion
- August 9, 2025 - Lounsbery reunion
- August 16, 2025 - Engebretson reunion
- August 17, 2025 - Feyerisen reunion (Sunday)
- Sept. 10<sup>th</sup>, 2025 - Revillo Elevator appreciation supper
- Sept. 29, 2025 - Bloodmobile
- November 29<sup>th</sup>, 2025 - Ed Wollschlager family

*\* Bob -*  
*Subst*  
*Apr - June ok*

9) Next meeting April 14, 2025

10) Adjournment: M: *S* S: *E* *7:55 pm*

UPCOMING AGENDA ITEMS - ELECTION NOTICES - JAN.; POST SALARIES - JAN.; GUIDE POLES-SNOW REMOVAL; August - Consolidated Assessment Resolution; Sept-tax call/budget; Oct-LIGHT CONTEST; NOV-SANTA DAY; LICENSE RENEWALS: MALT BEV-MAY; LIQUOR-NOV/DEC.

FY1 - Tax call info: 2025 \$42,998; New tax call could be \$45,105 with est. growth inc.

**GRANT COUNTY PRE-DISASTER MITIGATION PLANNING MEETING**

***Town of Revillo***

**March 10<sup>th</sup>, 2025**

[illegible]

**DATE: 01/16/24**

[illegible]

## Town of Revillo Minutes

The regular meeting for Town of Revillo was called to order at 7:03 p.m. on March 10<sup>th</sup>, 2025 with the following present: Amber Seidell, Wayne Erickson, Donna Johnson, and Amy Arnold from 1<sup>st</sup> District. Absent: Bob Adler.

The agenda was adopted.

The minutes and financial statements were approved. Claims list was approved.

Items of discussion included: tax call information, pre-disaster mitigation review, letter from 1<sup>st</sup> District regarding maps/streets, waiting for credit for LED's, mower safety notice, election notices, AED training and free device, and attorney's opinion on process of condemning property.

Amy Arnold attended the meeting and assisted the board with our pre-disaster mitigation 5 year review.

Thanks to Gary Givers for providing training and a portable AED to the town for attending.

Meeting was adjourned at 7:55pm. Next regular meeting is set for April 14<sup>th</sup>, 2025 at 7pm.

Donna Johnson

Finance Officer

\*This institution is an equal opportunity provider.\*

Town of Revillo  
Town Board  
Pre-Disaster Mitigation Plan  
Meeting Outline

## Introduction

Personal introduction:

Introduce the plan:

Why update the PDM?

*Counties are required to update their PDM plan every 5 years to maintain eligibility for federal funding for disaster mitigation projects and other federal funding/programs.*

How are the Communities involved?

What is a PDM?

*A plan intended to identify actions that can be taken before a disaster strikes to minimize risk to individuals and property from future natural hazards.*

## Hazard Exercise

Hazard Probability / Hazard Vulnerability (Personal)

“**Personal**” is in reference to THE PEOPLE that live in town and their property.

“**Community**” will refer to critical infrastructure, emergency services, and just RUNNING A TOWN.

Allow to do on own (About 2 – 5 minutes)

Describe or read corresponding answers

- What does “0” mean? What Does “3” Mean? What does “5” Mean?

Briefly describe the ones that have or would wreak the most havoc

- Freezing Rain/Ice – loss of power
- Heavy snow
- Flood/Rapid Snow melt – destruction in low lying areas
- Hail / Strong winds – structural damage
- Tornado
- Ice Jam – compromising bridge structure
- 

Hazard Probability / Vulnerability – Community

Reiterate what “Community” refers to in this case.

- List here things they found would be specifically difficult to navigate after certain events.

Complete together (Probability should roughly match personal probability)

## Community facilities

Identify/review critical facilities

Are there new facilities/facilities to be removed

- Grant Deuel School (closed) now houses Spirit of the Cats – a non profit

Have addresses changed/are they correct

- Update Revillo Clinic to Avera Revillo Clinic – 305 N 2<sup>nd</sup> Ave

Where are the populations to protect

## Project review

Review past projects

- Are they completed/still necessary/ongoing
  - Replace Culverts along 2<sup>nd</sup> Ave N – would need county involvement
  - Reestablish drainage paths along the west edge of town – would continue this project.

Ask about other projects (not all require FEMA funding)

- Utilize the community center as a Storm Shelter if necessary
- Bury overhead lines to reduce power outages
- A self contained back-up generator for lift stations.

Ask about Policies/activities that already help mitigate Disaster

- Town installed culverts along the south side of the park to help with drainage.

## Conclusion

Coming up there will be a series of Team Meetings that you will be invited to. Kickoff meeting is scheduled for Monday March 31<sup>st</sup> in Milbank at 12pm – at the 4H complex – Review and Final Review will follow in the fall.

Please participate in online survey which is on our website under downloads – email coming.

## **Town of Stockholm Meeting Agenda**

### **Town of Stockholm Agenda**

#### **Town of Stockholm Town Board Meeting Agenda April 7<sup>th</sup>, 2025**

**Call to Order  
Minutes  
Bills**

**Old Business  
New Business  
1<sup>st</sup> District Pre-Disaster Mitigation – Amy Arnold  
Miscellaneous**

**Adjournment**

**GRANT COUNTY PRE-DISASTER MITIGATION PLANNING MEETING**

### ***Town of Stockholm***

**April 7<sup>th</sup>, 2025**

[illegible]

**Town of Stockholm Meeting Minutes Not available**

Town of Stockholm  
Town Board  
Pre-Disaster Mitigation Plan  
Meeting Outline

## Introduction

Personal introduction:

Introduce the plan:

Why update the PDM?

*Counties are required to update their PDM plan every 5 years to maintain eligibility for federal funding for disaster mitigation projects and other federal funding/programs.*

How are the Communities involved?

What is a PDM?

- *Allows a community to plan for a disaster before it occurs*
- *Helps reduce risk and minimize impact from future events*
  - *Protects people and structures*
  - *Preserves life, health, safety of residents*
  - *Protects the economic health and vitality of the community*
- *Breaks the cycle of disaster-repair-disaster in a community*

## Hazard Exercise

Hazard Probability / Hazard Vulnerability (Personal)

“Personal” is in reference to THE PEOPLE that live in town and their property.

“Community” will refer to critical infrastructure, emergency services, and just RUNNING A TOWN.

Allow to do on own (About 2 – 5 minutes)

Describe or read corresponding answers

- What does “0” mean? What Does “3” Mean? What does “5” Mean?

Briefly describe the ones that have or would wreak the most havoc

Hazard Probability / Vulnerability – Community

Reiterate what “Community” refers to in this case.

- List here things they found would be specifically difficult to navigate after certain events.

Complete together (Probability should roughly match personal probability)

## Community facilities

### Identify/review critical facilities

Are there new facilities/facilities to be removed

- Remove Bou Matic Milking System
- Remove Evjen's Repair – they removed the gas station portion of it.
- Add park – behind Fire Hall/Community Center

Have addresses changed/are they correct

Where are the populations to protect

## Project review

### Review past projects

- Replace culverts along railroad tracks and Main Street - would need to be the Railroad as the contact as the City doesn't have ability to maintain these culverts
- Keep all past projects on list

Ask about other projects (not all require FEMA funding)

- Work with Ottertail to bury overhead lines to minimize power outages
- Backup generator at Fire Hall/Community Center for times when community loses power

Ask about Policies/activities that already help mitigate Disaster

## Conclusion

Please participate in online survey – will email Jodi direct link.

Timeline:

June/July – PDM Team Meeting #2 – Review of PDM Draft

August – PDM Team Final Draft review/Approval and submit to State and FEMA

September/October – State and FEMA approval

November/December – Approval by County and Municipalities

## Town of Strandburg Meeting Agenda

# Town of Strandburg

March 2<sup>nd</sup>, 2025 5:30pm

## Agenda

Call to Order

Approve Minutes

Approve Bills

Old Business:

New Business:

Yearly Balance Sheets

Pre-Distaster Mitigation Plan – Amy Arnold First District

Adjourn

**GRANT COUNTY PRE-DISASTER MITIGATION PLANNING MEETING**

***Town of Strandburg***

**March 2<sup>nd</sup>, 2025**

[illegible]

## Town of Strandburg Minutes

The Strandburg Town Board met on March 2<sup>nd</sup>, 2025 at Ruffee's, 5:30 PM.

Board members present: Steve Brehmer, Todd Rufer (facetime, because of illness) and Finance Officer Tammy Rufer.

The minutes from last meeting were read and upon motion were accepted. The following bills were presented and approved for payment....

Otter Tail -\$191.94

SDML - dues - \$98

ITC – library internet - \$552.84

Review - \$13.32

Tammy Rufer – quickbooks/supplies - \$45.63

No Old Business:

New Business:

The yearly Balance Sheets were looked over and were accepted as correct.

Amy Arnold from First District was here to go over the Grant County Pre-Disaster Mitigation Plan. She went over some worksheets, and then talked about potential problems and what we could do to fix them.

As there was no further business to discuss a motion made by S. Brehmer to adjourn. Second by T. Rufer. Motion passed unanimously. Meeting Adjourned.

Tammy Rufer  
Finance Officer  
Town of Strandburg

Town of Strandburg  
Town Board  
Pre-Disaster Mitigation Plan  
Meeting Outline

## Introduction

### Personal introduction:

- All in attendance introduced themselves – one board member joined via facetime due to illness

### Introduce the plan:

#### Why update the PDM?

*Counties are required to update their PDM plan every 5 years to maintain eligibility for federal funding for disaster mitigation projects and other federal funding/programs.*

#### How are the towns involved?

#### What is a PDM?

- *Allows a community to plan for a disaster before it occurs*
- *Helps reduce risk and minimize impact from future events*
  - *Protects people and structures*
  - *Preserves life, health, safety of residents*
  - *Protects the economic health and vitality of the community*
- *Breaks the cycle of disaster-repair-disaster in a community*

## Hazard Exercise

### Hazard Probability / Hazard Vulnerability (Personal)

“Personal” is in reference to THE PEOPLE that live in town and their property. “Community” will refer to critical infrastructure, emergency services, and just RUNNING A TOWN.

#### Allow to do on own (About 2 – 5 minutes)

- All board members present filled out worksheet number one.

#### Describe or read corresponding answers

#### Briefly describe the ones that have or would wreak the most havoc

- All board members present agreed that heavy snow, tornadoes and wildfire would cause the most disturbance/damage on a personal level.

### Hazard Probability / Vulnerability – Community

#### Reiterate what “Community” refers to in this case.

- Board members present discussed the high frequency of drought increasing the probability of wildfire happening and the community would see considerable damage as

they rely heavily on surrounding communities Fire Departments. They also discussed lightning and the possibility of that starting a wildfire.

- Everyone agreed that heavy snow also creates a disturbance within the community.
- The community uses the gym as a shelter if needed.

Complete together (Probability should roughly match personal probability)

## Community facilities

### Identify/review critical facilities

There are no new facilities or any changes to be made to existing listed facilities.

Addresses to all existing facilities are correct.

No additional populations to protect.

## Project review

### Review past projects

#### Completed Projects

- Previously listed drainage issues were taken care of by replacing the existing culverts and repairing the road along Main St/162<sup>nd</sup> St

### Ask about other projects (not all require FEMA funding)

#### New Projects

- Work on burying the overhead lines coming into town to minimize the loss of power.
- Trim trees near overhead lines in town to reduce the risk of limbs falling on lines in high winds or freezing rain/ice.
- Purchase and Install storm sirens.
- Purchase backup generator to power Community Center/Gym as backup power and provide a location for people who need shelter.
- Maintain a list of local farmers with a disk to assist in the event of a wildfire.

### Ask about Policies/activities that already help mitigate Disaster

## Conclusion

Please participate in online survey which will be out in March.

Town of Twin Brooks Agenda

# Town of Twin Brooks

Meeting

March 11<sup>th</sup> at 7pm

## Agenda

Minutes/Finance Report

Public Comments

Twin Brooks Pre Disaster Mitigation Review

Amy Arnold, First District Local Governments

Equalization Board Meeting, March 17<sup>th</sup> at 7pm

Town Hall Fix Up

Vacant Buildings

New Business

# Town of Twin Brooks Sign-In Sheet

**GRANT COUNTY PRE-DISASTER MITIGATION PLANNING MEETING**

***Town of Twin Brooks***

**March 11<sup>th</sup>, 2025**

[illegible]

## Town of Twin Brooks Minutes

TWIN BROOKS TOWN MINUTES 3/11/2025

The Town of Twin Brooks held its monthly meeting March 11th, 2025, with Wiseman, Borns and Larsen in attendance. Larsen called the meeting to order.

Minutes of the last meeting were read and approved.

A motion was made by Wiseman and seconded by Larsen to approve to increase the tax call to \$9,484.00 for the tax year 2025 payable 2026 and additional dollars available due to growth.

Amy Arnold of First District reviewed the Twin Brooks Pre Disaster Mitigation with the Board.

A motion was made by Wiseman and seconded by Larsen to approve the Finance Report.

Town Hall Upkeep, Roads and Vacant buildings were brought up for discussion.

Bills to be paid: ~~Grant~~Roberts Rural Water 79.00, Grant County Review 9.99, ITC 84.07, Ottertail 364.95, and SDML 95.00.

The meeting was adjourned and seconded. Next meeting is set for April 8th, 2025, at 7:00 pm

Paul T Spolar

Finance Officer

Town of Twin Brooks  
Town Board  
Pre-Disaster Mitigation Plan  
Meeting Outline

## Introduction

Personal introduction:

Introduce the plan:

Why update the PDM?

*Counties are required to update their PDM plan every 5 years to maintain eligibility for federal funding for disaster mitigation projects and other federal funding/programs.*

How are the Communities involved?

What is a PDM?

*A plan intended to identify actions that can be taken before a disaster strikes to minimize risk to individuals and property from future natural hazards.*

## Hazard Exercise

Hazard Probability / Hazard Vulnerability (Personal)

“Personal” is in reference to THE PEOPLE that live in town and their property.

“Community” will refer to critical infrastructure, emergency services, and just RUNNING A TOWN.

Allow to do on own (About 2 – 5 minutes)

Describe or read corresponding answers

- What does “0” mean? What Does “3” Mean? What does “5” Mean?

Briefly describe the ones that have or would wreak the most havoc

Hazard Probability / Vulnerability – Community

Reiterate what “Community” refers to in this case.

- List here things they found would be specifically difficult to navigate after certain events.

Complete together (Probability should roughly match personal probability)

## Community facilities

Identify/review critical facilities

Are there new facilities/facilities to be removed

- Add Park – S Lassell Street

Have addresses changed/are they correct

No additional changes

Where are the populations to protect

## Project review

Review past projects

- Are they completed/still necessary/ongoing
  - Leave Purchase Emergency Siren for town on list

Ask about other projects (not all require FEMA funding)

- Mile west of town along railroad tracks clean out ditch/culvert to improve drainage
- Storm shelter – there is a couple of homes in town that do not have a basement.
- Backup generator for the Community Center
- Maintain a list of local farmers with a disc to help in the event of a wildfire. Community members often worry about the chances of a fire due to drought and nearby railroad tracks/sparks from when the train slows down to get into West-Con.
- Work with Ottertail to bury overhead lines

Ask about Policies/activities that already help mitigate Disaster

- South half of town was tiled to improve drainage

## Conclusion

Coming up there will be a series of Team Meetings that you will be invited to. Kickoff meeting is scheduled for Monday March 31<sup>st</sup> in Milbank at 12pm – at the 4H complex – Review and Final Review will follow in the fall.

Please participate in online survey which is on our website under downloads – email coming.

## Appendix D - Hazard Identification/Vulnerability Worksheets

Appendix D includes master worksheets for Hazard Identification and Vulnerability for jurisdictions compiled as described in Appendix C. Lists were gathered at meetings as described below:

<b>Entity</b>	<b>Date</b>
Big Stone City	March 3, 2025
LaBolt	April 7, 2025
Marvin	March 3, 2025
Milbank	April 14, 2025
Revillo	March 10, 2025
Stockholm	April 7, 2025
Strandburg	March 2, 2025
Twin Brooks	March 11, 2025

Master worksheets for Hazard Identification and Vulnerability for jurisdictions and utilities (multiple were submitted for Grant County) below.

**Grant County PDM**  
**Worksheet #1 (County Commissioners)**  
**Risk Assessment Worksheet – Personal Hazard Identification and Vulnerability**

**How often does it seem these hazards occur?** *Please mark one for each (KEY)*

- 0 – Does not occur in this jurisdiction  
 1 – Am aware this occurred but has not while I lived here

- 2 – Remember this happening once  
 3 – This has happened a few times, but not every year  
 4 – This seems to happen every year  
 5 – This seems to happen more than once every year

<b>Hazard</b>	<b><u>Frequency/Probability</u> (See Above)</b>	<b><u>Vulnerability</u> (See Below)</b>
Dam Failure	<b>1</b>	<b>2</b>
Drought	<b>3</b>	<b>2</b>
Extreme Cold	<b>4</b>	<b>2</b>
Extreme Heat	<b>4</b>	<b>3</b>
Flood	<b>3</b>	<b>2</b>
Freezing Rain/Sleet/Ice	<b>3</b>	<b>3</b>
Hail	<b>3</b>	<b>3</b>
Heavy Rain	<b>4</b>	<b>2</b>
Heavy Snow	<b>3</b>	<b>2</b>
Ice Jam	<b>2</b>	<b>2</b>
Lightning	<b>3</b>	<b>2</b>
Rapid Snow Melt	<b>3</b>	<b>3</b>
Strong Winds	<b>4</b>	<b>3</b>
Tornado	<b>3</b>	<b>4</b>
Urban Fire	<b>2</b>	<b>2</b>
Wild Fire	<b>2</b>	<b>2</b>

**How Vulnerable is your community to the following hazards?** *Please mark one for each (KEY – Description with anecdotal description in parentheses.)*

- 0 – Does not occur in this jurisdiction  
 1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. (*"I'm sure this has happened, but nobody is concerned about what would happen if it occurs again."*)  
 2 – If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. (*"I expect this hazard to occur, and am not concerned with any damage or injury that could occur."*)  
 3 – If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. (*"I worry about certain properties and/or people that may be significantly vulnerable to this hazard, but not everyone is."*)  
 4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. (*"I worry what could happen if this hits us wrong."*)  
 5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. (*"I worry about what would happen if this happened in town, no matter where."*)

## Grant County PDM Worksheet #2 (County Commissioners)

### Risk Assessment Worksheet – Community Wide Hazard Identification and Vulnerability

**How often does it seem these hazards occur? Please mark one for each (KEY)**

- 0 – Does not occur in this jurisdiction**  
**1 – Am aware this occurred but has not while I lived here**

- 2 – Remember this happening once**  
**3 – This has happened a few times, but not every year**  
**4 – This seems to happen every year**  
**5 – This seems to happen more than once every year**

<u>Hazard</u>	<u>Frequency/Probability</u> (See Above)	<u>Vulnerability</u> (See Below)
Dam Failure	<b>1</b>	<b>0</b>
Drought	<b>3</b>	<b>3</b>
Extreme Cold	<b>4</b>	<b>3</b>
Extreme Heat	<b>4</b>	<b>3</b>
Flood	<b>3</b>	<b>3</b>
Freezing Rain/Sleet/Ice	<b>3</b>	<b>3</b>
Hail	<b>3</b>	<b>3</b>
Heavy Rain	<b>4</b>	<b>3</b>
Heavy Snow	<b>3</b>	<b>3</b>
Ice Jam	<b>2</b>	<b>2</b>
Lightning	<b>3</b>	<b>2</b>
Rapid Snow Melt	<b>3</b>	<b>3</b>
Strong Winds	<b>4</b>	<b>3</b>
Tornado	<b>3</b>	<b>4</b>
Urban Fire	<b>2</b>	<b>2</b>
Wild Fire	<b>2</b>	<b>2</b>

**How Vulnerable is your community to the following hazards? Please mark one for each (KEY – Description with anecdotal description in parentheses.)**

- 0 – Does not occur in this jurisdiction**  
**1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. ("This would not affect normal community operations.")**  
**2 – If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. ("Any damage could be addressed with normal staff/community time dedicated at this time.")**  
**3 – If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. ("Any damage could be addressed with normal staff/community involvement, but would be noticed as a temporary notice to residents outside the affected area.")**  
**4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. ("Damage would require over-time or extra assistance in some form to recover from, assist those affected. Daily life by most residents in the town would be affected negatively during recovery.")**  
**5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. ("Normal government business or daily life could not resume until significant recovery occurs.")**

