



**2025 – 2030**



# **Moody County**

Pre-Disaster  
Mitigation Plan

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## **CHAPTER 1 | INTRODUCTION**

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### **INTRODUCTION**

Moody 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 Moody 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 Moody 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. Moody County is no stranger to natural and man-made disasters. All or portions of Moody County have been included in 21 Presidential Disaster Declarations, six 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 Moody County Pre-Disaster Mitigation Plan was developed. This plan identifies hazards that occur throughout Moody 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 Moody 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.

**MOODY COUNTY PROFILE**

**Population**

Moody County is in east-central South Dakota north of Minnehaha County, south of Brookings County and east of Lake County and immediately west of the Minnesota/South Dakota border. The county has a geographic area of 519 square miles. Its 2020 Census population was 6,336, which averages 12.2 persons per square mile, which is a slight increase since 2010. According to 2020 Census data, just under 20% of the population is older than age 65. Education levels of persons twenty-five and older 92.3% high school graduates and 25.3% with college degrees. The number of high school and college graduates has seen a small increase, especially with individuals pursuing higher education.

Figure 1.1 below contains a map of Moody County. The county seat is Flandreau which is situated 7 miles east of Interstate 29 at the intersection of South Dakota Highway 13 and 32. Table 1.1 shows the population and number of housing units located in each of the county’s municipalities. Table 1.2 lists the sixteen County Townships and 5 populations. The County experienced a minute population decrease. However, this is expected to increase due to the County’s close proximity to booming communities, such as Brookings, Madison, and Sioux Falls, which serve as the governmental, education, employment and commerce centers for their counties, as well as the region as a whole. Population factors can also be affected by the movement of the Flandreau Santee Sioux Tribal members as their headquarters are located in the City of Flandreau.

**Table 1.1: Moody County Municipalities**

<b>Name</b>	<b>2020 Population</b>	<b>2010 Population</b>	<b>Location</b>	<b>Elevation</b>	<b>Housing Units</b>
Colman	634	594	43 58' 57" N 96 48' 52" W	1,680 feet	285
Egan	241	278	43 59' 57" N 96 38' 56" W	1,520 feet	110
Flandreau	2,372	2,341	44 02' 57" N 96 35 43" W	1,570 feet	1,072
Trent	206	232	43 54 22" N 96 39' 14" W	1,510 feet	106
Ward	34	48	44 9' 17" N 96 27' 37" W	1,740 feet	18
Unincorporated Areas	2,849	2,993			
Moody County	6,336	6,486	43 58' 40" N 96 39' 50" W	1,565 feet	2,728

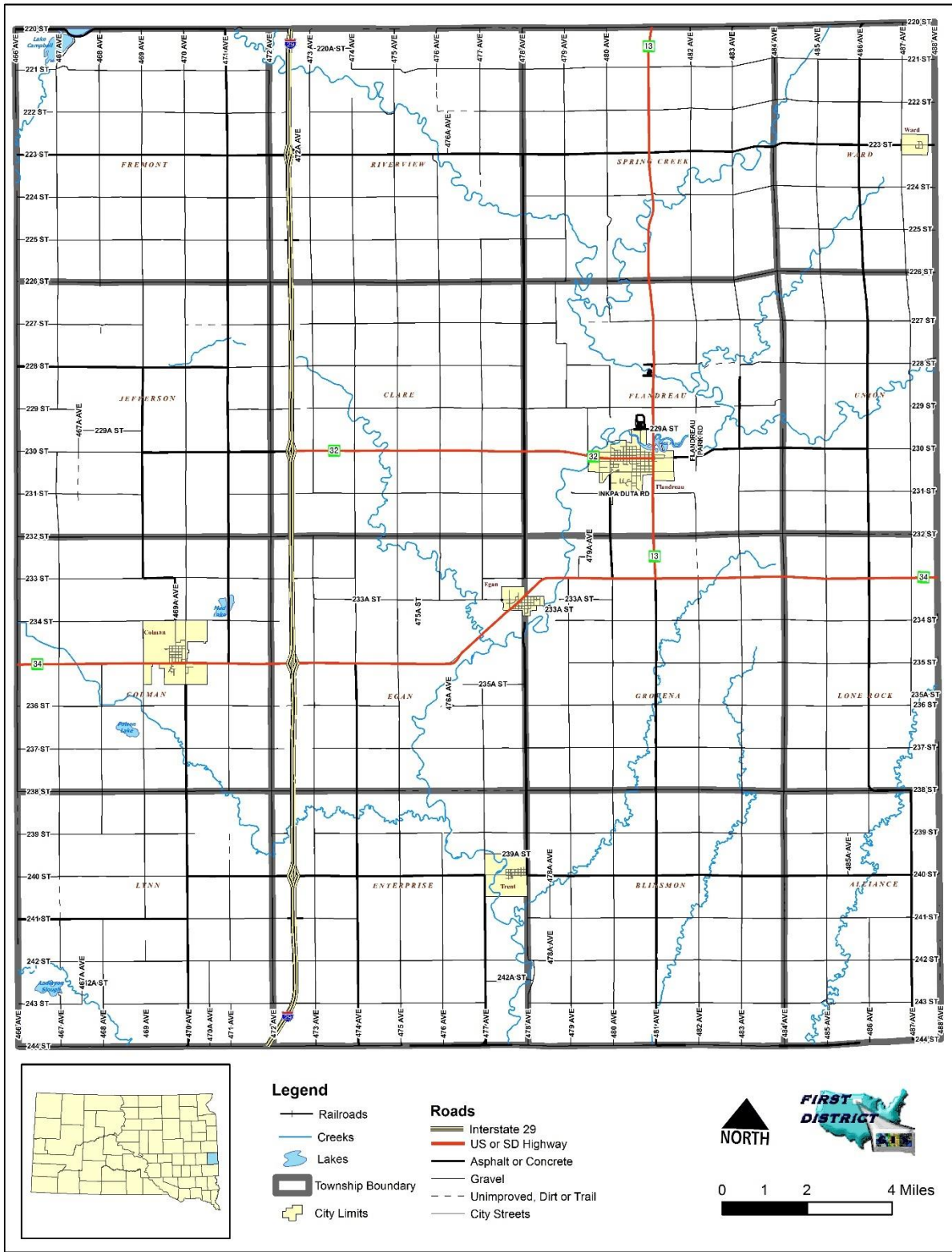
Source : 2020 & 2010 Census, [www.Lat-Long.com](http://www.Lat-Long.com), [www.usbeacon.com](http://www.usbeacon.com)

**Table 1.2: Moody County Townships**

<b>Township</b>	<b>Population</b>
Alliance	86
Blinsmon	219
Clare	138
Colman	227
Egan	216
Enterprise	265
Flandreau	360
Fremont	276
Grovena	144
Jefferson	176
Lone Rock	86
Lynn	275
Riverview	131
Spring Creek	106
Union	93
Ward	51

*Source: 2020 Census*

Figure 1.1 Political Map



## **Social and Economic Description**

Moody County's economy is dependent upon the agricultural sector. Most non-agricultural employment is in education, health care, manufacturing, or service industries. The City of Flandreau is the governmental center for the County. The rural communities in the County serve as bedroom communities to Brookings and Sioux Falls and provide "small town" atmosphere to those residents. A large majority of residents commute to Brookings, Sioux Falls, Madison, or other employment centers. Most of the communities have limited retail and service sectors, which provide basic needs to its residents.

The Flandreau Santee Sioux Reservation is also located in Moody County. Tribal property consists of over 3,000 acres of Tribal Trust and Tribal Fee lands.

Most communities within the County have limited retail and service sectors, which only provide basic needs to their residents. However, the City of Flandreau does have several retail and dining options for residents and surrounding communities.

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 or around 2% ( $\pm 0.2\%$ ) since early spring of 2022. According to the Federal Reserve Bank of St. Louis, Moody County followed a similar pattern with unemployment and has remained around 2% ( $\pm 0.1\%$ ). According to the 2023 American Community Survey, 9.8% of the population of Moody County is at or falls below the poverty line.

Moody County issues approximately 80 building permits for all new buildings, including commercial and housing development. The majority of building permits within the county are sheds or storage garages. Very little development has occurred in the last five years that would alter the PDM plan from its planned update.

## **Physical Description and Climate**

Moody County is centrally located along the Eastern boundary of the state of South Dakota and is bordered by the counties of Brookings (north), Lake (west), and Minnehaha (south). The Big Sioux River runs a north-south course through the entire county. The topography is generally smooth with few conspicuous topographical features. The western portion is characterized as having more rolling surfaces than the central or eastern portions. Moody County is located within the region generally classified as mild and dry 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 26.6 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 31.2 inches. The heaviest snowstorms often occur from late March through May or mid-October to mid-November. 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 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 Moody County is the often-windy conditions. Average wind speeds in Moody County are 10.6 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 in Egan, SD in May of 2022. The highest sustained winds tend to occur in the spring and fall, with sustained winds over 40 mph or greater occurring most years. Moody County reached straight line wind speeds of 80 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**

The water drainage is concentrated entirely in the Big Sioux River Basin, which includes many smaller intermittent tributaries. Within Moody County there are 357.4 stream miles. Moody County is in the physiographic region of South Dakota known as the Prairie Coteau. In most places, the drop from the general upland to stream bottom is abrupt. This is most noticeable along the Big Sioux River where a drop ranging from 100 to 200 feet frequently occurs within a quarter or half-mile. This area is part of the Central Big Sioux River watershed.

The principal surface water resources in Moody County are the Big Sioux River, which runs south of Watertown (Codington County) traveling southeast through Hamlin County towards the City of Brookings (Brookings County) and continues traveling that direction through Flandreau and winds its way back west and south through the entirety of Moody County.

## **Transportation and Utility Infrastructure**

Moody County's road network is composed of a total of 1,036 miles including federal and state highways, county roads, township roads, municipal street systems, 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.

South Dakota Highways 32 and 34 are the main east-west routes through the county with Highway 13 being the main north-south route. The County's road system includes 281 miles of roads. More specifically those roads are composed of 119 gravel road miles, 162 hard surface rural road miles, and 97 bridges, according to South Dakota Department of Transportation. In Moody County, the transportation choices are limited to mostly private automobiles traveling over state highways and county roads.

Moody County has one small airport located in Flandreau. The airport is used primarily by local pilots, crop sprayers, and other light aircraft. The airport does not have any nav-aid or flight service capabilities. There are no major railroads in the county.

The Big Sioux Community Water System serves the majority of all rural residences and communities of Colman, Egan, Trent and Ward. The City of Flandreau operates its own municipal water system.

Regarding wastewater disposal, all of the municipalities within the County have municipal wastewater collection and treatment systems. Rural residences rely on individual septic tanks and drainfields.

Electric power is provided to rural county residents and people in the communities by Otter Tail Power and Sioux Valley Energy. The City of Colman and Flandreau operate their own municipal power systems. MidAmerican Energy operates a natural gas transmission line through Moody County providing natural gas to businesses and residents in Flandreau.

Telephone service is provided by Interstate Telephone Company (ITC), BluePeak, Golden West, Century Link and Media Com. 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**

There is one hospital in Flandreau (Avera Flandreau Hospital) that serves the needs of the surrounding area. Flandreau Santee Sioux Tribe also operates a Health Center in Flandreau. Additionally, there are two long-term care facilities in the County: Edgewood Assisted Living and Riverview Healthcare Center, in Flandreau.

The County is governed by a five-member board of commissioners. The communities of Colman and Flandreau have their own police departments. The Moody County Sheriff and his deputies provide law enforcement throughout the county.

The Emergency 9-1-1 Center in Flandreau provides 911 services to the Moody County Sheriff's Department and other area agencies as well. Those agencies include:

- Moody County Ambulance Service
- Moody County Emergency Management
- Three volunteer fire departments (Flandreau, Colman, and Trent)
- Moody County Sheriff's Office
- South Dakota Highway Patrol



## CHAPTER 2 | PREREQUISITES

### ADOPTION BY LOCAL GOVERNING BODY

The local governing body that oversees the update of the Moody County Pre-Disaster Mitigation Plan is the Moody County Board of Commissioners. The Commission has tasked the Moody 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 Moody County, South Dakota. The County has five 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 invited to participate in the Moody County PDM Plan update process on March 10, 2025. 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*
Colman	All 16 Townships
Egan	
Flandreau	
Trent	
Ward	
Moody 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 Moody 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. Ten of the sixteen townships responded to the request.

The Moody 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**

Jurisdiction	Date of Adoption
City of Colman	
City of Egan	
City of Flandreau	
Town of Trent	
City of Ward	
Moody 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 27, 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>Colman</b>	<b>Egan</b>	<b>Flandreau</b>	<b>Trent</b>	<b>Ward</b>	<b>Moody 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 Moody 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.
- Diana Herrera, FEMA Regional Flood Insurance Liaison – has been helpful in the past but despite contacting the offices as was done in the past, she supplied no information through this update, nor did any other representatives of FEMA on Flood Insurance data.
- Doug Hinkle, SD State Fire Marshall Office – provided information on fires events throughout the County.

- 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 Moody County Courthouse to inform the public about the required PDM update. Funding from FEMA and the South Dakota Office of Emergency Management to prepare the mitigation plan was received by the county on 02/20/25. Once funding was secured, the Moody 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 Moody County Commissioners and Moody 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 Moody 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. Sioux Valley Energy actively attended the first meeting. Information to be covered at the meetings was emailed ahead of the second and third meetings, including a link to the draft prior to each meeting. Invitees were told that failure to attend would result in the assumption that they and their communities have no recommended edits.

**Table 3.1: PDM Planning Team Members**

Invited			Meeting Attendance		
Last Name	First Name	Entity Represented	Meeting 1	Meeting 2	Meeting 3
Allen	Mark	Flandreau Santee Sioux Tribe Emergency Management			
Charles	Kayla	Egan Finance Officer	■		
Charles	Jerrick	Moody County Emergency Management Director	■	■	■
Cramer	Bruce	Colman LEPC Secretary	■		
Doyle	Jerry	Moody County	■		
Ganschow	Scott	Moody County Ambulance			
Groos	Maria	Colman Finance Officer			■
Hansen	Nancy	Egan	■		
Heineman	Tawny	Moody County Auditor			
Hemmer	Scott	Colman/Egan School District Superintendent			
Henricks	Kelli	First District	■		
Johanssen	Jodi	Big Sioux Water General Manager			
Kneebone	Lori	Flandreau Finance Officer			■

Kuehl	Charity	Ward Finance Officer			
Landis	Jason	Colman Fire Chief			
Muller	Luke	First District	■	■	■
Muller	Andy	Moody County Highway Superintendent	■	■	
Nelson	Kim	Trent Finance Officer			
Nielson	Michele	Sioux Valley Energy Engineering Manager	■		
Peters	Don	Flandreau Fire Chief			
Poppen	Jim	State of SD Hazard Mitigation Officer			
Scherff	Tom	Trent Fire Chief			
Scroch	Marty	Moody County Commission Assistant	■	■	
Storms	Kaelob	Moody County LEPC Chairperson	■		
Turnquist	Cohl	Flandreau City Administrator		■	
Weber	Rick	Flandreau School District Superintendent			
Wellman	Troy	Moody County Sheriff	■		

Leadership and guidance in the planning effort and at the planning meetings was provided by the First District staff and the Moody 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 Farmer's Room (meeting room) of the Moody County Courthouse in Flandreau on March 27, 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 attended the March 27<sup>th</sup> 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 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>		
Moody County Enterprise	March 03, 2025	All Jurisdictions - Moody County Commission	Minutes from County Commission meeting approving PDM Grant application.		
Moody County Enterprise	March 11, 2025	City of Flandreau	Minutes from city meeting where PDM updates were discussed.		
Moody County Enterprise	March 18, 2025	City of Colman	Minutes from city meeting where PDM updates were discussed.		
Moody County Enterprise	March 18, 2025 March 19, 2025	All Jurisdictions - PDM Planning Team	Notice of PDM Plan Kick-off Meeting of the PDM Planning Team. Public invited.		
Moody County Enterprise	March 18, 2025	City of Trent	Minutes from city meeting where PDM updates were discussed.		
Moody County Enterprise	April 01, 2025	City of Egan	Minutes from city meeting where PDM updates were discussed.		
Moody County Enterprise	April 28, 2025	All Jurisdictions - Moody County Commission	Minutes from County Commission meeting to approve Mitigation Project Performance Report.		
<b>Website Posting Social Media</b>					
<b>Website / Social Media</b>	<b>Author</b>	<b>Date Posted</b>	<b>Date removed</b>	<b>Jurisdiction Represented</b>	<b>Brief Description</b>
<a href="https://association.1stdistrict.org/pdmplans/">https://association.1stdistrict.org/pdmplans/</a>	1st District Staff	March 27, 2025	Not Removed	All Jurisdictions/ Planning Team	This page includes drafts, notices, and materials from meetings
<a href="https://www.colmansd.com/agenda">https://www.colmansd.com/agenda</a>	City of Colman Staff		Removed	City of Colman	Notice inviting public to participate in meeting.

<a href="https://www.colmansd.com/meeting-minutes">https://www.colmansd.com/meeting-minutes</a>	City of Colman Staff		Not Removed	City of Colman	Minutes from City of Colman meeting discussing the PDM.
<a href="https://www.cityofflandreau.com/index.asp?SEC=284BED7B-3171-49C1-8295-900B42A61738">https://www.cityofflandreau.com/index.asp?SEC=284BED7B-3171-49C1-8295-900B42A61738</a>	City of Flandreau	March 3, 2025	Not Removed	City of Flandreau	Agenda & Minutes from 03/03/2025 meeting discussing PDM.
<a href="https://egansd.com/agendas">https://egansd.com/agendas</a>	City of Egan Staff		Not Removed	City of Egan	Agenda for 03/19/25 Meeting
<a href="https://egansd.com/minutes">https://egansd.com/minutes</a>	City of Egan Staff		Not Removed	City of Egan	Minutes from 03/19/2025 meeting discussing PDM.

**Physical Notice**

Location	City	Date Posted	Jurisdiction Represented	Brief Description
All jurisdictions - Moody County Commission	Flandreau	March 25, 2025	All Jurisdictions	Agenda of commissioners meeting where PDM was discussed.
City of Colman	Colman	March 08, 2025	Colman	Agenda of city meeting where PDM was discussed.
City of Egan	Egan	March 17, 2025	Egan	Agenda of city meeting where PDM was discussed.
City of Flandreau	Flandreau	March 01, 2025	Flandreau	Agenda of city meeting where PDM was discussed.
City of Trent	Trent	March 09, 2025	Trent	Agenda of city meeting where PDM was discussed.
Town of Ward	Ward	March 08, 2025	Ward	Agenda of town 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.

The PDM Planning Team discussed the importance of making the planning process available to vulnerable and disadvantaged populations within the community, such as the Flandreau Santee Sioux Tribe and citizens living in assisted care facilities. While managers of some facilities that provide care and assistance to vulnerable populations (populations to protect) were part of the PDM Planning Team, it was determined that the Emergency Management Director should notify those vulnerable populations with information on how to participate in the planning process. The Emergency Management Director provided information to known places of employment of non-English speakers, and elderly care facilities regarding meetings of the PDM Planning Team, the PDM Draft, the location of the online survey, and other opportunities manners to comment.

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 3.2: 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
Colman	03/10/2025	■			■	■
	adoption meeting	■			■	■
Egan	03/19/2025	■			■	■
	adoption meeting	■			■	■
Flandreau	03/03/2025	■			■	■
	adoption meeting	■			■	■
Trent	03/11/2025	■			■	
	adoption meeting	■			■	
Ward	03/10/2025	■			■	
	adoption meeting	■			■	
Moody County	PDM Grant Application 11/21/2023	■			■	
	(PDM Team) 03/27/25		■		■	■
	02/20/2024			■	■	
	11/07/2024	■			■	■
	(PDM Team) 12/09/2024		■		■	■
	(PDM Team) 12/19/2024		■		■	■
	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 2024 PDM Team meeting
- Invite adjacent county EM Directors to the January 2024 PDM Team meeting
- Public notices published in local newspapers regarding January 2024 PDM Team meeting

### March 2025

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- Hold PDM Team kickoff meeting
- Establish the PDM Team
- Review the existing 2019 PDM plan
- Develop PDM Template and planning update process

### March - June 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)

### June 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 2019 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 2019 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 only 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.

Moody 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 1, 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 Moody 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 Moody County, Moody 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 2019 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 early July 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 first March 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 2019 PDM. After review, the Team determined the 2019 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 Moody 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: Minnehaha, Lake, and Brookings. 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 July 2025 to review and discuss final draft as amended based upon comments from the planning team, communities, and the public. 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 Moody 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 4.1 identifies the administrative and technical competences of each community, including the individuals responsible for those roles. Table 4.2 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>Colman</i>	<i>Egan</i>	<i>Flandreau</i>	<i>Trent</i>	<i>Ward</i>	<i>Moody County</i>
<i>Board of Adjustment</i>	Elected Officials	Elected Officials	Planning Commission	Elected Officials	NA	Elected Officials
<i>Building Official</i>	Appointed	Appointed	Appointed	Appointed	NA	Appointed
<i>Community Planner</i>	NA	NA	NA	NA	NA	Appointed
<i>Elected Officials</i>	Aldermanic	Trustee	Aldermanic	Trustee	Trustee	Commission
<i>Emergency Manager</i>	NA	NA	NA	NA	NA	Appointed/ Zoning Officer
<i>Engineer/Highway Superintendent</i>	NA	NA	NA	NA	NA	Appointed
<i>Floodplain Administrator</i>	Finance Officer	Appointed	City Administrator	Finance Officer	NA	Zoning Officer
<i>GIS Coordinator</i>	NA	NA	NA	NA	NA	Appointed
<i>Planning Commission</i>	Elected Officials	Elected Officials	Appointed	Elected Officials	NA	Appointed
<i>Zoning Officer</i>	Finance Officer	Finance Officer	City Administrator	Finance Officer	NA	Appointed
<i>Grant Writing Capability</i>	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*
<i>Non-profit organizations focused on environmental protection.</i>	Yes**	Yes**	Yes**	Yes**	Yes**	Yes**
<i>Public-Private partnership initiatives addressing disaster-related issues.</i>	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>Colman</b>	<b>Egan</b>	<b>Flandreau</b>	<b>Trent</b>	<b>Ward</b>	<b>Moody County</b>
<i>Does the Future Land-Use Map identify natural hazard areas?</i>	Y	Y	Y	Y	NA	Y
<i>Do the land-use policies discourage development or redevelopment within natural hazard areas?</i>	Y	Y	Y	Y	NA	Y
<i>Does the plan provide adequate space for expected future growth in areas located outside natural hazard areas?</i>	Y	Y	Y	Y	NA	Y
<i>Does the transportation plan limit access to hazard areas?</i>	N	N	N	N	NA	N
<i>Is transportation policy used to guide growth in safe locations?</i>	Y	Y	Y	Y	NA	Y
<i>Are movement systems designed to function under disaster conditions (e.g., evacuation)?</i>	Y	Y	Y	Y	Y	Y
<i>Are environmental systems that protect development from hazards identified and mapped?</i>	N	N	N	N	NA	N
<i>Do environmental policies provide incentives to development that is located outside protective ecosystems?</i>	N	N	N	N	NA	N
<i>Do environmental policies maintain and restore protective ecosystems?</i>	N	N	N	N	NA	Y
<i>Are the goals and policies of the comprehensive plan related to those of the FEMA Local Hazard Mitigation Plan?</i>	N	N	N	N	NA	N
<i>Is safety explicitly included in the plan's growth and development policies?</i>	Y	Y	Y	Y	NA	Y
<i>Does the monitoring and implementation section of the plan cover safe growth objectives?</i>	N	N	N	N	NA	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	Y	Y	NA	Y

**Table 4.2: Capabilities of Growth Guidance Instruments (continued)**

<b>Capabilities of Community Planning Mechanisms</b>	<b>Colman</b>	<b>Egan</b>	<b>Flandreau</b>	<b>Trent</b>	<b>Ward</b>	<b>Moody County</b>
<i>Does the zoning ordinance contain natural hazard overlay zones that set conditions for land use within such zones?</i>	Y	Y	Y	Y	NA	Y
<i>Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use?</i>	N	N	N	N	NA	Y
<i>Does the zoning ordinance restrict development within, or filling of, wetlands, floodways, and floodplains?</i>	Y	Y	Y	Y	NA	Y
<i>Do the subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas?</i>	Y	Y	Y	Y	NA	Y
<i>Do the subdivision regulations provide for conservation subdivisions or cluster subdivisions in order to conserve environmental resources?</i>	N	N	N	N	NA	Y
<i>Do the subdivision regulations allow density transfers where Hazard areas exist?</i>	N	N	N	N	NA	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 2019 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 2019 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 2019 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 4.3.

**Table 4.3: Record of Review**

Technical Documents	Jurisdiction						Referenced in Plan
	Colman	Egan	Flandreau	Trent	Ward	Moody County	
Aquifer Protection Ordinance	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**
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 Colman, Egan, Trent, and Flandreau are reviewing and updating their Comprehensive Land Use Plans and Zoning Ordinances during the Pre-Disaster Mitigation Plan Review				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.	Chapters 1,3, 4, 6 & Appendix G
Capital Improvement Plan	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
Drainage Ordinance	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 (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 prioritizing flood-related projects.				NA	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 prioritizing flood-related projects.	Chapters 4, 5, 6 & Appendices D & E
Economic Development Plan	NA	NA	NA	NA	NA	NA	NA
Emergency Operations Plan	Though not directly referenced in this document, Moody 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 (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 prioritizing flood-related projects.				NA	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 prioritizing flood-related projects.	Chapters 4, 5, 6 & Appendices D & E
Hazard Vulnerability Analysis (by the local Emergency Management Office)	While not directly referenced in this document, Moody 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 & responding to spill events.  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.						Chapters 1, 3, 4, & 5
Land Use Regulation Near Pipelines	NA	NA	NA	NA	NA	Reviewed existing and future land use maps. The goal was to maximize efficacy of mitigation strategies/ projects and align them with development strategies.	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

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	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	Review master street plan to identify what/if any roads were more / less vulnerable to hazards OR what/if any roads were more critical during natural hazards.	Review and consider existing PDM in establishing the Town's First Major Street Plan.	Review master street plan to identify what/if any roads were more / less vulnerable to hazards OR what/if any roads were more critical during natural hazards.	Chapters 1, 3, 4, & 5
Zoning Ordinance and Site Plan Review	Zoning Ordinance restrictions on setbacks, densities; availability of infrastructure and public facilities to more intensive uses; and Moody 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.	Review and consider existing PDM in establishing the Town's Zoning Ordinances.	Zoning Ordinance restrictions on setbacks, densities; availability of infrastructure and public facilities to more intensive uses; and Moody 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 Moody 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 Moody County are zoned, which means they have a Comprehensive Land Use Plan (excluding Ward) and some level of transportation plan.

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. Moody 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 2019.

Since 2019, Moody County and the City of Flandreau have adopted Comprehensive updates to their zoning ordinances. These 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, the City of Flandreau is engaged in updates of its land use regulations. These adoptions will be completed near the end of this year.

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. Moody County and the communities of Flandreau, Colman, Egan, and Trent 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 2019.

Chapter 4 presents a comprehensive list of potential hazards that could affect Moody 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 began 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 NCEM Storm Events Database. A summary of the findings for hazard occurrences from the past ten years is provided below in Table 4.4. 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	7+	NOAA/UNL
Earthquake	0	SDGS
Extreme Cold	25	NOAA
Extreme Heat	7	NOAA
Fire (Urban and Wildfire)	204	NOAA & State Fire Marshall's Office
Flood	75	NOAA
Hail	20	NOAA
Heavy Rain	0	NOAA
Heavy Snow	2	NOAA
Ice Jams	0	SD SHMP
Ice Storm	1	NOAA
Landslide	0	SD SHMP

Lightning	0	NOAA
Subsidence	0	SD SHMP
Thunderstorm and High Wind	59	NOAA
Tornado	4	NOAA
Winter Storm and Blizzards	86	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 2019 Moody 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 Moody 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 Moody 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 4.5 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 Moody County**

Date	Disaster Dec #	Type	Total Damage	Public Assistance Cost	Hazard Mitigation Assistance
4/18/1969	257	Flooding	\$4,599,306		
6/11/1984	717	Severe Storms and Flooding			
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	Severe Winter Storm	\$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		
05/17/2001	1375	Severe Winter Storm and Flooding	\$10,441,684	\$5,097,819	
07/09/2008	1774	Severe Storms and Flooding		\$4,716,310	
05/13/2010	1915	Flooding		\$21,498,619	
11/02/2010	1947	Severe Storms and Flooding		\$1,079,973	
05/13/2011	1984	Flooding		\$52,090,678	
06/07/2019	4440	Severe Winter Storm, Snowstorm, and Flooding		\$60,762,752	\$9,432,655
11/18/2019	4469	Severe Storms, Tornadoes, and Flooding		\$18,594,268	\$2,988,996
06/29/2022	4656	Severe Storm, Straight-line Winds, Tornadoes, and Flooding		\$6,733,541	\$223,607
08/15/2024	4807	Severe Storms, Straight-Line Winds, and Flooding	\$9,836,045		

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. Moody 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 five dams within the County, as listed below in Table 4.6. According to the SD DANR database, all five dams located in Moody 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 Moody 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. Further, there is a spillway in the northern portion of Flandreau on the Sioux River, however the spillway is not considered high risk as there are no structures or people affected downstream.