**Grant County PDM**  
**Worksheet #1 (City of Big Stone City)**  
**Risk Assessment Worksheet – Personal Hazard Identification and Vulnerability**

**How often does it seem these hazards occur?** *Please mark one for each (KEY)*

- 0 – Does not occur in this jurisdiction  
 1 – Am aware this occurred but has not while I lived here

- 2 – Remember this happening once  
 3 – This has happened a few times, but not every year  
 4 – This seems to happen every year  
 5 – This seems to happen more than once every year

<b>Hazard</b>	<b><u>Frequency/Probability</u> (See Above)</b>	<b><u>Vulnerability</u> (See Below)</b>
Dam Failure	0	0
Drought	3	1
Extreme Cold	2	2
Extreme Heat	2	2
Flood	2	3
Freezing Rain/Sleet/Ice	2	3
Hail	3	3
Heavy Rain	3	3
Heavy Snow	3	3
Ice Jam	1	1
Lightning	3	2
Rapid Snow Melt	4	3
Strong Winds	4	3
Tornado	3	2
Urban Fire	1	1
Wild Fire	1	1

**How Vulnerable is your community to the following hazards?** *Please mark one for each (KEY – Description with anecdotal description in parentheses.)*

- 0 – Does not occur in this jurisdiction  
 1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. (*"I'm sure this has happened, but nobody is concerned about what would happen if it occurs again."*)  
 2 – If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. (*"I expect this hazard to occur, and am not concerned with any damage or injury that could occur."*)  
 3 – If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. (*"I worry about certain properties and/or people that may be significantly vulnerable to this hazard, but not everyone is."*)  
 4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. (*"I worry what could happen if this hits us wrong."*)  
 5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. (*"I worry about what would happen if this happened in town, no matter where."*)

**Grant County PDM  
Worksheet #2 (City of Big Stone City)**

**Risk Assessment Worksheet – Community Wide Hazard Identification and Vulnerability**

**How often does it seem these hazards occur? Please mark one for each (KEY)**

- 0 – Does not occur in this jurisdiction**  
**1 – Am aware this occurred but has not while I lived here**

- 2 – Remember this happening once**  
**3 – This has happened a few times, but not every year**  
**4 – This seems to happen every year**  
**5 – This seems to happen more than once every year**

<b><u>Hazard</u></b>	<b><u>Frequency/Probability</u> (See Above)</b>	<b><u>Vulnerability</u> (See Below)</b>
Dam Failure	<b>0</b>	<b>0</b>
Drought	<b>3</b>	<b>1</b>
Extreme Cold	<b>5</b>	<b>2</b>
Extreme Heat	<b>5</b>	<b>2</b>
Flood	<b>3</b>	<b>4</b>
Freezing Rain/Sleet/Ice	<b>5</b>	<b>2</b>
Hail	<b>4</b>	<b>3</b>
Heavy Rain	<b>5</b>	<b>3</b>
Heavy Snow	<b>5</b>	<b>2</b>
Ice Jam	<b>1</b>	<b>1</b>
Lightning	<b>5</b>	<b>3</b>
Rapid Snow Melt	<b>4</b>	<b>3</b>
Strong Winds	<b>5</b>	<b>4</b>
Tornado	<b>2</b>	<b>5</b>
Urban Fire	<b>1</b>	<b>1</b>
Wild Fire	<b>0</b>	<b>0</b>

**How Vulnerable is your community to the following hazards? Please mark one for each (KEY – Description with anecdotal description in parentheses.)**

- 0 – Does not occur in this jurisdiction**  
**1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. (“This would not affect normal community operations.”)**  
**2 – If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. (“Any damage could be addressed with normal staff/community time dedicated at this time.”)**  
**3 – If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. (“Any damage could be addressed with normal staff/community involvement, but would be noticed as a temporary notice to residents outside the affected area.”)**  
**4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. (“Damage would require over-time or extra assistance in some form to recover from, assist those affected. Daily life by most residents in the town would be affected negatively during recovery.”)**  
**5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. (“Normal government business or daily life could not resume until significant recovery occurs.”)**

**Grant County PDM**  
**Worksheet #1 (Town of LaBolt)**  
**Risk Assessment Worksheet – Personal Hazard Identification and Vulnerability**

**How often does it seem these hazards occur?** *Please mark one for each*  
**(KEY)**

- 0 – Does not occur in this jurisdiction**  
**1 – Am aware this occurred but has not while I lived here**

- 2 – Remember this happening once**  
**3 – This has happened a few times, but not every year**  
**4 – This seems to happen every year**  
**5 – This seems to happen more than once every year**

<b>Hazard</b>	<b><u>Frequency/Probability</u> (See Above)</b>	<b><u>Vulnerability</u> (See Below)</b>
Dam Failure	0	0
Drought	3	1
Extreme Cold	3	2
Extreme Heat	3	2
Flood	0	0
Freezing Rain/Sleet/Ice	3	3
Hail	2	3
Heavy Rain	3	3
Heavy Snow	3	3
Ice Jam	0	0
Lightning	3	3
Rapid Snow Melt	0	1
Strong Winds	3	4
Tornado	0	0
Urban Fire	0	0
Wild Fire	0	0

**How Vulnerable is your community to the following hazards?** *Please mark one for each*  
**(KEY – Description with anecdotal description in parentheses.)**

- 0 – Does not occur in this jurisdiction**  
**1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. (“I’m sure this has happened, but nobody is concerned about what would happen if it occurs again.”)**  
**2 – If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. (“I expect this hazard to occur, and am not concerned with any damage or injury that could occur.”)**  
**3 – If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. (“I worry about certain properties and/or people that may be significantly vulnerable to this hazard, but not everyone is.”)**  
**4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. (“I worry what could happen if this hits us wrong.”)**  
**5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. (“I worry about what would happen if this happened in town, no matter where.”)**

## Grant County PDM Worksheet #2 (Town of LaBolt)

### Risk Assessment Worksheet – Community Wide Hazard Identification and Vulnerability

**How often does it seem these hazards occur? Please mark one for each (KEY)**

- 0 – Does not occur in this jurisdiction  
1 – Am aware this occurred but has not while I lived here

- 2 – Remember this happening once  
3 – This has happened a few times, but not every year  
4 – This seems to happen every year  
5 – This seems to happen more than once every year

<u>Hazard</u>	<u>Frequency/Probability</u> (See Above)	<u>Vulnerability</u> (See Below)
Dam Failure	0	0
Drought	0	0
Extreme Cold	4	3
Extreme Heat	3	2
Flood	0	0
Freezing Rain/Sleet/Ice	5	3
Hail	4	3
Heavy Rain	4	3
Heavy Snow	3	2
Ice Jam	0	0
Lightning	0	1
Rapid Snow Melt	2	2
Strong Winds	5	4
Tornado	0	0
Urban Fire	1	2
Wild Fire	0	1

**How Vulnerable is your community to the following hazards? Please mark one for each (KEY – Description with anecdotal description in parentheses.)**

- 0 – Does not occur in this jurisdiction  
1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. (*"This would not affect normal community operations."*)  
2 – If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. (*"Any damage could be addressed with normal staff/community time dedicated at this time."*)  
3 – If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. (*"Any damage could be addressed with normal staff/community involvement, but would be noticed as a temporary notice to residents outside the affected area."*)  
4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. (*"Damage would require over-time or extra assistance in some form to recover from, assist those affected. Daily life by most residents in the town would be affected negatively during recovery."*)  
5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. (*"Normal government business or daily life could not resume until significant recovery occurs."*)

**Grant County PDM**  
**Worksheet #1 (Town of Marvin)**  
**Risk Assessment Worksheet – Personal Hazard Identification and Vulnerability**

**How often does it seem these hazards occur?** *Please mark one for each*  
**(KEY)**

- 0 – Does not occur in this jurisdiction**  
**1 – Am aware this occurred but has not while I lived here**

- 2 – Remember this happening once**  
**3 – This has happened a few times, but not every year**  
**4 – This seems to happen every year**  
**5 – This seems to happen more than once every year**

<b>Hazard</b>	<b><u>Frequency/Probability</u> (See Above)</b>	<b><u>Vulnerability</u> (See Below)</b>
Dam Failure	<b>0</b>	<b>0</b>
Drought	<b>4</b>	<b>1</b>
Extreme Cold	<b>5</b>	<b>2</b>
Extreme Heat	<b>5</b>	<b>2</b>
Flood	<b>0</b>	<b>0</b>
Freezing Rain/Sleet/Ice	<b>4</b>	<b>4</b>
Hail	<b>2</b>	<b>2</b>
Heavy Rain	<b>2</b>	<b>2</b>
Heavy Snow	<b>2</b>	<b>2</b>
Ice Jam	<b>1</b>	<b>1</b>
Lightning	<b>1</b>	<b>1</b>
Rapid Snow Melt	<b>4</b>	<b>4</b>
Strong Winds	<b>5</b>	<b>3</b>
Tornado	<b>3</b>	<b>3</b>
Urban Fire	<b>2</b>	<b>5</b>
Wild Fire	<b>5</b>	<b>5</b>

**How Vulnerable is your community to the following hazards?** *Please mark one for each*  
**(KEY – Description with anecdotal description in parentheses.)**

- 0 – Does not occur in this jurisdiction**  
**1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. (“I’m sure this has happened, but nobody is concerned about what would happen if it occurs again.”)**  
**2 – If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. (“I expect this hazard to occur, and am not concerned with any damage or injury that could occur.”)**  
**3 – If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. (“I worry about certain properties and/or people that may be significantly vulnerable to this hazard, but not everyone is.”)**  
**4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. (“I worry what could happen if this hits us wrong.”)**  
**5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. (“I worry about what would happen if this happened in town, no matter where.”)**

## Grant County PDM Worksheet #2 (Town of Marvin)

### Risk Assessment Worksheet – Community Wide Hazard Identification and Vulnerability

**How often does it seem these hazards occur? Please mark one for each (KEY)**

- 0 – Does not occur in this jurisdiction  
1 – Am aware this occurred but has not while I lived here

- 2 – Remember this happening once  
3 – This has happened a few times, but not every year  
4 – This seems to happen every year  
5 – This seems to happen more than once every year

<u>Hazard</u>	<u>Frequency/Probability</u> (See Above)	<u>Vulnerability</u> (See Below)
Dam Failure	0	0
Drought	4	1
Extreme Cold	5	2
Extreme Heat	5	2
Flood	0	0
Freezing Rain/Sleet/Ice	4	4
Hail	2	2
Heavy Rain	2	2
Heavy Snow	2	2
Ice Jam	1	1
Lightning	1	1
Rapid Snow Melt	4	4
Strong Winds	5	3
Tornado	3	3
Urban Fire	2	5
Wild Fire	5	5

**How Vulnerable is your community to the following hazards? Please mark one for each (KEY – Description with anecdotal description in parentheses.)**

- 0 – Does not occur in this jurisdiction  
1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. (“This would not affect normal community operations.”)  
2 – If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. (“Any damage could be addressed with normal staff/community time dedicated at this time.”)  
3 – If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. (“Any damage could be addressed with normal staff/community involvement, but would be noticed as a temporary notice to residents outside the affected area.”)  
4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. (“Damage would require over-time or extra assistance in some form to recover from, assist those affected. Daily life by most residents in the town would be affected negatively during recovery.”)  
5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. (“Normal government business or daily life could not resume until significant recovery occurs.”)

**Grant County PDM**  
**Worksheet #1 (City of Milbank)**  
**Risk Assessment Worksheet – Personal Hazard Identification and Vulnerability**

**How often does it seem these hazards occur?** *Please mark one for each (KEY)*

- 0 – Does not occur in this jurisdiction  
 1 – Am aware this occurred but has not while I lived here

- 2 – Remember this happening once  
 3 – This has happened a few times, but not every year  
 4 – This seems to happen every year  
 5 – This seems to happen more than once every year

<b>Hazard</b>	<b><u>Frequency/Probability</u> (See Above)</b>	<b><u>Vulnerability</u> (See Below)</b>
Dam Failure	0	0
Drought	3	2
Extreme Cold	5	1
Extreme Heat	1	2
Flood	3	3
Freezing Rain/Sleet/Ice	3	2
Hail	2	3
Heavy Rain	3	3
Heavy Snow	3	3
Ice Jam	1	4
Lightning	3	3
Rapid Snow Melt	2	3
Strong Winds	4	2
Tornado	1	5
Urban Fire	2	3
Wild Fire	2	2

**How Vulnerable is your community to the following hazards?** *Please mark one for each (KEY – Description with anecdotal description in parentheses.)*

- 0 – Does not occur in this jurisdiction  
 1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. (*"I'm sure this has happened, but nobody is concerned about what would happen if it occurs again."*)  
 2 – If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. (*"I expect this hazard to occur, and am not concerned with any damage or injury that could occur."*)  
 3 – If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. (*"I worry about certain properties and/or people that may be significantly vulnerable to this hazard, but not everyone is."*)  
 4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. (*"I worry what could happen if this hits us wrong."*)  
 5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. (*"I worry about what would happen if this happened in town, no matter where."*)

## Grant County PDM Worksheet #2 (City of Milbank)

### Risk Assessment Worksheet – Community Wide Hazard Identification and Vulnerability

**How often does it seem these hazards occur? Please mark one for each (KEY)**

- 0 – Does not occur in this jurisdiction  
1 – Am aware this occurred but has not while I lived here

- 2 – Remember this happening once  
3 – This has happened a few times, but not every year  
4 – This seems to happen every year  
5 – This seems to happen more than once every year

<u>Hazard</u>	<u>Frequency/Probability</u> (See Above)	<u>Vulnerability</u> (See Below)
Dam Failure	1	3
Drought	3	4
Extreme Cold	5	2
Extreme Heat	5	2
Flood	2	3
Freezing Rain/Sleet/Ice	4	4
Hail	4	3
Heavy Rain	4	4
Heavy Snow	4	4
Ice Jam	0	0
Lightning	0	0
Rapid Snow Melt	3	4
Strong Winds	3	4
Tornado	1	5
Urban Fire	1	4
Wild Fire	0	5

**How Vulnerable is your community to the following hazards? Please mark one for each (KEY – Description with anecdotal description in parentheses.)**

- 0 – Does not occur in this jurisdiction  
1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. (*"This would not affect normal community operations."*)  
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3 – If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. (*"Any damage could be addressed with normal staff/community involvement, but would be noticed as a temporary notice to residents outside the affected area."*)  
4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. (*"Damage would require over-time or extra assistance in some form to recover from, assist those affected. Daily life by most residents in the town would be affected negatively during recovery."*)  
5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. (*"Normal government business or daily life could not resume until significant recovery occurs."*)

**Grant County PDM**  
**Worksheet #1 (Town of Revillo)**  
**Risk Assessment Worksheet – Personal Hazard Identification and Vulnerability**

**How often does it seem these hazards occur?** *Please mark one for each (KEY)*

- 0 – Does not occur in this jurisdiction  
 1 – Am aware this occurred but has not while I lived here

- 2 – Remember this happening once  
 3 – This has happened a few times, but not every year  
 4 – This seems to happen every year  
 5 – This seems to happen more than once every year

<b>Hazard</b>	<b><u>Frequency/Probability</u> (See Above)</b>	<b><u>Vulnerability</u> (See Below)</b>
Dam Failure	0	0
Drought	2	1
Extreme Cold	4	3
Extreme Heat	2	2
Flood	3	3
Freezing Rain/Sleet/Ice	3	2
Hail	2	3
Heavy Rain	3	2
Heavy Snow	3	2
Ice Jam	2	2
Lightning	4	2
Rapid Snow Melt	3	3
Strong Winds	5	4
Tornado	2	1
Urban Fire	1	1
Wild Fire	0	0

**How Vulnerable is your community to the following hazards?** *Please mark one for each (KEY – Description with anecdotal description in parentheses.)*

- 0 – Does not occur in this jurisdiction  
 1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. (*"I'm sure this has happened, but nobody is concerned about what would happen if it occurs again."*)  
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 4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. (*"I worry what could happen if this hits us wrong."*)  
 5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. (*"I worry about what would happen if this happened in town, no matter where."*)

## Grant County PDM Worksheet #2 (Town of Revillo)

### Risk Assessment Worksheet – Community Wide Hazard Identification and Vulnerability

**How often does it seem these hazards occur? Please mark one for each (KEY)**

- 0 – Does not occur in this jurisdiction  
1 – Am aware this occurred but has not while I lived here

- 2 – Remember this happening once  
3 – This has happened a few times, but not every year  
4 – This seems to happen every year  
5 – This seems to happen more than once every year

<u>Hazard</u>	<u>Frequency/Probability</u> (See Above)	<u>Vulnerability</u> (See Below)
Dam Failure	0	0
Drought	3	2
Extreme Cold	5	2
Extreme Heat	5	2
Flood	3	2
Freezing Rain/Sleet/Ice	5	4
Hail	4	4
Heavy Rain	4	3
Heavy Snow	4	3
Ice Jam	0	0
Lightning	3	2
Rapid Snow Melt	3	3
Strong Winds	4	4
Tornado	2	5
Urban Fire	3	3
Wild Fire	0	0

**How Vulnerable is your community to the following hazards? Please mark one for each (KEY – Description with anecdotal description in parentheses.)**

- 0 – Does not occur in this jurisdiction  
1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. (*"This would not affect normal community operations."*)  
2 – If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. (*"Any damage could be addressed with normal staff/community time dedicated at this time."*)  
3 – If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. (*"Any damage could be addressed with normal staff/community involvement, but would be noticed as a temporary notice to residents outside the affected area."*)  
4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. (*"Damage would require over-time or extra assistance in some form to recover from, assist those affected. Daily life by most residents in the town would be affected negatively during recovery."*)  
5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. (*"Normal government business or daily life could not resume until significant recovery occurs."*)

**Grant County PDM**  
**Worksheet #1 (Town of Stockholm)**  
**Risk Assessment Worksheet – Personal Hazard Identification and Vulnerability**

**How often does it seem these hazards occur?** *Please mark one for each (KEY)*

- 0 – Does not occur in this jurisdiction  
 1 – Am aware this occurred but has not while I lived here

- 2 – Remember this happening once  
 3 – This has happened a few times, but not every year  
 4 – This seems to happen every year  
 5 – This seems to happen more than once every year

<b>Hazard</b>	<b><u>Frequency/Probability</u> (See Above)</b>	<b><u>Vulnerability</u> (See Below)</b>
Dam Failure	0	0
Drought	3	3
Extreme Cold	4	4
Extreme Heat	4	4
Flood	3	3
Freezing Rain/Sleet/Ice	3	3
Hail	3	3
Heavy Rain	3	3
Heavy Snow	4	4
Ice Jam	0	0
Lightning	3	3
Rapid Snow Melt	3	3
Strong Winds	3	3
Tornado	2	2
Urban Fire	4	4
Wild Fire	4	4

**How Vulnerable is your community to the following hazards?** *Please mark one for each (KEY – Description with anecdotal description in parentheses.)*

- 0 – Does not occur in this jurisdiction  
 1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. (*"I'm sure this has happened, but nobody is concerned about what would happen if it occurs again."*)  
 2 – If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. (*"I expect this hazard to occur, and am not concerned with any damage or injury that could occur."*)  
 3 – If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. (*"I worry about certain properties and/or people that may be significantly vulnerable to this hazard, but not everyone is."*)  
 4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. (*"I worry what could happen if this hits us wrong."*)  
 5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. (*"I worry about what would happen if this happened in town, no matter where."*)

## Grant County PDM Worksheet #2 (Town of Stockholm)

### Risk Assessment Worksheet – Community Wide Hazard Identification and Vulnerability

**How often does it seem these hazards occur? Please mark one for each (KEY)**

- 0 – Does not occur in this jurisdiction  
1 – Am aware this occurred but has not while I lived here

- 2 – Remember this happening once  
3 – This has happened a few times, but not every year  
4 – This seems to happen every year  
5 – This seems to happen more than once every year

<u>Hazard</u>	<u>Frequency/Probability</u> (See Above)	<u>Vulnerability</u> (See Below)
Dam Failure	0	0
Drought	4	2
Extreme Cold	4	3
Extreme Heat	4	3
Flood	2	1
Freezing Rain/Sleet/Ice	3	2
Hail	3	3
Heavy Rain	2	2
Heavy Snow	3	2
Ice Jam	0	0
Lightning	1	1
Rapid Snow Melt	2	2
Strong Winds	3	3
Tornado	1	5
Urban Fire	1	1
Wild Fire	0	0

**How Vulnerable is your community to the following hazards? Please mark one for each (KEY – Description with anecdotal description in parentheses.)**

- 0 – Does not occur in this jurisdiction  
1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. (“This would not affect normal community operations.”)  
2 – If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. (“Any damage could be addressed with normal staff/community time dedicated at this time.”)  
3 – If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. (“Any damage could be addressed with normal staff/community involvement, but would be noticed as a temporary notice to residents outside the affected area.”)  
4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. (“Damage would require over-time or extra assistance in some form to recover from, assist those affected. Daily life by most residents in the town would be affected negatively during recovery.”)  
5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. (“Normal government business or daily life could not resume until significant recovery occurs.”)

**Grant County PDM**  
**Worksheet #1 (Town of Strandburg)**  
**Risk Assessment Worksheet – Personal Hazard Identification and Vulnerability**

**How often does it seem these hazards occur?** *Please mark one for each*

(KEY)

**0 – Does not occur in this jurisdiction**

**1 – Am aware this occurred but has not while I lived here**

**2 – Remember this happening once**

**3 – This has happened a few times, but not every year**

**4 – This seems to happen every year**

**5 – This seems to happen more than once every year**

<b>Hazard</b>	<b><u>Frequency/Probability</u> (See Above)</b>	<b><u>Vulnerability</u> (See Below)</b>
Dam Failure	0	1
Drought	4	3
Extreme Cold	4	3
Extreme Heat	3	2
Flood	2	1
Freezing Rain/Sleet/Ice	3	3
Hail	3	3
Heavy Rain	3	2
Heavy Snow	4	3
Ice Jam	0	1
Lightning	2	2
Rapid Snow Melt	4	2
Strong Winds	4	3
Tornado	0	3
Urban Fire	0	3
Wild Fire	0	3

**How Vulnerable is your community to the following hazards?** *Please mark one for each*

(KEY – Description with anecdotal description in *parentheses*.)

**0 – Does not occur in this jurisdiction**

**1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. (*"I'm sure this has happened, but nobody is concerned about what would happen if it occurs again."*)**

**2 – If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. (*"I expect this hazard to occur, and am not concerned with any damage or injury that could occur."*)**

**3 – If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. (*"I worry about certain properties and/or people that may be significantly vulnerable to this hazard, but not everyone is."*)**

**4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. (*"I worry what could happen if this hits us wrong."*)**

**5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. (*"I worry about what would happen if this happened in town, no matter where."*)**

**Grant County PDM  
Worksheet #2 (Town of Strandburg)**

**Risk Assessment Worksheet – Community Wide Hazard Identification and Vulnerability**

**How often does it seem these hazards occur? Please mark one for each (KEY)**

- 0 – Does not occur in this jurisdiction**  
**1 – Am aware this occurred but has not while I lived here**

- 2 – Remember this happening once**  
**3 – This has happened a few times, but not every year**  
**4 – This seems to happen every year**  
**5 – This seems to happen more than once every year**

<b><u>Hazard</u></b>	<b><u>Frequency/Probability</u> (See Above)</b>	<b><u>Vulnerability</u> (See Below)</b>
Dam Failure	<b>0</b>	<b>0</b>
Drought	<b>3</b>	<b>3</b>
Extreme Cold	<b>2</b>	<b>3</b>
Extreme Heat	<b>3</b>	<b>2</b>
Flood	<b>3</b>	<b>1</b>
Freezing Rain/Sleet/Ice	<b>3</b>	<b>2</b>
Hail	<b>3</b>	<b>2</b>
Heavy Rain	<b>2</b>	<b>2</b>
Heavy Snow	<b>3</b>	<b>3</b>
Ice Jam	<b>1</b>	<b>1</b>
Lightning	<b>2</b>	<b>2</b>
Rapid Snow Melt	<b>2</b>	<b>2</b>
Strong Winds	<b>3</b>	<b>2</b>
Tornado	<b>0</b>	<b>2</b>
Urban Fire	<b>0</b>	<b>2</b>
Wild Fire	<b>0</b>	<b>2</b>

**How Vulnerable is your community to the following hazards? Please mark one for each (KEY – Description with anecdotal description in parentheses.)**

- 0 – Does not occur in this jurisdiction**  
**1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. ("This would not affect normal community operations.")**  
**2 – If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. ("Any damage could be addressed with normal staff/community time dedicated at this time.")**  
**3 – If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. ("Any damage could be addressed with normal staff/community involvement, but would be noticed as a temporary notice to residents outside the affected area.")**  
**4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. ("Damage would require over-time or extra assistance in some form to recover from, assist those affected. Daily life by most residents in the town would be affected negatively during recovery.")**  
**5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. ("Normal government business or daily life could not resume until significant recovery occurs.")**

**Grant County PDM**  
**Worksheet #1 (Town of Twin Brooks)**  
**Risk Assessment Worksheet – Personal Hazard Identification and Vulnerability**

**How often does it seem these hazards occur?** *Please mark one for each*  
**(KEY)**

- 0 – Does not occur in this jurisdiction**  
**1 – Am aware this occurred but has not while I lived here**

- 2 – Remember this happening once**  
**3 – This has happened a few times, but not every year**  
**4 – This seems to happen every year**  
**5 – This seems to happen more than once every year**

<b>Hazard</b>	<b><u>Frequency/Probability</u> (See Above)</b>	<b><u>Vulnerability</u> (See Below)</b>
Dam Failure	<b>0</b>	<b>0</b>
Drought	<b>2</b>	<b>2</b>
Extreme Cold	<b>3</b>	<b>2</b>
Extreme Heat	<b>3</b>	<b>2</b>
Flood	<b>4</b>	<b>3</b>
Freezing Rain/Sleet/Ice	<b>3</b>	<b>3</b>
Hail	<b>3</b>	<b>4</b>
Heavy Rain	<b>3</b>	<b>3</b>
Heavy Snow	<b>3</b>	<b>3</b>
Ice Jam	<b>1</b>	<b>2</b>
Lightning	<b>3</b>	<b>2</b>
Rapid Snow Melt	<b>3</b>	<b>3</b>
Strong Winds	<b>3</b>	<b>3</b>
Tornado	<b>2</b>	<b>4</b>
Urban Fire	<b>0</b>	<b>5</b>
Wild Fire	<b>0</b>	<b>5</b>

**How Vulnerable is your community to the following hazards?** *Please mark one for each*  
**(KEY – Description with anecdotal description in parentheses.)**

- 0 – Does not occur in this jurisdiction**  
**1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. ("I'm sure this has happened, but nobody is concerned about what would happen if it occurs again.")**  
**2 – If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. ("I expect this hazard to occur, and am not concerned with any damage or injury that could occur.")**  
**3 – If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. ("I worry about certain properties and/or people that may be significantly vulnerable to this hazard, but not everyone is.")**  
**4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. ("I worry what could happen if this hits us wrong.")**  
**5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. ("I worry about what would happen if this happened in town, no matter where.")**

**Grant County PDM  
Worksheet #2 (Town of Twin Brooks)**

**Risk Assessment Worksheet – Community Wide Hazard Identification and Vulnerability**

**How often does it seem these hazards occur? Please mark one for each (KEY)**

- 0 – Does not occur in this jurisdiction**  
**1 – Am aware this occurred but has not while I lived here**

- 2 – Remember this happening once**  
**3 – This has happened a few times, but not every year**  
**4 – This seems to happen every year**  
**5 – This seems to happen more than once every year**

<b><u>Hazard</u></b>	<b><u>Frequency/Probability</u> (See Above)</b>	<b><u>Vulnerability</u> (See Below)</b>
Dam Failure	<b>0</b>	<b>0</b>
Drought	<b>3</b>	<b>1</b>
Extreme Cold	<b>5</b>	<b>3</b>
Extreme Heat	<b>5</b>	<b>2</b>
Flood	<b>4</b>	<b>3</b>
Freezing Rain/Sleet/Ice	<b>4</b>	<b>3</b>
Hail	<b>4</b>	<b>3</b>
Heavy Rain	<b>3</b>	<b>3</b>
Heavy Snow	<b>3</b>	<b>3</b>
Ice Jam	<b>2</b>	<b>3</b>
Lightning	<b>5</b>	<b>1</b>
Rapid Snow Melt	<b>3</b>	<b>3</b>
Strong Winds	<b>3</b>	<b>3</b>
Tornado	<b>2</b>	<b>5</b>
Urban Fire	<b>1</b>	<b>4</b>
Wild Fire	<b>2</b>	<b>4</b>

**How Vulnerable is your community to the following hazards? Please mark one for each (KEY – Description with anecdotal description in parentheses.)**

- 0 – Does not occur in this jurisdiction**  
**1 – I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. (“This would not affect normal community operations.”)**  
**2 – If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. (“Any damage could be addressed with normal staff/community time dedicated at this time.”)**  
**3 – If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. (“Any damage could be addressed with normal staff/community involvement, but would be noticed as a temporary notice to residents outside the affected area.”)**  
**4 – If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. (“Damage would require over-time or extra assistance in some form to recover from, assist those affected. Daily life by most residents in the town would be affected negatively during recovery.”)**  
**5 – If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. (“Normal government business or daily life could not resume until significant recovery occurs.”)**

## Appendix E

### Township Vulnerable and Potential Mitigation Project Site Maps

In February 2025, First District mailed a request to the Township Clerk or Road Supervisor of every township in Grant County. They were requested to list any critical infrastructure and identify (on a map) any areas which are most vulnerable to natural hazards, specifically flooding. The Association of Grant County Townships Annual Meeting was held on February 19<sup>th</sup>, 2025. Townships in attendance were requested to complete the maps and hazard information, if they had not responded to the maps that had been previously mailed to them. Of the 17 requests sent, 12 maps were returned with vulnerable areas identified (see table below).

Township Name	Response
Adams	Returned - Identified changes to vulnerabilities
Alban	Not Returned
Big Stone	Returned - Identified changes to vulnerabilities
Blooming Valley	Returned – No changes to vulnerabilities
Farmington	Returned – No changes to vulnerabilities
Georgia	Returned – No changes to vulnerabilities
Grant Center	Returned – No changes to vulnerabilities
Kilborn	Not Returned
Lura	Returned – No changes to vulnerabilities
Madison	Returned – No changes to vulnerabilities
Mazeppa	Not Returned
Melrose	Returned - Identified changes to vulnerabilities
Osceola	Returned - Identified changes to vulnerabilities
Stockholm	Returned - Identified changes to vulnerabilities
Troy	Returned – No changes to vulnerabilities
Twin Brooks	Not Returned
Vernon	Not Returned – No Changes

Maps identifying vulnerable areas for those townships which identified such areas are shown below.

# ANNUAL TOWNSHIP ASSOCIATION MEETING

Wednesday, February 19, 2025

	NAME	TOWNSHIP/ORGANIZATION
1	Faurely Ziebel	Bloomington Valley
2	Joel O'Brien	Albion
3	Kathy Granger	Stockholm
4	Kathy Granger	Stockholm
5	John Ziebel	Vernon
6	Amy Arnold	First District
7	Steve Berkus	Grant County
8	Bryant Eversen	Troy Twp
9	Charity Kulev	SCS
10	Wayne Meyer	Grant Adams
11	Pamela Francis	Grant Center
12	Colin Kulev	Grant Center
13	Craig Wellnitz	Vernon
14	Ken Galt	Big Stone
15	Sarah Erickson	Georgia
16	Bert Luehrer	Albion
17	Kevin Owen	Sheiff
18	Dorothy Hume	Lura
19	JIM URBAN	MACEPPA
20	Keith Chute	Grant Center
21	Dana Peterson	Grant Co. Hwy
22	Karen Gayler	Melrose Clerk
23	Dale Torkelson	Melrose
24	Mike McKernan	Twin Brooks
25	Mike MACH	GC Comm.

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Kevin Schuchter  
Bill Thier  
Leo Paul  
Bill Testason  
Chuck Wolkshlager  
Tim Miller  
Susan Oslund  
Kathy Folk  
Scott O'Konek

GC Emergency Management  
GC Comm  
Grant Co. Trwp  
GC Comm  
Perron Twp  
Melrose Twp  
Madison Twp  
Auditor  
Summit Carbon Solutions

Agenda  
Annual Township Association Meeting  
**February 19, 2025, at 1 PM**  
Grant County 4-H Complex  
517 Flynn Drive, Milbank, SD 57252

Call to Order- President Mike McKernan

Information presented by:

District 6 Township Director Jim Urban  
DOE Kathy Steinlicht  
P & Z and Drainage Officer Steve Berkner  
Auditor Kathy Folk  
Highway Supt Daren Peterson  
EM Kevin Schuelke  
First District Amy Arnold  
Sheriff Kevin Owen  
County Commissioner Tostenson

Roll Call

Read and approve 2024 Secretary Minutes

Read and approve Treasurer Report

Old Business

New Business

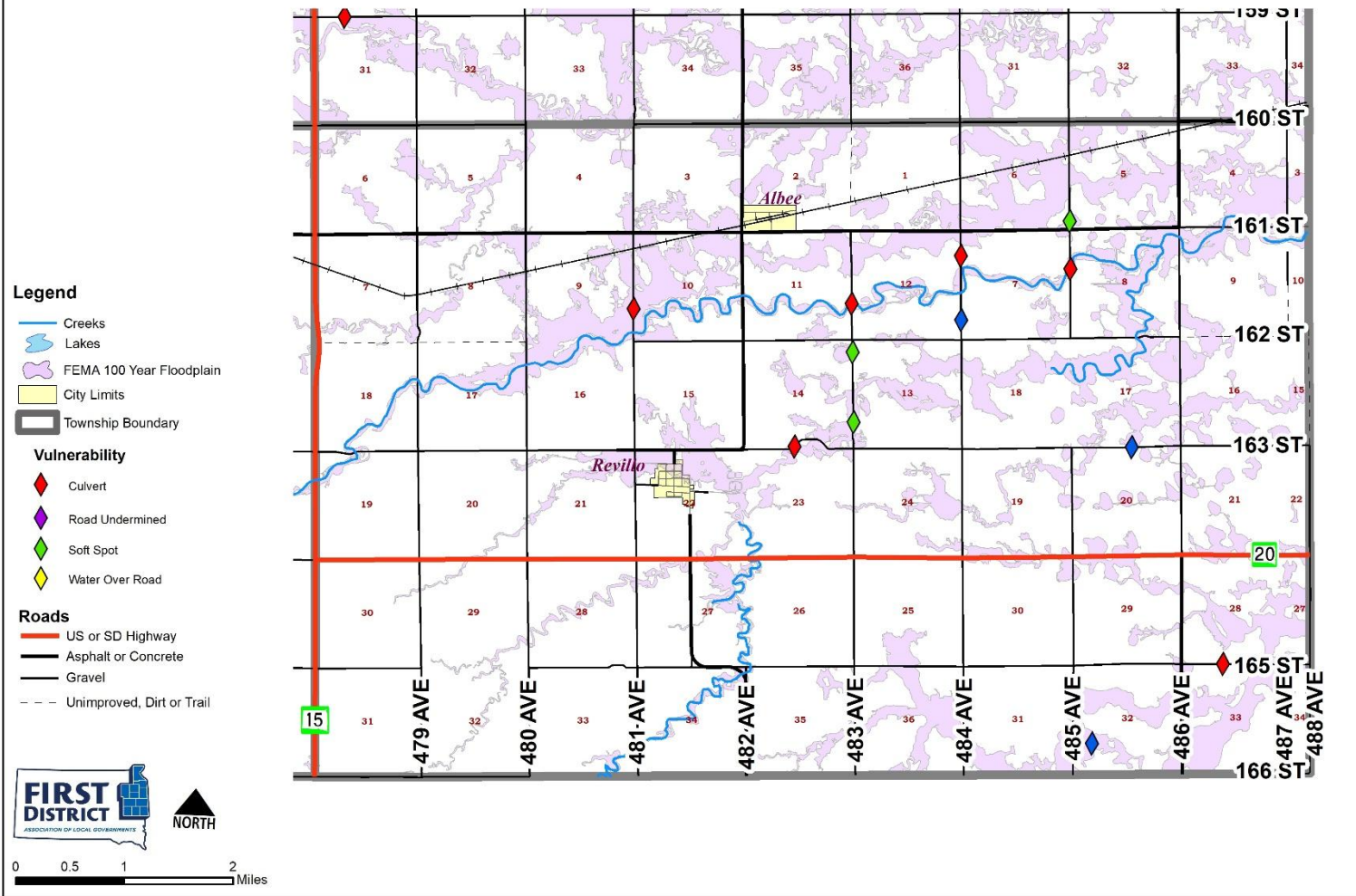
Election of Officers

Open: Public Comment

Adjourn

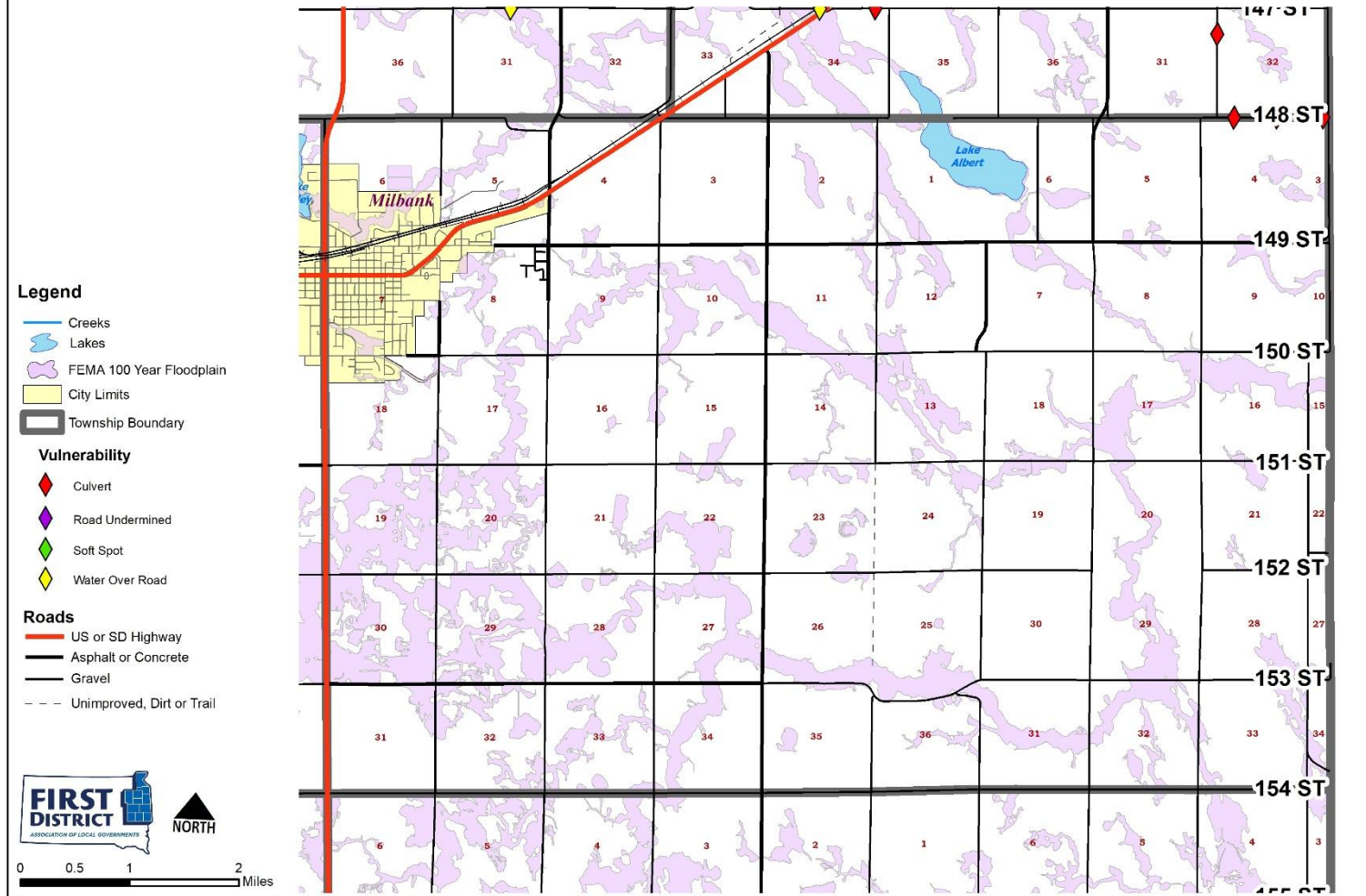
# ADAMS TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