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.

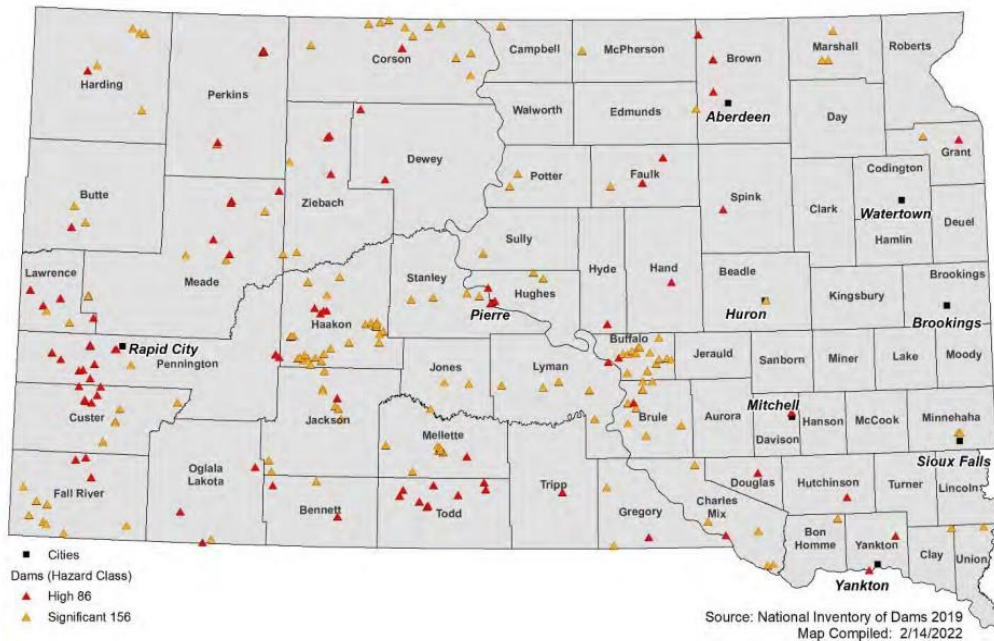
Since 1990, South Dakota has averaged 22% more 2-inch rain events compared to the long-term average. Some historic rain and flooding events have occurred in recent years. Climate projections for the Great Plains indicate that 1-day, 20-year return events will increase in frequency by 8% to 16% in the coming decades. Moody County is confident that existing dam capacity, in addition to the spillway, will be able to accommodate an increase of one flood, every 12 to 25 years (according to data elsewhere in this report, Moody County currently experiences flooding at frequency slightly more often than twice annually).

**Table 4.6 Dam Locations in Brookings County**

Dam Name	Owner	Location	Water Body
Basuske Dam	M. M. Bauske (Private)	NW1/4 of SW1/4 of Section 5-T107N-R47W	Mud Creek Tributary
Jacobs Dam	Tad Jacobs (Private)	SW1/4 of NW1/4 of Section 8-T107N-R48W	Big Sioux River Tributary
Loiseau Dam	James & Mary Loiseau (Private)	SW1/4 of NE1/4 of Section 20-T107N-R48W	Big Sioux River Tributary
Paulson Dam	Loren Paulsen (Private)	SW1/4 of SE1/4 of Section 31-T108N-R47W	Mud Creek Tributary
Jackson Dam	Warren Jackson (Private)	SW1/4 of NW1/4 of Section 2-T106N-R49W	Squaw Creek Tributary

SOURCE: SD DANR-Office of Water - Water Rights Program

**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 Moody 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 Moody County has an annualized frequency of 13.1 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 Moody 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	<p>Going into drought:</p> <ul style="list-style-type: none"> <li>• short-term dryness slowing planting, growth of crops or pastures</li> </ul> <p>Coming out of drought:</p> <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: Moody 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
04/14/2015	04/14/2015	05/25/2015	Moderate Drought	None Recorded*			
07/18/2017	07/18/2017	07/25/2017	Moderate Drought				
08/17/2021	08/25/2020	10/05/2021	Moderate to Extreme Drought				
11/29/2022	11/01/2022	02/14/2023	Moderate Drought				
09/05/2023	05/30/2023	03/19/2024	Moderate to Severe Drought				
10/08/2024	09/17/2024	05/13/2025	Moderate to Severe Drought				

SOURCE: <http://droughtmonitor.unl.edu/archive.html>

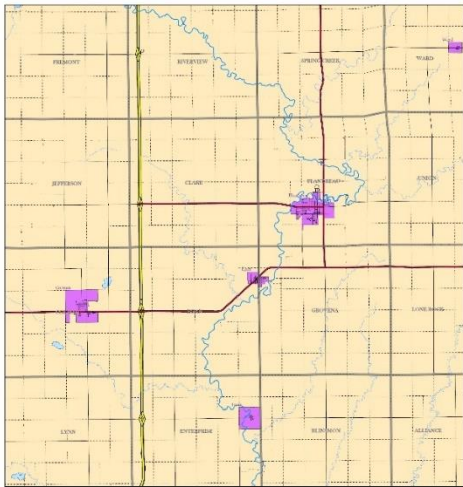
\*Crop Damage is the primary concern/damage of Drought in Moody County. Damage as a result of drought is rarely documented, but regarded as opportunity cost of lost revenue for the agricultural industry and dependent industries.

**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, Moody 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.

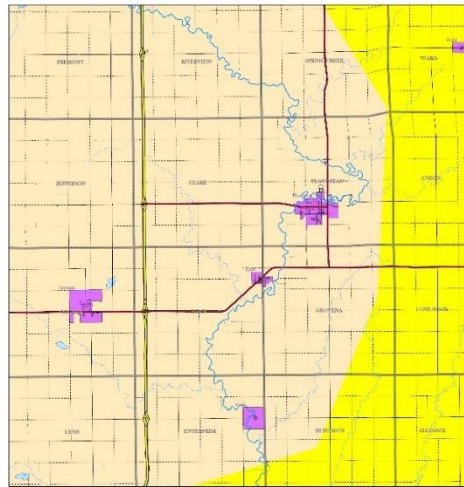
The extent of each period of drought (at its highest severity rating) is displayed in the following maps.

**Figure 4.3: Drought Severity Corresponding Maps**



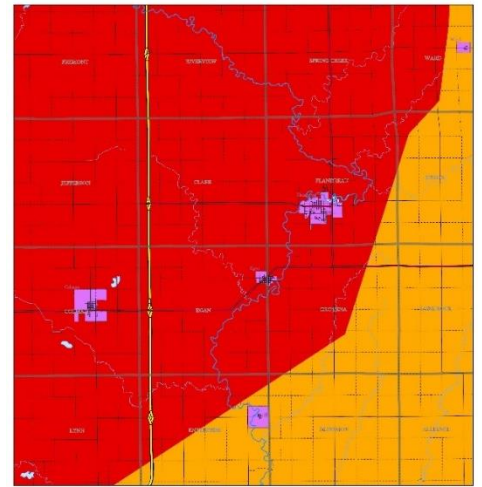
Palmer Drought Severity Index  
04/14/15

D0 - Abnormally Dry	D2 - Severe Drought	D4 - Exceptional Drought
D1 - Moderate Drought	D3 - Extreme Drought	



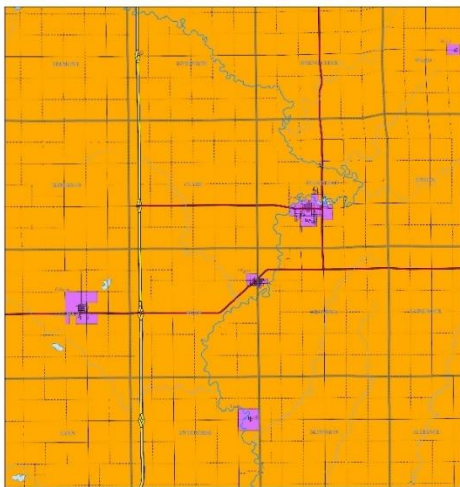
Palmer Drought Severity Index  
07/18/17

D0 - Abnormally Dry	D2 - Severe Drought	D4 - Exceptional Drought
D1 - Moderate Drought	D3 - Extreme Drought	



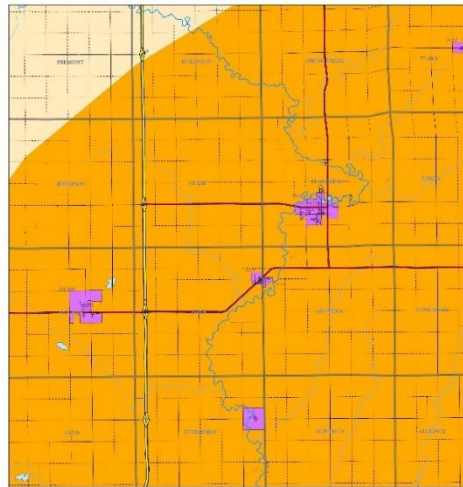
Palmer Drought Severity Index  
08/17/21

D0 - Abnormally Dry	D2 - Severe Drought	D4 - Exceptional Drought
D1 - Moderate Drought	D3 - Extreme Drought	



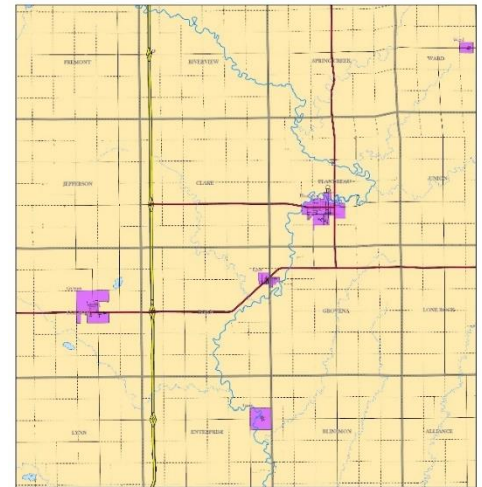
Palmer Drought Severity Index  
09/05/23

D0 - Abnormally Dry	D2 - Severe Drought	D4 - Exceptional Drought
D1 - Moderate Drought	D3 - Extreme Drought	



Palmer Drought Severity Index  
10/08/24

D0 - Abnormally Dry	D2 - Severe Drought	D4 - Exceptional Drought
D1 - Moderate Drought	D3 - Extreme Drought	



Palmer Drought Severity Index  
11/29/22

D0 - Abnormally Dry	D2 - Severe Drought	D4 - Exceptional Drought
D1 - Moderate Drought	D3 - Extreme Drought	

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 Moody County has an annualized frequency of 13.1 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**

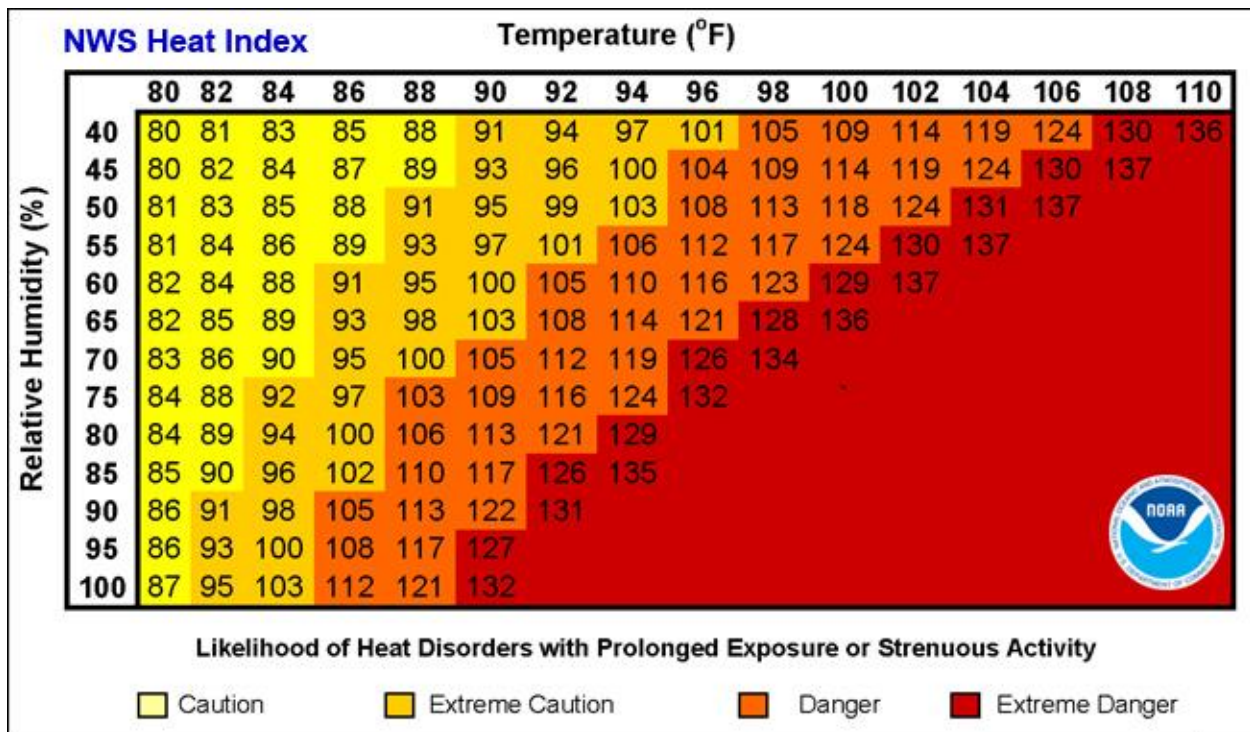
Community	Drought				
	Impacts				
	Current Assets:	Future Assets:	Expected Changes in Land Use and Development	Changes in Population and Assets	Change in Land Use and Development
Moody County	See Table 1.1 [Population]; Table 4.25 Critical Structures in Moody County. Description of effects on	Population to remain steady to slightly decreasing. (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	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>Colman</u></b>	<i>current assets are included in Tables 5.2 - 5.14 as part of description of mitigation activities to address specified hazards.</i>	Population increase: less than or equal to 0.6% annually (Table 1.1); planned/ recent infrastructure improvements referenced in Appendix.	<i>Expanded residential development in the south and southeast; Industrial development in the west; infill commercial development in the center and near HWY 34 with new commercial/industrial development 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>Egan</u></b>		Population decrease of near 1% annually (Table 1.1). recent infrastructure improvements referenced in Appendix.	<i>Infill residential development with some new development in the east and northwest; New industrial development in the southwest; new commercial development in the northeast.</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>Flandreau</u></b>		Population increase: 0.0% 0.2% annually (Table 1.1). recent infrastructure improvements referenced in Appendix. Specifically the community is expanding childcare facilities	<i>Infill residential development with new development in the east and south. New Industrial use in the west. Infill commercial throughout town, with new development in the west.</i>	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>Trent</u></b>		Population decrease/ 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>Ward</u></b>		Population decrease/ recent infrastructure improvements referenced in Appendix.	<i>Land Use Plan not yet adopted.</i>	Rural and municipal water suppliers need secondary (redundant) water source in prolonged drought.	Most residences are being recycled or improved, however are less energy efficient than newer houses would be.

## 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), Moody County experiences heat waves at an annualized frequency of 0.5 events per year. Table 4.6, located below, outlines the history of extreme heat events in Moody 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: Moody County History of Extreme Heat**

Location (Extent)	Date	Time	Type	Magnitude			
				Crop Damage	Property Damage	Injuries	Loss of Life
Moody County	06/10/2016	11:00	Excessive Heat				
Moody County	07/20/2016	12:00	Excessive Heat				
Moody County	06/29/2019	12:00	Excessive Heat				
Moody County	07/26/2023	10:00	Excessive Heat				
Moody County	08/19/2023	12:30	Excessive Heat				
Moody County	08/21/2023	11:00	Excessive Heat				
Moody County	07/13/2024	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 Moody County and between fifteen (15) and twenty-five (25) other counties.
- **August 2023** - An immense ridge of high pressure over the Central Plains and Mississippi Valley entrenched heat and high dewpoint air across the region, resulting in daily heat indices from 100 to around 120, with very little recovery during the overnight hours. One direct fatality occurred when an infant was left in a vehicle for an extended period of time during the day in Yankton. Daily afternoon and evening heat indices ranged from 105 to 110 degrees with a maximum heat index of 110 degrees at Automated Weather Observing System site K4P3 near Flandreau on August 23 and 108 degrees at a South Dakota State University Mesonet site near Flandreau on August 21.

### 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 Moody 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 air 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>Moody County</b>	See Table 1.1 [Population]; Table 4.25 Critical Structures in Moody County. Description of effects on current assets are included in Tables 5.2-5.14 as part of description of mitigation activities to	Population to remain steady to slightly decreasing. (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	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>Colman</b>		Population increase: less than or equal to 0.6% annually (Table 1.1); planned/ recent infrastructure improvements referenced in Appendix.	Expanded residential development in the south and southeast; Industrial development in the west; infill commercial development in the center and near HWY 34 with new commercial/industrial development east.	Need for emergency shelter and emergency provision/storage of daily medical services in event of utility failure.	Newer residences will be more energy efficient and provide less strain on electrical usage during extreme heat events.

<b><i>Egan</i></b>	<i>address specified hazards.</i>	Population decrease of near 1% annually (Table 1.1). recent infrastructure improvements referenced in Appendix.	<i>Infill residential development with some new development in the east and northwest; New industrial development in the southwest; new commercial development in the northeast.</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><i>Flandreau</i></b>		Population increase: 0.0% 0.2% annually (Table 1.1). recent infrastructure improvements referenced in Appendix. Specifically the community is expanding childcare facilities	<i>Infill residential development with new development in the east and south. New Industrial use in the west. Infill commercial throughout town, with new development in the west.</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><i>Trent</i></b>		Population decrease/ 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.	Most residences are being recycled or improved, however are less energy efficient than newer houses would be.
<b><i>Ward</i></b>		Population decrease/ recent infrastructure improvements referenced in Appendix.	<i>Land Use Plan not yet adopted.</i>	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.

Moody County has experienced severe damages to roads and culverts periodically from flooding. Drainage issues from the Big Sioux 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, Moody County can expect 2.1 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. Moody County residents and emergency responders have adjusted to life with dozens of feet of water over former collector streets (county roads) and local streets (township roads) for three decades, in some cases. 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 Moody County 100-year floodplain map (Figure 4.4). The County should anticipate having at least one flood event each year. According to the FEMA NRI, Moody County has the potential for 2.1 riverine flooding events to occur annually. Table 4.11 contains the County’s flood history for the last ten years.

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

Location (Extent)	Type	Date	Time	Magnitude			
				Property Damage	Crop Damage	Injuries	Loss of Life
Flandreau	Flood	03/23/2018	04:00				

Colman	Flood	03/24/2018	08:00				
Flandreau	Flood	04/01/2018	00:00				
Flandreau	Flood	04/21/2018	09:00				
Flandreau	Flood	04/23/2018	05:00; 09:00; 17:00				
Colman	Flood	04/23/2018	22:00				
Lone Tree	Flood	04/23/2018	22:00				
Flandreau	Flood	05/01/2018	00:00				
Flandreau	Flood	06/25/2018	18:00				
Flandreau	Flood	07/01/2018	00:00				
Flandreau	Flood	07/20/2018	06:00				
Flandreau Muni Airport	Flood	09/20/2018	16:00				
Flandreau	Flood	09/21/2018	03:00				
Colman	Flood	03/13/2019	12:00	260.00K			
Lone Tree	Flood	03/17/2019	16:00				
Colman	Flood	03/18/2019	02:00				
Flandreau	Flood	03/19/2019	01:00; 09:00				
Flandreau	Flood	03/20/2019	11:00; 21:00; 23:00				
Flandreau	Flood	04/01/2019	00:00				
Lone Tree	Flood	04/01/2019	00:00				
Flandreau Muni Airport	Flood	04/06/2019	06:00				
Flandreau Muni Airport	Flood	04/16/2019	05:00				
Flandreau	Flood	05/01/2019	00:00				
Lone Tree	Flood	05/01/2019	00:00				
Flandreau	Flood	05/28/2019	00:30				
Colman	Flood	06/01/2019	00:00				
Lone Tree	Flood	06/01/2019	00:00				
Flandreau	Flood	06/01/2019	00:00				
Trent	Flash Flood	06/27/2019	06:15				
Flandreau	Flood	07/02/2019	22:00				
Flandreau	Flood	07/11/2019	11:00				
Flandreau	Flood	07/12/2019	13:00				
Flandreau	Flood	08/01/2019	00:00				
Flandreau	Flood	08/18/2019	22:00				
Lone Tree	Flood	09/11/2019	07:30	100.00K			

Flandreau	Flood	09/11/2019	05:30; 07:00; 08:00; 11:30	375.00K	100.00K		
Flandreau Muni Airport	Flood	09/11/2019	23:00	5.00K			
Colman	Flood	09/12/2019	02:00; 03:30	609.00K	62.00K		
Flandreau	Flood	10/05/2019	04:00	5.00K			
Flandreau	Flood	12/13/2019	19:00				
Flandreau	Flood	03/08/2020	03:30				
Storla	Flood	03/09/2020	06:00				
Lone Tree	Flood	03/09/2020	15:00				
Flandreau	Flood	03/27/2020	20:00				
Flandreau	Flood	04/01/2020	00:00				
Flandreau Muni Airport	Flood	05/12/2022	04:00				
Flandreau	Flood	04/09/2023	03:00; 11:00				
Lone Tree	Flood	04/09/2023	12:00				
Flandreau	Flood	04/10/2023	01:00; 22:00				
Flandreau	Flood	04/12/2023	17:00				
Lone Tree	Flood	04/13/2023	15:00				
Colman	Flood	06/21/2024	08:00	105.00K			
Flandreau Muni Airport	Flood	06/21/2024	09:00				
Lone	Flood	06/22/2024	05:00				
Flandreau	Flood	06/22/2024	06:00; 13:00; 18:00				
Flandreau	Flood	07/01/2024	00:00				

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

### Major Flood Occurrences:

- General History:** Typically, the most significant damage comes from poor runoff and saturated ground. However, ground saturation, rising water in potholes, ditches, and sloughs represent a higher historic problem. Flooding occurs primarily in the Sioux River Basin. Flooding, as a natural hazard, has been a part of the county's conflict with nature throughout history. Moody County has this river traversing near the communities of Egan, Flandreau, and Trent. Several creeks feed into the river that can cause municipal flooding and township and county roads can be washed out. The spring flood danger period generally occurs during March and April. A wet fall, early freeze with saturated ground at the time of freezing, heavy

winter precipitation, and warm rains during and after spring thaw add to the seriousness of the spring flooding situation. Spring flooding along the Sioux River in Moody County is a yearly event in that the normal winter snow melt is likely to push the river beyond flood stage.

- **Colman** – During high water events, water backs up in the center of town near Main Street that affects businesses and area residents.
- **Egan, Flandreau and Trent** – The Sioux River affects the western edge of Trent and the eastern side of Egan. The main effect is agricultural land with no public facilities or residents in danger. Preventative measures are in place until water recedes. The City of Flandreau experiences flooding 1 mile east of town affecting a city park, golf course and some private residents. As with Egan and Trent, preventative measures are taken until the water recedes since this is generally a yearly event based on snow and rain amounts.
- **Moody County** – Roads, culverts, and bridges are periodically affected by flooding either by sloughs or roads and bridges on the Sioux River. Erosion along bridge abutments is a continual problem.
- **September 2010** – Heavy rain, combined with saturated ground from a summer of record rainfall, caused moderate to major flooding of the Big Sioux River beginning on September 22nd, and continuing to the end of the month. Flooding of numerous roads much farmland, and some homes was reported. Widespread heavy rain, combined with saturated ground, caused a fairly rapid rise of the Big Sioux River to moderate to major flooding levels. Roads and numerous agricultural lands near the river were flooded. Several homes near the river were flooded, and several people were evacuated. Damage to homes and some roads was reported, although the known damage was thought to be a small part of the total damage.
- **March to April 2011** - Major flooding of the Big Sioux River, other streams, lakes, and general flooding, which began with a rapid March snowmelt, continued through April. Water levels, having fallen from March peaks, rose again at various times during the month, and were generally falling again by the end of the month. However, any fall of water levels was very slow. Widespread flooding of farmland continued. Many roads remained flooded with heavy road damage being reported in some areas. High water and groundwater levels resulting from record precipitation in the previous year was the main reason that improvement was so slow. Major flooding of the Big Sioux River, as well as flooding of lakes and lowlands in the county, continued through April, though small stream flooding abated and flooding in other areas such as the city of Flandreau abated some. Some farmland remained flooded, both near to and away from the Big Sioux River. A few roads remained closed by the flooding for part of the month. Water was covering some other roads, mainly from flooded lowlands. Some roads were damaged. High water and groundwater levels from record precipitation in the year 2010, a main reason the flooding onset was so fast in March, was also a main reason that the flooding subsided so slowly during April.
- **September 2019** - Spurred by a period of excessive precipitation from September 10-12 that resulted in 5 to 10 inches of rainfall in the middle to upper reaches of the Big Sioux River Basin and 2 to 5 inches from Sioux Falls downstream, extreme rises occurred mid-month, with many basin locations reaching record stages. Recreational usage of the Big Sioux River, Split Rock Creek and Skunk Creek (in Moody, Minnehaha, Lincoln and Union counties) was banned for much of the remainder of the month. After excessive two-day rainfall during September 10-12 (6.57 inches near Aurora, 6.55 inches 3 miles west southwest of Brookings, 6.27 inches 8 miles south of Brookings), the Big Sioux River near Brookings (gage site BRKS2) reached the

second highest stage on record of 5.39 feet above flood stage on September 13. Numerous county roads and bridges were inundated, with a few farm outbuildings engulfed in water. Agricultural flooding was extensive.

- **June 2024** - Rainfall amounts across Moody County from June 20-22 ranged from 4 to 9 inches. This rainfall resulted in some overland flooding and minor to moderate flooding along the Big Sioux River and Flandreau Creek. Overland flooding resulted in some damages to township and county roads. Preliminary damage assessments estimate loss to public infrastructure to be around 105 thousand dollars. The majority of overland flooding subsided by June 23; but river flooding continued through the end of the month. A Presidential Disaster Declaration was signed for Moody and several other South Dakota Counties.

### ***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 4.11); over the life of this plan (five years) it should be expected that between three and four flood events may be attributed to global warming throughout Moody 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 (Heavy Rain, Rapid Snow Melt, Ice Jam)				
	Impacts				
	Current Assets:	Future Assets:	Expected Changes in Land Use and Development	Changes in Population and Assets	Change in Land Use and Development
<b>Moody County</b>		Population to remain steady to slightly decreasing. (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</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 such as near Lake Campbell. 430 <sup>th</sup> Street east of Flandreau is in danger of collapse, however due to being in floodway; the cost of reinforcing the road may require outright closure.	With existing regulations and policies, development is not anticipated within floodplains unless elevated above Base flood elevation.
<b>Colman</b>	See Table 1.1 [Population]; Table 4.25 Critical Structures in Moody 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: less than or equal to 0.6% annually (Table 1.1); planned/ recent infrastructure improvements referenced in Appendix.	<i>Expanded residential development in the south and southeast; Industrial development in the west; infill commercial development in the center and near HWY 34 with new commercial/industrial development east.</i>	Floodplain does not literally affect the use of property for the citizens of Colman due to restrictions on development and compatible public uses allowed near floodplain.	With existing regulations and policies, development is not anticipated within floodplains unless elevated above Base flood elevation.
<b>Egan</b>		Population decrease of near 1% annually (Table 1.1). recent infrastructure improvements referenced in Appendix.	<i>Infill residential development with some new development in the east and northwest; New industrial development in the southwest; new commercial development in the northeast.</i>	Occupancy of structures within mapped floodplain will become tenant occupied	With existing regulations and policies, development is not anticipated within floodplains unless elevated above Base flood elevation.
<b>Flandreau</b>		Population increase: 0.0% 0.2% annually (Table 1.1). recent infrastructure improvements referenced in Appendix. Specifically the community is expanding the childcare facilities	<i>Infill residential development with new development in the east and south. New Industrial use in the west. Infill commercial throughout town, with new development in the west.</i>	Occupancy of structures within mapped floodplain will become tenant occupied or abandoned. Owners within the floodway will seek alternative housing.	With existing regulations and policies, development is not anticipated within floodplains unless elevated above Base flood elevation.
<b>Trent</b>		Population decrease/ 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. 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.
<b>Ward</b>		Population decrease/ recent infrastructure improvements referenced in Appendix.	<i>Land Use Plan not yet adopted.</i>	No mapped floodplain.	No adopted land use plan.