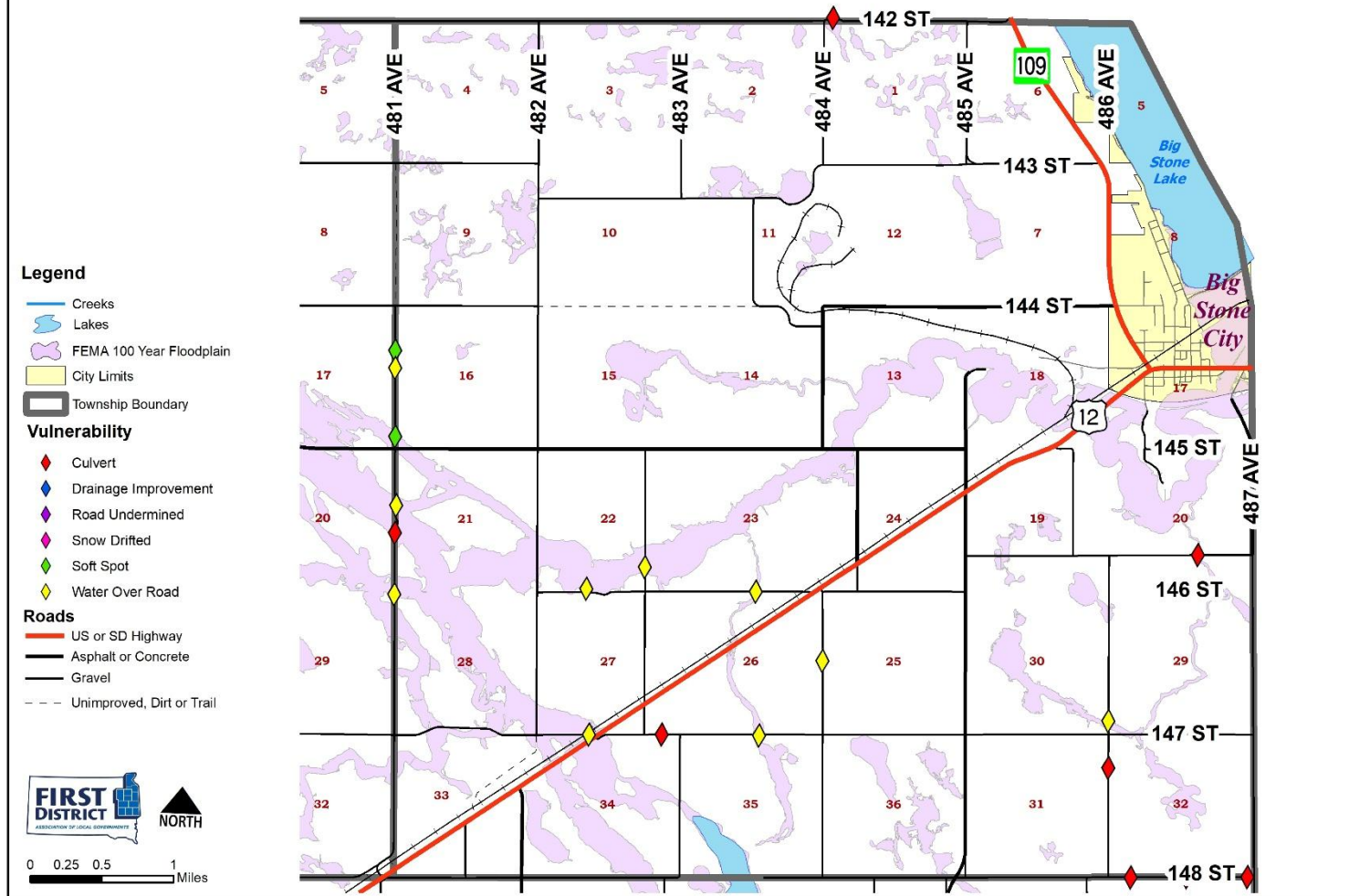
# ALBAN TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



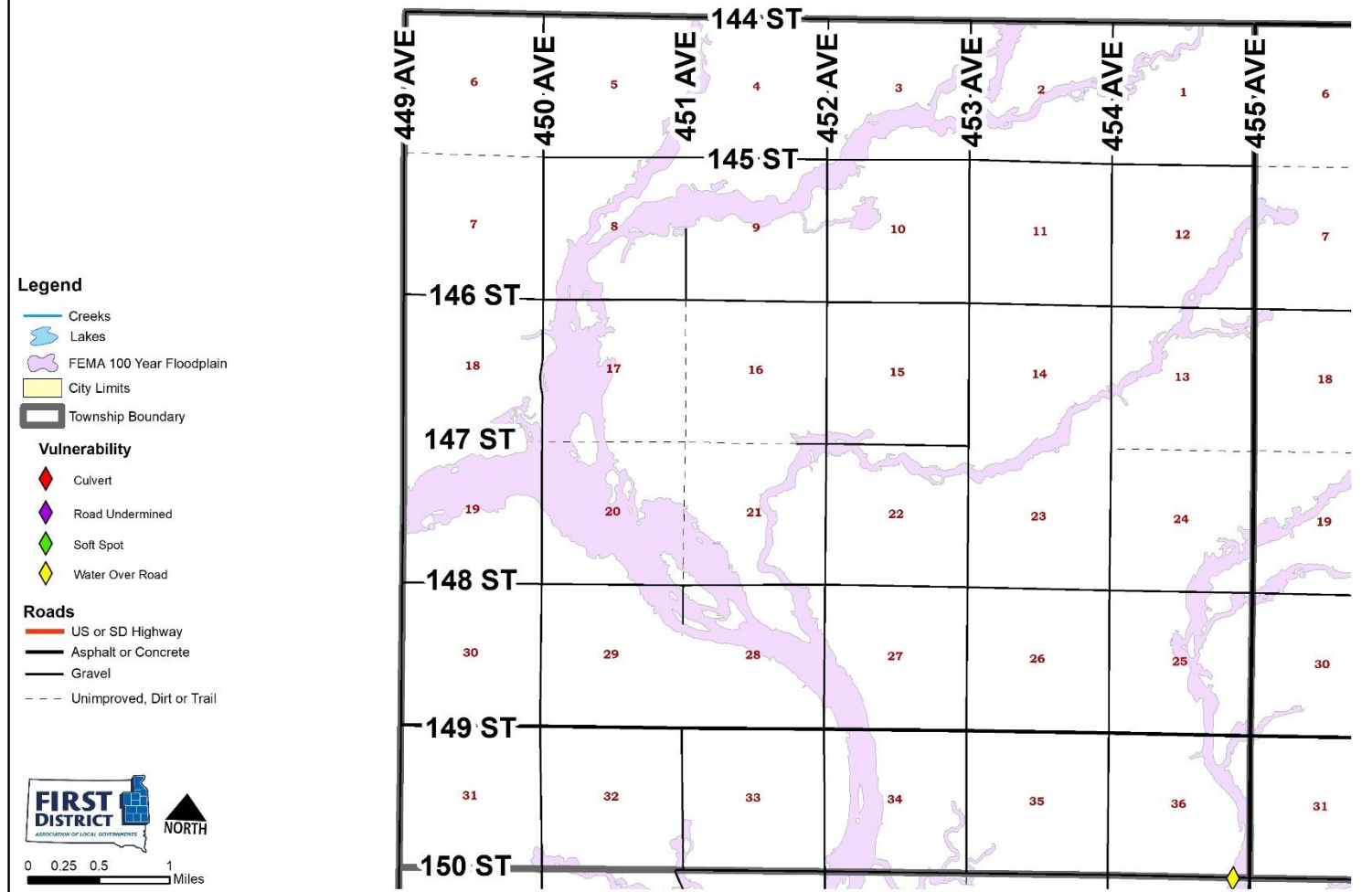
# BIG STONE TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



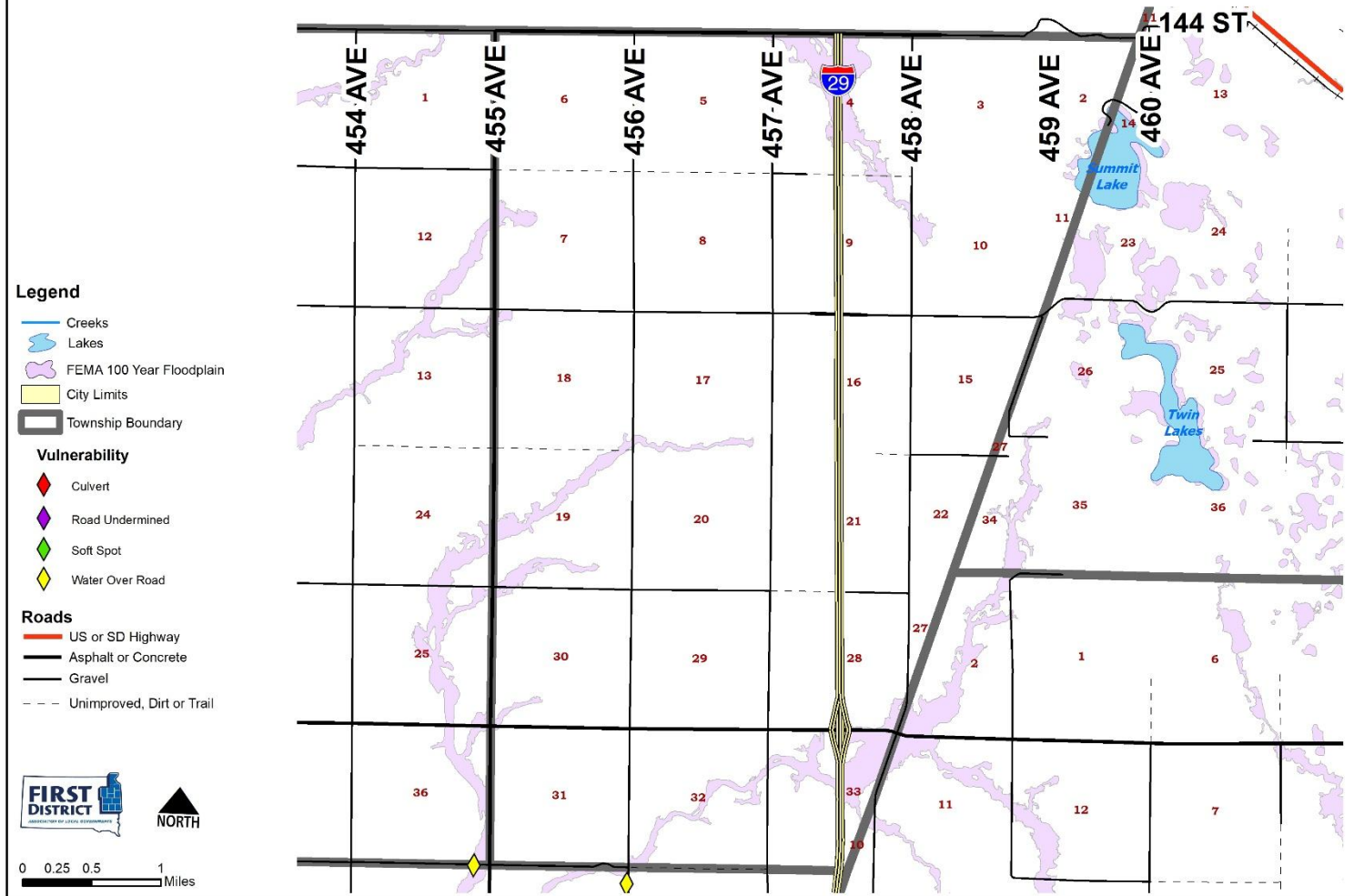
# BLOOMING VALLEY TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



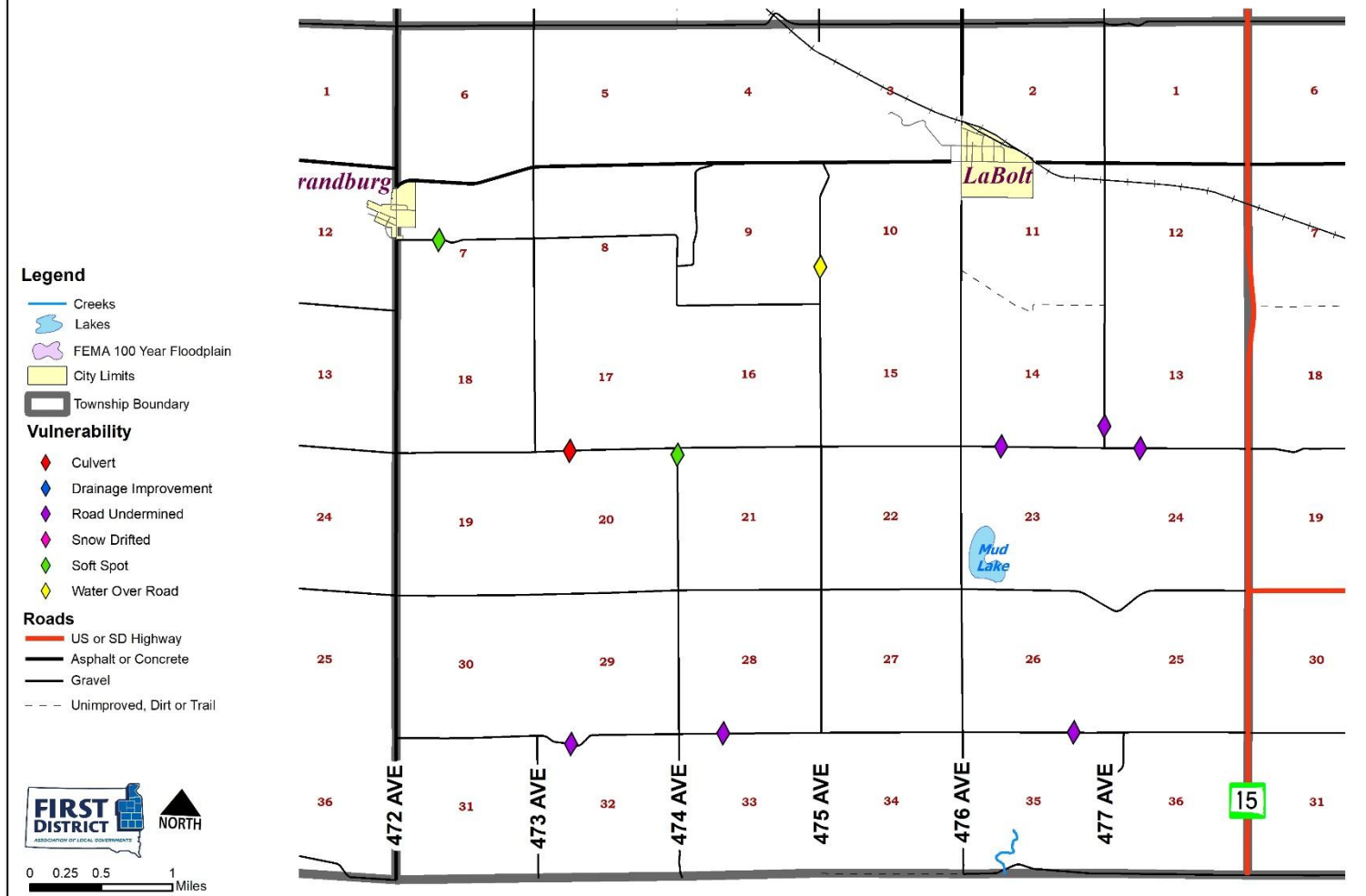
# FARMINGTON TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



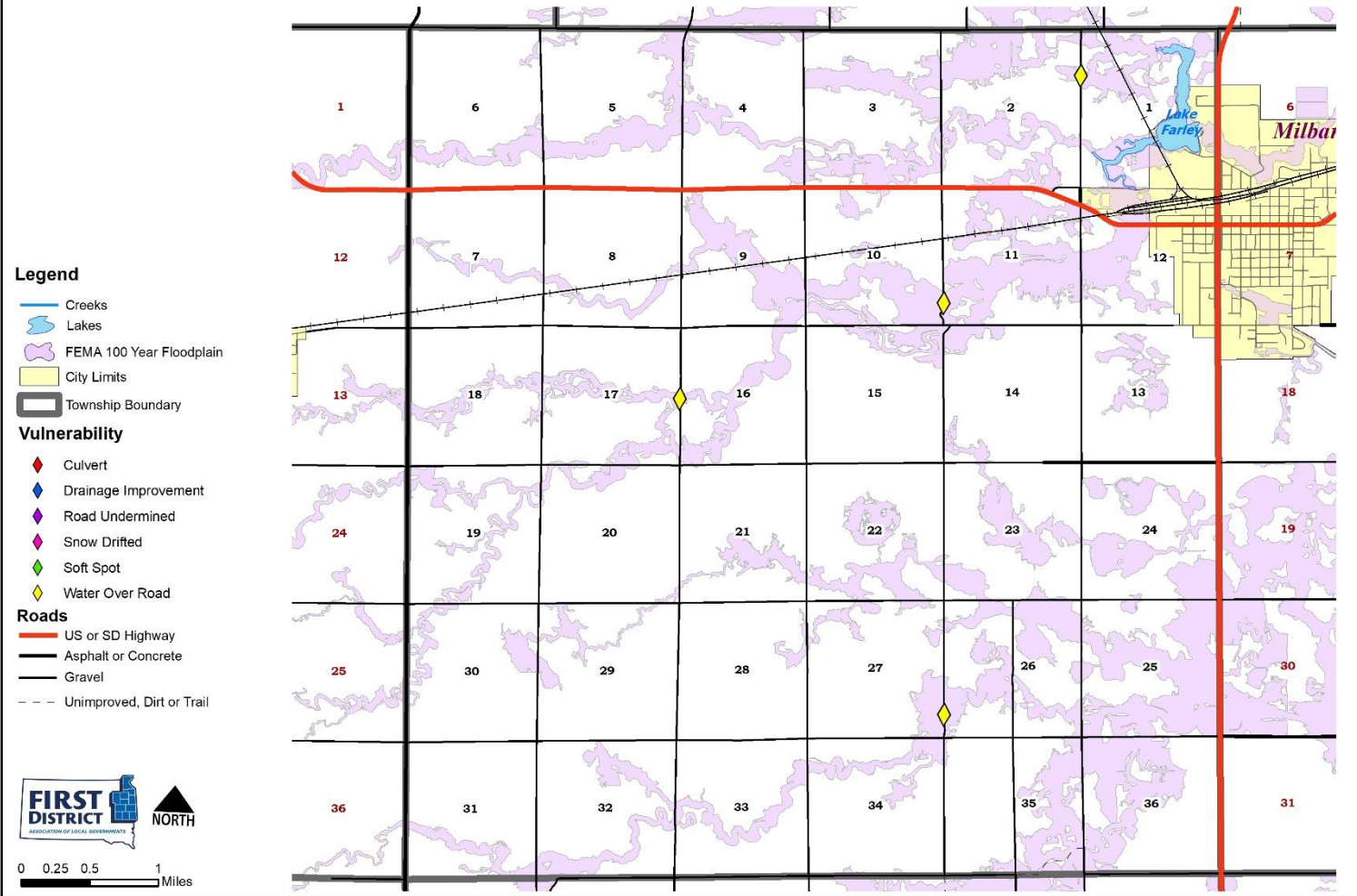
# GEORGIA TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



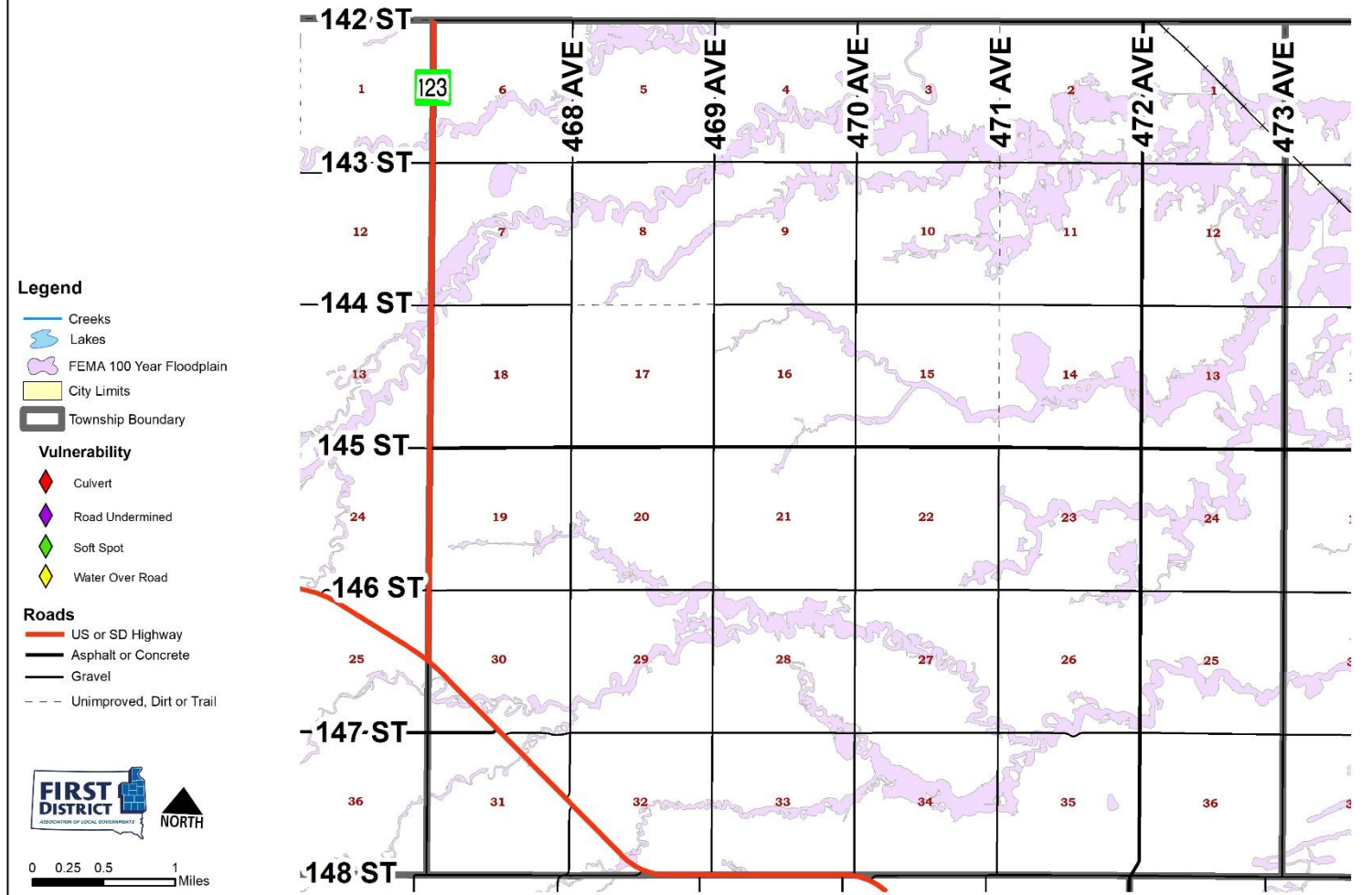
# GRANT CENTER TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



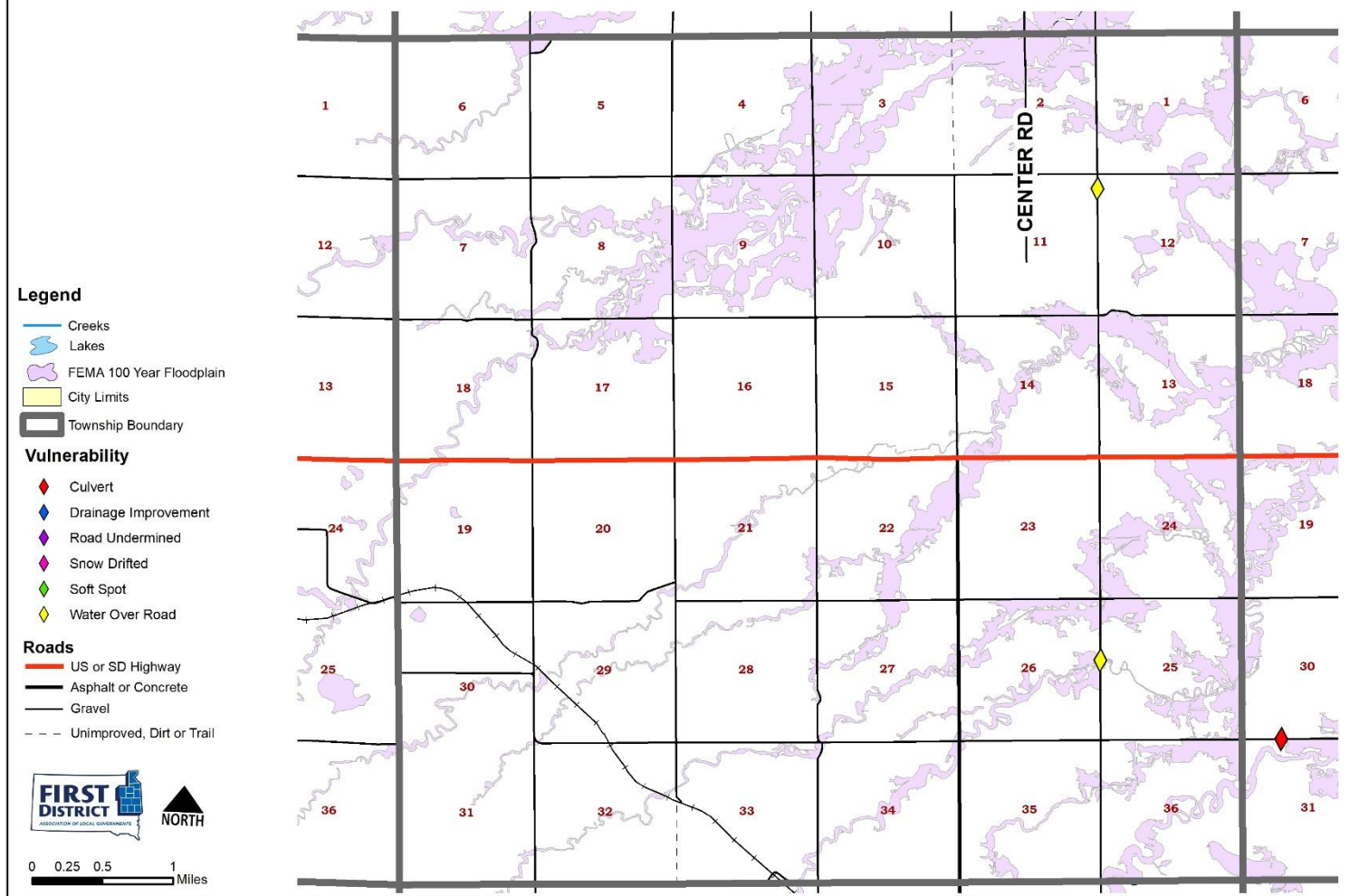
# KILBORN TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



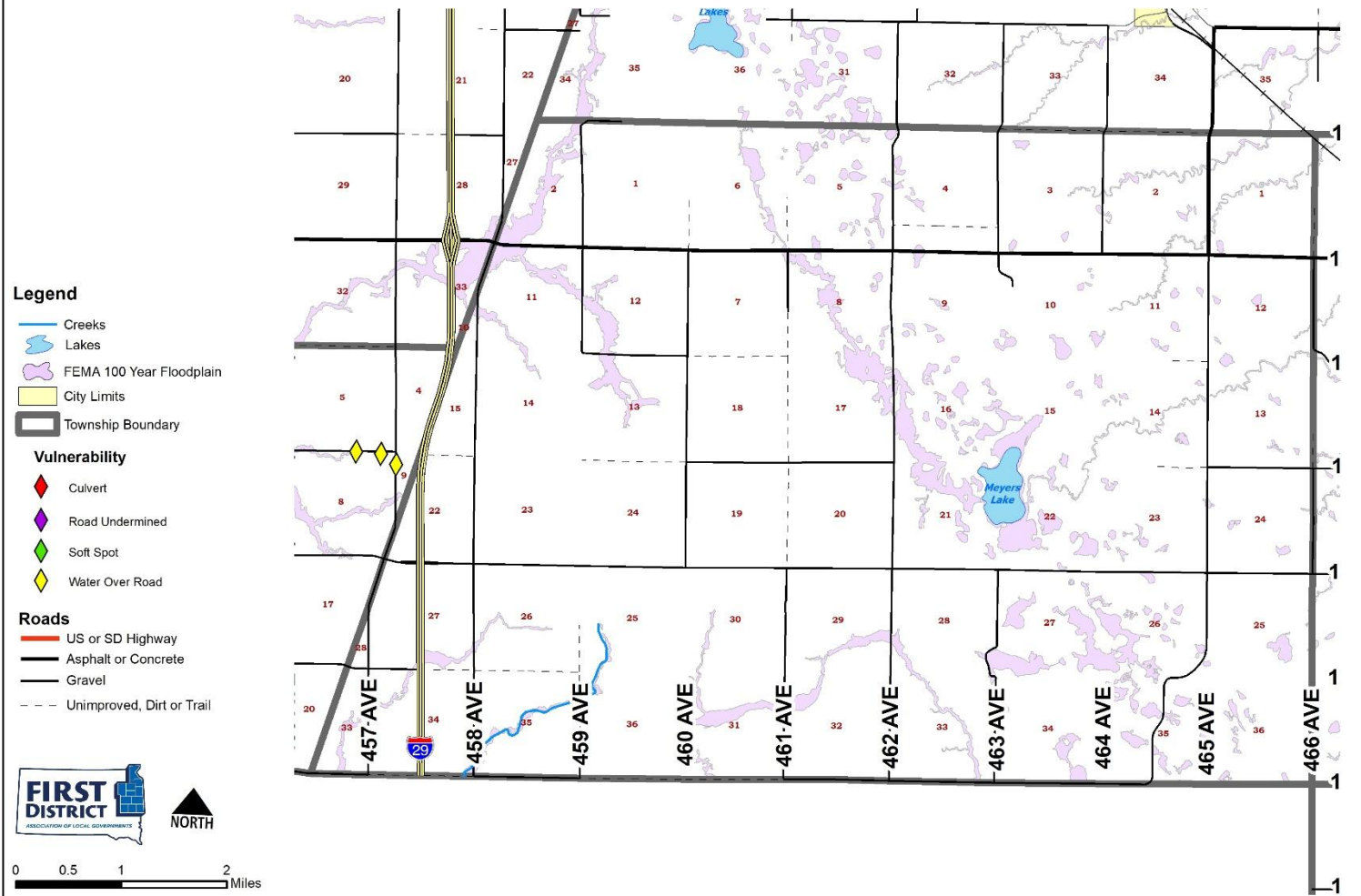
# MADISON TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



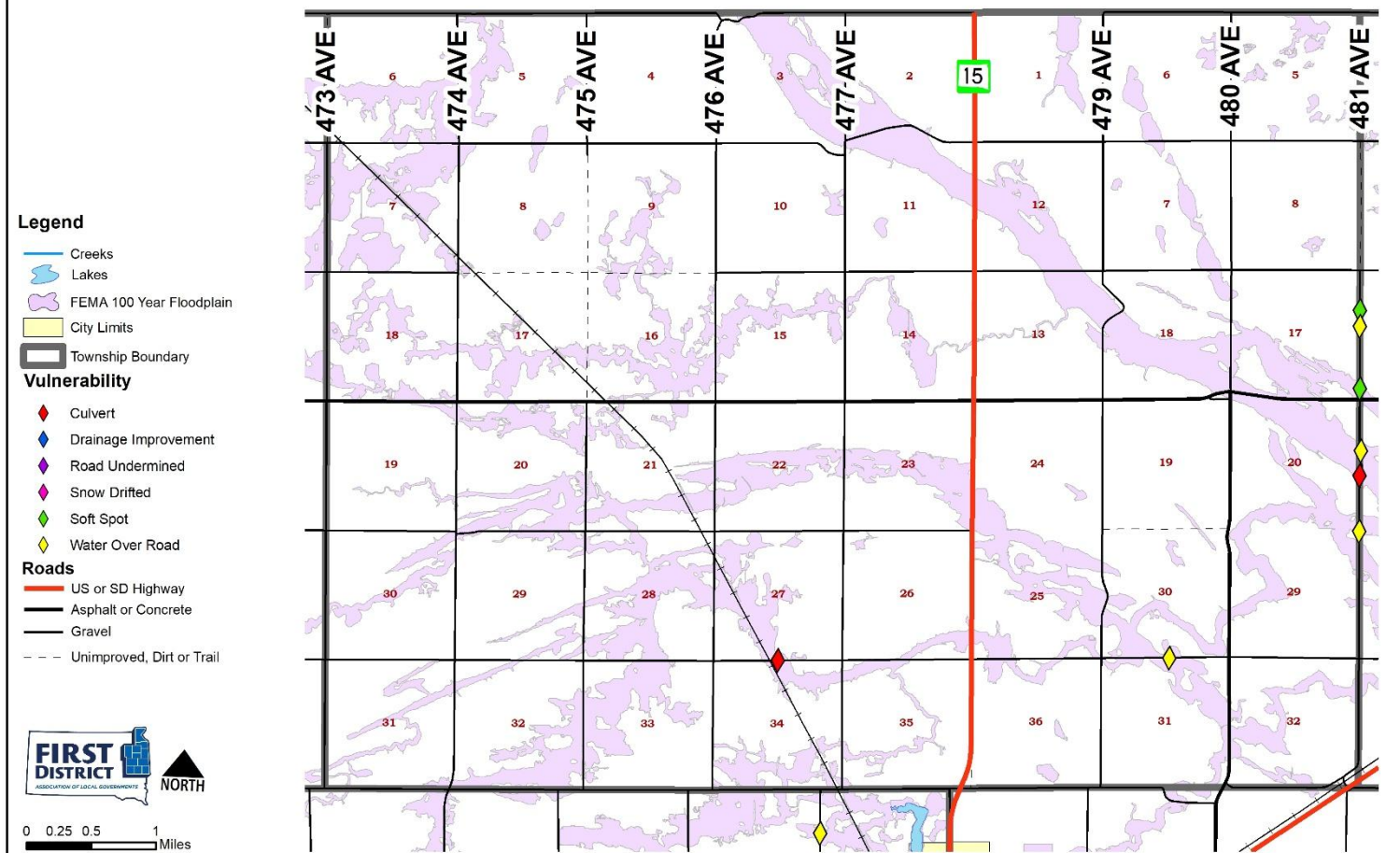
# MAZEPPA TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



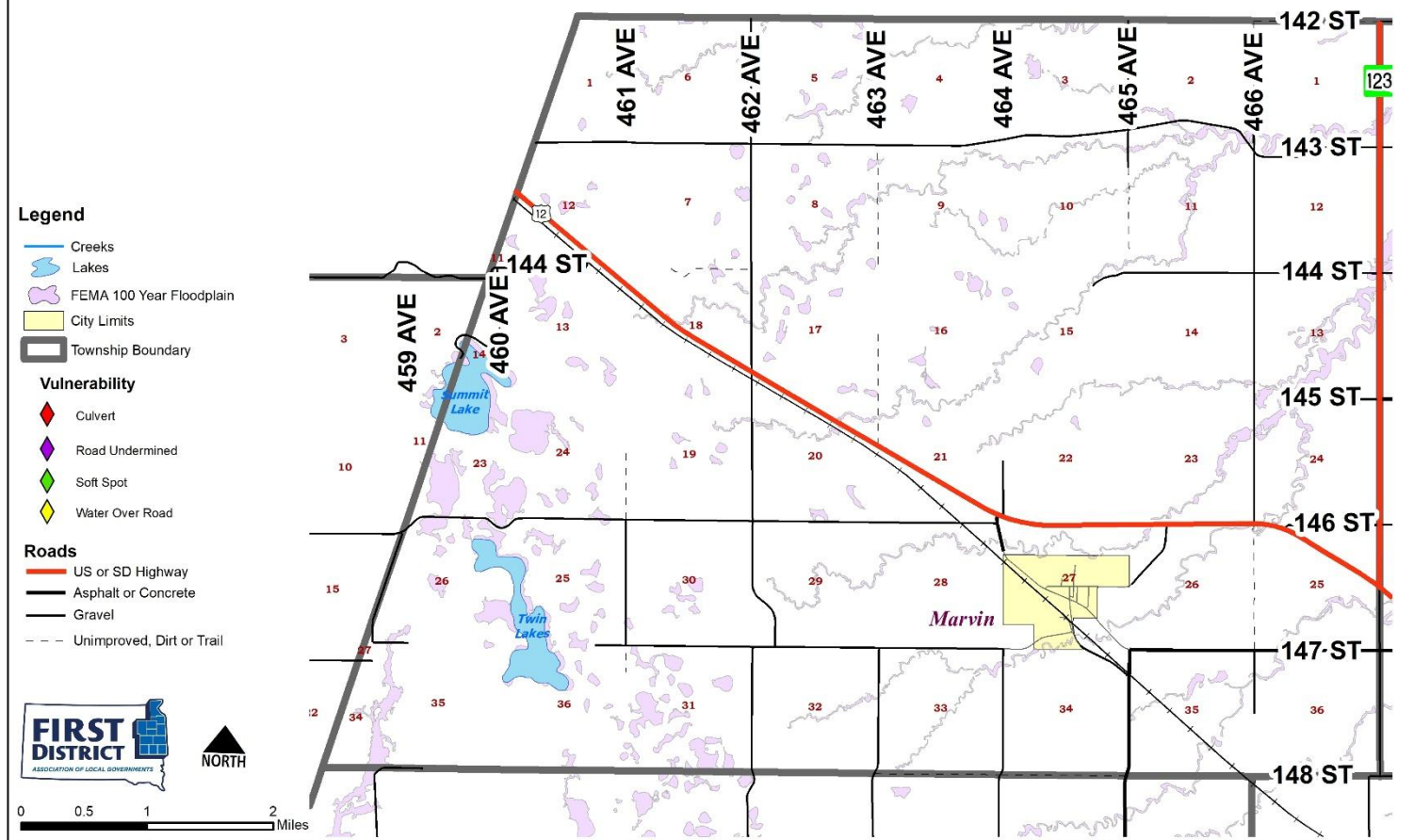
# MELROSE TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



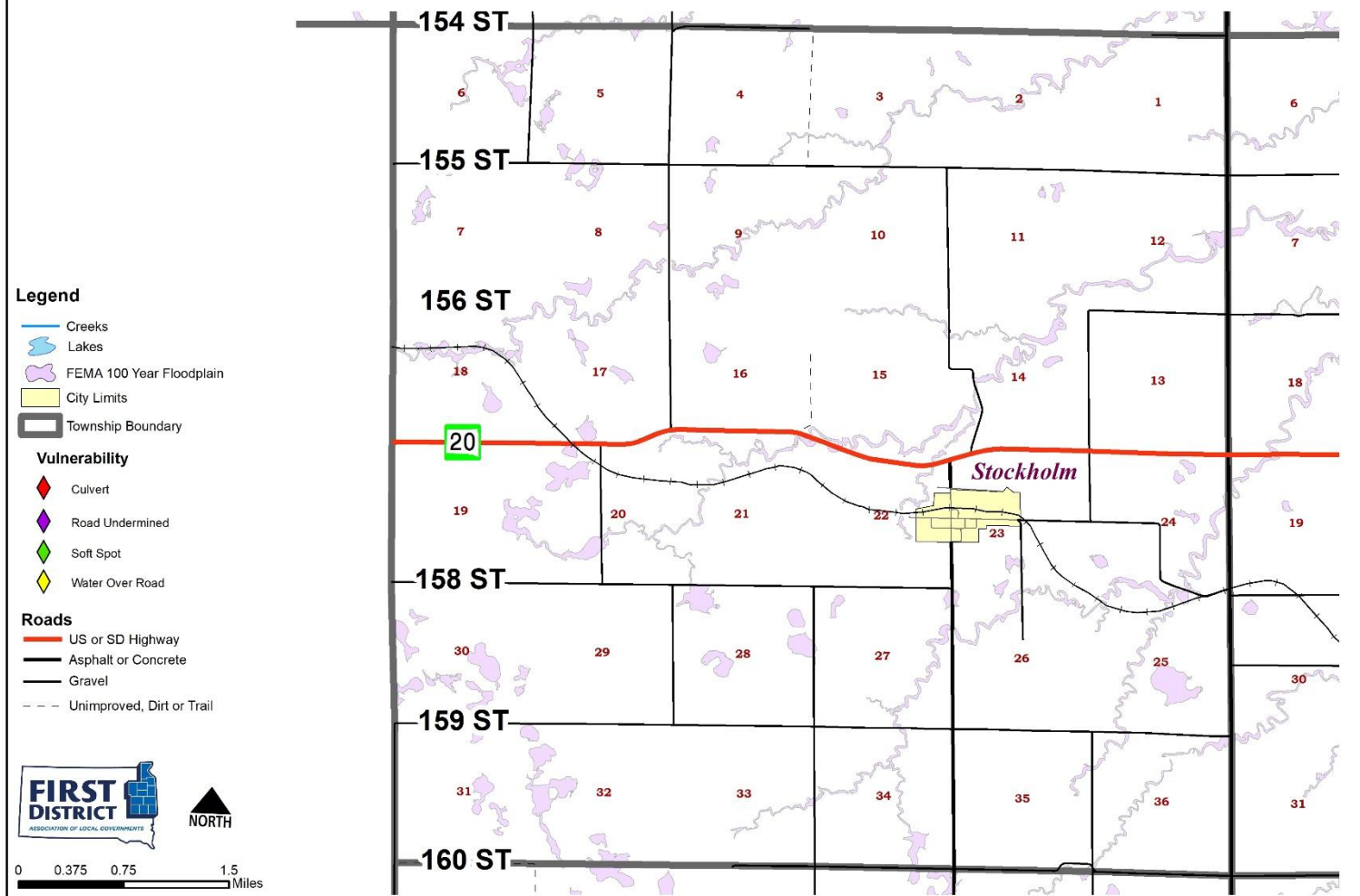
# OSCEOLA TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