## **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 tornadoes, 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 tornadoes. 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 tornadoes. 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)	
	Current Assets:	Future Assets:	Expected Changes in Land Use and Development	Impacts	
				Changes in Population and Assets	Change in Land Use and Development
<b>Moody County</b>	See Table 1.1 [Population]; Table 4.25 Critical Structures in Moody 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 to remain steady to slightly decreasing. (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</i>	Population decrease and resultant scattering of residential development makes it impossible to predict likelihood of injury or loss of life. Primary assets at risk are power lines, substations, water towers.	Demand has increased for permanent, seasonal, and transient housing near Lake Campbell and the interstate. Increased likelihood of that population cluster (highest concentration in the summer) experiencing catastrophe; thus greater burden on emergency services.
<b>Colman</b>		Population increase: less than or equal to 0.6% annually (Table 1.1); planned/ recent infrastructure improvements referenced in Appendix.	<i>Expanded residential development in the south and southeast; Industrial development in the west; infill commercial development in the center and near HWY 34 with new commercial/industrial development east.</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	Compact, orderly development decreases the chances of isolated severe storms damage
<b>Egan</b>		Population decrease of near 1% annually (Table 1.1). recent infrastructure improvements referenced in Appendix.	<i>Infill residential development with some new development in the east and northwest; New industrial development in the southwest; new commercial development in the northeast.</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. Campground and Senior Center are at elevated risk and consideration should be made to establish safe rooms/shelters.	Compact, orderly development decreases the chances of isolated severe storms damage
<b>Flandreau</b>		Population increase: 0.0% 0.2% annually (Table 1.1). recent infrastructure improvements referenced in Appendix. Specifically the community is expanding childcare facilities	<i>Infill residential development with new development in the east and south. New Industrial use in the west. Infill commercial throughout town, with new development in the west.</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 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>Trent</b>	Population decrease/ 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>	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 are at elevated risk and consideration should be made to establish safe rooms/shelters	Compact, orderly development decreases the chances of isolated severe storms damage
<b>Ward</b>	Population decrease/ recent infrastructure improvements referenced in Appendix.	<i>Land Use Plan not yet adopted.</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 adopted 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 4.4 Wind Zones in the United States Map below.

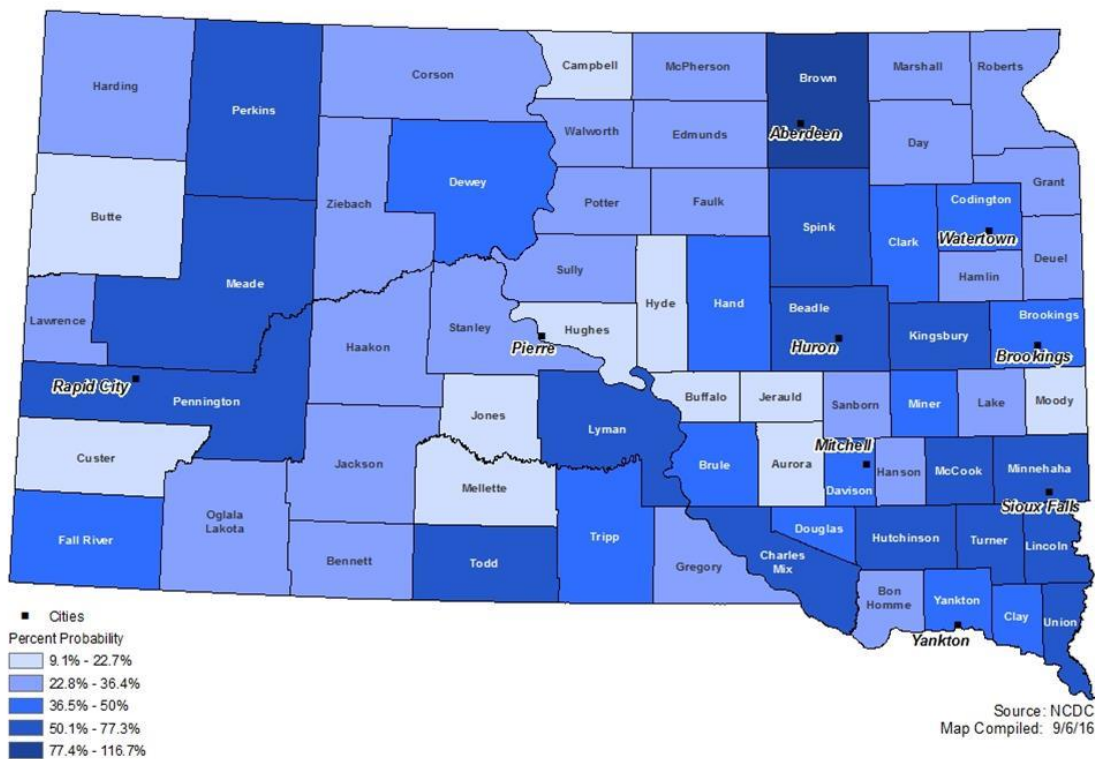
**Figure 4.4 Wind Zones in the United States**



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.

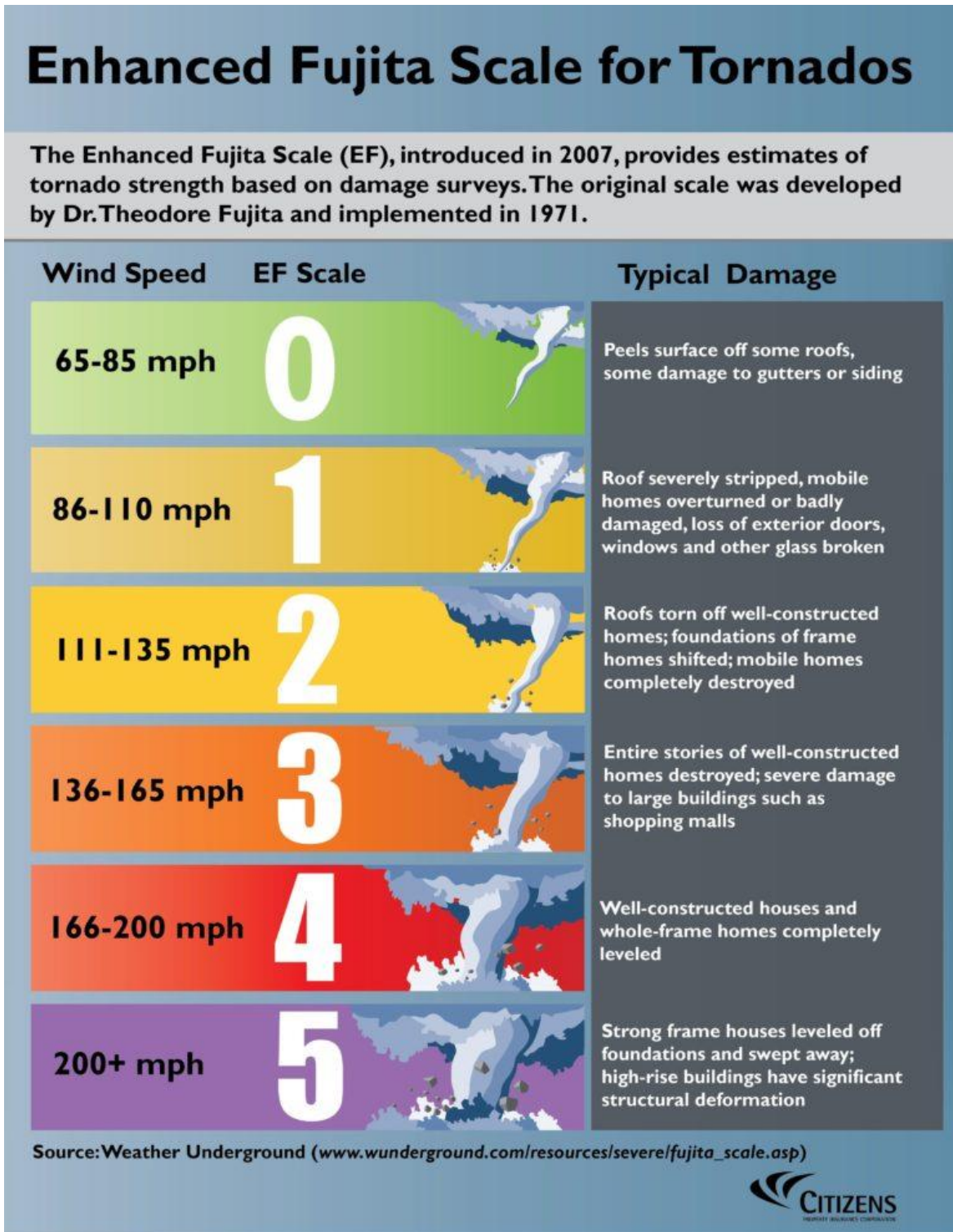
According to the NCDC, there were 1,885 tornadoes, of which 692 were F1 or higher, in South Dakota between 1950 and 2023 (73 years). Based on this information, the probability that at least one tornado will occur in South Dakota is 100%. Annualized losses are estimated at nearly \$11 million. Figure 4.5 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 and classifies Moody County's Historic Loss Ratio as "relatively high".

**Figure 4.5 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 4.6 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 ten 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 the 1993 event. No tornadoes have occurred within the County in the last ten years. Therefore, this table has included all events since 1950. Moody County has an annualized tornado frequency of 0.4 events per year based on FEMA NRI.

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

Location (Extent)	Date	Time	Type	Magnitude	Property Damage	Crop Damage	Injury	Loss of Life
N/A								

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

**Major Tornado Occurrences:**

- **May 1993** - A tornado touched down intermittently on a northeast path through Moody County causing various kinds of damage (estimated \$500,000). South of Colman the tornado hit a farm killing 23 pigs, damaging tractors and equipment, and moving the rafters in a house. At 7:10 p.m. a 30,000 lb. semi-truck traveling west on SD highway 34 became temporarily airborne and was thrown into the ditch damaging the truck beyond repair but not hurting the driver. At 7:25 p.m., the tornado hit a farm two miles west of Ward shearing off the top of a silo and damaging the barn and garage.
- **June 2008** - Thunderstorms produced numerous events of tornadoes, large hail and damaging winds over southeast South Dakota from late morning through the evening of June 5th. Near Trent South Dakota, a tornado blew a 40 by 100-foot metal machine shed a quarter mile, destroyed an outbuilding, and damaged trees.

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**

Community	Tornado				
	Current Assets:	Future Assets:	Expected Changes in Land Use and Development	Impacts	
				Changes in Population and Assets	Change in Land Use and Development
<b>Moody County</b>	See Table 1.1 [Population]; Table 4.25 Critical Structures in Moody 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 to remain steady to slightly decreasing. (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</i>	Population decrease and resultant scattering of residential development makes it impossible to predict likelihood of injury or loss of life. Primary assets at risk are power lines, substations, water towers.	Demand has increased for permanent, seasonal, and transient housing near Lake Campbell and the interstate. Increased likelihood of that population cluster (highest concentration in the summer) experiencing catastrophe; thus greater burden on emergency services.
<b>Colman</b>		Population increase: less than or equal to 0.6% annually (Table 1.1); planned/ recent infrastructure improvements referenced in Appendix.	<i>Expanded residential development in the south and southeast; Industrial development in the west; infill commercial development in the center and near HWY 34 with new commercial/industrial development east.</i>	Increased population increases likelihood of tornado causing property or personal damage. Day cares, schools, and parks are at elevated risk and consideration should be made to establish safe rooms/shelters	Compact, orderly development decreases the chances of isolated tornado damage
<b>Egan</b>		Population decrease of near 1% annually (Table 1.1). recent infrastructure improvements referenced in Appendix.	<i>Infill residential development with some new development in the east and northwest; New industrial development in the southwest; new commercial development in the northeast.</i>	Decreased population will result in less likelihood of residents being affected by tornado, however aging housing stock and average age of residents increases likelihood of severe property and physical damage/ harm. Campground and Senior Center are at elevated risk and consideration should be made to establish safe rooms/shelters.	Compact, orderly development decreases the chances of isolated tornado damage
<b>Flandreau</b>		Population increase: 0.0% 0.2% annually (Table 1.1). recent infrastructure improvements referenced in Appendix. Specifically the community is expanding childcare facilities	<i>Infill residential development with new development in the east and south. New Industrial use in the west. Infill commercial throughout town, with new development in the west.</i>	Increased population increases likelihood of tornado causing property or personal damage. However, tornado 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 Tornado safe rooms. Considerations should be made for service areas of existing Tornado safe rooms and ability to serve expanded child care and recreational facilities.	Compact, orderly development decreases the chances of isolated tornado damage. Lack of tornado safe room poses a risk for increased multi-family residential uses and recreational amenities.

<b><u>Trent</u></b>	Population decrease/ 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>	Decreased population will result in less likelihood of residents being affected by tornado, however aging housing stock and average age of residents increases likelihood of severe property and physical damage/ harm. Parks are at elevated risk and consideration should be made to establish safe rooms/shelters	Compact, orderly development decreases the chances of isolated tornado damage
<b><u>Ward</u></b>	Population decrease/ recent infrastructure improvements referenced in Appendix.	<i>Land Use Plan not yet adopted.</i>	Decreased population will result in less likelihood of residents being affected by tornado, however aging housing stock and average age of residents increases likelihood of severe property and physical damage/ harm.	No adopted land use plan.

## 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 downward blasts 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 3.5 strong wind events per year.

According to the NCDC Storm Events Database, the County experienced 22 wind events from 2015-2024. Table 4.16 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: Moody County Ten Year History for Thunderstorms/High Winds**

Location (Extent)	Date	Time	Type	Wind Speed	Magnitude			
					Property Damage	Crop Damage	Injury	Loss of Life
Flandreau	08/06/2015	18:45	Thunderstorm Wind	61 kts. EG				

Flandreau	08/06/2015	18:57	Thunderstorm Wind	54 kts. MG				
Trent	08/09/2015	18:17	Thunderstorm Wind	56 kts. EG				
Moody County	02/19/2016	04:30	High Wind	36 kts. ES				
Flandreau	06/03/2016	16:50	Thunderstorm Wind	52 kts. EG				
Moody County	12/25/2016	23:00	High Wind	52 kts. MG				
Colman	05/28/2017	17:45	Thunderstorm Wind	56 kts. EG				
Colman	05/28/2017	17:45	Thunderstorm Wind	61 kts. EG				
Flandreau	07/22/2017	01:09	Thunderstorm Wind	56 kts. EG				
Flandreau	07/22/2017	01:21	Thunderstorm Wind	56 kts. EG				
Colman	09/19/2017	22:18	Thunderstorm Wind	65 kts. EG				
Colman	09/19/2017	22:21	Thunderstorm Wind	70 kts. EG				
Flandreau Airport	06/15/2019	17:45	Thunderstorm Wind	55 kts. MG				
Flandreau	07/20/2019	06:57	Thunderstorm Wind	61 kts. EG				
Flandreau	07/20/2019	06:59	Thunderstorm Wind	61 kts. MG				
Colman	08/17/2019	20:53	Thunderstorm Wind	56 kts. EG				
Colman	08/17/2019	21:00	Thunderstorm Wind	52 kts. EG				
Flandreau Airport	08/17/2019	21:10	Thunderstorm Wind	65 kts. EG	100.00K			
Flandreau Airport	06/06/2020	18:09	Thunderstorm Wind	55 kts. MG				
Colman	07/20/2020	18:40	Thunderstorm Wind	52 kts. EG				
Sioux Falls Junction	07/20/2020	18:59	Thunderstorm Wind	52 kts. MG				
Flandreau	07/20/2020	19:13	Thunderstorm Wind	52 kts. MG				
Sioux Falls Junction	08/28/2020	01:17	Thunderstorm Wind	50 kts. MG		3.00K		
Trent	08/05/2021	19:15	Thunderstorm Wind	56 kts. EG	2.00K			

Sioux Falls Junction	09/16/2021	23:04	Thunderstorm Wind	54 kts. MG				
Sioux Falls Junction	09/16/2021	23:17	Thunderstorm Wind	56 kts. MG				
Moody County	11/12/2021	02:00	High Wind	50 kts. MG				
Moody County	11/13/2021	20:00	High Wind	50 kts. MG				
Moody County	12/15/2021	21:15	High Wind	55 kts. MG				
Moody County	01/04/2022	21:40	High Wind	54 kts. MG				
Moody County	03/25/2022	09:30	High Wind	50 kts. MG				
Moody County	04/06/2022	12:20	High Wind	56 kts. MG				
Moody County	04/06/2022	22:05	High Wind	37 kts. MS				
Moody County	04/14/2022	10:45	High Wind	50 kts. MG				
Moody County	04/23/2022	09:15	High Wind	54 kts. MG				
Moody County	05/07/2022	21:45	High Wind	56 kts. MG				
Lone Tree	05/12/2022	16:14	Thunderstorm Wind	74 kts. EG				
Colman	05/12/2022	16:15	Thunderstorm Wind	56 kts. EG				
Egan	05/12/2022	16:17	Thunderstorm Wind	78 kts. EG				
Colman	05/12/2022	16:18	Thunderstorm Wind	70 kts. EG				
Flandreau	05/12/2022	16:21	Thunderstorm Wind	78 kts. EG				
Flandreau	05/12/2022	16:25	Thunderstorm Wind	78 kts. EG		36.00K		
Flandreau	05/12/2022	16:31	Thunderstorm Wind	78 kts. MG				
Flandreau	05/30/2022	13:42	Thunderstorm Wind	65 kts. EG				
Flandreau Airport	05/30/2022	17:25	Thunderstorm Wind	60 kts. MG				
Flandreau	05/30/2022	17:28	Thunderstorm Wind	61 kts. MG				
Sioux Falls Junction	05/30/2022	17:32	Thunderstorm Wind	59 kts. MG				

Flandreau Airport	06/20/2022	18:04	Thunderstorm Wind	56 kts. EG		2.00K		
Trent	06/20/2022	19:25	Thunderstorm Wind	56 kts. EG				
Moody County	04/30/2023	10:00	High Wind	51 kts. MG				
Moody County	10/12/2023	15:00	Strong Wind	43 kts. MG				
Moody County	12/09/2023	06:00	Strong Wind	43 kts. MG				
Moody County	03/06/2024	10:30	Strong Wind	43 kts. MG				
Moody County	04/06/2024	09:15	High Wind	52 kts. MG				
Moody County	06/06/2024	12:00	High Wind	55 kts. MG		3.00K		
Flandreau	07/31/2024	20:00	Thunderstorm Wind	52 kts. EG				
Moody County	11/20/2024	05:00	Strong Wind	44 kts. MG				
Moody County	12/24/2024	08:30	Strong Wind	49 kts. MG				
Moody County	12/19/2024	07:30	Strong Wind	42 kts. MG				

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

### Major Wind Occurrences:

- **August 2005** - Thunderstorm winds destroyed a barn near Trent by moving it 100 feet off its foundation, after which it collapsed. The collapsing barn heavily damaged a stock trailer. The winds also blew off part of the roof of a barn on a nearby farm. Tree damage was significant, with over 20 trees blown down, as well as numerous branches on other trees. One large branch that fell damaged a car and the roof of a house. \$30,000 property damage.
- **July 2011** - Thunderstorm winds caused widespread tree damage in Flandreau, including numerous trees uprooted or snapped. Several homes and vehicles were damaged, mostly by falling trees or tree debris. A large camper in the city park was overturned. The winds and tree debris also damaged power lines, causing a power outage. Tree debris blocked numerous roads in and near town. \$200,000 property damage.
- **May 2012** - Thunderstorm winds caused widespread damage in the south part of Flandreau. Roofs on homes, apartment buildings, and other buildings were blown off or damaged. The roof of a large church was blown off, and parts of the roof damaged nearby homes. The Flandreau city office building had part of its south wall blown off, resulting in interior damage to ceiling tiles and insulation. Siding on other walls of this building and on numerous homes was damaged. Tree damage was widespread, including several trees blown down or

uprooted. The winds blew down power lines, leaving parts of the city without power for almost three hours. \$1,000,000 property damage.

- **May 2022** - A volatile environment featured a warm front from parts of east central South Dakota into western Minnesota. Scattered storms initiated and quickly grew upscale to a broad linear structure with damaging winds. With crop development well behind schedule and many fields yet to be planted, there was ample dirt available to be lofted into the leading edge of the storms, which took on the characteristics of a haboob reducing visibility to near zero at the onset of high winds.

A broad swath of winds from 70 to 100 mph devastated much of southeast South Dakota, and portions of southwest Minnesota, northeast Nebraska and northwest Iowa, causing extensive tree and structural damage and scores of injuries. The highest observed wind gust was 107 mph near Tripp, SD. In addition, vehicles and high-profile vehicles were blown off several roads, shutting down traffic on Interstates 29 and 90. Two (direct) fatalities occurred in vehicles impacted by debris as the storms moved into the Sioux Falls area. Power was disrupted in a widespread area, with estimates of over 45,000 customers impacted at one time. Many schools were closed due to damage and power issues. The South Dakota Governor requested and was granted a Presidential Disaster Declaration for damage to public infrastructure at an estimated cost of 6.7 million dollars across 20 counties and two reservations. Private losses were a much higher toll, and just one of the impacted counties (McCook) estimated at least 150 to 175 million dollars in damage.

Following the afternoon line of storms, a secondary band of storms developed near the core of the upper-level jet across eastern Nebraska in the early evening hours. These storms also quickly become severe, with a mix of large hail, damaging wind, and even an isolated tornado near Sioux City. This cluster of storms moved through far southeast South Dakota, northwest Iowa and southwest Minnesota during the evening. A derecho developed in south central South Dakota and traveled northeast into eastern and northeastern South Dakota. This thunderstorm complex generated 14 total tornadoes across northeastern South Dakota in addition to a broad area of straight-line wind damage with measured speeds up to 102 mph in Gary, SD. The damage swath was so large from this system that it encompassed most of northeastern South Dakota and western Minnesota, with damage to a countless number of homes and trees. The most impactful tornado was an EF-2 which damaged numerous homes in the town of Egan and drew national media attention. Governor Kristi Noem requested a Presidential Disaster Declaration, which was later granted, and signed Executive Order 2022-06 to help residents recover from related storm damage. Estimated statewide damage to public infrastructure is assessed at 6.7 million dollars across 20 counties and two reservations. South Dakota National Guard activated personnel to help with clear debris and provide security for the town of Egan during cleanup.

***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.

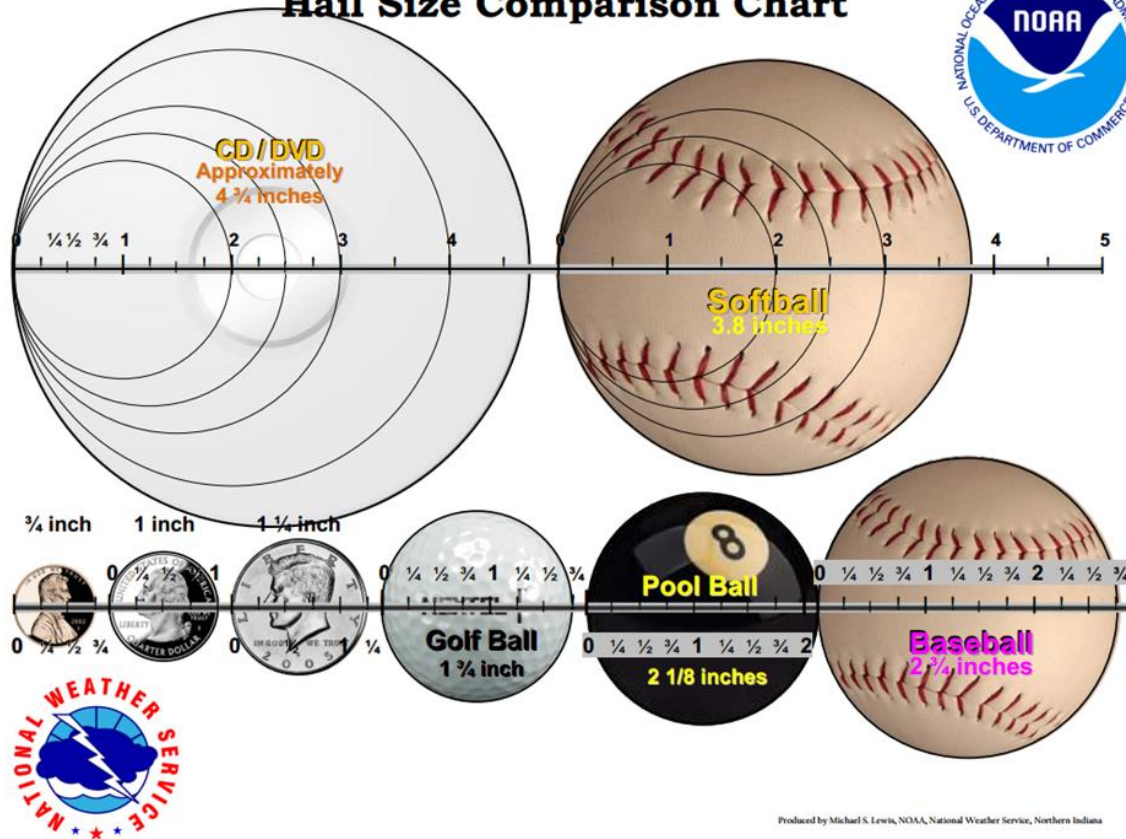
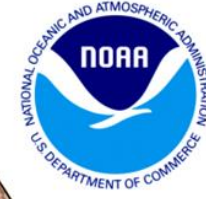
The County has a 100% potential for hail occurring each year. The FEMA NRI states 5.7 hail events per year. The following charts shows the hail size comparisons.

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

## Hail Size Comparison Chart



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: Moody County Ten Year Hail History**

Location (Extent)	Date	Time	Type	Size	Extent			
					Crop Damage	Property Damage	Injuries	Loss of Life
Colman	6/03/2015	06:28	Hail	1.25 in.				
Flandreau	6/09/2015	17:57	Hail	0.88 in.				
Colman	6/11/2017	05:05	Hail	1.00 in.				
Flandreau	6/11/2017	05:20; 05:23	Hail	1.00 in; 1.00 in.				
Trent	8/13/2017	16:56	Hail	1.75 in.				
Colman	6/11/2019	15:00	Hail	0.75 in.				
Flandreau	07/20/2020	18:55	Hail	1.00 in.	137.00K			

Flandreau	04/05/2021	18:45	Hail	1.00 in.				
Colman	08/05/2021	18:15; 18:43; 18:53	Hail	1.00 in; 1.50 in; 1.50 in.	30.00K			
Colman	04/28/2022	15:25; 15:30; 15:46	Hail	1.25 in; 1.50 in; 1.25 in.				
Flandreau	04/28/2022	16:12	Hail	2.00 in.				
Flandreau Airport	04/19/2023	15:30	Hail	0.88 in.				
Colman	07/13/2023	17:03	Hail	1.00 in.	60.00K			
Flandreau Airport	07/13/2023	17:54	Hail	1.25 in.				
Flandreau	07/21/2023	17:22	Hail	0.88 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 Moody County each year. The FEMA NRI shows 35.3 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.

To the knowledge of the PDM Planning Team, this source has not been cited in scientific journals or scholastic reports. Therefore, Moody County does not purport any of the information included in Table 4.18 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: Moody County Privately Compiled Lightning Data**

Year	Total Lightning Pulses	Total Lighting Flash Count	Thunder Days	Source
2020	72,155	Not available	41	<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	84,878	26,044	Not Available	<a href="https://aem.eco/2022-united-states-lightning-report/">https://aem.eco/2022-united-states-lightning-report/</a>
2023	25,439	11,112		<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 5.8 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 Moody County annually is minimal, but can cause significant damages when they occur. The FEMA NRI indicates 0.9 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 4.19 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: Moody County Ten Year History of Snow and Ice Storms**

Location	Date	Time	Type	Extent		
				Property Damage	Death/ Injury	Crop Damage
Moody County	01/05/2015	11:00	Winter Storm			
Moody County	01/08/2015	14:00	Blizzard			
Moody County	01/31/2015	19:00	Winter Weather			
Moody County	02/01/2015	00:00	Winter Weather			
Moody County	02/09/2015	02:00	Winter Weather			
Moody County	02/25/2015	05:00	Winter Weather			
Moody County	03/03/2015	08:00	Winter Weather			
Moody County	11/30/2015	02:00	Winter Storm			
Moody County	12/01/2015	00:00	Winter Storm			
Moody County	12/15/2015	22:00	Heavy Snow			
Moody County	12/16/2015	03:30	Winter Weather			
Moody County	12/25/2015	20:00	Winter Storm			

Moody County	01/06/2016	22:00	Winter Weather			
Moody County	01/07/2016	21:00	Winter Weather			
Moody County	02/02/2016	07:00	Blizzard			
Moody County	02/07/2016	18:00	Winter Weather			
Moody County	02/29/2016	12:00	Winter Weather			
Moody County	03/01/2016	00:00	Winter Weather			
Moody County	03/23/2016	10:00	Winter Storm			
Moody County	11/18/2016	04:00	Winter Storm			
Moody County	12/10/2016	10:00	Winter Weather			
Moody County	12/16/2016	11:00	Winter Storm			
Moody County	12/24/2016	21:00	Winter Weather			
Moody County	01/24/2017	15:00	Winter Storm			
Moody County	02/23/2017	16:00	Blizzard			
Moody County	03/12/2017	17:00	Heavy Snow			
Moody County	12/21/2017	06:00	Winter Weather			
Moody County	12/29/2017	06:00	Winter Weather			
Moody County	01/10/2018	21:00	Winter Weather			
Moody County	01/21/2018	22:00	Winter Weather			
Moody County	02/08/2018	11:00	Winter Weather			
Moody County	02/19/2018	10:00	Winter Weather			
Moody County	02/22/2018	12:00	Winter Weather			
Moody County	02/24/2018	09:00	Winter Weather			
Moody County	03/05/2018	08:00	Winter Weather			
Moody County	03/10/2018	07:00	Winter Weather			
Moody County	03/23/2018	20:00	Winter Storm			
Moody County	04/02/2018	23:00	Winter Weather			
Moody County	04/08/2018	07:00	Winter Weather			
Moody County	04/13/2018	19:00	Blizzard			
Moody County	10/14/2018	02:00	Winter Weather			
Moody County	11/16/2018	19:00	Winter Weather			
Moody County	12/27/2018	09:00	Winter Storm			
Moody County	12/31/2018	10:00	Winter Weather			
Moody County	03/01/2019	06:00	Winter Weather			
Moody County	03/09/2019	04:00	Winter Storm			
Moody County	04/11/2019	03:00	Blizzard	840.00K		
Moody County	11/05/2019	15:00	Winter Weather			
Moody County	11/26/2019	13:00	Winter Weather			
Moody County	11/28/2019	22:00	Winter Weather			
Moody County	12/01/2019	00:00	Winter Weather			

Moody County	12/28/2019	01:00	Winter Weather			
Moody County	01/03/2020	12:00	Winter Weather			
Moody County	01/17/2020	07:30	Blizzard			
Moody County	02/08/2020	21:00	Winter Weather			
Moody County	02/12/2020	12:00	Winter Weather			
Moody County	02/14/2020	12:00	Winter Weather			
Moody County	04/12/2020	00:00	Winter Storm			
Moody County	10/20/2020	04:00	Winter Weather			
Moody County	10/22/2020	03:30	Winter Weather			
Moody County	10/24/2020	12:30	Winter Weather			
Moody County	11/10/2020	09:30	Winter Weather			
Moody County	12/13/2020	09:00	Blizzard			
Moody County	12/29/2020	08:00	Winter Weather			
Moody County	01/14/2021	18:00	Blizzard			
Moody County	01/23/2021	09:00	Winter Weather			
Moody County	02/03/2021	22:00	Winter Weather			
Moody County	02/27/2021	22:00	Winter Storm			
Moody County	03/14/2021	21:00	Winter Storm			
Moody County	12/10/2021	06:00	Winter Storm			
Moody County	01/14/2022	02:00	Winter Weather			
Moody County	02/21/2022	14:00	Winter Weather			
Moody County	03/05/2022	14:00	Winter Weather			
Moody County	03/30/2022	00:00	Winter Weather			
Moody County	12/08/2022	19:30	Winter Weather			
Moody County	12/12/2022	18:00	Ice Storm			
Moody County	12/15/2022	06:00	Winter Storm			
Moody County	12/22/2022	10:00	Blizzard			
Moody County	01/02/2023	13:00	Winter Storm			
Moody County	02/14/2023	20:00	Winter Weather			
Moody County	02/21/2023	10:00	Blizzard			
Moody County	03/08/2023	21:30	Winter Weather			
Moody County	03/16/2023	04:00	Winter Weather			
Moody County	04/04/2023	10:00	Winter Weather			
Moody County	12/25/2023	07:00	Winter Weather			
Moody County	01/08/2024	00:00	Winter Storm			
Moody County	01/18/2024	08:00	Winter Weather			
Moody County	03/24/2024	07:00	Winter Storm			

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 eighty-eight (88) events with blizzards, heavy snow, winter storms, winter weather, or ice storms occurred from 2015-2024. Though a total of \$804,000 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 Moody County was reported at Colman on December 12th, 2015 with 9 inches. Though that 2019 storm is attributed with over 20 inches of snow throughout most of Moody County, a storm on February 8, 2020 dumped the highest totals for Colman and Flandreau noted at 16 inches and 14 inches respectively. The peak winter wind gust associated with a blizzard or storm was 67 mph at a location seven (7) miles northeast of Flandreau on December 23, 2020. The greatest accumulation of ice in a single event occurred on Christmas Day in 2016. Though no specific reports in Moody 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:**

- **November 1996 through April 1997** - An ice storm consisting of several periods of freezing rain caused widespread damage and paralyzed travel. Widespread damage occurred to electrical poles and lines, leaving thousands without power for up to four days. There were numerous reports of people stranded in their vehicles after going into the ditch or getting stuck in snowdrifts. Many school districts cancelled school. Many ranchers faced the possibility of losing part of their cattle herd due to the cold and being unable to get food to them. Many buildings were beginning to fail from the weight of the snow of this storm and the previous one. There were reports of people getting stranded in vehicles for up to 40 hours. Numerous accidents occurred, including many vehicles which slid off the road. Two fatalities occurred 9 miles south of Coleman when a car slid off a gravel road and into a stream, drowning the occupants, also on November 14th. Tree damage was widespread with tree debris blocking several roads and sidewalks. Governor Janklow declared the state a disaster area. This was followed with President Clinton approving the first ever request for a major statewide snow emergency disaster in South Dakota. The National Guard, State DOT, and Private Contractors along with out of state resources were called in to help with snow removal as many communities had already spent their snow removal money before the storm.
- **April 2018** - The most intense storm of the month, in fact many months, wrapped up across the central Plains on April 13, spreading a mix of wintry precipitation across the area, accompanied by numerous thunderstorms. Eventually, influx of colder air would change all precipitation over to snow and ushered in a record-breaking snowfall of 8 to 16 inches (some locations over 20 inches). Life threatening conditions developed during the late evening of April 13, as the earlier mix of rain, sleet and snow changed to all snow, and brutal winds (gusting as high as 55 mph at Flandreau) whipped visibility to less than a quarter mile at times through the afternoon of April 14. State offices were closed, and schools cancelled on April 13. Travel was not recommended for much of the two-day period, if not impossible. Interstate 29 was closed from the North Dakota border to Sioux Falls 2000CST April 13 and remained closed until 0800CST April 15. A storm total snowfall of 10.5 inches was measured at Flandreau.

- **April 2019** - Blizzard conditions led to a shutdown of government offices and schools, and travel was not recommended due to the widespread whiteout conditions. Interstate 29 was closed from the evening of April 10 through noon on April 12. Storm-total snowfall from 4 to 8 inches occurred, with 8.0 inches 11 miles north of Colman and 5.4 inches at Flandreau. With winds gusting at times from 40 to 50 mph, many areas had snow drifts of several feet, making roads impassable. Ice accumulation of one-quarter to one-half inch occurred, resulting in scattered power outages as wind increased. At the peak, electric companies and cooperatives estimated as many as 25,000 customers were without power. Property damage costs include damage to utilities.
- **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.

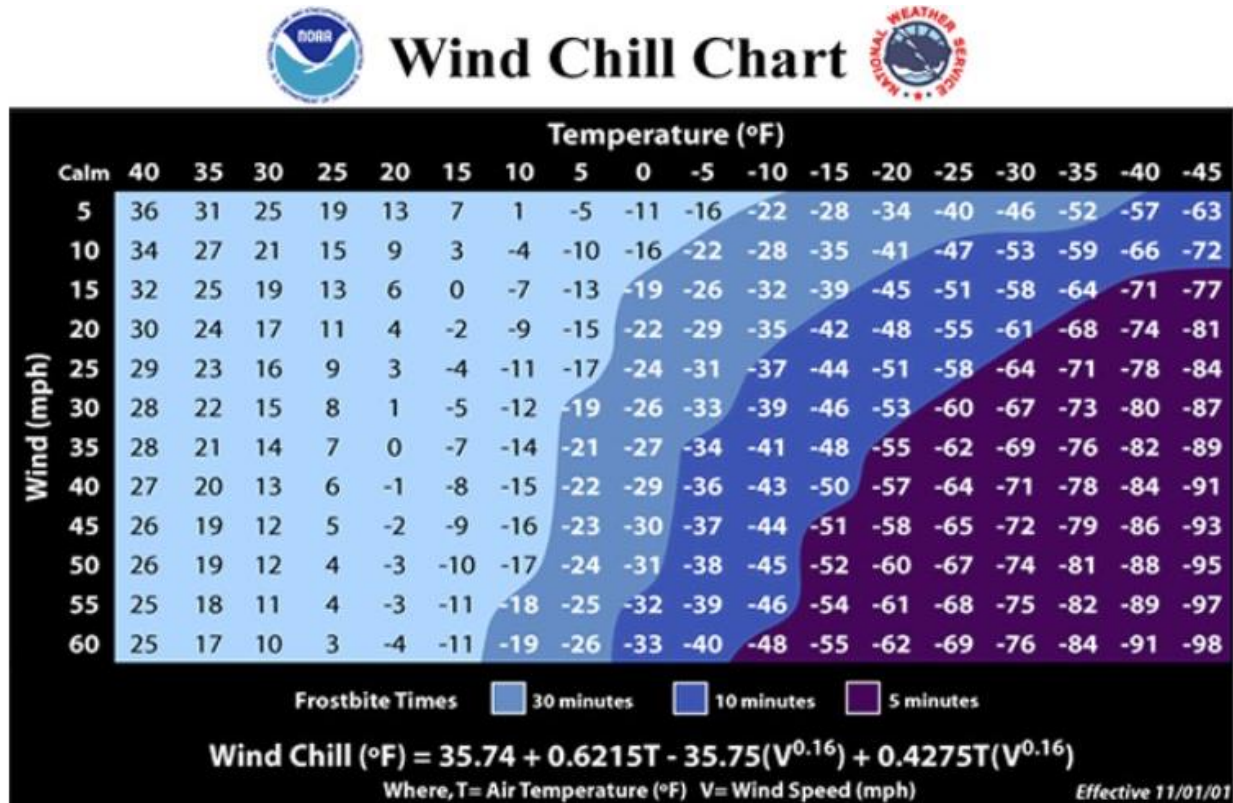
Changes in population and land use are not expected to be significantly impacted by the increase in incidence of wildfire expected from climate change. Future assets include expected changes in population, anticipated new structures to be owned by a given jurisdiction during the planning period, and 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)	
	Current Assets:	Future Assets:	Expected Changes in Land Use and Development	Changes in Population and Assets	Change in Land Use and Development
<b>Moody County</b>	See Table 1.1 [Population]; Table 4.25 Critical Structures in Moody 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 to remain steady to slightly decreasing. (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</i>	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.	Scattered 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 as. Lake development will increase urgency in clearing collector streets leading to clusters.
<b>Colman</b>		Population increase: less than or equal to 0.6% annually (Table 1.1); planned/ recent infrastructure improvements referenced in Appendix.	<i>Expanded residential development in the south and southeast; Industrial development in the west; infill commercial development in the center and near HWY 34 with new commercial/industrial development east.</i>	Increased population increases likelihood of need for emergency services/ care during winter storms, therefore increased urgency for clearing evacuation routes and collectors.	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>Egan</b>		Population decrease of near 1% annually (Table 1.1). recent infrastructure improvements referenced in Appendix.	<i>Infill residential development with some new development in the east and northwest; New industrial development in the southwest; new commercial development in the northeast.</i>	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>Flandreau</b>		Population increase: 0.0% 0.2% annually (Table 1.1). recent infrastructure improvements referenced in Appendix. Specifically the community is expanding the childcare facilities	<i>Infill residential development with new development in the east and south. New Industrial use in the west. Infill commercial throughout town, with new development in the west.</i>	Increased population increases likelihood of need for emergency services/ care during winter storms, therefore increased urgency for clearing evacuation routes and collectors.	Snow removal and continuity of service is critical to the medical facilities in Flandreau during these storms. Increased/expanded development in the City as well as an aging population outside the City increases the need for reliable utility provision in severe winter weather.
<b>Trent</b>		Population decrease/ 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>	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>Ward</b>		Population decrease/ recent infrastructure improvements referenced in Appendix.	<i>Land Use Plan not yet adopted.</i>	Aging population may need help with care/recovery following storms; more severe events increase difficulty of emergency service provision.	No adopted land use plan.

## 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 Moody 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 2.2 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 4.21 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: Moody County Ten Year History of Extreme Cold Temperatures**

Location	Date	Time	Type
Moody County	01/16/2016	21:00	Extreme Cold/Wind Chill
Moody County	12/30/2017	08:00	Extreme Cold/Wind Chill
Moody County	01/01/2018	00:00	Extreme Cold/Wind Chill
Moody County	01/15/2018	00:00	Extreme Cold/Wind Chill
Moody County	03/03/2019	02:00	Extreme Cold/Wind Chill
Moody County	02/12/2020	19:00	Extreme Cold/Wind Chill
Moody County	02/13/2021	20:00	Extreme Cold/Wind Chill
Moody County	12/31/2021	23:00	Extreme Cold/Wind Chill
Moody County	01/01/2022	00:00	Extreme Cold/Wind Chill
Moody County	01/06/2022	02:00	Extreme Cold/Wind Chill
Moody County	02/23/2022	07:00	Extreme Cold/Wind Chill
Moody County	12/21/2022	23:00	Extreme Cold/Wind Chill
Moody County	01/12/2024	18:00	Extreme Cold/Wind Chill

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

- January 2009** - After a clipper system dropped from one to four inches of snow, 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 thirty-five to fifty degrees below zero late in the evening of the thirteenth and remained through the fourteenth. By the morning of January 15, 2009, the Arctic high-pressure area settled in across northeast South Dakota, bringing wind chills as low as sixty degrees below zero. Many vehicles did not start because of the extreme cold and several schools had delayed starts. Daytime highs remained well below zero across the area. This was one of the coldest days that most areas experienced since the early 1970s.
- January 2014** - 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 included 50 below in Trent. With these types of temperature extremes, the biggest concern for people is exposure because prolonged exposure means almost certain death.
- December 2017** - Extreme wind chills of 35 to near 55 degrees below zero occurred off and on during this time. Record lows set on the morning of January 1st were in the 30s below zero with even some 40s below zero. Temperatures did not respond well for daytime highs on January 1st as several record low highs in the single digits below zero occurred.
- 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.

- **December 2022** – Frigid air temperatures below zero combined with very strong northwesterly wind gusts from 40 to 60 mph to result in a prolonged period of life-threatening wind chills. The entire region exceeded Wind Chill Warning criteria for multiple days and most locations bottomed out between 45 below and 55 below zero. Numerous reports were received of frozen pipes and water-damaged or flooded structures. Wind chills dropped as low as -53F at Flandreau (South Dakota State University Mesonet FLNS2).

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.

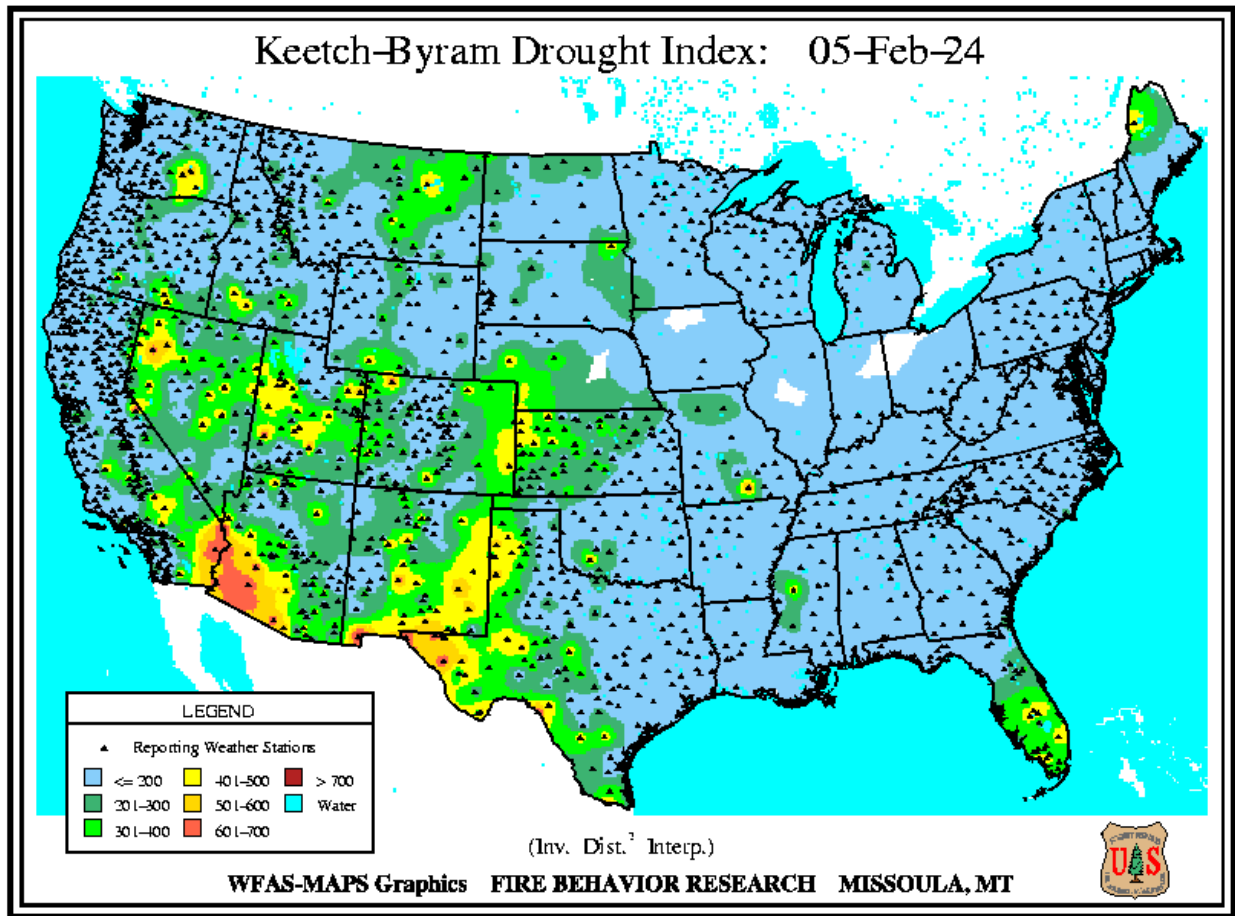
According to the SD Drought Mitigation Plan (SD DMP), lightning fires burn more acreage than human-caused fires, in part, because 1) multiple lightning fire ignitions often occur at the same time; 2) lightning fires can occur throughout the protection area, while most human-caused fires occur in accessible 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 NCDC Storm Events Database website was incomplete. Therefore, other sources were contacted whenever possible. Specifically, NCDC 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 39 structure fire responses, 60 vehicle fire responses, and 105 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.

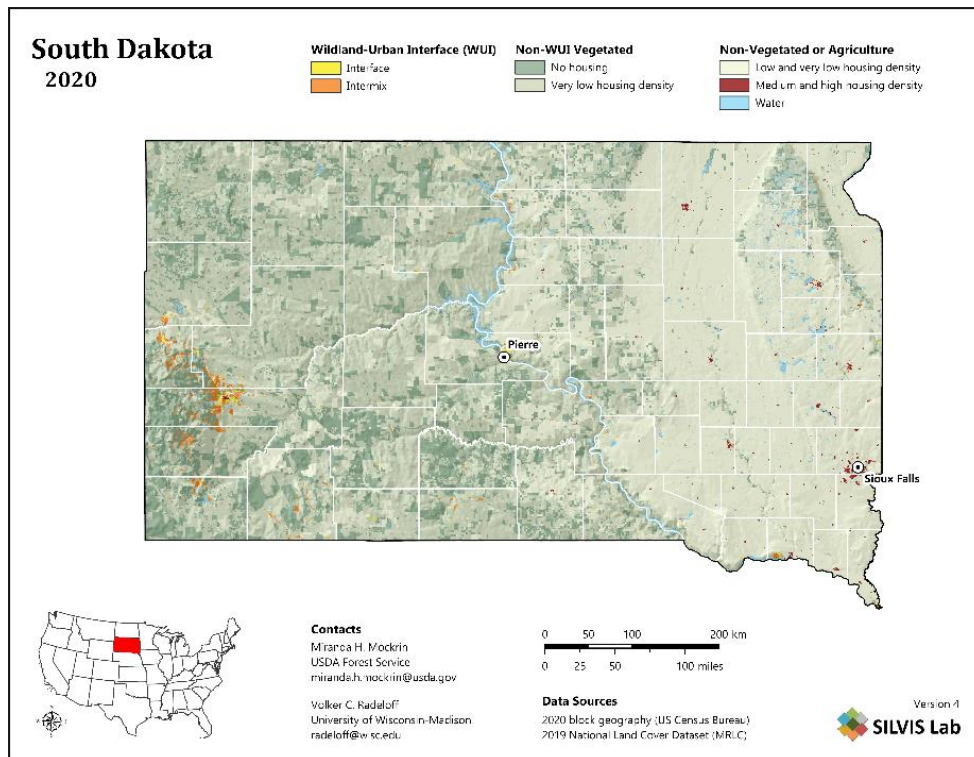
The table below identifies the number of fire department responses to structural, vehicle and outdoor fires that have been experienced within the county. It should be noted that the number of responses does not necessarily mean that there were 105 outdoor (wildfire) fires as some events required multiple departments to respond.

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

Year	Structural Fires	Vehicle Fires	Outdoor Fires	Magnitude*
2015	9	7	12	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	2	11	11	
2017	3	2	18	
2018	5	5	8	
2019	4	3	0	
2020	7	10	16	
2021	0	4	15	
2022	4	7	11	
2023	1	6	8	
2024	4	5	6	
<b>Total</b>	<b>39</b>	<b>60</b>	<b>105</b>	

\*Regarding Extent: This data includes reported fire responses from all fire departments in Moody County. Multiple fire departments may have responded to the same fire.  
 SOURCE: South Dakota State Fire Marshall Office

**Figure 4.7: SD Wildland-Urban Interface Map**



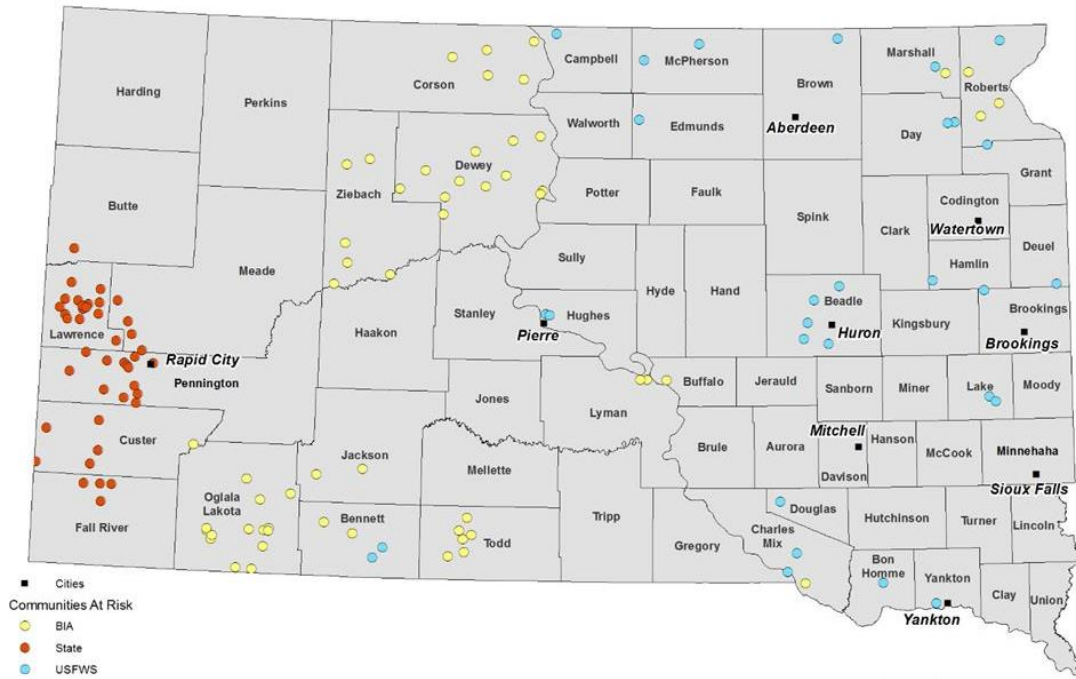
The data compiled by the SMFO is not discriminate enough to determine whether a fire can be classified as an urban or rural. The map from the SD SHMP displayed on the following page shows the South Dakota Wildland Urban Interface areas that can experience wildfires. This shows very little chance of a wildfire occurrence broadly over the entire Moody County jurisdiction. The FEMA NRI shows a 0.018% chance of wildfire per year.

Wildfires (or in the case of Moody County: “brush fires”) 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 Moody County has a 0.018% chance of wildfire per year.

Since there are no remote forested regions in Moody 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 Moody County. Therefore, when considering the term “wildfire” the communities of Moody County often used the term “brush fire” interchangeably with wildfire.

#### 4.8: SD Communities at Risk from Wildfire



Source: SD Dept. of Agriculture  
US Forest Service  
Map Compilation: 8/15/16

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 Moody 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 Moody 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: Projected Risks to Future Areas of Development by Community – Fire**

Community				Fire (includes wildfire and urban fire)	
	Impacts				
	Current Assets:	Future Assets:	Expected Changes in Land Use and Development	Changes in Population and Assets	Change in Land Use and Development
<b>Moody County</b>	See Table 1.1 [Population]; Table 4.25 Critical Structures in Moody County.	Population to remain steady to slightly decreasing. (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	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>Colman</b>	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: less than or equal to 0.6% annually (Table 1.1); planned/ recent infrastructure improvements referenced in Appendix.	Expanded residential development in the south and southeast; Industrial development in the west; infill commercial development in the center and near HWY 34 with new commercial/industrial development east.	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.
<b>Egan</b>		Population decrease of near 1% annually (Table 1.1). recent infrastructure improvements referenced in Appendix.	Infill residential development with some new development in the east and northwest; New industrial development in the southwest; new commercial development in the northeast.	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>Flandreau</b>	Population increase: 0.0% 0.2% annually (Table 1.1). recent infrastructure improvements referenced in Appendix. Specifically the community is expanding the childcare facilities	<i>Infill residential development with new development in the east and south. New Industrial use in the west. Infill commercial throughout town, with new development in the west.</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.
<b>Trent</b>	Population decrease/ 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>	Decreased population leads to less demand for fire related services, however aging infrastructure puts existing structures and infrastructure at risk for damage	New development will require expansion of new infrastructure, but may provide areas of town with services, but fewer users. Abandoned structures due to floodplain regulations will result in those properties becoming fire hazards.
<b>Ward</b>	Population decrease/ recent infrastructure improvements referenced in Appendix.	<i>Land Use Plan not yet adopted.</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.

None of the municipalities have assets that are vulnerable to wildfires. Planning for wildfires within municipalities is limited to response and recovery activities rather than mitigation. All activities to improve response and recovery to urban fires should be considered activities to improve response and recovery to wildfires. Therefore, wildfires are only intended for planning purposes outside of municipalities.

### 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 Moody 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, community organizations, companies, and non-profit organizations. A summary of the responses can be found in Appendix F. Of all the respondents, 57.1% percent indicated they had experienced or been impacted by a natural hazard. The most commonly experienced hazard was severe high wind or derechos. This is not surprisingly as Moody County 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.



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

When asked about the most effective way to receive information, the internet/social media was by far the top answer followed closely by email. 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 sixteen natural hazards that affect the County and ranked each hazard on a 0-5 scale (see rating description on the following page) starting with personal risk perception followed by community perceived risk. The top three threats were tornado, strong winds, and flood. This answer is not entirely surprising considering nearby Hamlin County was impacted by a devastating tornado in the early summer of 2022. The least threatening hazards were considered to be dam failure, ice jam, and wild fire. This is likely due to their lack of history and unlikelihood of occurring within Moody County. Respondents did not identify any other hazards that were not listed on the survey.

Respondents were then asked if they or their communities have taken any actions to make homes or communities more resistant to hazards. 85.7% of respondents marked yes. Several of the actions were ones that are commonly listed in the Pre-disaster Mitigation plans, such as stocking community shelters, burying electrical lines, and backup generators.

Lastly, respondents were asked to provide potential mitigation projects to address hazards in the county. Most of the respondents' answers were related to severe high wind/tornadoes and flood. The most commonly suggested projects were storm shelters, updating storm sirens, and adopting new FEMA floodplain maps.