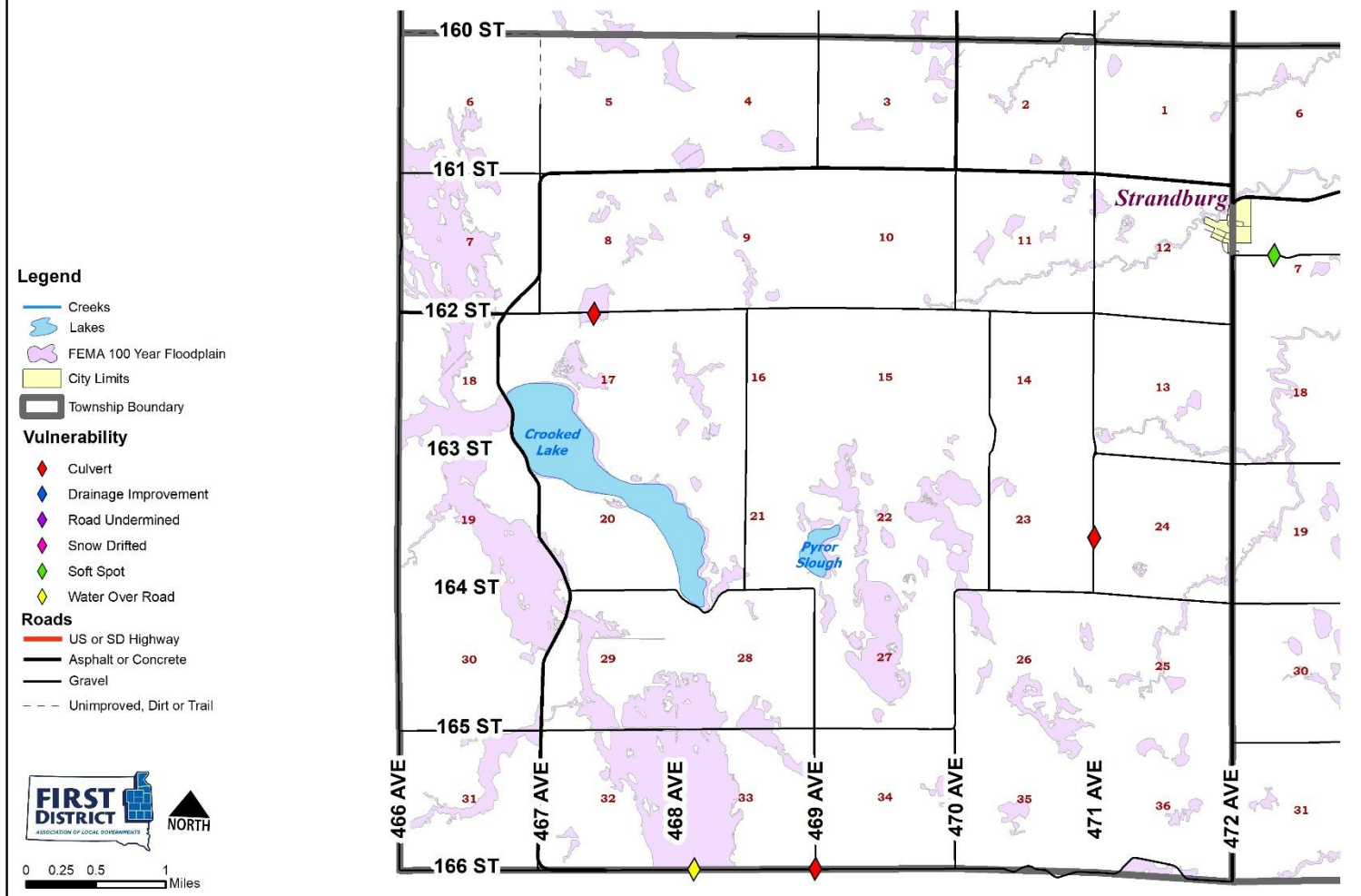
# STOCKHOLM TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



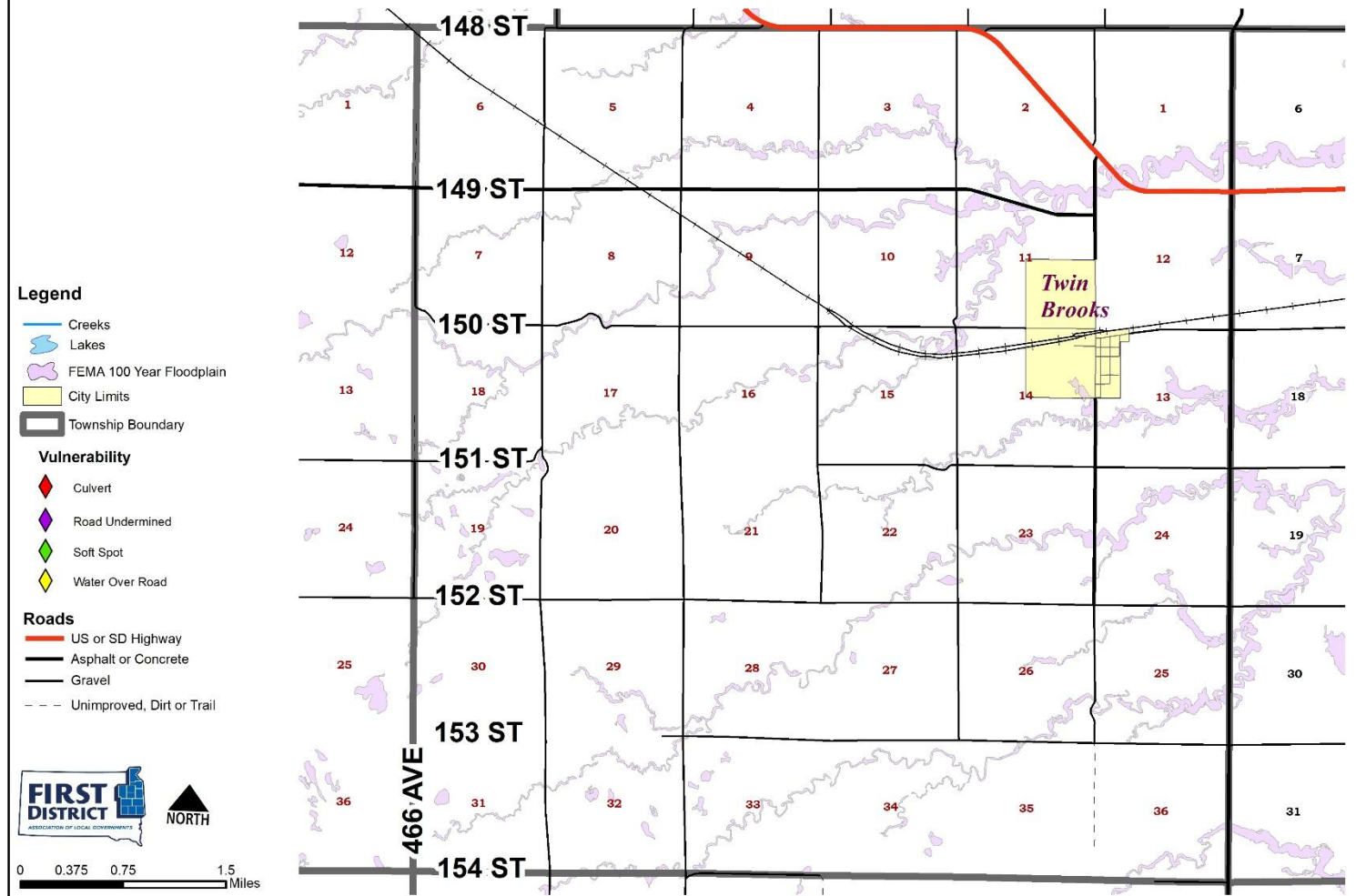
# TROY TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



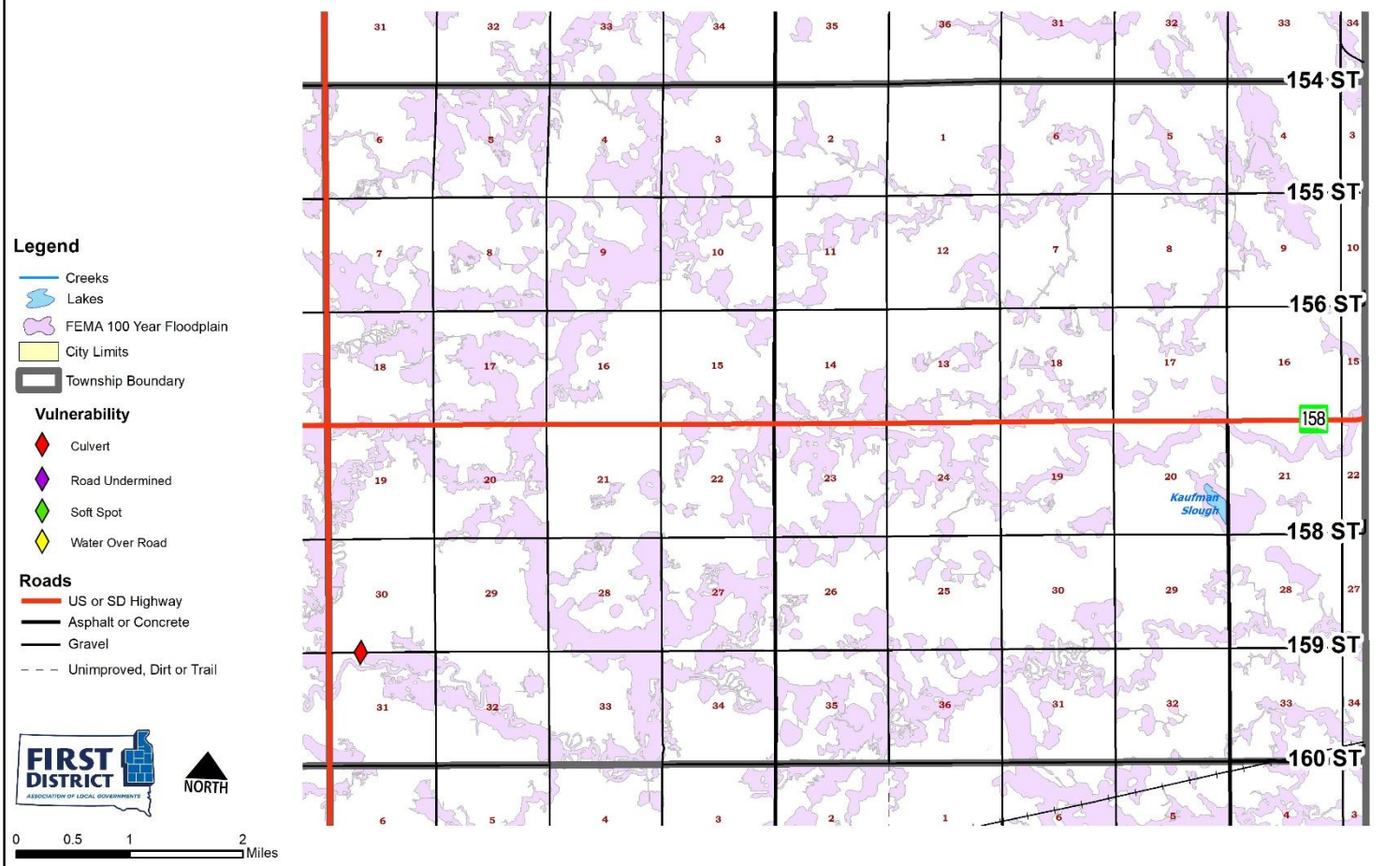
# TWIN BROOKS TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



# VERNON TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



## Appendix F – Online Survey Information

PDM Planning Team Members:

Thank you for your continued participation in the 2025 Grant County Pre-Disaster Mitigation Plan. As you may recall, our first meeting was held on March 31, 2025. At that meeting an online survey for the Grant County Pre-Disaster Mitigation Plan was described. Please take time and encourage others within your organization to complete the survey at the following link: <https://survey.alchemer.com/s3/8218887/Grant-County-PDM>.

I have attached a notice that could be printed and posted at your office or on your webpage regarding the link. If you do post it on your webpage or someplace at your office, please forward the link or a picture to me at this email address and/or Luke Muller at First District Association of Local Governments ([luke@1stdistrict.org](mailto:luke@1stdistrict.org)) so we can document our attempts to notify and engage the public of this plan and its update.

Finally, we intend to hold our second PDM Planning Team Meeting in June. We will send an invitation with a link to the draft prior to that meeting.

Sincerely,

Kevin Schuelke  
Director  
Grant County Emergency Management  
(605) 432-4637

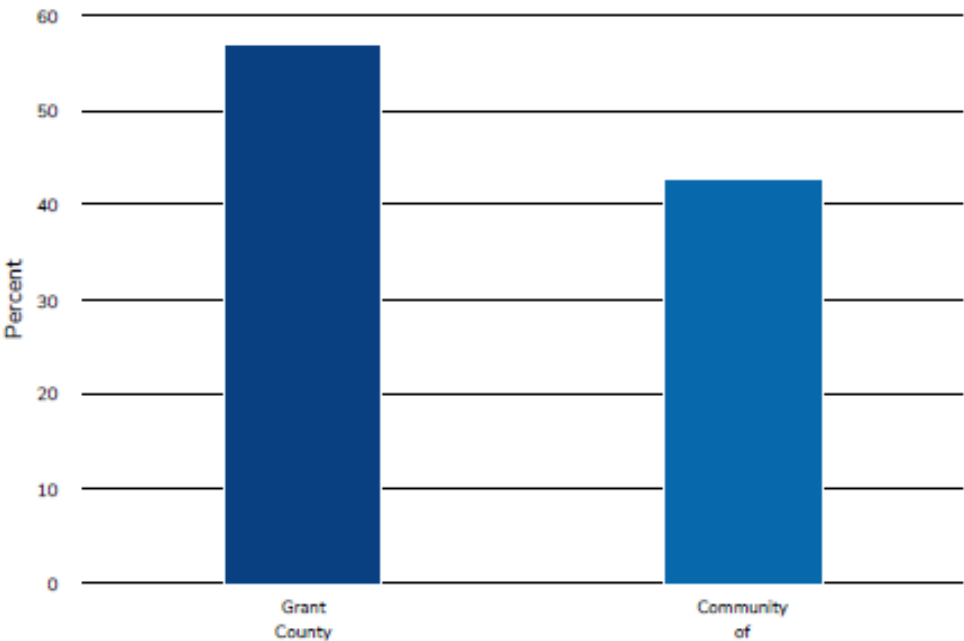
# Report for Grant County PDM

## Response Counts

Completion Rate:	100%	<div><div></div></div>
Complete		<div><div></div></div> 7

Totals: 7

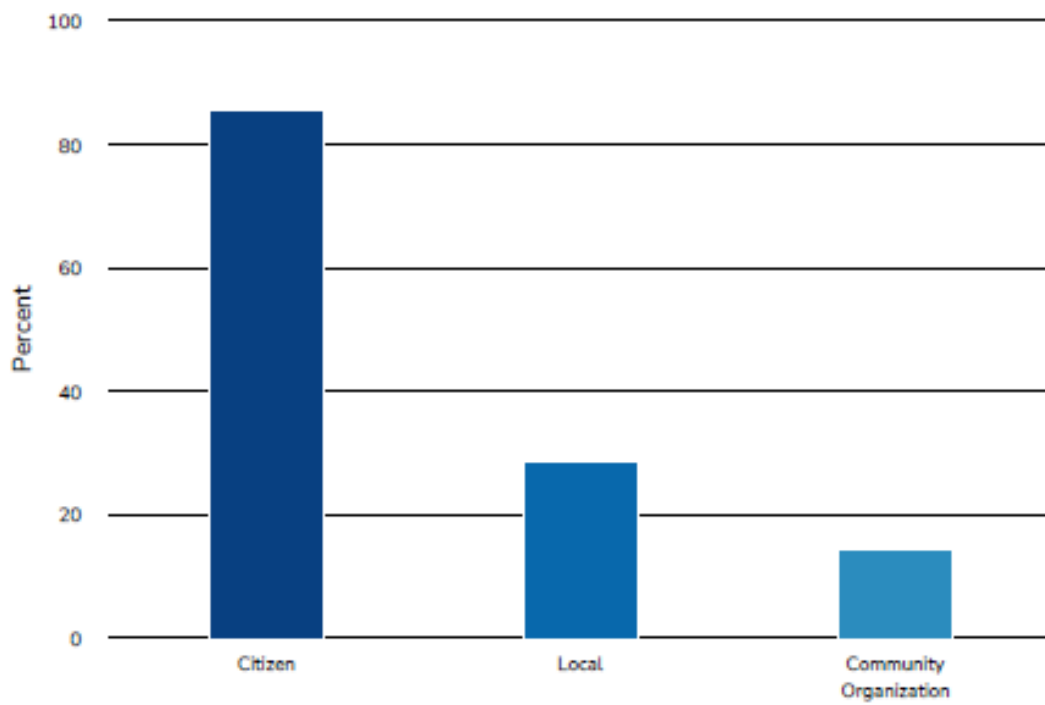
1. Please indicate the municipality you reside in:



Value	Percent	Responses
Grant County	57.1% <div><div></div></div>	4
Community of	42.9% <div><div></div></div>	3

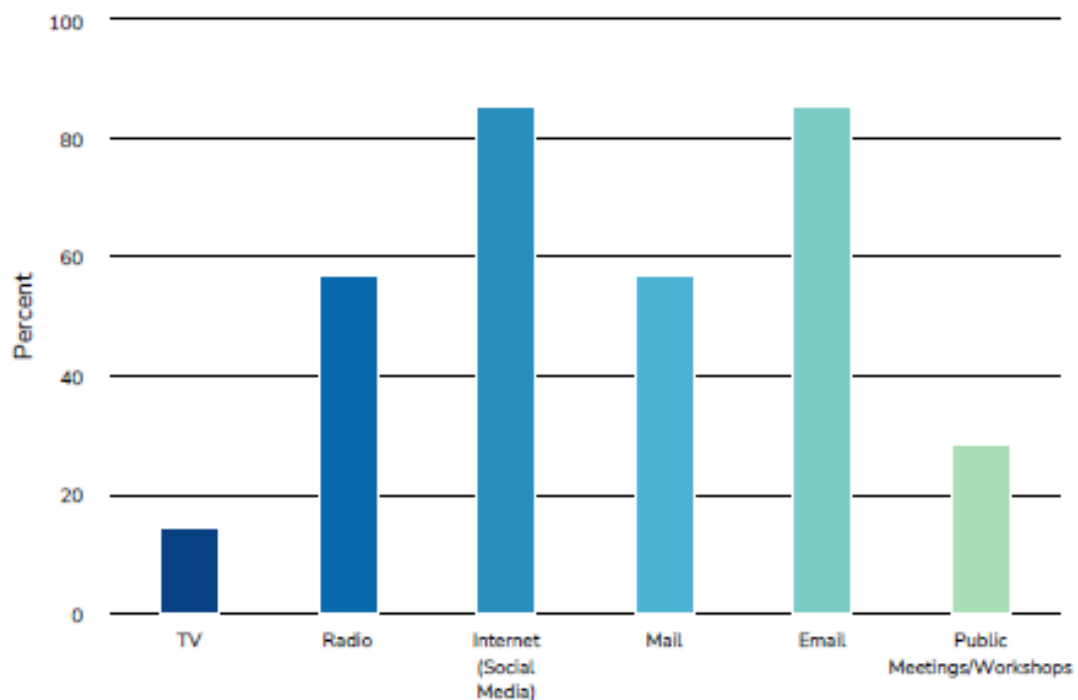
Community of	Count
Milbank	2
Milbank	1
Totals	3

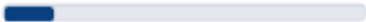




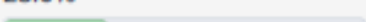
## 2. Are you responding as:



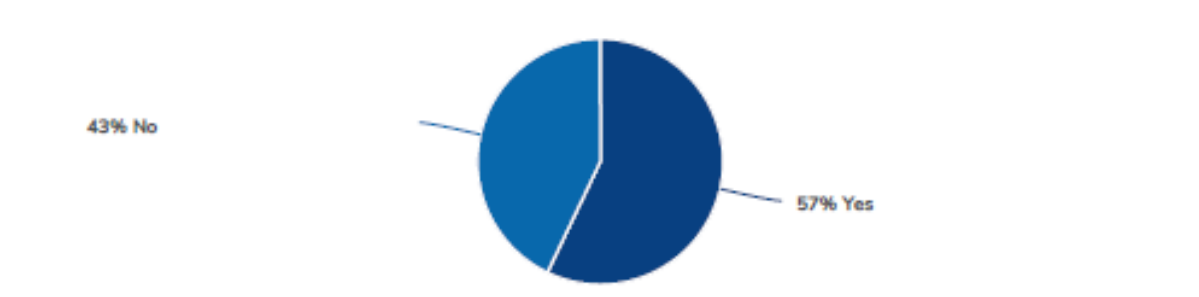
Value	Percent	Responses
Citizen	85.7% <div><div></div></div>	6
Local	28.6% <div><div></div></div>	2
Community Organization	14.3% <div><div></div></div>	1

3. What is the most effective way for you to receive information about how to protect your family and prepare your home from hazard events? Select all that apply.