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:

<b>0</b>	<ul style="list-style-type: none"> <li>• Does not occur in this jurisdiction</li> </ul>
<b>1</b>	<ul style="list-style-type: none"> <li>• I do not recall the community or anyone in the community experiencing property damage or personal damage from this hazard.</li> <li>• <i>"This would not affect normal community operations."</i></li> </ul>
<b>2</b>	<ul style="list-style-type: none"> <li>• If this hazard occurs, it is unlikely it will be noticed as more than a nuisance.</li> <li>• <i>"Any damage could be addressed with normal staff/community time dedicated at this time."</i></li> </ul>
<b>3</b>	<ul style="list-style-type: none"> <li>• If this hazard occurs, some properties may experience minor damage and/or minor injuries may occur.</li> <li>• <i>"Any damage could be addressed with normal staff/community involvement, but would be noticed as a temporary notice to residents outside the affected area."</i></li> </ul>
<b>4</b>	<ul style="list-style-type: none"> <li>• If this hazard occurs, several people affected will need financial assistance, assistance in repairing/cleaning up property, and/or treating physical harm.</li> <li>• <i>"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."</i></li> </ul>
<b>5</b>	<ul style="list-style-type: none"> <li>• If this hazard occurs it may destroy or nearly destroy all property in its path, and result in injury to those experiencing it.</li> <li>• <i>"Normal government business or daily life could not resume until significant recovery occurs."</i></li> </ul>

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:

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

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-five (25). Any hazard receiving a “Vulnerability Score” above twenty-five (25) within a given jurisdiction required a specific project to address that hazard.

**Table 4.24: Vulnerability Score by Jurisdiction**

Hazard	Colman				Egan				Flandreau				Trent				Ward				Moody 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	F	P.V.	C.V.	Vuln. Score	F	P.V.	C.V.	Vuln. Score
Dam Failure	0	1	0	<b>0</b>	0	0	0	<b>0</b>	0	0	0	<b>0</b>	0	0	0	<b>0</b>	0	0	0	<b>0</b>	0	1	2	<b>0</b>
Drought	3	2	3	<b>15</b>	3	3	3	<b>18</b>	3	3	0	<b>9</b>	3	1	2	<b>9</b>	1	2	1.5	<b>3.5</b>	2.5	2.5	3	<b>13.75</b>
Extreme Cold	3	4	3.5	<b>22.5</b>	5	5	4	<b>45</b>	3	3	3	<b>18</b>	4	2	3	<b>20</b>	4	2.5	2.5	<b>20</b>	3.5	3	3.	<b>21</b>
Extreme Heat	4	4	4	<b>32</b>	5	5	4	<b>45</b>	3	3	3	<b>18</b>	4	2	2	<b>16</b>	3.5	2	3	<b>17.5</b>	3.5	3	3	<b>21</b>
Flood	4	3	4	<b>28</b>	2	2	2	<b>8</b>	2	0	4	<b>8</b>	3	4	3	<b>21</b>	0	0	0	<b>0</b>	2	3	3.5	<b>13</b>
Freezing Rain/Sleet/Ice	4	4	4	<b>32</b>	4	4	3	<b>28</b>	4	5	4	<b>36</b>	3	2	1	<b>9</b>	2	3	2	<b>10</b>	3	3	3	<b>18</b>
Hail	4	4	4	<b>32</b>	3	3.5	3	<b>19.5</b>	2.5	2.5	3	<b>13.75</b>	3	2.5	3	<b>16.5</b>	3	3	3	<b>18</b>	1.5	2.5	2	<b>6.75</b>
Heavy Rain	4	4	4	<b>32</b>	4	4	3	<b>28</b>	3	4	3	<b>28</b>	3	3	3	<b>27</b>	3	3	3	<b>18</b>	3	3	3	<b>18</b>
Heavy Snow	4	4	3	<b>28</b>	4	4	3	<b>28</b>	3	3.5	3	<b>19.5</b>	3	2	3	<b>15</b>	3	2.5	3	<b>16.5</b>	3.5	2.5	2.5	<b>17.5</b>
Ice Jam	3	3	2.5	<b>16.5</b>	0	0	0	<b>0</b>	3.5	0	4	<b>14</b>	3	4	3	<b>21</b>	0	0	0	<b>0</b>	1.5	1.5	2	<b>5.25</b>
Lightning	2	1	1	<b>4</b>	3	3	3	<b>18</b>	0	0	0	<b>0</b>	3	2	2	<b>12</b>	5	1	2	<b>15</b>	3	2	2	<b>12</b>
Rapid Snow Melt	4	3	3	<b>24</b>	4	4	3	<b>28</b>	2	0	2	<b>4</b>	3	3	3	<b>18</b>	2	1	2	<b>6</b>	2	2.5	2.5	<b>10</b>
Strong Winds	4	4	5	<b>36</b>	4	4	3	<b>28</b>	5	5	5	<b>50</b>	3	5	3	<b>24</b>	5	3	4	<b>35</b>	3.5	3.5	3.5	<b>24.5</b>
Tornado	2.5	1	3	<b>10</b>	0	0	0	<b>0</b>	0	0	0	<b>0</b>	1	5	5	<b>10</b>	2	4	4	<b>16</b>	1.5	3	3	<b>9</b>
Urban Fire	1	0	1	<b>1</b>	4	5	3	<b>32</b>	0	0	0	<b>0</b>	0	4	4	<b>0</b>	1	2	4	<b>8</b>	1	1.5	2.5	<b>4</b>
Wild Fire	1	1	1	<b>2</b>	3	5	3	<b>24</b>	0	0	0	<b>0</b>	0	4	1	<b>0</b>	0	0	0	<b>0</b>	2.5	2.5	2.5	<b>12.5</b>

## 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 Flandreau has 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 Moody County**

Jurisdiction/ Entity	Location	Address	Sector	Sub sector	Name	Owner Type
Moody County	Moody County	North of Intersection of 486 Ave and 223 St	Non-Emergency Response Facility	Electric Supply	Water Ottertail Power Co. Sub Station	Private
Moody County	Moody County	West of Flandreau	Non-Emergency Response Facility	Electric Supply	Sub Station	Private
Moody County	Moody County	Intersection of 483 Ave and SD Hwy 34	Non-Emergency Response Facility	Water Supply	Big Sioux Community Water System Tower	Private
Moody County	Moody County	23343 479 <sup>th</sup> Avenue	Non-Emergency Response Facility	Water Supply	Big Sioux Community Water System Treatment Facility	Private
Moody County	Moody County	Interstate 29 & SD Hwy 32	Non-Emergency Response Facility	Building	SDDOT Maintenance Building	Private
Moody County	Moody County	46948 228 <sup>th</sup> Street	Non-Emergency Response Facility	Communications	Big Sioux Water	Private
Moody County	Moody County	North of Intersection of 486 Ave and 223 St	Non-Emergency Response Facility	Electric Supply	Water Ottertail Power Co. Sub Station	Private
Moody County	Moody County	South of Intersection of 474 Ave and 233 St	Non-Emergency Response Facility	Electric Supply	East River Electric Sub Station	Private
Moody County	Moody County	South of Intersection of 482 Ave and 242 St	Non-Emergency Response Facility	Electric Supply	East River Electric Sub Station	Private
Moody County	Moody County	North of Intersection of 483 Ave and 223 St	Non-Emergency Response Facility	Electric Supply	East River Electric Sub Station	Private
Moody County	Moody County	44.192636°N; 96.860424°W	Population to Protect	Campground	Cattails Campground	Private
Moody County	Moody County	South end of Lake Campbell	Population to Protect	Manufactured Homes	Various Owners	Private

Moody County	Moody County	47533 240 <sup>th</sup> St	Non-Emergency Response Facility	Water Supply	Shared Resources – Water Treatment Plant	Private
Moody County	Moody County	43.907073 °N; 96.863914°W	Non-Emergency Response Facility	Water Supply	Shared Resources - Reservoir	Private
Moody County	Moody County	43.906419 °N; 96.586667°W	Non-Emergency Response Facility	Water Supply	Shared Resources – Water Tower	Private
Moody County	Moody County	47535 240 <sup>th</sup> St	Non-Emergency Response Facility	Electrical Supply	East River - Substation	Private
Moody County	Moody County	47816 239 <sup>th</sup> St	Non-Emergency Response Facility	Electrical Supply	East River - Switchyard	Private
Colman	City of Colman	112 N Main Ave	Emergency Services	Building	Colman Police Department	Public
Colman	City of Colman	6 N Main Ave	Emergency Services	Building	Colman Fire Hall	Public
Colman	City of Colman	6 N Main Ave	Emergency Services	Building	Emergency Operations Center (Emergency Shelter)	Public
Colman	City of Colman	112 N Main Ave	Government Facility	Building	Colman City Hall	Public
Colman	City of Colman	101 SW 4 <sup>th</sup> Street	Population to Protect	Building	Southern Heights Apartments	Private
Colman	City of Colman	305 S Allen St	Population to Protect	Public Park/Golf Course	Colman Park/Swimming Pool/Sunrise Golf Course	Public
Colman	City of Colman	213 S Allen St	Population to Protect	Building	Lutheran Church	Public
Colman	City of Colman	200 N Allen St	Population to Protect	Building	St. Peter's Church	Public
Colman	City of Colman	128 NE 3 <sup>rd</sup> St	Population to Protect	Building	Clark Apartments	Private
Colman	City of Colman		Population to Protect	Building	Sunrise Apartments	Private
Colman	City of Colman	200 S Loban Ave	Population to Protect	Building	Colman-Egan School	Public
Colman	City of Colman	Allen Avenue south of Discovery St	Non-Emergency Response Facility	Sanitary Sewer	Lift Station	Public
Colman	City of Colman	In Alley between Perry Avenue and Main Avenue north of 1 <sup>st</sup> Street North	Non-Emergency Response Facility	Water Supply – Water Tower	Big Sioux Community Water Tower	Public
Colman	City of Colman	West of City	Non-Emergency Response Facility	Sanitary Sewer	Wastewater Lagoons	Public
Colman	City of Colman	SE of intersection of Huebner Dr & 2 <sup>nd</sup> St N	Non-Emergency Response Facility	Substation	Ottertail Substation	Private
Colman	City of Colman	S of SD Hwy 34 west of Crummer Ave	Non-Emergency Response Facility	Substation	Sioux Energy Substation	Private

Colman	City of Colman	Corner of Main Avenue and 1 <sup>st</sup> Street North	Non-Emergency Response Facility	Building	Colman Street Maintenance Department	Public
Colman	City of Colman	Located in Flandreau City Park east of City	Non-Emergency Response Facility	Siren	Emergency Siren	Public
Colman	City of Colman	Colman Park	Non-Emergency Response Facility	Siren	Emergency Siren	Public
Colman	City of Colman	500 N Main Ave	Population to Protect	Public Park	Baseball Diamonds	Public
Colman	City of Colman	124 N Loban Ave	Population to Protect	Building	Sarah Flatten Daycare	Private
Colman	City of Colman	215 N Crummer Ave	Population to Protect	Building	Amy Schmidt Daycare	Private
Colman	City of Colman	216 N Florence Ave	Population to Protect	Building	Kari Schmidt Daycare	Private
Colman	City of Colman	404 SE 3 <sup>rd</sup> St	Population to Protect	Building	Dezi Rus Daycare	Private
Colman	City of Colman	207 S. Loban Ave	Population to Protect	Building	Tameru Persie Daycare	Private
Egan	City of Egan	101 N. Irvin St	Emergency Services	Building	Egan Fire Hall Emergency Operations Center	Public
Egan	City of Egan	110 W 3 <sup>rd</sup> St (also, 101 N. Irvin St)	Government Facility	Building	Egan City Hall	Public
Egan	City of Egan	2 <sup>nd</sup> Street east of River	Population to Protect	Public Park	Egan Campground and Park	Public
Egan	City of Egan	2 <sup>nd</sup> Street east of Maple Street	Population to Protect	Public Park	Ballfield	Public
Egan	City of Egan	100 W 3 <sup>rd</sup> St	Population to Protect	Building	Donnelly Apartments	Private
Egan	City of Egan	600 2 <sup>nd</sup> St	Non-Emergency Response Facility	Water Supply	Big Sioux Rural Water Tank	Public
Egan	City of Egan	600 2 <sup>nd</sup> St	Non-Emergency Response Facility	Water Supply	Big Sioux Rural Water Connection	Public
Egan	City of Egan	Intersection of 2 <sup>nd</sup> St and Ellsworth Ave	Non-Emergency Response Facility	Substation	Ottertail Substation	Private
Egan	City of Egan	Intersection of Gilbert St and 2 <sup>nd</sup> St	Non-Emergency Response Facility	Sanitary Sewer	Lift Station	Public
Egan	City of Egan	Northeast corner of Town	Non-Emergency Response Facility	Sanitary Sewer	Wastewater Lagoons	Public
Egan	City of Egan	112 W. 3 <sup>rd</sup> St	Population to Protect	Building	Senior Center	Public
Egan	City of Egan	104 N Irvin St	Non-Emergency Response Facility	Siren	Emergency Siren	Public
Flandreau	City of Flandreau	108 E Pipestone	Emergency Services	Building	Moody County Sheriff	Public
Flandreau	City of Flandreau	Intersection of Prospect Ave & Henry St	Emergency Shelter	Building	Tornado Shelter	Public

Flandreau	City of Flandreau	Mobile Home Park (Intersection of Ash Ave & Birch St)	Emergency Shelter	Building	Tornado Shelter	Public
Flandreau	City of Flandreau	200 N Crescent	Emergency Services	Building	Flandreau Police Department	Public
Flandreau	City of Flandreau	201 S Wind St	Emergency Services	Building	Flandreau Fire Station	Public
Flandreau	City of Flandreau	101 E Pipestone	Emergency Services Government Facility	Building	Courthouse & Emergency Operation Center & Emergency Shelter	Public
Flandreau	City of Flandreau	1005 West Elm Ave	Government Facility	Building	Flandreau City Hall	Public
Flandreau	City of Flandreau	Flandreau Municipal Airport	Government Facility	Building	Snow Removal Equipment Building	Public
Flandreau	City of Flandreau	One mile east of the intersection of Hwy 32 & 13 on 230 <sup>th</sup> St	Population to Protect	Recreation	Flandreau City Park	Public
Flandreau	City of Flandreau	601 W 1 <sup>st</sup> Ave	Population to Protect	Recreation	Flandreau Aquatic Center	Public
Flandreau	City of Flandreau	800 S Wind St	Population to Protect	Building	Edgewood Assisted Living	Public
Flandreau	City of Flandreau	611 2 <sup>nd</sup> Ave	Population to Protect	Building	Riverview Health Services	Public
Flandreau	City of Flandreau	505 S Wind St	Population to Protect	Building	Our Saviors Lutheran Church	Public
Flandreau	City of Flandreau	1005 S Mountain Chief Dr	Population to Protect	Building	United States Indian School	Public
Flandreau	City of Flandreau	500/600/700 W Community Dr	Population to Protect	Building	Flandreau Public School	Public
Flandreau	City of Flandreau	2 <sup>nd</sup> Ave and Prairie St	Population to Protect	Building	Rescue Church	Public
Flandreau	City of Flandreau	800 W Community Dr	Population to Protect	Building	National Guard Armory/Flandreau Community Center	Public
Flandreau	City of Flandreau	101 N Prairie St	Population to Protect	Building	Second Presbyterian Church	Public
Flandreau	City of Flandreau	105 S Bates St	Population to Protect	Building	St. Simon and Jude Church	Public
Flandreau	City of Flandreau	508 W 1 <sup>st</sup> Ave	Population to Protect	Building	Redeemer Lutheran Church	Public
Flandreau	City of Flandreau	202 E 2 <sup>nd</sup> Ave	Population to Protect	Building	Bread Basket – Food Pantry	Public
Flandreau	City of Flandreau	104 S Veterans St	Population to Protect	Building	Big Sioux Baptist Church	Public
Flandreau	City of Flandreau	403 W Broad Ave	Population to Protect	Building	FSST Health Center	Public
Flandreau	City of Flandreau	214 N Prairie	Population to Protect	Building	Flandreau Medical Center	Public

Flandreau	City of Flandreau	1005 S Mountain Chief Dr	Population to Protect	Building	United States Indian School Dormitory	Public
Flandreau	City of Flandreau	803 W Community Dr	Population to Protect	Building	Boys and Girls Club	Public
Flandreau	City of Flandreau	803 W Community Dr	Population to Protect	Population to Protect	Boys and Girls Club Daycare	Public
Flandreau	City of Flandreau	S Veterans St	Non-Emergency Response Facility	Sanitary Sewer	Lift Station	Public
Flandreau	City of Flandreau	E 2 <sup>nd</sup> Ave	Non-Emergency Response Facility	Sanitary Sewer	Lift Station	Public
Flandreau	City of Flandreau	W 1 <sup>st</sup> Ave	Non-Emergency Response Facility	Sanitary Sewer	Lift Station	Public
Flandreau	City of Flandreau	FIS Indian School	Non-Emergency Response Facility	Sanitary Sewer	Lift Station	Public
Flandreau	City of Flandreau	105 N Water St	Non-Emergency Response Facility	Sanitary Sewer	Flandreau Street Department	Public
Flandreau	City of Flandreau	407 N West Street	Non-Emergency Response Facility	Sanitary Sewer	County Highway Shop	Public
Flandreau	City of Flandreau	W Bridge Avenue	Non-Emergency Response Facility	Sanitary Sewer	City Disposal Plant	Public
Flandreau	City of Flandreau	107 N Water St	Non-Emergency Response Facility	Water	Flandreau Water Pump House	Public
Flandreau	City of Flandreau	211 N Lindsay St	Non-Emergency Response Facility	Water	Water tower	Public
Flandreau	City of Flandreau	Corner of 3 <sup>rd</sup> Ave and Veterans St	Non-Emergency Response Facility	Water	Water tower	Public
Flandreau	City of Flandreau	201 S Wilson St	Non-Emergency Response Facility	Siren	Emergency Siren	Public
Flandreau	City of Flandreau	207 N George Billam Drive	Non-Emergency Response Facility	Siren	Emergency Siren	Public
Flandreau	City of Flandreau	102 W LaFayette Ave	Non-Emergency Response Facility	Siren	Emergency Siren	Public
Flandreau	City of Flandreau	310 N Crescent St	Non-Emergency Response Facility	Siren	Emergency Siren	Public
Flandreau	City of Flandreau	401 S Crescent St	Non-Emergency Response Facility	Siren	Emergency Siren	Public
Flandreau	City of Flandreau	Located in Flandreau City Park east of City	Non-Emergency Response Facility	Siren	Emergency Siren	Public
Flandreau	City of Flandreau	1005 W Elm Ave	Non-Emergency Response Facility	Substation	Flandreau Substation	Public
Flandreau	City of Flandreau	202 South Center St	Non-Emergency Response Facility	Communications	BluePeak	Private
Flandreau	City of Flandreau	210 North Crescent St	Non-Emergency Response Facility	Communications	Century Link	Private
Flandreau	City of Flandreau	210 N Prairie St	Non-Emergency Response Facility	Population to Protect	Methodist Church	Private
Flandreau	City of Flandreau	500 W 1 <sup>st</sup> Ave	Non-Emergency Response Facility	Population to Protect	Moody County Extension Center	Public
Flandreau	City of Flandreau	802 W Community Dr	Non-Emergency Response Facility	Population to Protect	4H Grounds/ Rodeo & Show Rings	Public

Flandreau	City of Flandreau	108 E Pipestone Ave	Emergency Response Facility	Building	Sheriff Station	Public
Flandreau	City of Flandreau	909 Jones Dr	Non-Emergency Response Facility	Population to Protect	Wicoicaga Otipi Community & Elderly Center	Public
Flandreau	City of Flandreau	100 N Crescent St	Non-Emergency Response Facility	Communications	Valley Fiber Com	Private
Flandreau	City of Flandreau	Corner of 3 <sup>rd</sup> Ave & Prairie St	Non-Emergency Response Facility	Population to Protect	Duncan Park	Public
Trent	Town of Trent	101 3 <sup>rd</sup> St	Emergency Services	Building	Trent Fire Hall Emergency Operations Center (Emergency Shelter)	Public
Trent	Town of Trent	102 2 <sup>nd</sup> St	Population to Protect	Building	Trent Baptist Church	Public
Trent	Town of Trent	Northwest of intersection of 1 <sup>st</sup> St & Railroad St	Population to Protect	Swimming Pool	Trent Swimming Pool	Private
Trent	Town of Trent	North end of Main Street	Population to Protect	Campground	Trent Campground	Private
Trent	Town of Trent	403 E 3 <sup>rd</sup> St	Population to Protect	Building	Trent Community Hall/ Town Office	Public
Trent	Town of Trent	South of intersection of 478 <sup>th</sup> Ave & 3 <sup>rd</sup> St	Population to Protect	Park & Ball Diamonds	Park & Ball Diamonds	Public
Trent	Town of Trent	209 W 3 <sup>rd</sup> St	Non-Emergency Response Facility	Building	Shop/ Maintenance Building	Public
Trent	Town of Trent	311 Walnut Ave	Non-Emergency Response Facility	Sanitary Sewer	Lift Station	Public
Trent	Town of Trent	311 Walnut Ave	Non-Emergency Response Facility	Sanitary Sewer	Lagoon	Public
Trent	Town of Trent	Intersection of 1 <sup>st</sup> St & 3 <sup>rd</sup> Ave	Non-Emergency Response Facility	Building	Water Supply	Public
Trent	Town of Trent	103 E 3 <sup>rd</sup> St	Non-Emergency Response Facility	Siren	Emergency Siren	Public
Trent	Town of Trent	204 W 3 <sup>rd</sup> St	Non-Emergency Response Facility	Building	Golden West Telecommunications	Private
Ward	Town of Ward	112 Pine St	Emergency Services	Building	Ward Fire Hall Siren/Fixed Generator	Public
Ward	Town of Ward	401 223 St	Population to Protect	Building	Immanuel Lutheran Church	Public
Ward	Town of Ward	112 Pine St	Non-Emergency Response Facility	Water Supply	Ward Water Well/Pumphouse	Public
Ward	Town of Ward	309 223 <sup>rd</sup> St	Population to Protect	Building	Ward Community Center	Public

It should be noted that communities were asked to identify socially disadvantaged populations as populations to protect. In some instances, the communities were unable to identify clusters of socially disadvantaged populations. However, others communities, such as the City of Flandreau, identified the Flandreau Santee Sioux Tribe as being a socially disadvantaged population. The city works closely with the Tribe and made sure to include all of the Tribal facilities as populations to protect.

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.*

Moody County participates in the National Flood Insurance Program (NFIP), along with the municipalities of Colman, Egan, Flandreau, and Trent. Ward does not participate in the program. All communities that participate in the NFIP are in the process of adopting the new FEMA Floodplain maps. In the 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 Moody County Auditor maintains the flood zone maps and the Moody 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 internet at: [www.moodycounty.net/wp-content/uploads/2010/12/Updated-Zoning-Map.pdf](http://www.moodycounty.net/wp-content/uploads/2010/12/Updated-Zoning-Map.pdf).

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**

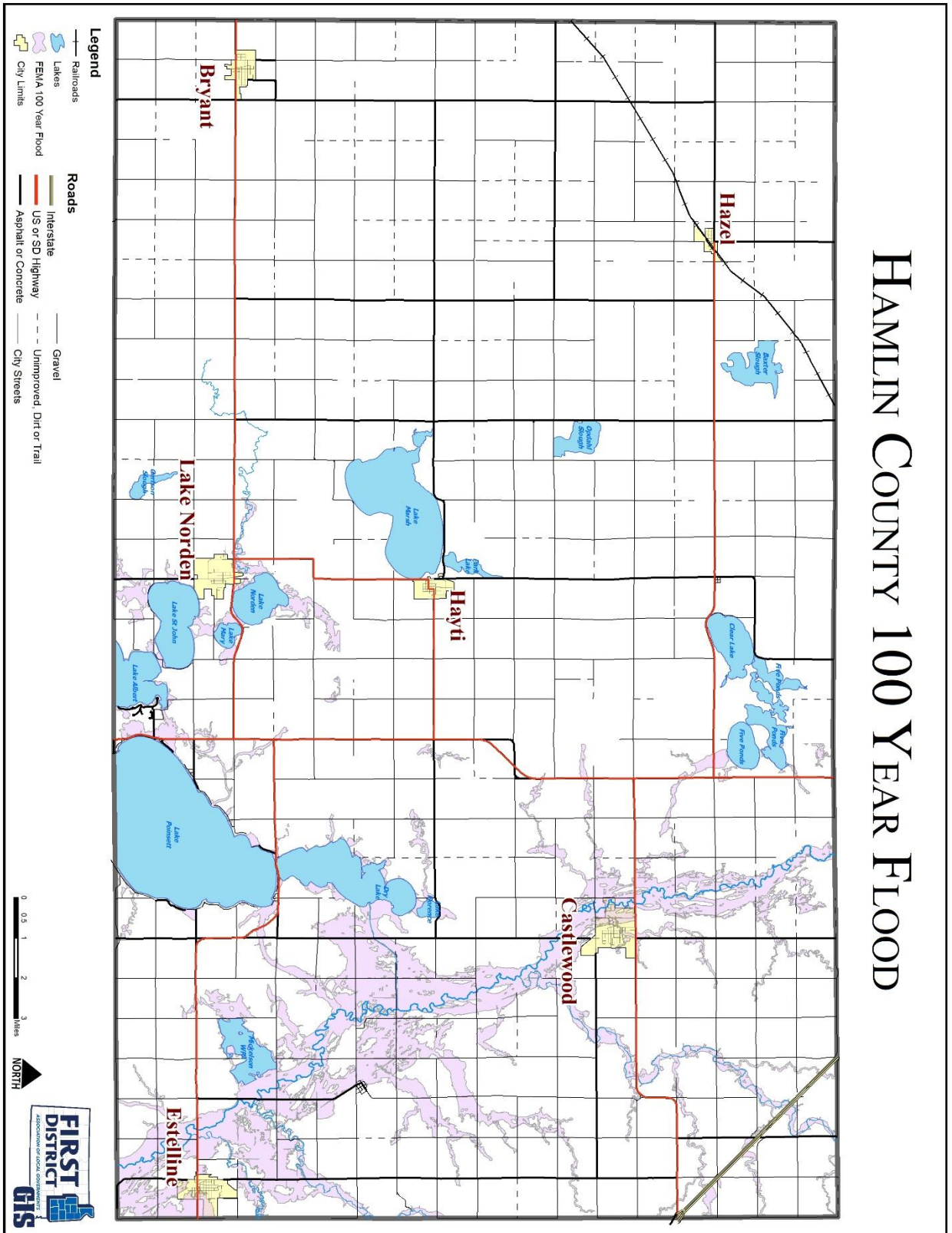
Community Name	Community ID	Current Map Effective Date	New Map Effective Data
Moody County	460235	8/19/08(M)	10/02/25
Colman	460106	(NSFHA)	10/02/25
Egan	460061	8/19/08(M)	10/02/25
Flandreau	460062	8/19/08	10/02/25
Trent	460063	8/19/08	10/02/25
Ward	<b>Not Participating</b>		

For Moody County, Colman, Egan, Flandreau, and Trent any application for building permit, use permit, subdivision, and public project is reviewed by the floodplain administrator of each respective community (See Table 4.26 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 their in-house maps or the link listed above, 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 Moody 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 4.9 (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 Moody County.

Figure 4.9: Moody 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.

Due to various geomorphologic and topographical conditions, periodic flooding affects numerous areas in both incorporated and unincorporated areas of the County. Property adjacent to the Big Sioux River is most prone to flooding in Moody County. Residential development occurred adjacent to the Big Sioux River long before the initial flood hazard boundaries being identified in 1974. 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 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 22 flood insurance policy holders. The vast majority of those policies insure residents adjacent to the Big Sioux River.

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

Community Name	*Current NFIP Policies	*Number of Claims Paid Since 1978	*Total Value of Claims Paid	*Flood Insurance Coverage	*Repetitive Loss Properties
City of Flandreau	3	9	\$75,293	2	0
Town of Trent	9	17	\$111,910	8	2
Unincorporated areas of Moody County	10	32	\$398,302	9	5
<b>Totals</b>	<b>22</b>	<b>58</b>	<b>\$585,505</b>	<b>16</b>	<b>7</b>

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

\*Data obtained 2020

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. In Moody County, there are seven incidences of repetitive loss claims throughout the 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. Severe repetitive loss (described below) and repetitive loss structures are comprised of a combined seven (7) single family structures.

## **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.

Although Moody County has seven properties classified as “repetitive loss,” there are no properties classified 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 Moody County jurisdictions. Therefore, the total number of structures, dollar value, and number of residents in tables 4.28 - 4.34 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 Moody 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. For the purposes of this plan only Residential, Commercial/Industrial, and Agricultural 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 scheduled to become effective for Moody County on October 2, 2025. If it was determined that a structure on a given lot was within the flood hazard area, then all structure of the same use type were included as being within the flood hazard area

for the purpose of calculating the total value of structures at risk. The total number of structures within the flood hazard area is not intended to represent a count of actual structures, but rather a count of properties with structures in the flood hazard area. It should be noted that the information does not account for letters of map amendment or letters of map revision which may have been submitted or approved since April 2, 2025.

All properties with structures, whether owner occupied or not were included in the valuations provided in Tables 4.28 through 4.34. 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 4.34, the State of South Dakota Hazard Mitigation Plan incorporated HAZUS analysis accounting for potential losses to those structures within Moody County.

**Table 4.28: Moody 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	1,288	71	5.51%	\$317,321,853.00	\$18,975,427.00	5.98%	2,849	178	6.24%
Commercial/ Industrial	26	6	23.08%	\$8,141,324.00	\$829,034.00	10.18%			
Agricultural	872	48	5.50%	\$131,491,271.00	\$1,270,096.00	0.97%			
<b>Total</b>	<b>2,186</b>	<b>125</b>	<b>5.72%</b>	<b>\$456,954,448.00</b>	<b>\$21,074,557.00</b>	<b>4.61%</b>	<b>2,849</b>	<b>178</b>	<b>6.24%</b>

**Table 4.29: Colman 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	279	0	0%	\$55,299,522.00	\$0.00	0%	634	0	0.00%
Commercial/ Industrial	44	0	0%	\$24,926,143.00	\$0.00	0%			
Agricultural	0	0	0%	\$0.00	\$0.00	0%			
<b>Total</b>	<b>323</b>	<b>0</b>	<b>0%</b>	<b>\$80,225,665.00</b>	<b>\$0.00</b>	<b>0%</b>	<b>634</b>	<b>0</b>	<b>0.00%</b>

**Table 4.30: Egan 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	134	6	4.48%	\$10,191,707.00	\$723,401.00	7.10%	241	13	5.45%
Commercial/ Industrial	10	0	0%	\$485,157.00	\$0.00	0%			
Agricultural	3	0	0%	\$21,660.00	\$0.00	0%			
<b>Total</b>	<b>147</b>	<b>6</b>	<b>4.08%</b>	<b>\$10,698,524.00</b>	<b>\$723,401.00</b>	<b>6.76%</b>	<b>241</b>	<b>13</b>	<b>5.45%</b>

**Table 4.31: Flandreau 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	814	19	2.33%	\$104,590,654.00	\$2,012,263.00	1.92%	2,372	42	1.77%
Commercial/ Industrial	131	8	6.11%	\$22,841,156.00	\$1,071,307.00	4.69%			
Agricultural	0	0	0.00%	\$0.00	\$0.00	0.00%			
<b>Total</b>	<b>945</b>	<b>27</b>	<b>2.86%</b>	<b>\$127,431,810.00</b>	<b>\$3,083,570.00</b>	<b>2.42%</b>	<b>2,372</b>	<b>42</b>	<b>1.77%</b>

**Table 4.32: Trent 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	102	33	32.35%	\$12,276,775.00	\$2,526,779.00	20.58%	206	64	31.13%
Commercial/ Industrial	12	5	41.67%	\$1,700,812.00	\$332,759.00	19.56%			
Agricultural	5	1	20.00%	\$156,831.00	\$109,926.00	70.09%			
<b>Total</b>	<b>119</b>	<b>39</b>	<b>32.77%</b>	<b>\$14,134,418.00</b>	<b>\$2,969,464.00</b>	<b>21.01%</b>	<b>206</b>	<b>64</b>	<b>31.13%</b>

**Table 4.33: Ward 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	30	0	0%	\$3,184,890.00	\$0	0%	0	0	0
Commercial/ Industrial	2	0	0%	\$242,282.00	\$0	0%			
Agricultural	1	0	0%	\$13,680.00	\$0	0%			
<b>Total</b>	<b>33</b>	<b>0</b>	<b>0%</b>	<b>\$3,440,852.00</b>	<b>\$0</b>	<b>0%</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table 4.34: Moody 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	2,647	129	4.87%	\$502,865,401	\$24,237,870	4.82%	6,336	297	4.69%
Commercial/ Industrial	225	19	8.44%	\$58,336,874	\$2,233,100	3.83%			
Agricultural	881	49	5.56%	\$131,683,442	\$1,380,022	1.05%			
<b>Total</b>	<b>3,753</b>	<b>197</b>	<b>5.25%</b>	<b>\$692,885,717</b>	<b>\$27,850,992</b>	<b>4.02%</b>	<b>6,336</b>	<b>297</b>	<b>4.69%</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 Moody 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.)

Despite the arbitrary inclusion of certain properties at in Trent into the flood hazard area, and significant expansion of floodway along the Big Sioux River through much of the County; Moody County and the communities of Colman, Flandreau, Egan, and Trent 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 Moody County are experiencing growth and have comprehensive land use plans which identify future areas for development. Four of the six participating communities are showing population growth. The other three communities issued building permits for eight new homes including mobile homes and five commercial structures over the last five years. The County issued 37 building permits for new homes, mobile homes, and other residential structures over the last three years. Few, if any, building permits were issued for new commercial structures over the last five years not related to agriculture. Based on this information, there has been some growth, but it is generally minimal. No major plan revisions were made from 2020.

In addition to Moody County, the municipalities of Colman, Egan, Flandreau, and Trent all have adopted Comprehensive Land Use Plans with Future Land Use Maps. Flandreau is currently in the process of updating its land use plan. None of these plans have been updated or amended since the approval of the last PDM Plan yet. However, the City of Flandreau has completed and adopted a comprehensive update to its zoning ordinance since it last adopted the Pre-Disaster Mitigation Plan.

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 Moody County have adopted or are in the process of adopting 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 4.32 – 4.36 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 4.35: Moody County (Unincorporated Area)  
Potential Floodplain Development – By Land Use Type**

Land Use Category	Community Totals		Flood Hazard Area			
	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	236,461	30,173	12.76%	15,087*	1,156*
Lake – Residential	0.5	N/A	0	N/A	0	0
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 1,156 lots are appropriately zoned for residences, maximum density dictates that only 243 residences would be expected.*

**Table 4.36: Colman Potential  
Floodplain Development – By Land Use Type**

Land Use Category	Community Totals		Flood Hazard Area			
	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	2.5	102	1	1.0%	0	0
Commercial	1	7	0	0.0%	0	0
Industrial	0.25	71	0	0.0%	0	0

**Table 4.37: Egan Potential  
Floodplain Development – By Land Use Type**

Land Use Category	Community Totals		Flood Hazard Area			
	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	2.5	31	7	22.9%	17	1
Commercial	1	15	1	3.3%	0	0
Industrial	0.25	17	0	0.0%	0	0

**Table 4.38: Flandreau Potential  
Floodplain Development – By Land Use Type**

Land Use Category	Community Totals		Flood Hazard Area			
	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	2.5	74	0	0.0%	0	2
Commercial	1	3	0	0.0%	0	0
Industrial	0.25	5	0	0.0%	0	0

**Table 4.39: Trent Potential  
Floodplain Development – By Land Use Type**

Land Use Category	Community Totals		Flood Hazard Area			
	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	2.5	29	2	7.7%	10	9
Commercial	1	3	1	16.7%	2	2
Industrial	0.25	7	7	100.0%	4	3

Population in Moody County decreased by 2.3% between the last two census surveys. If that decrease occurred at a steady rate, it would be reasonable to assume that the population has decreased by another 1% since that time. Only Colman and Flandreau increased in population over the previous census. While Flandreau’s population increased by slightly more than one percent over the previous decade, Colman grew by nearly six percent. Flandreau’s growth has mostly occurred via natural increase and infill, while Colman’s growth has been fueled by expansion of industry in and surrounding Colman as well as a concerted effort to develop single family residential subdivision(s), particularly in the south of the community.

## **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 Moody 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 4.15).

Figure 4.10: Moody County Hazard Vulnerability Map

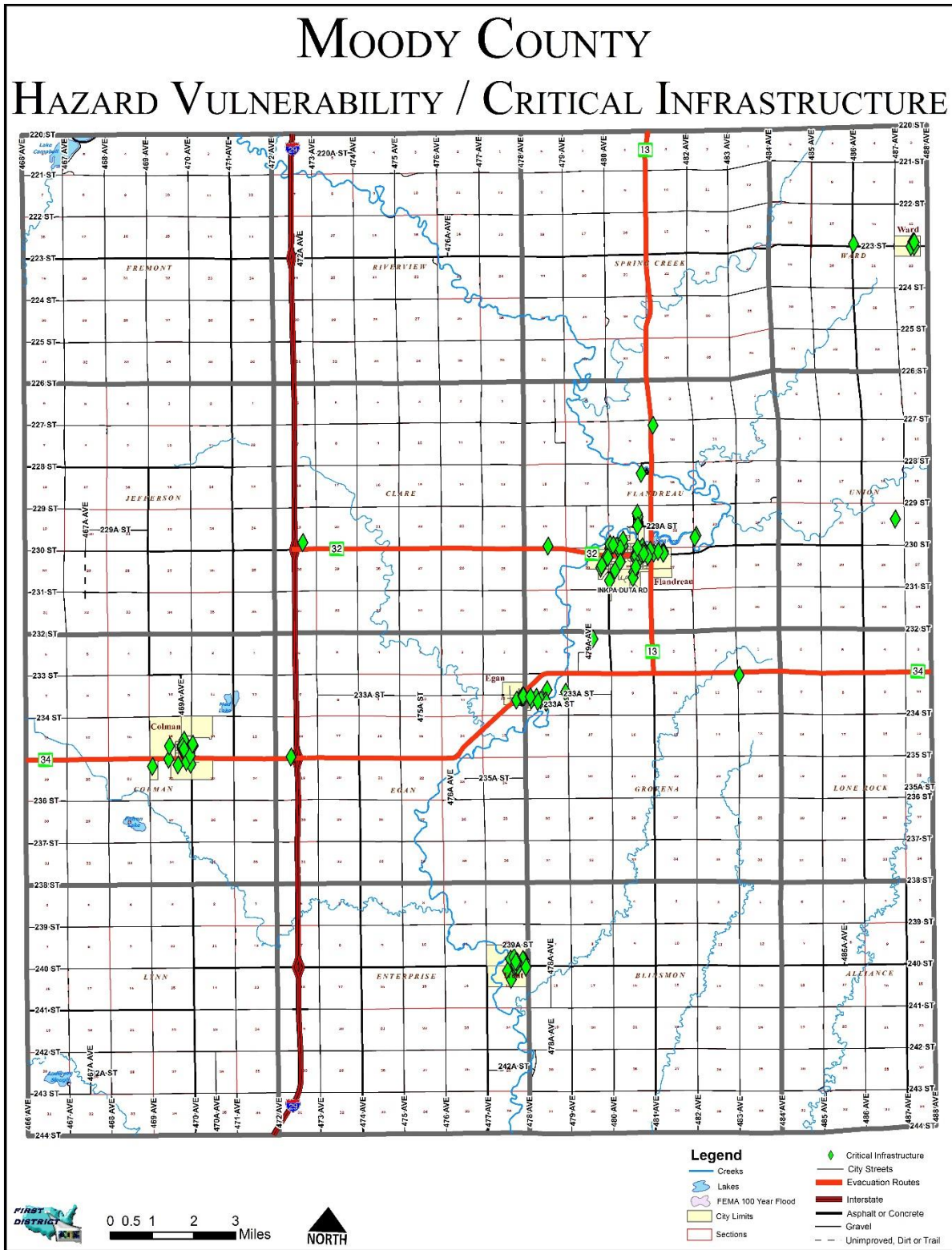


Figure 4.11: City of Colman Hazard Vulnerability Map

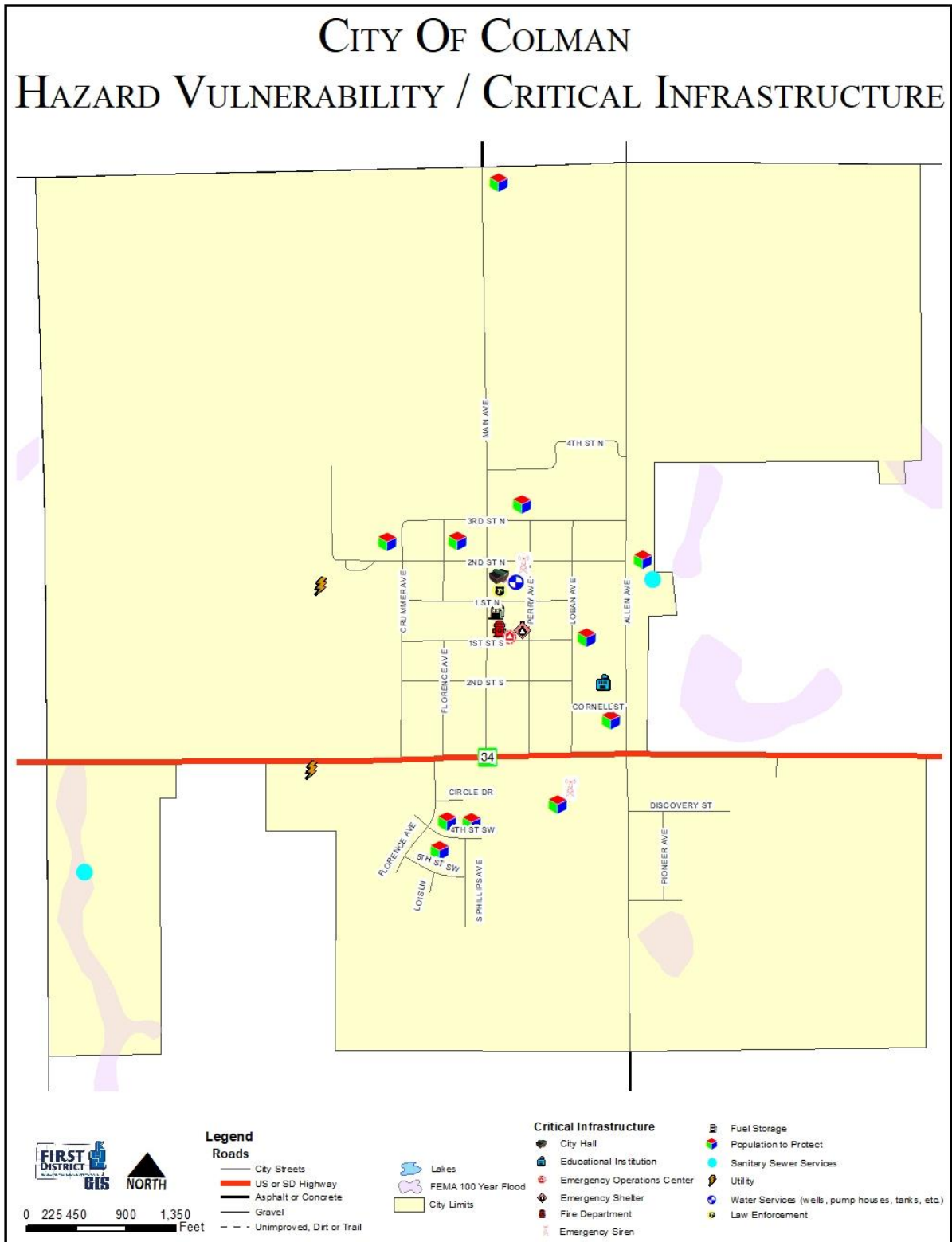


Figure 4.12: City of Egan Hazard Vulnerability Map

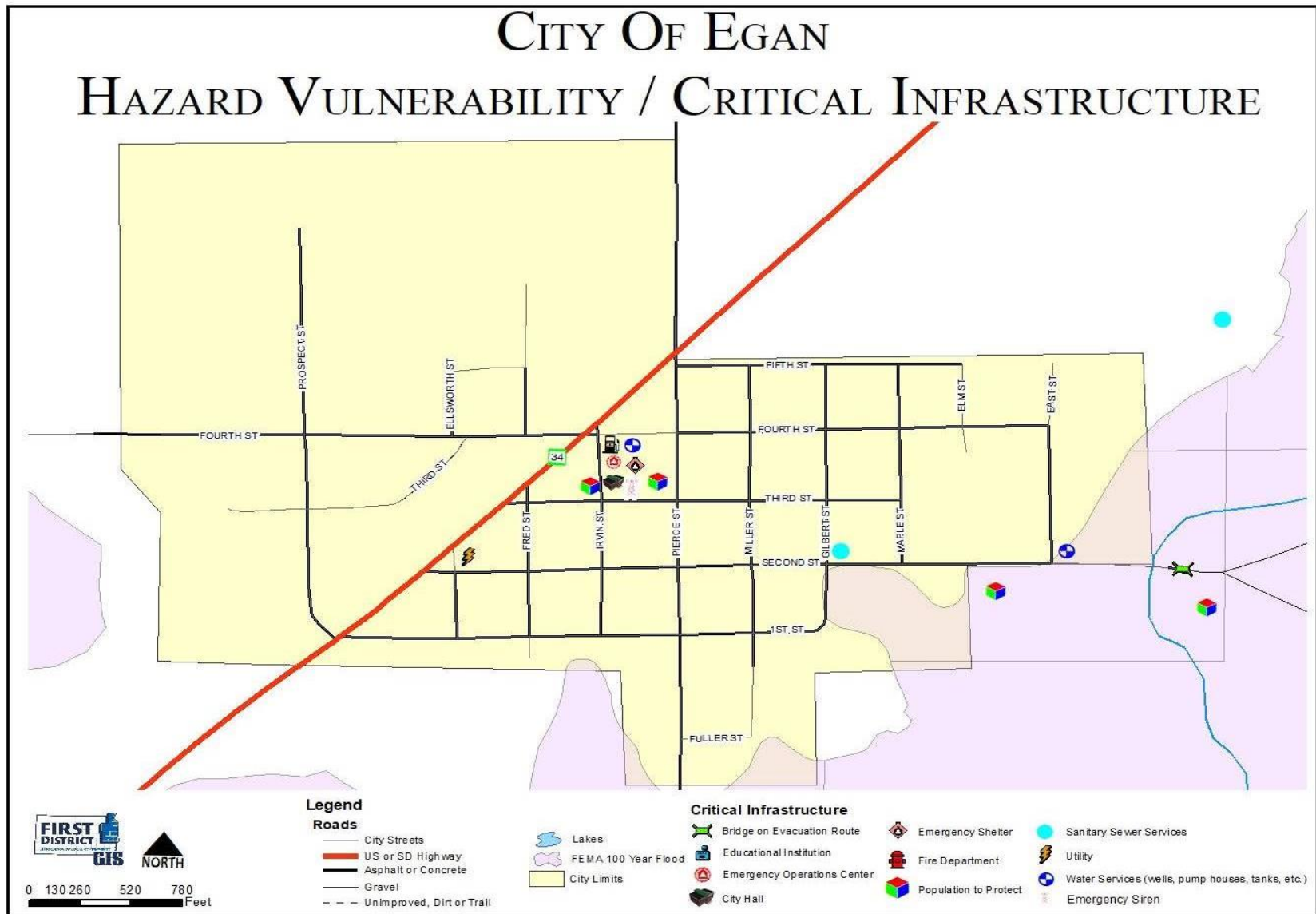


Figure 4.13: City of Flandreau Hazard Vulnerability Map

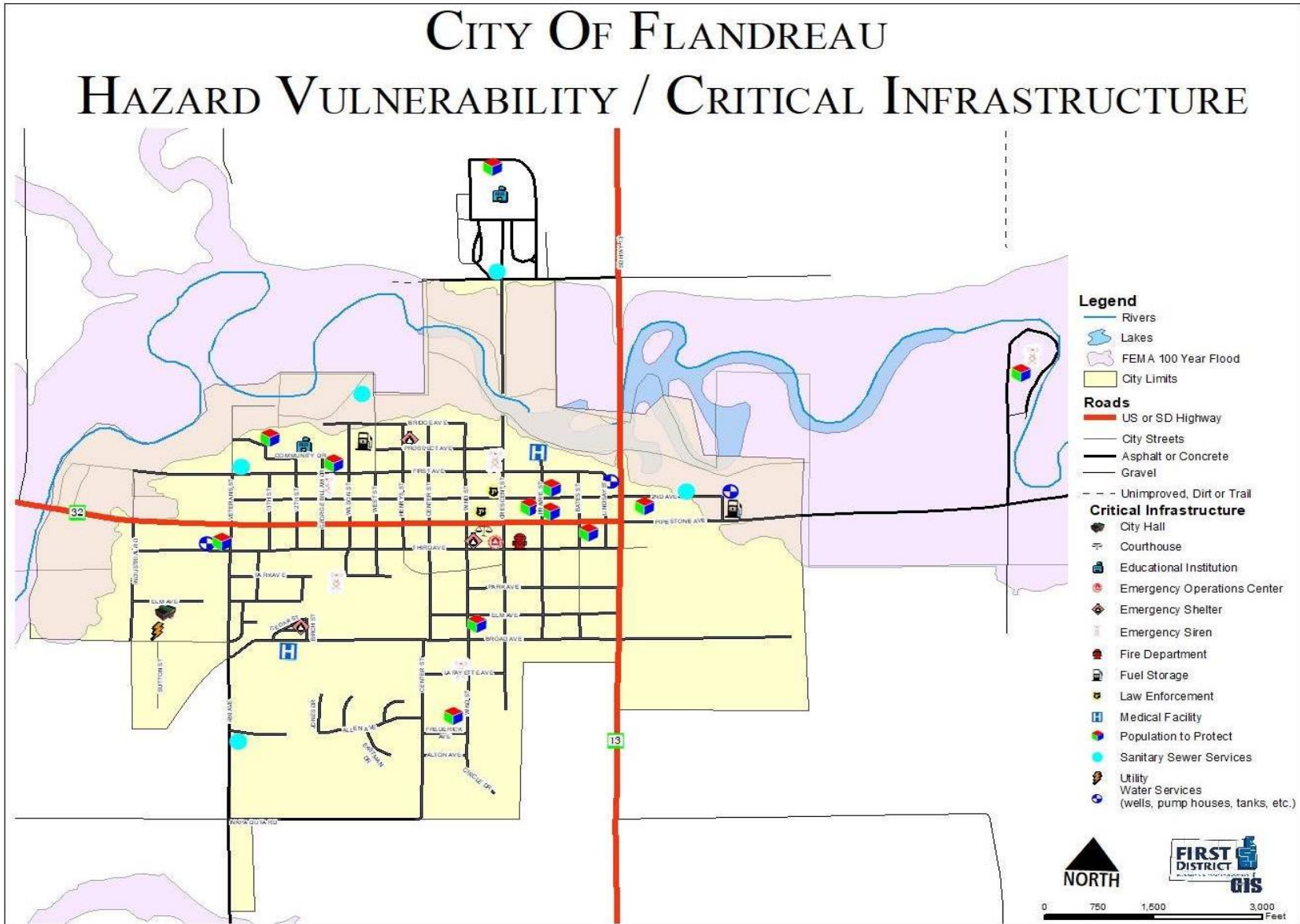


Figure 4.14: Town of Trent Hazard Vulnerability Map

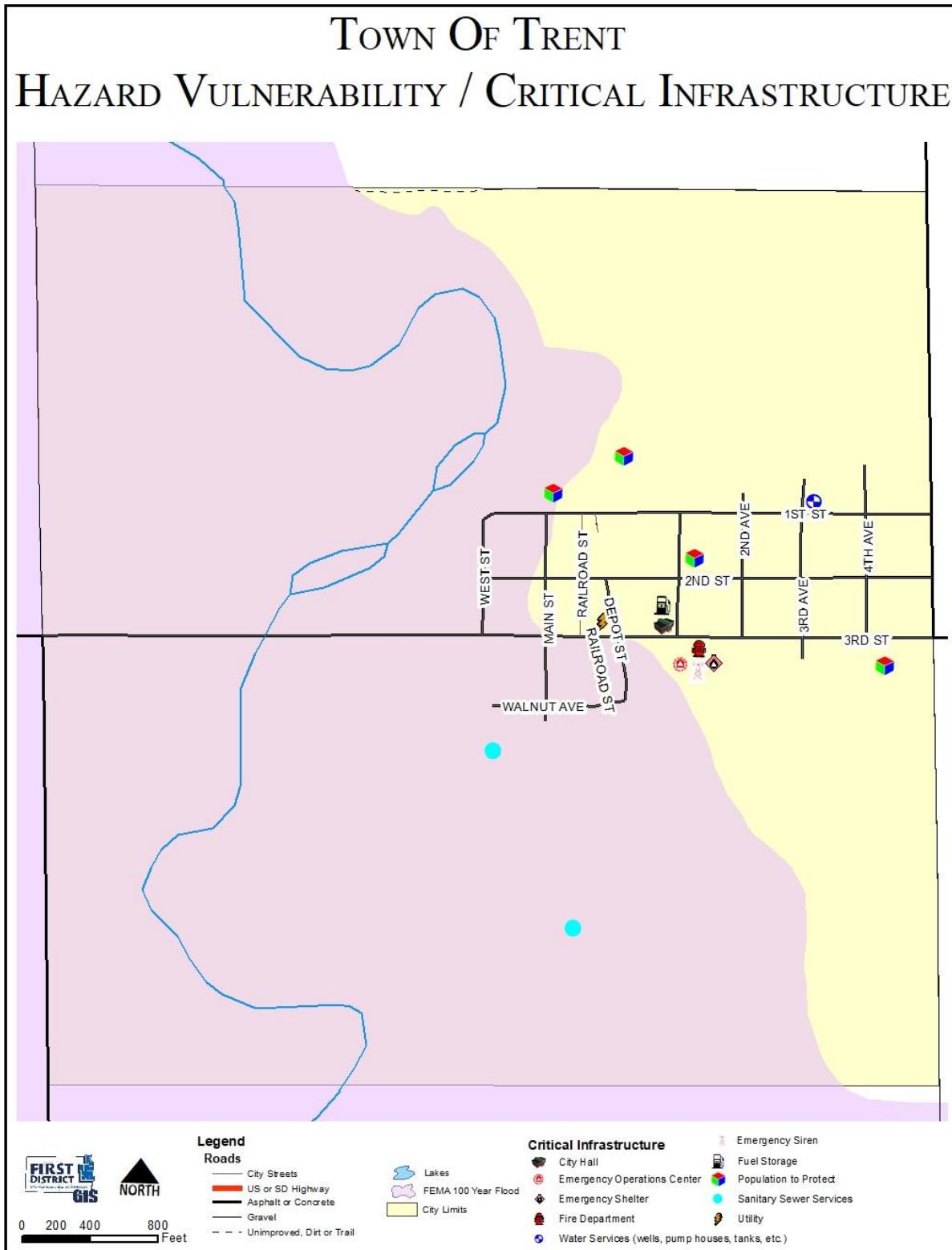
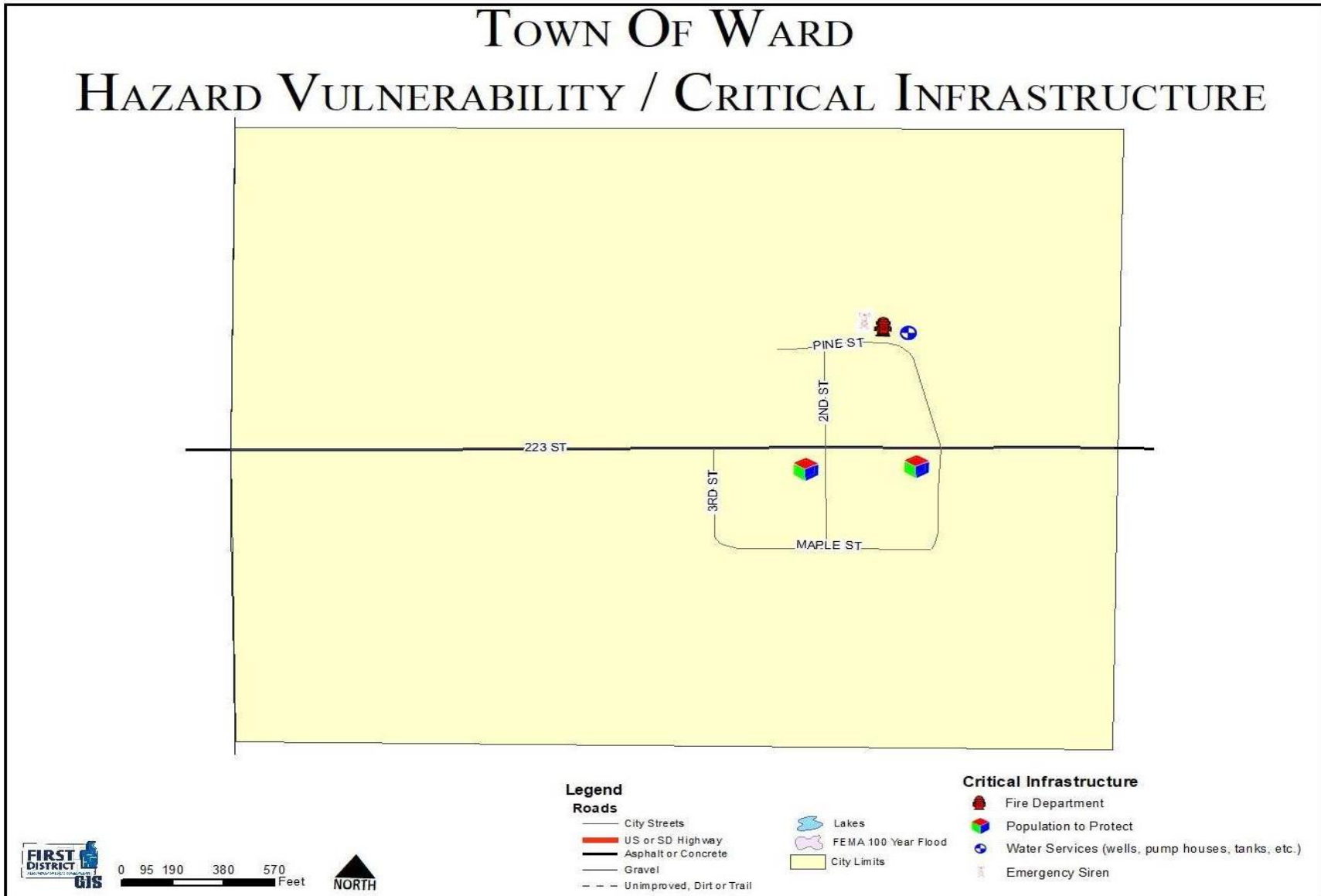


Figure 4.15: City of Ward Hazard Vulnerability Map





## 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 enhancing public awareness.

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-five. 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-five.