Value	Percent	Responses
TV	14.3% 	1
Radio	57.1% 	4
Internet (Social Media)	85.7% 	6
Mail	57.1% 	4
Email	85.7% 	6
Public Meetings/Workshops	28.6% 	2

4. Have you ever experienced or been impacted by a natural disaster?



Value	Percent	Responses
Yes	57.1% <div><div></div></div>	4
No	42.9% <div><div></div></div>	3
Totals: 7		

5. Please describe what type of hazard and how it affected you:

ResponseID	Response
1	Ice storm with several day power loss.
2	High winds took trees down on our property
5	Severe thunderstorms. Hail damage. Wind damage. Basement flooded 8 times.
7	Severe weather

6. Hazard Frequency - In your experience, how often do the following hazards occur? Please mark one for each hazard. Use the scale below. 0 - Does not occur in this jurisdiction 1 - Am aware this occurred but has not while I lived here 2 - Remember this happening once 3 - This has happened a few times, but not every year 4 - This seems to happen every year 5 - This seems to happen more than once every year

	0	1	2	3	4	5	Responses
<b>Dam Failure</b>							
Count	4	0	1	1	0	0	6
Row %	66.7%	0.0%	16.7%	16.7%	0.0%	0.0%	
<b>Drought</b>							
Count	0	2	1	2	2	0	7
Row %	0.0%	28.6%	14.3%	28.6%	28.6%	0.0%	
<b>Extreme Cold</b>							
Count	0	0	0	2	2	3	7
Row %	0.0%	0.0%	0.0%	28.6%	28.6%	42.9%	
<b>Extreme Heat</b>							
Count	0	0	0	2	3	2	7
Row %	0.0%	0.0%	0.0%	28.6%	42.9%	28.6%	
<b>Flood</b>							
Count	1	1	1	3	1	0	7
Row %	14.3%	14.3%	14.3%	42.9%	14.3%	0.0%	
<b>Freezing Rain/Sleet/Ice</b>							
Count	0	0	0	2	1	4	7
Row %	0.0%	0.0%	0.0%	28.6%	14.3%	57.1%	
<b>Hail</b>							
Count	0	0	0	2	2	3	7
Row %	0.0%	0.0%	0.0%	28.6%	28.6%	42.9%	
<b>Heavy Rain</b>							
Count	0	0	0	2	2	3	7
Row %	0.0%	0.0%	0.0%	28.6%	28.6%	42.9%	
<b>Heavy Snow</b>							
Count	0	0	0	3	3	1	7
Row %	0.0%	0.0%	0.0%	42.9%	42.9%	14.3%	
<b>Ice Jam</b>							
Count	2	1	0	2	2	0	7
Row %	28.6%	14.3%	0.0%	28.6%	28.6%	0.0%	

	0	1	2	3	4	5	Responses
<b>Lightning</b>							
Count	0	0	0	2	1	4	7
Row %	0.0%	0.0%	0.0%	28.6%	14.3%	57.1%	
<b>Rapid Snow Melt</b>							
Count	0	0	0	6	1	0	7
Row %	0.0%	0.0%	0.0%	85.7%	14.3%	0.0%	
<b>Strong Winds</b>							
Count	0	0	0	2	2	3	7
Row %	0.0%	0.0%	0.0%	28.6%	28.6%	42.9%	
<b>Tornado</b>							
Count	0	0	3	3	1	0	7
Row %	0.0%	0.0%	42.9%	42.9%	14.3%	0.0%	
<b>Urban Fire</b>							
Count	0	2	1	1	2	1	7
Row %	0.0%	28.6%	14.3%	14.3%	28.6%	14.3%	
<b>Wild Fire</b>							
Count	2	1	1	1	1	1	7
Row %	28.6%	14.3%	14.3%	14.3%	14.3%	14.3%	
<b>Totals</b>							
Total Responses							7

7. Personal Hazard Vulnerability - In your opinion, how vulnerable are the residents of your community to the following hazards? Please mark one for each hazard. Use the scale below. 0 - Does not occur in this jurisdiction 1 - I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. ("I'm sure this has happened, but nobody is concerned about what would happen if it occurs again.") 2 - If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. ("I expect this hazard to occur, and am not concerned with any damage or injury that could occur.") 3 - If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. ("I worry about certain properties and/or people that may be significantly vulnerable to this hazard, but not everyone is.") 4 - If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. ("I worry what could happen if this hits us wrong.") 5 - If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. ("I worry about what would happen if this happened in town, no matter where.")

	0	1	2	3	4	5	Responses
<b>Dam Failure</b>							
Count	2	1	0	3	1	0	7
Row %	28.6%	14.3%	0.0%	42.9%	14.3%	0.0%	
<b>Drought</b>							
Count	0	1	1	1	4	0	7
Row %	0.0%	14.3%	14.3%	14.3%	57.1%	0.0%	
<b>Extreme Cold</b>							
Count	0	0	1	4	1	1	7
Row %	0.0%	0.0%	14.3%	57.1%	14.3%	14.3%	
<b>Extreme Heat</b>							
Count	0	0	1	4	0	2	7
Row %	0.0%	0.0%	14.3%	57.1%	0.0%	28.6%	
<b>Flood</b>							
Count	0	1	1	2	2	1	7
Row %	0.0%	14.3%	14.3%	28.6%	28.6%	14.3%	

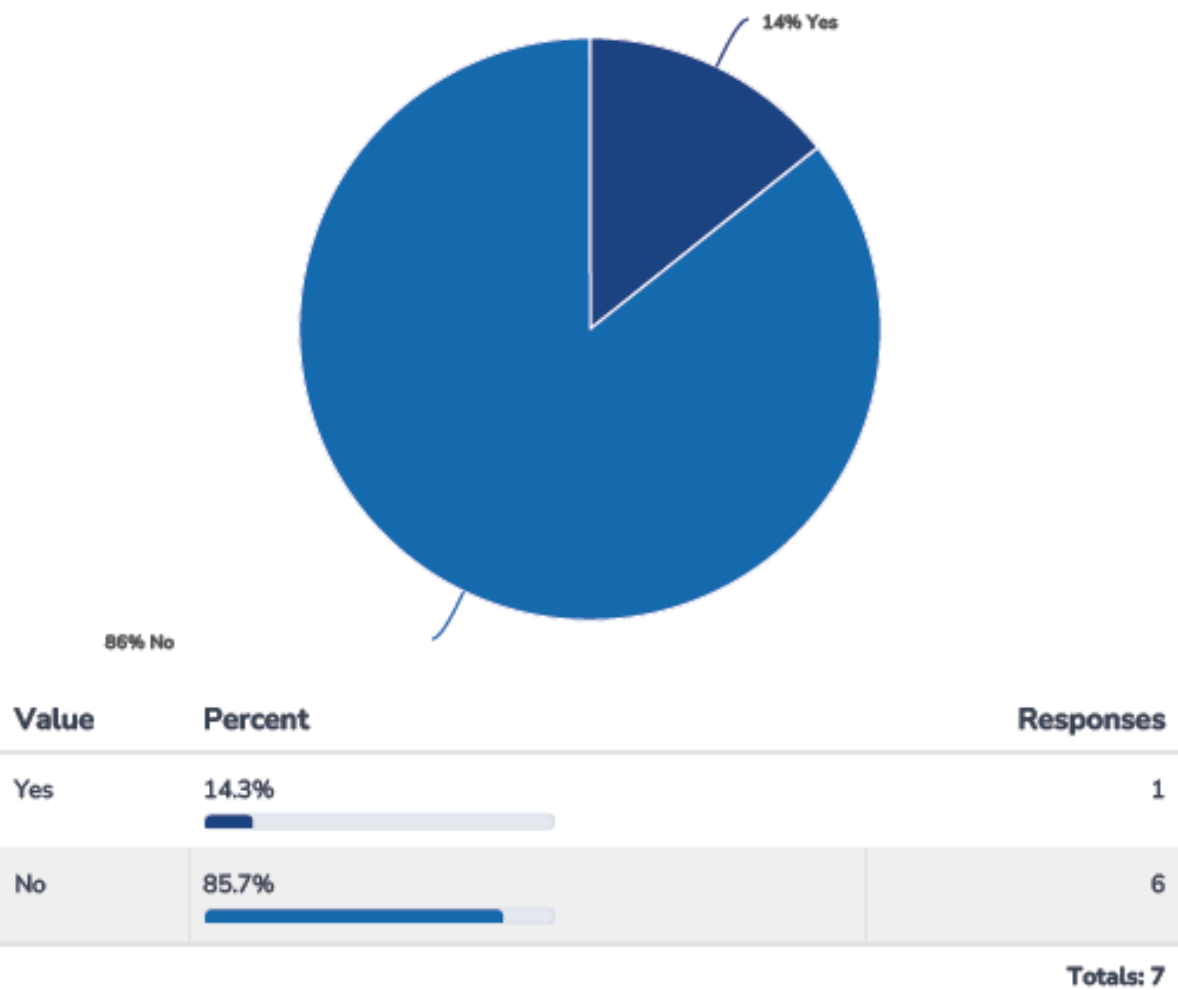
	0	1	2	3	4	5	Responses
<b>Freezing Rain/Sleet/Ice</b>							
Count	0	0	0	5	1	1	7
Row %	0.0%	0.0%	0.0%	71.4%	14.3%	14.3%	
<b>Hail</b>							
Count	0	0	0	4	2	1	7
Row %	0.0%	0.0%	0.0%	57.1%	28.6%	14.3%	
<b>Heavy Rain</b>							
Count	0	0	1	3	2	1	7
Row %	0.0%	0.0%	14.3%	42.9%	28.6%	14.3%	
<b>Heavy Snow</b>							
Count	0	0	1	2	2	2	7
Row %	0.0%	0.0%	14.3%	28.6%	28.6%	28.6%	
<b>Ice Jam</b>							
Count	1	2	1	3	0	0	7
Row %	14.3%	28.6%	14.3%	42.9%	0.0%	0.0%	
<b>Lightning</b>							
Count	0	1	1	3	1	1	7
Row %	0.0%	14.3%	14.3%	42.9%	14.3%	14.3%	
<b>Rapid Snow Melt</b>							
Count	0	1	1	3	1	1	7
Row %	0.0%	14.3%	14.3%	42.9%	14.3%	14.3%	
<b>Strong Winds</b>							
Count	0	0	1	1	3	2	7
Row %	0.0%	0.0%	14.3%	14.3%	42.9%	28.6%	
<b>Tornado</b>							
Count	0	0	1	0	0	6	7
Row %	0.0%	0.0%	14.3%	0.0%	0.0%	85.7%	
<b>Urban Fire</b>							
Count	0	1	0	3	1	2	7
Row %	0.0%	14.3%	0.0%	42.9%	14.3%	28.6%	
<b>Wild Fire</b>							
Count	0	2	1	3	1	0	7
Row %	0.0%	28.6%	14.3%	42.9%	14.3%	0.0%	
<b>Totals</b>							
Total Responses							7

8. Community Hazard Vulnerability - In your opinion, how vulnerable is your community and community services to the following hazards? Please mark one for each hazard. Use the scale below. 0 - Does not occur in this jurisdiction 1 - I do not recall the community or anyone in this community experiencing property damage or personal damage from this hazard. ("This would not affect normal community operations.") 2 - If this hazard occurs, it is unlikely it will be noticed as more than a nuisance. ("Any damage could be addressed with normal staff/community time dedicated at this time.") 3 - If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur. ("Any damage could be addressed with normal staff/community involvement, but would be noticed as a temporary notice to residents outside the affected area.") 4 - If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm. ("Damage would require over-time or extra assistance in some form to recover from, assist those affected. Daily life by most residents in the town would be affected negatively during recovery.") 5 - If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it. ("Normal government business or daily life could not resume until significant recovery occurs.")

	0	1	2	3	4	5	Responses
<b>Dam Failure</b>							
Count	1	2	2	1	1	0	7
Row %	14.3%	28.6%	28.6%	14.3%	14.3%	0.0%	
<b>Drought</b>							
Count	0	1	1	3	1	1	7
Row %	0.0%	14.3%	14.3%	42.9%	14.3%	14.3%	
<b>Extreme Cold</b>							
Count	0	0	1	3	2	1	7
Row %	0.0%	0.0%	14.3%	42.9%	28.6%	14.3%	
<b>Extreme Heat</b>							
Count	0	0	1	3	3	0	7
Row %	0.0%	0.0%	14.3%	42.9%	42.9%	0.0%	

	0	1	2	3	4	5	Responses
<b>Flood</b>							
Count	0	0	1	2	4	0	7
Row %	0.0%	0.0%	14.3%	28.6%	57.1%	0.0%	
<b>Freezing Rain/Sleet/Ice</b>							
Count	0	0	2	2	2	1	7
Row %	0.0%	0.0%	28.6%	28.6%	28.6%	14.3%	
<b>Hail</b>							
Count	0	0	0	3	3	1	7
Row %	0.0%	0.0%	0.0%	42.9%	42.9%	14.3%	
<b>Heavy Rain</b>							
Count	0	0	0	3	3	1	7
Row %	0.0%	0.0%	0.0%	42.9%	42.9%	14.3%	
<b>Heavy Snow</b>							
Count	0	0	0	3	3	1	7
Row %	0.0%	0.0%	0.0%	42.9%	42.9%	14.3%	
<b>Ice Jam</b>							
Count	0	3	2	2	0	0	7
Row %	0.0%	42.9%	28.6%	28.6%	0.0%	0.0%	
<b>Lightning</b>							
Count	0	1	1	3	1	1	7
Row %	0.0%	14.3%	14.3%	42.9%	14.3%	14.3%	
<b>Rapid Snow Melt</b>							
Count	0	1	2	1	2	1	7
Row %	0.0%	14.3%	28.6%	14.3%	28.6%	14.3%	
<b>Strong Winds</b>							
Count	0	0	2	0	4	1	7
Row %	0.0%	0.0%	28.6%	0.0%	57.1%	14.3%	
<b>Tornado</b>							
Count	0	1	0	0	1	5	7
Row %	0.0%	14.3%	0.0%	0.0%	14.3%	71.4%	
<b>Urban Fire</b>							
Count	0	0	1	2	2	2	7
Row %	0.0%	0.0%	14.3%	28.6%	28.6%	28.6%	
<b>Wild Fire</b>							
Count	0	1	0	3	3	0	7
Row %	0.0%	14.3%	0.0%	42.9%	42.9%	0.0%	
	0	1	2	3	4	5	Responses
<b>Totals</b>							
Total Responses							7

9. Is there another significant natural hazard that is a threat to your community that is not listed above?



10. Please specify:

ResponseID	Response
6	Earthquake

11. Have you or your community taken any actions to make your home or community more resistant to hazards?

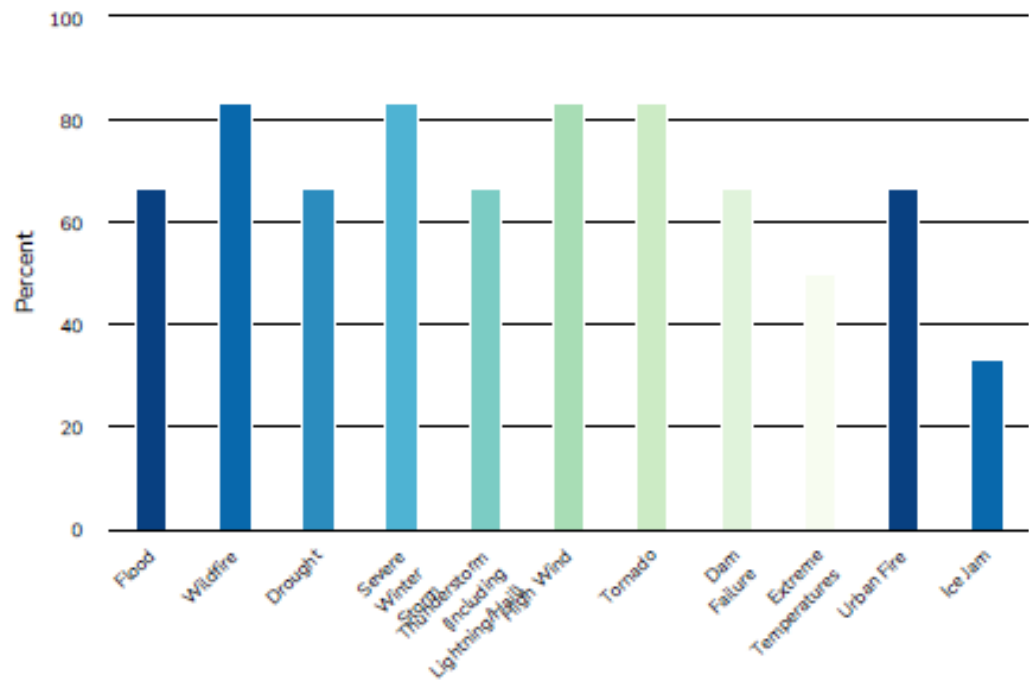







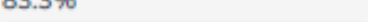

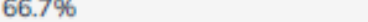

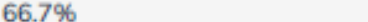

Value	Percent	Responses
Yes	57.1% <div><div></div></div>	4
No	42.9% <div><div></div></div>	3
Totals: 7		

12. Please explain:

ResponseID	Response
1	Cleaning out drainage ditches, storm system upgrades, tornado sirens,
2	Monitor trees that are sick and taking them down before the wind does. Moving snow in a timely manner to prevent rapid snow melt damages.
4	Waterproofing House
5	New windows and doors new roof. Secured objects. Water hoses that reach full property. Snow plow. Paid for snow pile removal Sump pump. Trash pumps. Removal maintenance of fire hazards yearly. Generators. Alternative heat sources. Cameras. Smoke detectors. Up to date fire extinguishers.

13. We would like your opinion on how to best reduce risk from the natural hazards in your community. Please briefly describe at least one project to mitigate each of the following hazards. Examples of projects are creating green spaces, floodproofing structures, designating emergency shelters, construction of tornado safe rooms etc.