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

	Community Vuln. Score			
<b>Dam Failure</b>	None			
<b>Drought</b>	None			
<b>Extreme Cold</b>	Egan 45			
<b>Extreme Heat</b>	Colman 32	Egan 45		
<b>Flood</b>	Colman 28			
<b>Freezing Rain/Sleet/ Ice</b>	Colman 32	Egan 28	Flandreau 36	
<b>Hail</b>	Colman 32			
<b>Heavy Rain</b>	Colman 32	Egan 28	Flandreau 28	Trent 27
<b>Heavy Snow</b>	Colman 28	Egan 28		
<b>Ice Jam</b>	None			
<b>Lightning</b>	None			
<b>Rapid Snow Melt</b>	Egan 28			
<b>Strong Winds</b>	Colman 36	Egan 28	Flandreau 50	Ward 35
<b>Tornado</b>	Egan 32			
<b>Urban Fire</b>	Egan 32			
<b>Wild Fire</b>	None			

The PDM Planning Team began by reviewing the goals, objectives, and priorities of the 2019 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 Moody 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 Tables 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 5.13. Projects listed in Table 5.13 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 5.6.

## 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 Moody County from flooding due to heavy rain, rapid snow melt, and ice jams.

**Goal #2:** Educate and inform Moody 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 5.1)*
- *Actions/Projects to change the characteristics or impacts of flood hazards. (See Table 5.2)*
- *Actions to reduce loss potential of infrastructure to flood hazards. (See Table 5.3)*

## 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 5.4)*
- *Actions/Projects to change the characteristics or impacts of severe weather hazards. (See Table 5.5)*
- *Actions/Projects to reduce loss potential of infrastructure to severe weather hazards. (See Table 5.6)*

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

<b>Problem Statements</b>	<b>Actions</b>	<b>Colman</b>	<b>Egan</b>	<b>Flandreau</b>	<b>Trent</b>	<b>Ward</b>	<b>Moody County</b>
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	✓ 5-10 years	✓ 5-10 years	✓ 5-10 years
Residents are not eligible for flood insurance.	Begin participation in the National Flood Insurance Program.	<input checked="" type="checkbox"/> Participating				✓	<input checked="" type="checkbox"/> Participating
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.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	✓	<input checked="" type="checkbox"/>
Jurisdiction needs to continue to regulate minimum land use and development standards.	Continue enforcement of zoning and subdivision ordinances.	✓*	✓*	✓*	✓*	<input checked="" type="checkbox"/>	✓*
Jurisdiction has little legal mechanism to regulate drainage.	Developing a county/city drainage ordinance.						<input checked="" type="checkbox"/>

<b>Problem Statements</b>	<b>Actions</b>	<b>Colman</b>	<b>Egan</b>	<b>Flandreau</b>	<b>Trent</b>	<b>Ward</b>	<b>Moody County</b>
Jurisdiction needs to continue to regulate minimum construction standards.	Continue enforcement of building codes.	✓*	✓*	✓*	✓*	<input checked="" type="checkbox"/>	✓*
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**

<b>Problem Statements</b>	<b>Actions</b>	<b>Colman</b>	<b>Egan</b>	<b>Flandreau</b>	<b>Trent</b>	<b>Ward</b>	<b>Moody County</b>
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	✓ 5-10 years	✓ 5-10 years	✓ 5-10 years	✓ 5-10 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.	✓*	✓*	✓*	✓*	✓*	✓*

<b>Problem Statements</b>	<b>Actions</b>	<b>Colman</b>	<b>Egan</b>	<b>Flandreau</b>	<b>Trent</b>	<b>Ward</b>	<b>Moody County</b>
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**

<b>Problem Statements</b>	<b>Actions</b>	<b>Colman</b>	<b>Egan</b>	<b>Flandreau</b>	<b>Trent</b>	<b>Ward</b>	<b>Moody County</b>
Many roads and bridges were built prior to identification of flood hazard areas.	Replace and raise bridges.		✓ 5-10 years	✓ 5-10 years			✓
	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	Colman	Egan	Flandreau	Trent	Ward	Moody 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	Colman	Egan	Flandreau	Trent	Ward	Moody 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	Colman	Egan	Flandreau	Trent	Ward	Moody 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	Colman	Egan	Flandreau	Trent	Ward	Moody 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 Moody County.

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

- *Actions/Projects to reduce fire and drought risks through policy implementation.  
(See Table 5.7)*
- *Actions/Projects to change the characteristics or impacts of fire and drought hazards.  
(See Table 5.8)*
- *Actions to reduce loss potential of infrastructure to fire and drought hazards.  
(See Table 5.9)*

### **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 Moody 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 Moody County's jurisdictions, no mitigation activities are necessary.

### **General Mitigation Activities**

**Technological (See Table 5.10):**

**Planning (See Table 5.11):**

**Administration/Coordination (See Table 5.12)**

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

Problem Statements	Actions	Colman	Egan	Flandreau	Trent	Ward	Moody 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	Colman	Egan	Flandreau	Trent	Ward	Moody 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>Colman</b>	<b>Egan</b>	<b>Flandreau</b>	<b>Trent</b>	<b>Ward</b>	<b>Moody 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>Colman</b>	<b>Egan</b>	<b>Flandreau</b>	<b>Trent</b>	<b>Ward</b>	<b>Moody 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>Colman</b>	<b>Egan</b>	<b>Flandreau</b>	<b>Trent</b>	<b>Ward</b>	<b>Moody 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 5.13: Administration/Coordination Activities**

<b>Problem Statements</b>	<b>Actions</b>	<b>Colman</b>	<b>Egan</b>	<b>Flandreau</b>	<b>Trent</b>	<b>Ward</b>	<b>Moody 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 2019 plan were confirmed as the best aid the County for reducing and lessening the effects of natural hazards. Projects previously identified in the 2019 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 5.13 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 March of 2025, each individual township in Moody 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. 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

### Community Funds

- General fund (where “County” or “City” is listed below, (unless otherwise specified) the General Fund is the intended revenue source.)
- Enterprise funds

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

<b>MOODY COUNTY PROBLEM STATEMENTS</b>	<b>MOODY COUNTY ACTIONS</b>	<b>PRIORITY RATING</b>	<b>TIMEFRAME</b>	<b>CONTACT</b>	<b>COST/BENEFIT</b>	<b>FUNDING SOURCE</b>	<b>HAZARD</b>	<b>GOAL</b>
<i>There are many bridges in Moody County in a state of disrepair.</i>	<i>Reconstruct bridges and culverts.</i>	<i>High</i>	<i>Medium</i>	<i>Moody County Commission Assistant/ Highway Superintendent</i>	<i>Unknown</i>	<i>HMGP/COUNTY/SDDOT</i>	<i>Flooding, Heavy Rain, and Rapid Snow Melt</i>	<i>Protect Specific Areas of Moody County from floods.</i>
230 <sup>th</sup> Street is being undercut by Big Sioux River Channel and is in the floodway	Reinforce/relocated 230 <sup>th</sup> Street Near Flandreau Park Lat: N 044.049553, Long: W 096.564104	High	Short	Moody County Highway Superintendent	Reinforce = \$441k Move = \$1.4m/ Utilization of Park and continuation of 520 one-way vehicle trips per day	HMGP/COUNTY	Flooding, Heavy Rain, and Rapid Snow Melt	Protect Specific Areas of Moody County from floods.
Water sources become depleted during drought. <b>(All Jurisdictions)</b>	Support the establishment of Regional Water Supply (back-up) – similar to Lewis and Clark <b>(All Jurisdictions)</b>	Low	Long	Respective Finance Officer/ County Emergency Management Director	\$0/Project in exploratory-establishment phase	Private Funds	Drought/Urban fire/ wildfire, Extreme Heat/ Cold	Water sources become depleted during drought.
Decrease risk of fire during drought conditions	Establish policy of listing “Discussion/Potential Adoption of Burn Ban” on meeting agendas during abnormally dry conditions	High	Short	Emergency Management Director	Already within job duties of EM/Law Enforcement.	County General Fund	Drought/Wildfire	Reduce negative effects droughts have and incidence of wildfires in Hamlin County
Overhead power lines are vulnerable to loss of service or damage due to high winds and/or ice.	Bury or upgrade overhead power lines to make them more resistant to damage from ice	High	Medium	Utility Provider	Dependent on type of line and construction method/ reduce damage and prevent loss of power service	OEM/HMGP, USDA, Utility Funds	Severe Weather Hazards (summer and winter)	Reduce the extent to which utility interruptions affect areas during severe weather situations.

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/Urban fire/ wildfire	Water sources become depleted during drought.
Overhead power lines are vulnerable to loss of service or damage due to high winds and/or ice. <b>(All Jurisdictions)</b>	Bury power lines in heavy tree areas or rebuild/relocate overhead lines away from heavy tree areas <b>(All Jurisdictions)</b>	Medium	Medium	Utility Provider	Dependent on type of line and construction method/ reduce damage and prevent loss of power service	OEM/HMGP, USDA, Utility Funds	Severe Weather Hazards (summer and winter)	Reduce the extent to which utility interruptions affect areas during severe weather situations.
Overhead lines and support structures are vulnerable to flooding.	Bury or rebuild/relocate overhead power lines away from flood-prone areas	Medium	Medium	Utility Provider	Dependent on type of line and construction method/ reduce flood-related damage and prevent loss of power service	OEM/HMGP, USDA, Utility Funds	Flooding	Reduce the extent to which utility interruptions affect areas during flooding events caused by heavy rain, and rapid snow melt.
Communications Equipment is outdated and unreliable for fire departments	Test/Update/Replace communications equipment for volunteer fire departments <b>(All Jurisdictions)</b>	Medium	Short	Moody County Emergency Management	Dependent on equipment needs/ eliminate uncertainty of communication in fires	Homeland Security, County/City General Funds/ RFA/FP&S	Urban Fire and Wildfire	Increase fire-fighting capabilities.
<i>Expanded Campground and homes on Lake Campbell have no tornado safe room</i>	<i>Determine location and construct Tornado safe room on south side of Lake Campbell <b>(Moody County &amp; Brookings County)</b></i>	Medium	Medium	Moody County Emergency Management	\$300,000.00/ Sporadically occupied areas are protected from Tornado and other severe weather	HMGP/COUNTY	<i>Tornado, Hail, Strong Winds, Lightning</i>	
Storm sirens in need of replacement.	Monitor and evaluate the effectiveness of storm sirens within the County.	Low	Long	Moody County Emergency Management	Unknown	HMGP/CITY/COUNTY	Severe Weather Hazards (Summer and Winter)	Improve public safety during severe weather situations.

CITY OF COLMAN PROBLEM STATEMENTS	CITY OF COLMAN ACTIONS	PRIORITY RATING	TIMEFRAME	CONTACT	COST/BENEFIT	FUNDING SOURCE	HAZARD	GOAL
<i>The City needs a Tornado Safe Emergency Shelter.</i>	<i>Construction of Tornado Shelter, especially near heavy recreational areas (i.e. Golf Course).</i>	<i>Low</i>	<i>Medium</i>	<i>Colman Finance Officer</i>	<i>\$300,000.00/ Sporadically occupied areas are protected from Tornado and other severe weather</i>	<i>HMGP/CITY</i>	<i>Tornado, Hail, Strong Winds, Lightning</i>	<i>Improve public safety during severe weather.</i>
<i>Overhead lines are vulnerable to high winds and freezing rain/sleet/ice.</i>	<i>Continue burying overhead 3 Phase power lines in community.</i>	<i>High</i>	<i>Short</i>	<i>Colman Finance Officer</i>	<i>\$200,000/ provide reliable utility services and continuation of community service during extreme weather events</i>	<i>HMGP/CDBG RD/CITY</i>	<i>Severe Weather Hazards (Summer &amp; Winter), Strong Winds, Extreme Heat, Extreme Cold</i>	<i>Reduce the extent to which utility interruptions affect areas during severe weather situations.</i>
<i>Urban development has exceeded capacity &amp; capability of stormwater mgt system. Areas of city are prone to flooding in heavy rain or rapid snow melt.</i>	<i>Study and implement storm water drainage improvements, such as curb &amp; gutter, throughout the community.</i>	<i>High</i>	<i>Short</i>	<i>Colman Finance Officer</i>	<i>\$256,000/Manage water flow through town in flood events</i>	<i>DANR/HMGP/ CITY/CDBG</i>	<i>Flooding, Heavy Rain, and Rapid Snow Melt</i>	<i>Protect Specific Areas of Moody County from floods.</i>
<i>City lacks ability to keep up with preventative maintenance as machinery ages out.</i>	<i>Purchase new pickup and other equipment to replace outdated ones.</i>	<i>Low</i>	<i>Long</i>	<i>Colman Finance Officer</i>	<i>\$30,000</i>	<i>CITY</i>	<i>Severe Weather Hazards (Summer &amp; Winter)</i>	<i>Improve public safety during severe weather.</i>

CITY OF EGAN PROBLEM STATEMENTS	CITY OF EGAN ACTIONS	RATING	TIMEFRAME	CONTACT	COST/BENEFIT	FUNDING SOURCE	HAZARD	GOAL
<i>The City needs a Tornado Safe Emergency Shelter.</i>	<i>Construction of Tornado Shelter.</i>	<i>Low</i>	<i>Long</i>	<i>Egan Finance Officer</i>	<i>\$250,000.00/Older residences, manufactured homes and variably occupied recreational uses require shelter in tornado and other severe weather.</i>	<i>HMGP</i>	<i>Tornado, Hail, Strong Winds, Lightning</i>	<i>Improve public safety during severe weather.</i>
<i>Capacity/capability of current stormwater mgt system is outdated. Areas of City, specifically Main Street, prone to flooding in heavy rain or rapid snow melt.</i>	<i>Study and implement new stormwater management system with upgraded curb/gutter, new culverts, and proper grading for drainage throughout City, specifically on Main Street.</i>	<i>Medium</i>	<i>Long</i>	<i>Egan City Council</i>	<i>\$200,000/ Manage water flow through town in flood events (particularly in southeast)</i>	<i>DANR/HMGP/ City/CDBG</i>	<i>Flooding, Heavy Rain, and Rapid Snow Melt</i>	<i>Protect Specific Areas of Moody County from floods.</i>
<i>Overhead lines are vulnerable to high winds and freezing rain/sleet/ice.</i>	<i>Bury all 3 Phase power lines in community.</i>	<i>High</i>	<i>Short</i>	<i>Egan Finance Officer</i>	<i>\$200,000/ provide reliable utility services and continuation of community service during extreme weather events</i>	<i>HMGP/CDBG RD/CITY</i>	<i>Severe Weather Hazards (summer and winter), Strong Winds, Extreme Heat, Extreme Cold</i>	<i>Reduce the extent to which utility interruptions affect areas during severe weather situations.</i>

Lift Station is prone to water inundation during flash flood events.	Replace completely or implement upgrades to existing lift station, such as elevating the area.	Medium	Medium	Egan Finance Officer	\$150,000/ provide continuation of sewer services during flood events	DANR/HMGP/ CITY/CDBG	Flooding, Heavy Rain, and Rapid Snow Melt	Reduce the extent to which utility interruptions affect areas during flooding events.
The city's sanitary sewer lagoons are prone to water inundation during flood events.	Install berms around lagoons.	Low	Long	Egan Finance Officer	\$30,000/Ensure lagoons to not over-top in flood events.	DANR/ CITY/CDBG	Flooding, Heavy Rain, and Rapid Snow Melt	Reduce the extent to which utility interruptions affect areas during flooding events.
<b>CITY OF FLANDREAU PROBLEM STATEMENTS</b>	<b>CITY OF FLANDREAU ACTIONS</b>	<b>RATING</b>	<b>TIMEFRAME</b>	<b>CONTACT</b>	<b>COST/BENEFIT</b>	<b>FUNDING SOURCE</b>	<b>HAZARD</b>	<b>GOAL</b>
Structures constructed in the floodplain prior to identification of flood hazard areas.	Acquisition of structures located in the floodplain or floodway.	Medium	Long	Flandreau City Manager	\$220,000/Eliminate cycle of disaster then recovery on floodprone structures and in the floodway	HMGP/Private	Flooding, Heavy Rain, and Rapid Snow Melt	Reduce the extent to which utility interruptions affect areas during flooding events.
Development has exceeded capacity/capability of stormwater mgt system. Areas of city are prone to flooding in heavy rain or rapid snow melt.	Implement Drainage Improvements Including Storm Sewer in multiple areas of community.	Medium	Medium	Flandreau City Manager	\$2,000,000/ Manage water flow through town in flood events	HMGP/DANR CDBG/RD/CITY	Flooding, Heavy Rain, and Rapid Snow Melt	Protect Specific Areas of Moody County from floods.

<i>Public is unfamiliar with certain disaster preparation measures.</i>	<i>Educate public on use and enrollment in the City's emergency alert system.</i>	<i>High</i>	<i>Short</i>	<i>Flandreau City Manager</i>	<i>Existing staff can perform this duty</i>	<i>HMGP/CITY</i>	<i>All</i>	<i>Increase public awareness and education on severe weather issues.</i>
Community does not have reliable ambulance emergency services.	Purchase existing ambulance service.	High	Short	<i>Flandreau City Manager</i>	\$400,000/Improve emergency services for residents during hazards	<i>RFA/FP&amp;S/CDBG/RD/CITY</i>	All	Improve public safety during severe weather events.
Overhead lines are vulnerable to high winds and freezing rain/sleet/ice.	Bury all transmission lines in community.	Medium	Medium	Flandreau City Manager	<i>\$200,000/ provide reliable utility services and continuation of community service during extreme weather events</i>	HMGP/CDBG RD/CITY	Severe Weather Hazards (summer and winter), <i>Strong Winds, Extreme Heat, Extreme Cold</i>	Reduce the extent to which utility interruptions affect areas during severe weather situations.
Substation and transformers are out of date and do not provide reliable power during weather events.	Upgrade substations, generators, and transformers to provide consistent power.	Medium	Medium	Flandreau City Manager	<i>\$200,000/provide reliable utility services and continuation of community service during extreme weather events</i>	CDBG RD/CITY	Severe Weather Hazards (summer and winter), <i>Strong Winds, Extreme Heat, Extreme Cold</i>	Reduce the extent to which utility interruptions affect areas during severe weather situations.
Big Sioux River bank stability is at risk due to erosion & flooding.	Install riprap to improve bank stabilization in City Park.	High	Short	Flandreau City Manager	\$60,000/prevent loss of community owned property on the banks of the Big Sioux River	<i>HMGP/DANR CDBG/RD/CITY</i>	<i>Flooding, Heavy Rain, and Rapid Snow Melt</i>	<i>Protect Specific Areas of Moody County from floods.</i>

Recreational areas are subject to flooding during heavy rain or rapid snow melt.	Implement dam improvements to improve safety & decrease overflow flooding in recreational areas.	Low	Long	Flandreau City Manager	\$200,000/Reinforce flood control / water management structures out of caution	DANR CDBG/RD/CITY	Flooding, Heavy Rain, and Rapid Snow Melt	Protect Specific Areas of Moody County from floods.
<b>TOWN OF TRENT PROBLEM STATEMENTS</b>	<b>TOWN OF TRENT ACTIONS</b>	<b>RATING</b>	<b>TIMEFRAME</b>	<b>CONTACT</b>	<b>COST/BENEFIT</b>	<b>FUNDING SOURCE</b>	<b>HAZARD</b>	<b>GOAL</b>
The Town needs to upgrade existing storm siren system.	Upgrade storm siren system.	Low	Long	Trent Finance Officer	\$25,000/Limit risk of physical damage to population due to being unaware of eminent danger	HMGP/CITY	Tornado, Hail, Strong Winds, Lightning	Improve public safety during severe weather situations.
Overhead lines are vulnerable to high winds and freezing rain/sleet/ice	Bury 3 Phase power lines in community.	Low	Long	Trent Finance Officer/ Ottertail	\$300,000/ provide reliable utility services and continuation of community service during extreme weather events	HMGP/CDBG RD/CITY	Severe Weather Hazards (summer and winter), Strong Winds, Extreme Heat, Extreme Cold	Reduce the extent to which utility interruptions affect areas during severe weather situations.
The Town needs a Tornado Safe Emergency Shelter.	Construction of Tornado Shelter.	Low	Long	Trent Finance Officer	\$250,000.00/ Older residences, manufactured homes and variably occupied recreational uses require shelter in tornado and other severe weather.	HMGP/CITY	Tornado, Hail, Strong Winds, Lightning	Improve public safety during severe weather.
The third cell of town's sanitary sewer lagoon is prone to inundation in flood events.	Increase Capacity of Sanitary Sewer Lagoon with higher free-board (Berms)	High	Short	Trent Finance Officer	\$150,000/ Ensure lagoons to not over-top in flood events.	DANR/HMGP/TOWN/	Flooding, Heavy Rain, and Rapid Snow Melt	Improve public safety during severe weather.

<i>Urban development has exceeded capacity/capability of stormwater mgt system. Areas of city are prone to flooding in heavy rain or rapid snow melt.</i>	<i>Study and implement stormwater drainage sewer improvements.</i>	<i>Medium</i>	<i>Medium</i>	<i>Trent Finance Officer</i>	<i>\$400,000/Drastically decrease the number of residences and structures within Flood Hazard Areas</i>	<i>DANR/HMGP/ City/CDBG</i>	<i>Flooding, Heavy Rain, and Rapid Snow Melt</i>	<i>Protect Specific Areas of Moody County from floods.</i>
<i>Infrastructure does not have capacity to service citizen's water needs, as well as be prepared for a fire.</i>	<i>Install new water tower with a greater capacity..</i>	<i>Medium</i>	<i>Medium</i>	<i>Trent Finance Officer</i>	<i>\$1,000,000/Provide reliable water source during fire and high water usage</i>	<i>DANR/HMGP/ City/CDBG</i>	<i>Urban fire, Wild fire, drought, extreme heat</i>	<i>Protect Specific Areas of Moody County from floods.</i>
<i>Community lacks infrastructure to manage or put out fires.</i>	<i>Test and replace out of date fire hydrants.</i>	<i>High</i>	<i>Short</i>	<i>Trent Finance Officer</i>	<i>\$500,000/Improve fire safety throughout town</i>	<i>RFA/FP&amp;S /HMGP/ City/CDBG</i>	<i>Urban fire, Wild fire</i>	<i>Protect Specific Areas of Moody County from floods.</i>
<i>Fire department lacks necessary equipment to protect community from fires.</i>	<i>Purchase firefighting equipment, specifically water bladder (fills trucks with water) and hook and ladder fire truck.</i>	<i>High</i>	<i>Short</i>	<i>Trent Finance Officer/Fire Chief</i>	<i>\$750,000/Improve fire safety throughout town and rural service area of Fire Department</i>	<i>RFA/FP&amp;S/HMGP/ City/CDBG</i>	<i>Flooding, Heavy Rain, and Rapid Snow Melt</i>	<i>Protect Specific Areas of Moody County from floods.</i>

CITY OF WARD PROBLEM STATEMENTS	TOWN OF WARD ACTIONS	RATING	TIMEFRAME	CONTACT	COST/BENEFIT	FUNDING SOURCE	HAZARD	GOAL
<i>Overhead lines are vulnerable to high winds and freezing rain/sleet/ice.</i>	<i>Bury 3 Phase power lines in and leading to community.</i>	<i>Low</i>	<i>Long</i>	<i>Ward Finance Officer / Ottertail</i>	<i>\$25,000/ provide reliable utility services and continuation of community service during extreme weather events</i>	<i>TOWN/REED/USDA/HMGP</i>	<i>Severe Weather Hazards (Summer and Winter) , Strong Winds, Extreme Heat, Extreme Cold</i>	<i>Reduce the extent to which utility interruptions affect areas during severe weather situations.</i>
<i>Water lines are inadequate for sustainable fire suppression.</i>	<i>Construct new water lines within portions of the community.</i>	<i>High</i>	<i>Medium</i>	<i>Ward Finance Officer</i>	<i>\$200,000 /provide reliable water services and continuation of community service during extreme weather events</i>	<i>TOWN/REED/USDA/ DANR/CDBG</i>	<i>Urban fire, wild fire, drought, extreme cold</i>	<i>Increase fire-fighting capabilities.</i>
<i>The Town needs a Tornado Safe Emergency Shelter.</i>	<i>Construction of Tornado Shelter.</i>	<i>Low</i>	<i>Long</i>	<i>Ward Finance Officer</i>	<i>\$250,000.00/ Older residences, manufactured homes and variably occupied recreational uses require shelter in tornado and other severe weather.</i>	<i>HMGP/TOWN</i>	<i>Tornado, Hail, Strong Winds, Lightning</i>	<i>Improve public safety during severe weather.</i>
<i>Pump house &amp; water system plumbing are outdated and cannot maintain demand.</i>	<i>Install new pump house and upgrade plumbing to 100-year-old water system.</i>	<i>Medium</i>	<i>Long</i>	<i>Ward Finance Officer</i>	<i>\$2,500,000/ provide reliable water services and continuation of community service during extreme weather events</i>	<i>DANR/ TOWN/CDBG</i>	<i>Flooding, Heavy Rain, and Rapid Snow Melt, Extreme Heat, Extreme Cold, Wild Fire, Drought, Urban Fire</i>	<i>Protect Specific Areas of Moody County from floods.</i>