Value	Percent	Responses
Flood	66.7% 	4
Wildfire	83.3% 	5
Drought	66.7% 	4
Severe Winter Storm	83.3% 	5
Thunderstorm (Including Lightning/Hail)	66.7% 	4
High Wind	83.3% 	5
Tornado	83.3% 	5
Dam Failure	66.7% 	4
Extreme Temperatures	50.0% 	3
Urban Fire	66.7% 	4
Ice Jam	33.3% 	2

Flood	Count
Allocate a budget for emergency situations.	1
Get emergency shelters in place	1
Warning Notifications, flood plain maps	1
Totals	3

<b>Wildfire</b>	<b>Count</b>
Buffer zones around susceptible areas	1
Controlled Burns	1
Have diggers near by to prevent wildfire spread	1
Reforest with native fruit trees, not pines, because they are combustible. Teach people how to prevent forest fires from being caused by campfires, cigarettes, or discarded bottles in the countryside.	1
Totals	4

<b>Drought</b>	<b>Count</b>
Less till planting	1
Reforest with native fruit trees, not pines, because they consume a lot of water and dry out the land. Promote agroforestry crops among farmers to protect the soil from erosion. Raise awareness among citizens so they don't waste water.	1
maybe have collections of rain water	1
Totals	3

<b>Severe Winter Storm</b>	<b>Count</b>
Allocate a budget for emergency situations. Train citizens on how to act in these situations.	1
Weather Forecasts	1
back up generator for firehall for heat	1
Totals	3

<b>Thunderstorm (Including Lightning/Hail)</b>	<b>Count</b>
Allocate a budget for emergency situations.	1
Warning Notifications	1
emergency shelter	1
Totals	3

High Wind	Count
Train citizens on how to act in these situations	1
Warning Notifications	1
emergency shelter	1
Totals	3

Tornado	Count
Allocate a budget for emergency situations. Train citizens on how to act in these situations	1
Warning Notifications	1
emergency shelter	1
Totals	3

Dam Failure	Count
Allocate a budget for emergency situations.	1
Warning Notifications	1
monitor and repair dam so there is no failure	1
Totals	3

Extreme Temperatures	Count
Train citizens on how to act in these situations	1
Weather Forecasts	1
Totals	2

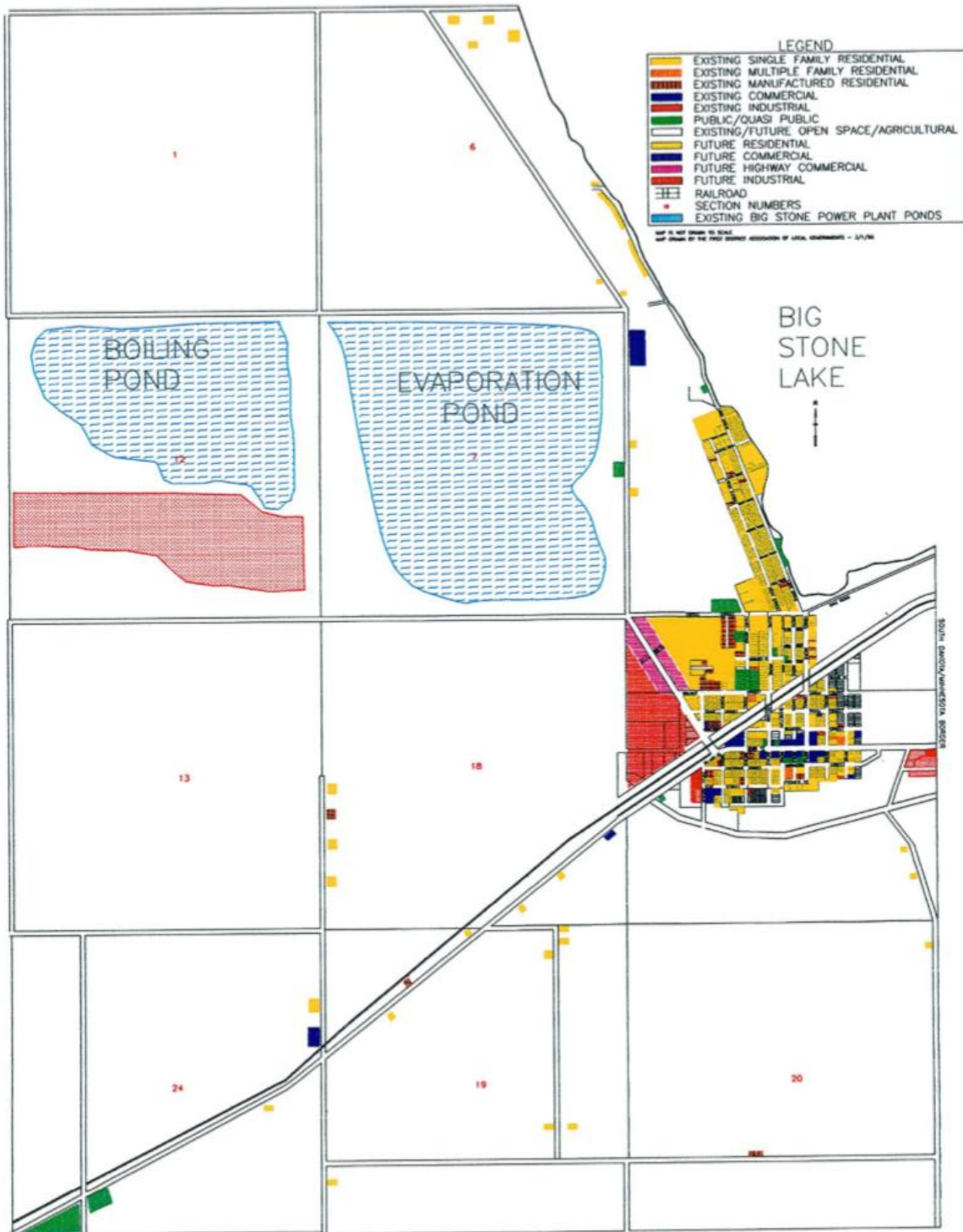
Urban Fire	Count
Allocate a budget for emergency situations. Train citizens on how to act in these situations	1
Home fire safety training	1
Warning Notifications	1
Totals	3

Ice Jam	Count
Totals	0

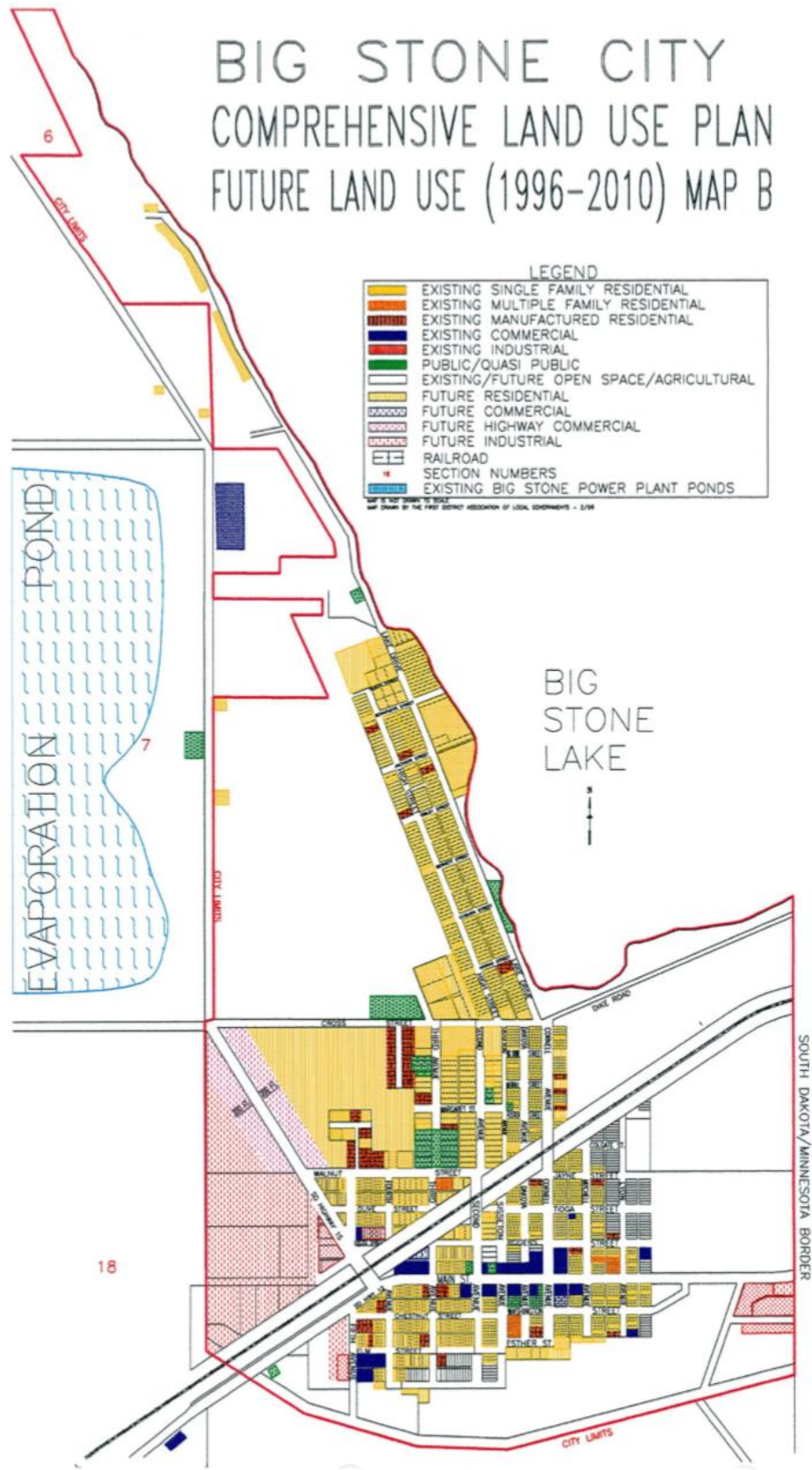
**Appendix G –  
Grant County Future Land Use Map**

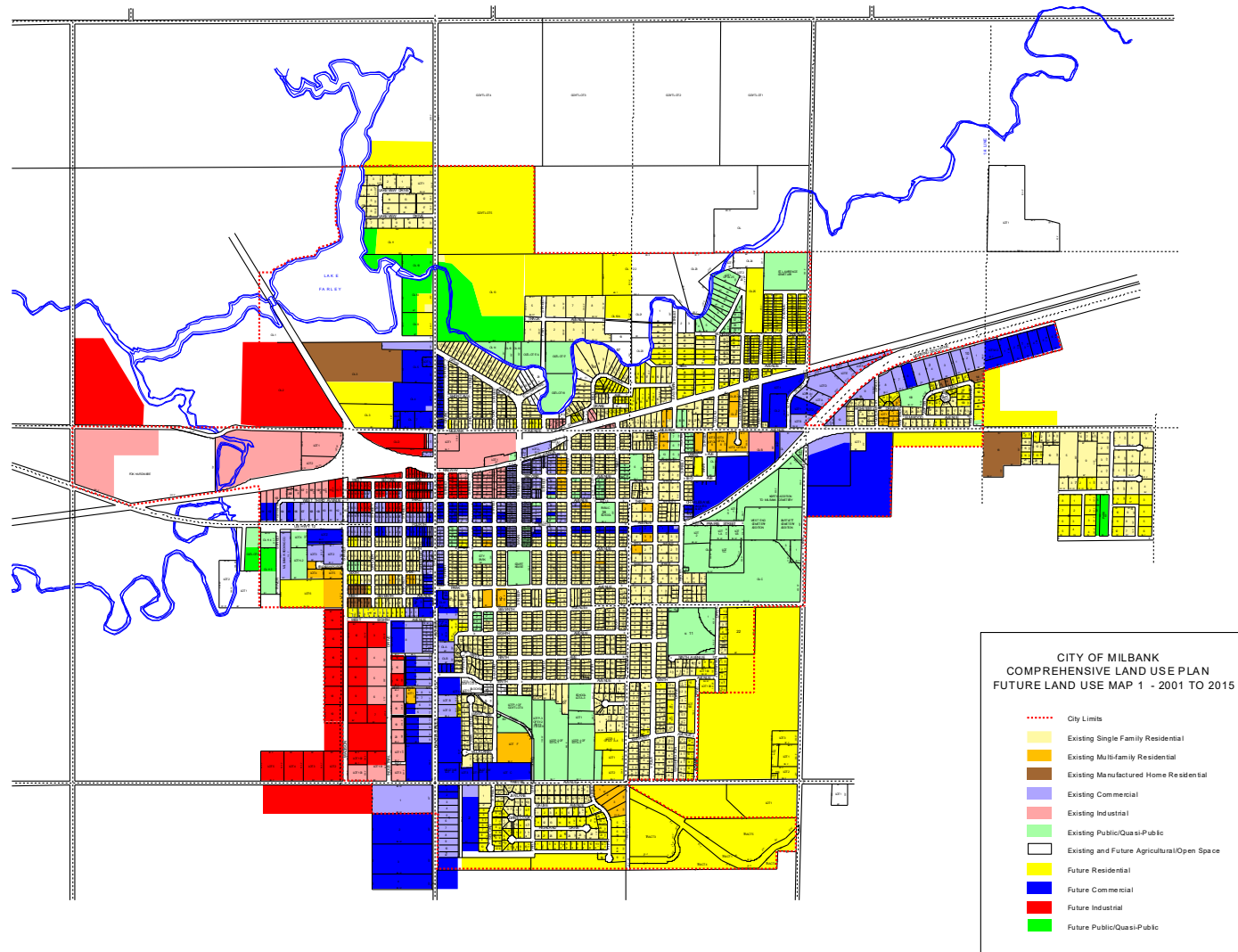
*Not included: Grant County's future land use map is divided into each individual township. In the interest of space, those maps are not included in this plan but are hereby incorporated by reference.*

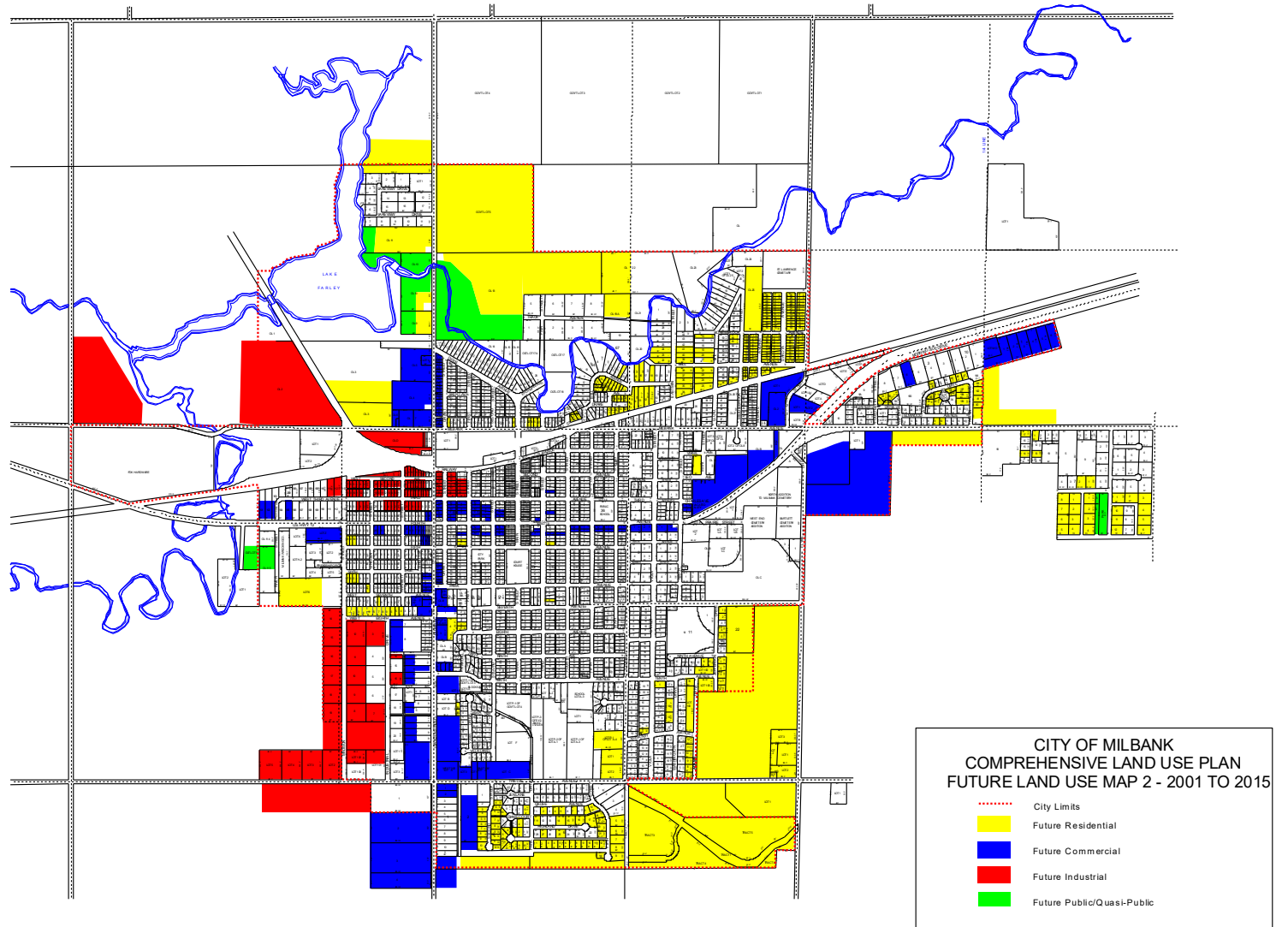
# BIG STONE CITY COMPREHENSIVE LAND USE PLAN FUTURE LAND USE 1996-2010 MAP A



# BIG STONE CITY COMPREHENSIVE LAND USE PLAN FUTURE LAND USE (1996-2010) MAP B







## Appendix H – Review of Previous PDM Mitigation Project Implementation

*Projects retained from previous plan are identified in Tables 5.2 – 5.14 This Appendix includes only those projects that were listed in the Previous PDM Plan but are not listed in the 2025 PDM Plan.*

### 2020 PDM Plan Mitigation Project Implementation

COMMUNITY	POTENTIAL MITIGATION PROJECTS	HAZARD	INCLUDED IN 2024 PLAN?	STATUS
Big Stone City	Install riprap along Lake Street/Chictaqua Park to resolve erosion that previously caused property & road damage.	Flooding	No	Completed
Milbank	Conduct drainage study for Pribyl Park.	Flooding	No	Completed
Reville	Reestablish drainage paths along the west edge of town.	Flooding	Yes	Ongoing
Strandburg	Replace culverts and repair eroded sections of road along Main Street and 162nd Street.	Flooding	Yes	Completed

## Appendix I – Worksheet 10: Plan Update Evaluation Form

### PLANNING PROCESS

#### Participants

Should new jurisdictions be invited to participate in future plan updates?

How have communities and agencies helped to carry out mitigation actions?

Could anything from the initial planning process be done more efficiently?

Have there been any changes in public support or priorities about hazard mitigation?

Is there anything else you would like to consider?

#### Public Involvement

Has the public been actively involved in the plan's implementation? How can public participation improve?

Have there been any ongoing public outreach activities for the plan?

Is there anything else you would like to consider?

## RISK ASSESSMENT

### Hazard History

Have there been any recent disaster events? If so, how did they affect your community?

Should the list of hazards addressed in the plan be updated? If so, which hazards should be added or removed?

Have there been any new issues with hazards in a certain area of your community?

Is there anything else you would like to consider?

### New Data

Are any new data sources available (e.g., studies, reports, maps, etc.)?

Do any new critical facilities or infrastructure need to be added to the asset lists?

Have any changes in development trends occurred that could create additional risks?

Does any new development *reduce* risk?

Is there anything else you would like to consider?

## MITIGATION STRATEGY

### Capabilities

Have jurisdictions adopted new policies, plans, regulations, or reports that could support the plan?

Are there different or new education and outreach programs and resources available for mitigation activities?

Has NFIP participation changed in the participating jurisdictions?

Is there anything else you would like to consider?

### Actions

Is the mitigation strategy being carried out as expected? Were the cost and timeline estimates accurate?

Are there new projects to consider?

Should existing mitigation actions be revised or removed from the plan?

Are there new funding sources to consider?

Have parts of the plan been worked into other planning mechanisms?

What challenges were there, and how can those be overcome over time?

Is there anything else you would like to consider?

## **Appendix J - References**

City of Big Stone City Comprehensive Land Use Plan and Zoning Ordinance - First District Association of Local Governments, 1996.

City of Milbank Comprehensive Land Use Plan and Zoning Ordinance - First District Association of Local Governments, 2001.

Grant County Comprehensive Land Use Plan – First District Association of Local Governments, 2004.

Grant County Zoning Ordinance and Subdivision Ordinance – First District Association of Local Governments, 2004.

Grant County Multi-Hazard Mitigation Plan, 2019.

Grant County Pre-Disaster Mitigation Plan, 2019.

Local Hazard Mitigation Planning Tool – Federal Emergency Management Agency, 2011.

Town of LaBolt Comprehensive Land Use Plan and Zoning Ordinance - First District Association of Local Governments, 2017.

NFIP Flood Insurance Rate Maps.

State of South Dakota Hazard Mitigation Plan. South Dakota Office of Emergency Management. 2019.