Figure 5.1: Moody County Potential Mitigation

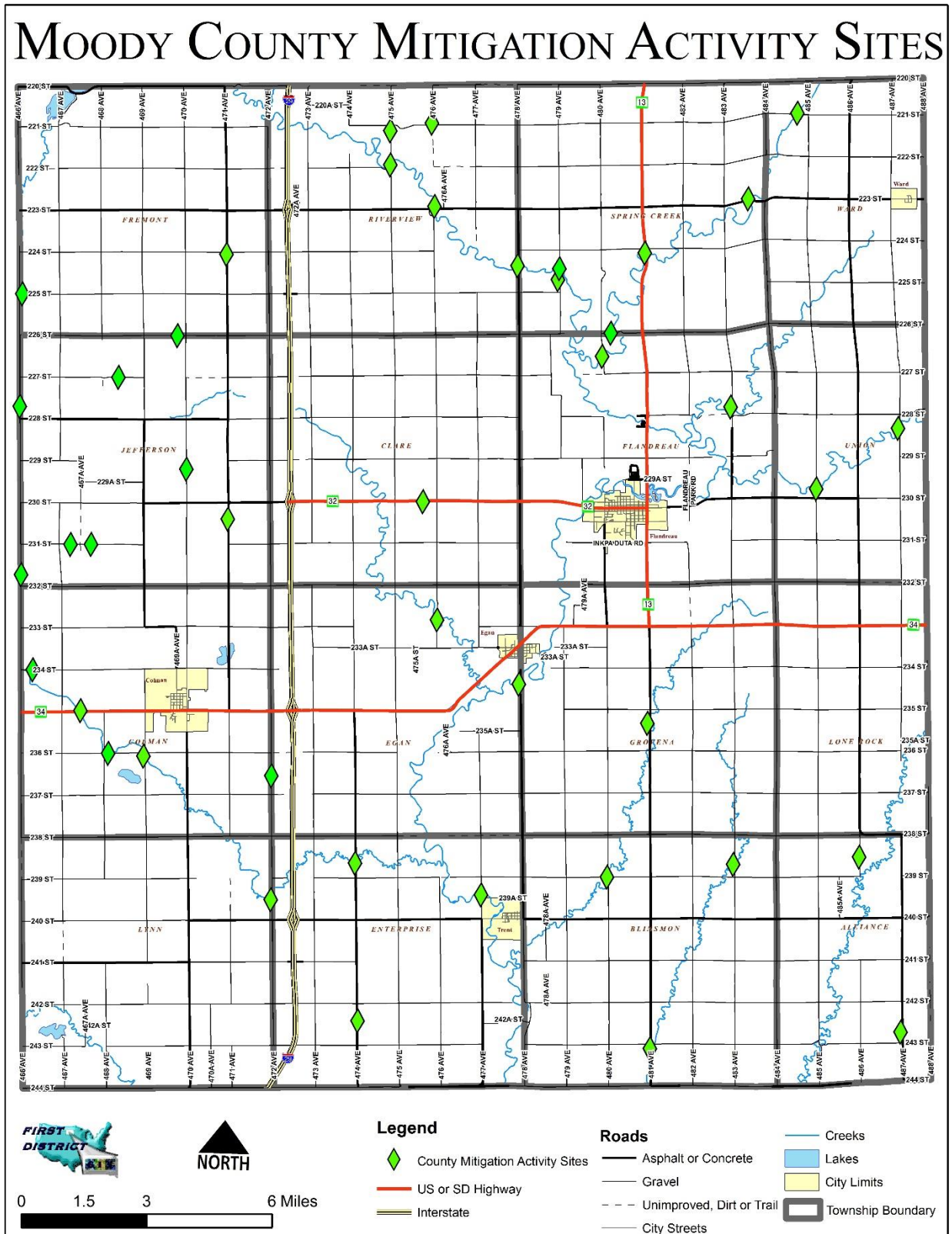


Figure 5.2: City of Colman Potential Mitigation

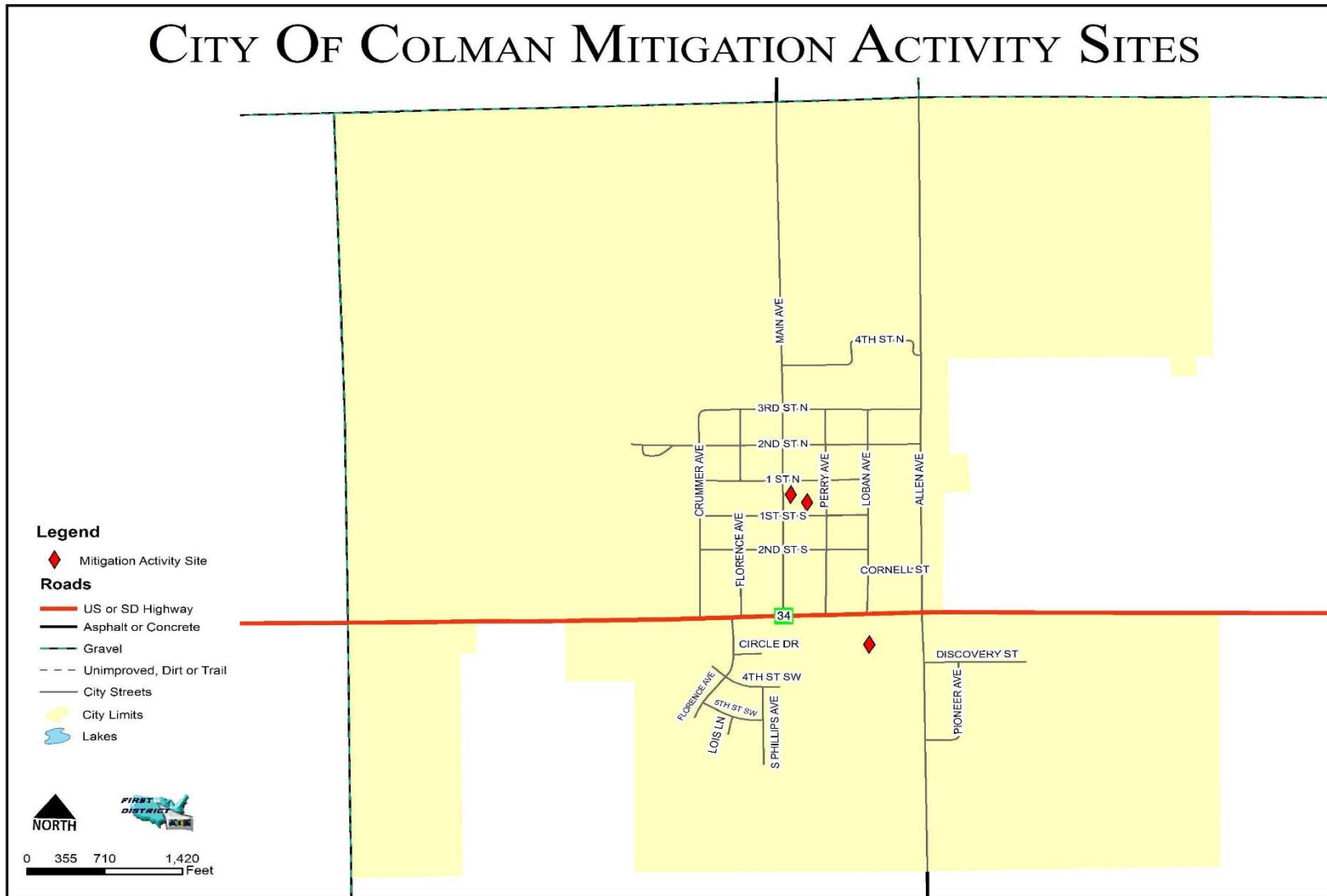


Figure 5.3: City of Egan Potential Mitigation Project Map

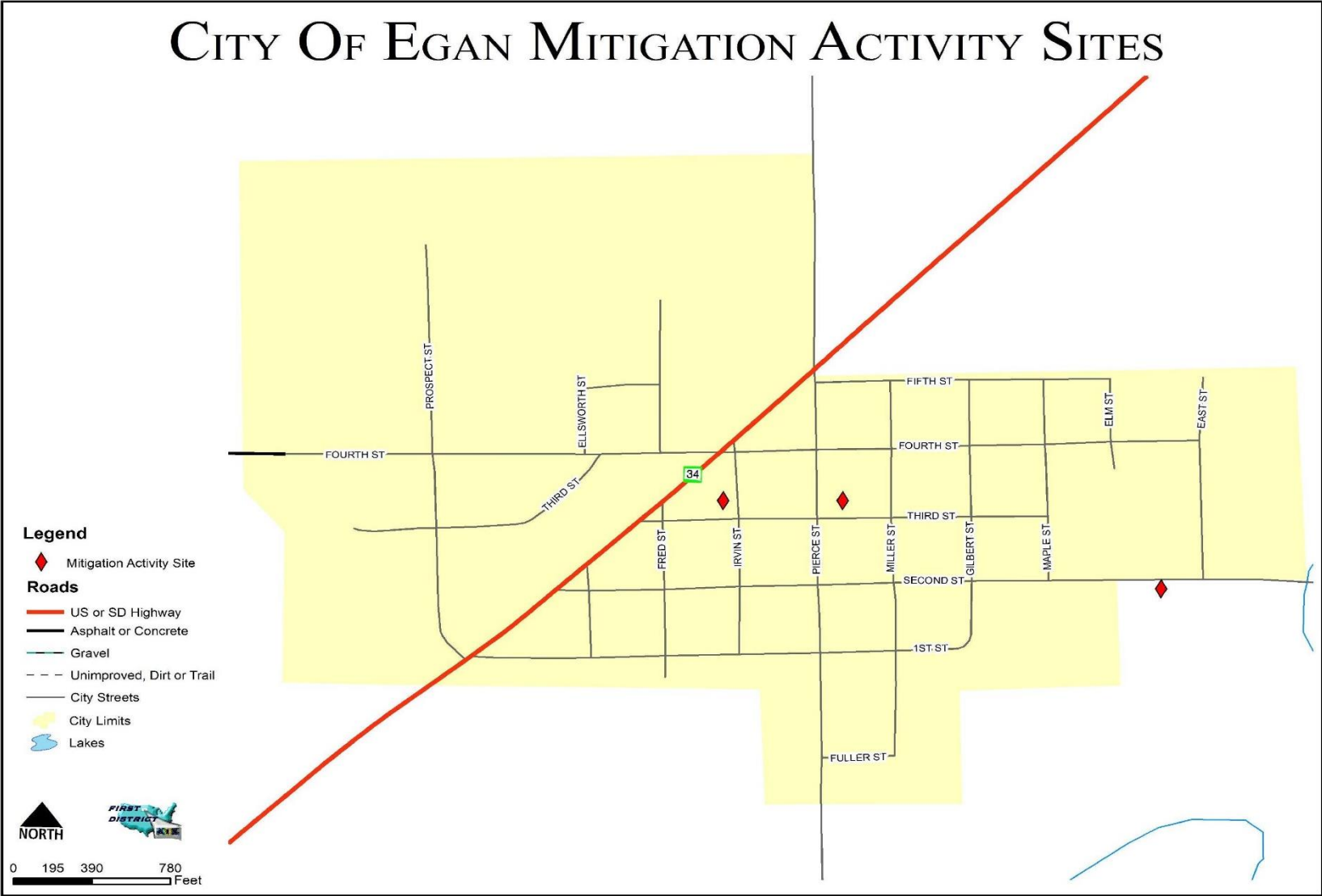




Figure 5.5: Town of Trent Potential Mitigation Project Map

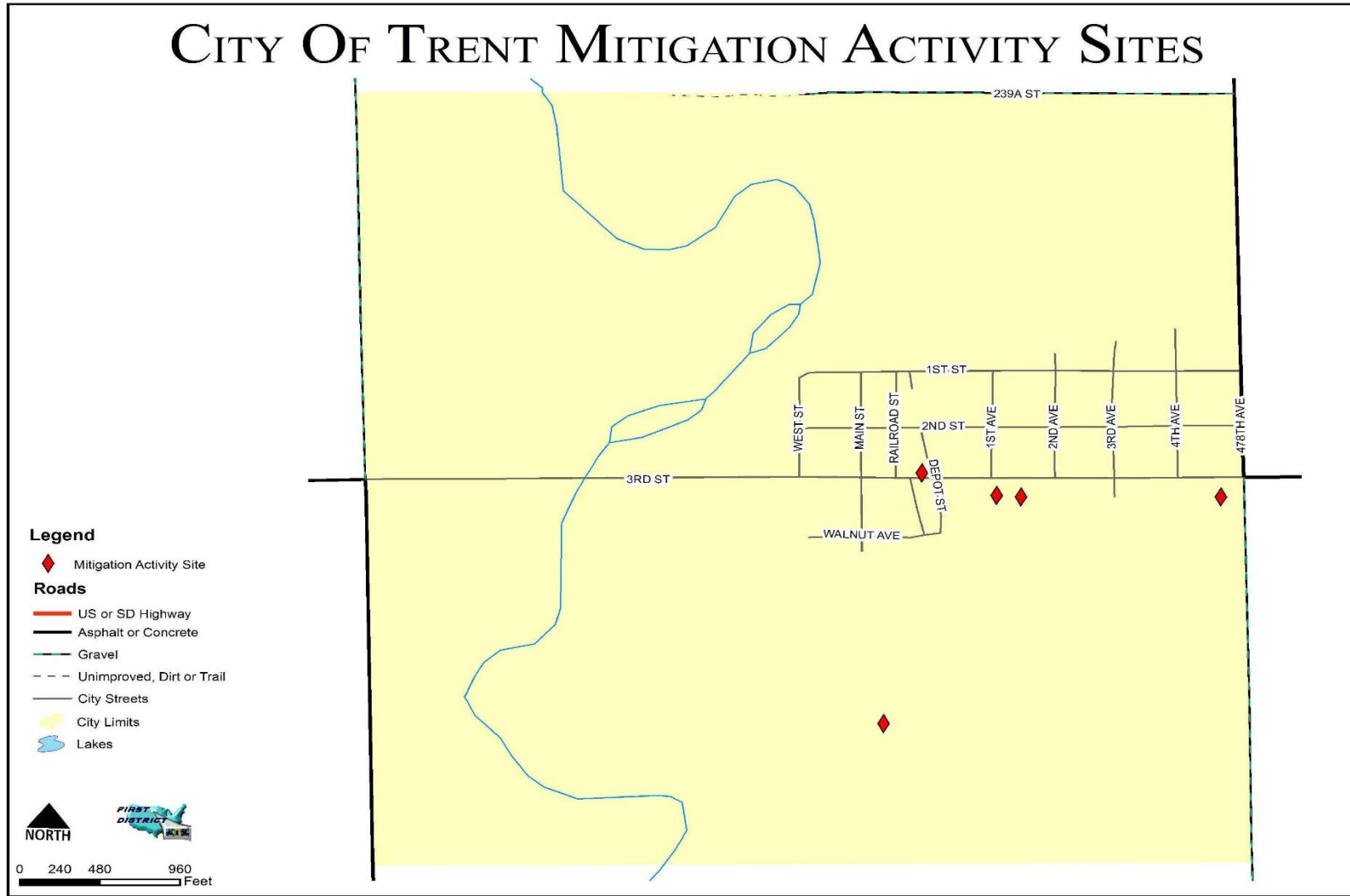
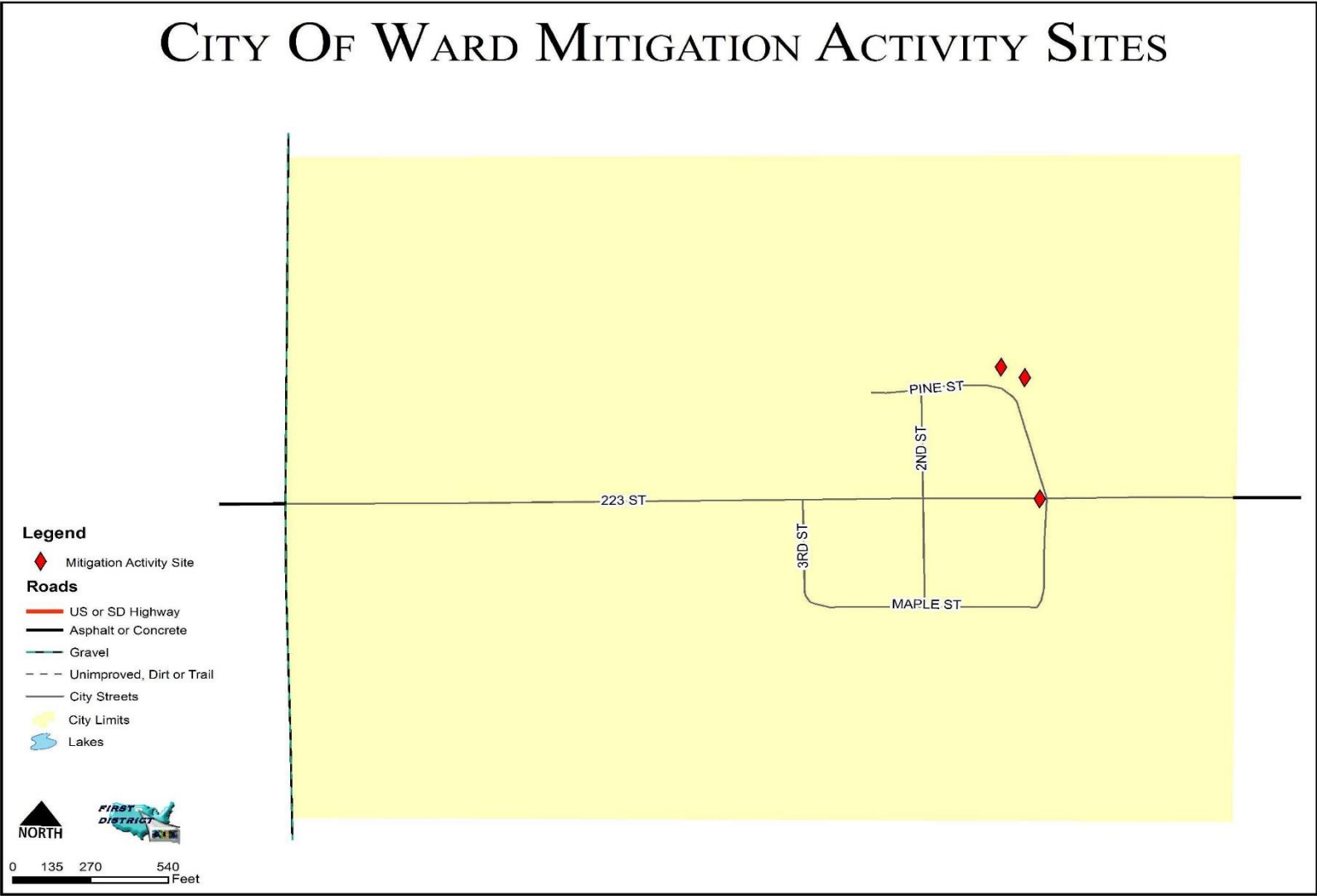


Figure 5.6: City of Ward Potential Mitigation Project Map



## **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 Moody 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 2019 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 2019 PDM update process. Similarly, the 2019 PDM plan was referenced during the drafting process for the current 2024 Moody County PDM plan.

As previously noted, since 2019 (adoption of last PDM Plan), Moody County and the City of Flandreau have adopted Comprehensive updates to their zoning ordinances. Just prior to the previous update, the City of Colman adopted comprehensive updates to its Zoning Ordinance and future land use maps. All 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. Moody County and the City of Egan determined that updates to its land use plan and ordinance should be considered prior to the next update to this plan.

While reviewing those ordinances and changes at publicly noticed meetings, Moody County, Colman, Egan, Flandreau, and Trent chose to prioritize the adoption of updated special flood hazard areas as soon as possible. Most will be in place and compliant by the time this PDM Plan

is adopted 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.

Updates have been made to the Hazardous Materials Plan and Emergency Operations Plan since 2019. 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 2019 Plan. Thus, changes have not been made to other planning mechanisms to incorporate the 2024 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 Moody 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 Moody County Emergency Management Office located in the Moody 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 Moody 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 Moody 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 towards 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 &amp; 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 award 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: Building Resilient Infrastructure and Communities Grant Program**

Agency: Federal Emergency Management Agency

The Building Resilient Infrastructure and Communities (BRIC) grant program supports states, local communities, tribes, and territories as they undertake hazard mitigation projects to reduce risks from disasters and natural hazards. BRIC replaced the Pre-Disaster Mitigation (PDM) program. The new program is authorized by Section 203 of the Stafford Act.

The BRIC program aims to categorically shift the federal focus away from reactive disaster spending and toward proactive investment in community resilience. Focus is placed on mitigation activities that emphasize infrastructure projects benefiting disadvantaged communities, nature-based solutions, climate resilience and adaptation, and adopting hazard resistant building codes.

As a competitive annual grant program, applicants can apply on a yearly basis. Individuals, businesses, and non-profit organizations are not eligible to apply for BRIC funds; however local governments can apply on their behalf.

HMGP can fund up to 75% of the eligible costs for hazard mitigation activities. The local cost-share match does not need to be cash; in-kind services or materials may also be used. FEMA will provide 100% federal funding for management costs. FEMA may fund up to 90% of eligible mitigation activity costs for small, impoverished communities or disadvantaged rural communities.

**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
- \* Draining & irrigation channels
- \* Schools, city halls & other buildings
- \* Water, power & sanitary systems
- \* Airports & parks

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
- \* Hospitals & clinics
- \* Volunteer fire & ambulance
- \* Power cooperatives & other utilities
- \* Custodial care & retirement facilities
- \* 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 2019 PDM Mitigation Project Implementation**

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

**Appendix J – References**

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

## Moody County

**City of Colman**

## City of Egan

## City of Flandreau

**Town of Trent**

**City of Ward**

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

**Pre-Disaster Mitigation Team Mailing List  
(Including Adjoining County Emergency Managers)**

	<b>Name</b>	<b>Position</b>	<b>Phone #</b>	<b>Email Address</b>
Colman	Maria Groos	Finance Officer	605-534-3611	<a href="mailto:cityofcolman@iw.net">cityofcolman@iw.net</a>
Egan	Kayla Charles	Finance Officer	605-997-2274	<a href="mailto:egancity@mcisweb.com">egancity@mcisweb.com</a>
<u>Flandreau</u>	Cohl Turnquist	City Administrator	605-997-2492	<a href="mailto:cohltturnquist@cityofflandreau.com">cohltturnquist@cityofflandreau.com</a>
<u>Flandreau</u>	Lori Kneebone	Finance Officer	605-997-2492	<a href="mailto:lkneebone@cityofflandreau.com">lkneebone@cityofflandreau.com</a>
Trent	Kim Nelson	Finance Officer	605-428-5160	<a href="mailto:trenttown@siouxvalley.net">trenttown@siouxvalley.net</a>
Ward	Charity Kuehl	Finance Officer	605-542-8791	<a href="mailto:ckuehl65@gmail.com">ckuehl65@gmail.com</a>
Moody County	Tawny Heineman	Auditor	605-997-3161	<a href="mailto:tawnyh@moodycounty.net">tawnyh@moodycounty.net</a>
Moody County	Marty Scroch	Commission Assistant		<a href="mailto:martys@moodycounty.net">martys@moodycounty.net</a>
Moody County	Jerrick Charles	Emergency Management Dir	605-997-3251	<a href="mailto:mcem@moodycounty.net">mcem@moodycounty.net</a>
Moody County	Troy Wellman	Sheriff	605-997-2423	<a href="mailto:sheriff@moodycounty.net">sheriff@moodycounty.net</a>
Moody County	Andy Muller	Highway Superintendent	605-997-2832	<a href="mailto:mchd2@iw.net">mchd2@iw.net</a>
Elected officials	(ask finance officers and assistants to forward invitation to mayors, councils, and commissioners)			
Moody County	Kaelob Storms	LEPC Chairperson	605-997-2423	<a href="mailto:kstorms@moody.sd.gov">kstorms@moody.sd.gov</a>
Colman	Bruce Cramer	LEPC Secretary	605-534-9862	<a href="mailto:colmanfire@hotmail.com">colmanfire@hotmail.com</a>
Big Sioux Water	Jodi Johanssen	General Manager	605-997-2098	<a href="mailto:Jodi@bigsiouxwvs.com">Jodi@bigsiouxwvs.com</a>
Flandreau	Don Peters	Flandreau Fire Chief	605-864-0028	<a href="mailto:donp@patriot-electricinc.com">donp@patriot-electricinc.com</a>
Colman	Jason Landis	Colman Fire Chief	605-530-2205	<a href="mailto:jasonlan5@yahoo.com">jasonlan5@yahoo.com</a>
Trent	Tom Scherff	Trent Fire Chief	605-360-5970	<a href="mailto:tscherff@siouxvalley.net">tscherff@siouxvalley.net</a>
Sioux Valley Energy	Michele Nielsen	Engineering Manager	605-256-1671	<a href="mailto:michele.nielson@siouxvalleyenergy.com">michele.nielson@siouxvalleyenergy.com</a>
Moody County Area	Scott Ganschow	Director	605-573-3668	<a href="mailto:seethegunshow@yahoo.com">seethegunshow@yahoo.com</a>
State of South Dakota	Jim Poppen	Hazard Mitigation Officer	605-773-3231	<a href="mailto:jim.poppen@state.sd.us">jim.poppen@state.sd.us</a>
Flandreau Santee	Mark Allen	FSST Emergency Management	605-997-5123	<a href="mailto:mallen@fsst.org">mallen@fsst.org</a>
Colman/Egan	Scott Hemmer	Superintendent	605-534-3534	<a href="mailto:scott.hemmer@k12.sd.us">scott.hemmer@k12.sd.us</a>
Flandreau	Rick Weber	Superintendent	605-997-3263	<a href="mailto:rick.weber@k12.sd.us">rick.weber@k12.sd.us</a>

## PDM Participation Invitation Letter

To Whom It May Concern:

In June of 2020, Moody County (County) received notification from the Federal Emergency Management Agency (FEMA) that its 2020 Pre-disaster Mitigation Plan (Plan) had been approved. 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 Moody 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 Thursday, March 27, 2025**. The meeting will be held in Farmers Room at the Moody County Courthouse 101 East Pipestone Avenue, Flandreau, South Dakota.

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

Sincerely,

Jerrick Charles  
Director  
Moody County Emergency Management  
(605) 997-3251

## **PDM Team Kickoff Meeting Notice**

### **Moody County Pre-disaster Mitigation Plan Meeting**

Moody County will begin the process of updating the Moody 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 Thursday, March 27<sup>th</sup>, 2025 in the Farmers Room of the Moody County Courthouse located at 101 East Pipestone Avenue, Flandreau, South Dakota. The public is welcome to attend. Questions or comments may be directed to Moody County Emergency Manager, Jerrick Charles (605) 997-3251.

**Moody County  
Pre-Disaster Mitigation Plan Kickoff Meeting  
Noon - March 27, 2025  
Moody County Courthouse (Farmers Room)  
101 East Pipestone Avenue, Flandreau, South Dakota**

Agenda

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

**MOODY COUNTY PRE-DISASTER MITIGATION PLANNING MEETING**

**PDM PLANNING TEAM - KICK-OFF MEETING**

**March 27, 2025**

Name	Organization
Luke Muller	1st District
Bruce Crumov	Colman FD
Kelli Hennicks	1st Dist of Local Govt
Kauldo Storms	MCSO
JERRICK CHARLES	EM
Kayla Orvick	Egan SD
Andy Muller	Moody County
Misty Storch	moody County
Jerry Doyle	County Moody
Troy Wellman	Sheriff
Nancy Hansen	Egan
Michele Nielson	Sibux Valley Energy

## Moody County

### Pre-disaster Mitigation Plan Kickof Meeting

Noon, March 27, 2025

Moody County Courthouse (Farmer's Room)  
101 East Pipestone Avenue – Flandreau, South Dakota

### Minutes

12 individuals were in attendance:

Last	First	Organization
Nielsen	Michelle	Sioux Valley Energy
Hansen	Nancy	Town of Egan
Wellman	Troy	Moody County Sheriff
Doyle	Jerry	Moody County Commissioners
Skroch	Marty	Moody County Commission Assistant
Muller	Andy	Moody County Highway Superintendent
Charles	Kayla	Town of Egan Finance Officer
Muller	Luke	First District
Henricks	Kellie	First District
Charles	Jerrick	Moody County EM
Storms	Kaelob	Moody County Service Office
Cramer	Bruce	Colman Fire Department

Moody County Emergency Manager, Jerrick Charles, 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. Carda 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 12:40 p.m. Date and time for the next meeting to be scheduled later in summer of 2025.

Minutes recorded by Luke Muller.

**Moody County**  
**Pre-Disaster Mitigation Planning Team Meeting**  
**Noon - Tuesday, July 8, 2025**  
**Moody County Courthouse (Farmers Room)**  
**101 East Pipestone Avenue, Flandreau, 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



**Moody County  
Pre-Disaster Mitigation Planning Team Meeting  
Noon - Tuesday, July 8, 2025  
Moody County Courthouse (Farmers Room)  
101 East Pipestone Avenue, Flandreau, South Dakota  
Minutes**

Seven people were in attendance:

<b>Last</b>	<b>First</b>	<b>Organization</b>
Hulsher	Jim	Moody School District
Schutt	Brett	Moody County Emergency Management
Muller	Luke	First District
Schlotterback	Chad	Moody Sheriff
Laue	Tracy	Egan Ambulance
Smith	Christine	Lake Norden Ambulance
Thompson	Donna	Flandreau Ambulance

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 Moody 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 Moody County since 2013.

The Team also reviewed goals and objectives of the previous 2019 PDM Plan. It was determined the 2019 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 Clark County Pre-Disaster Mitigation Plan. Muller discussed recommended changes from state hazard mitigation office, and highlighted those edits. The Planning Team decided that it would limit empirical data sources for hazard occurrences to federally funded/governmental sources such as NOAA, NCDC, NWS, etc. unless such research has been published or verified in peer reviewed scientific journals. However, information from local media sources and interviews may be referenced and used for anecdotal accounts and information. Other discussion and questions occurred during the summary process. The planning team made note that it does not support the updated flood maps that were provided by FEMA and subsequently adopted by the communities due to inadequacies in Dempster and Flandreau, but understands that approval and use of this information is a requirement.

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 1:40 p.m. Final Meeting will be held on December 19, 2024 at noon.

Minutes recorded by Luke Muller

**Moody County  
PDM Planning Team Meeting 3  
Noon, December 20, 2024  
Moody County 4-H Building**

Agenda

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



**MINUTES**  
**Moody County**  
**Pre-Disaster Mitigation Planning Team Meeting**  
**Noon - Thursday, December 19, 2024**  
**Moody County Courthouse (Farmer's Room)**  
**101 East Pipestone Avenue – Flandreau, South Dakota**

Seven people were in attendance:

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

Luke Muller of the First District noted edits as recommended by the State of South Dakota Hazard Mitigation Officer were incorporated since Meeting #2. Olsen and Gobel requested addition of back-up generator for the Town of Trent water tower and fire department/community center for a project for the Town of Trent.

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

Muller reviewed the community adoption process.

Meeting adjourned at 12:20 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 Moody County Pre-Disaster Mitigation Plan. Meetings were held at the regular monthly meetings for the following Towns:

<b>Town</b>	<b>Date</b>
Moody County	July 1, 2025
Colman	March 10, 2025
Egan	March 19, 2025
Flandreau	March 3, 2025
Trent	March 11, 2025
Ward	March 10, 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 on a scale of 0-5, with 0 meaning the hazard does not occur in the jurisdiction to 5 meaning the hazards happens more than once every year. 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.

Moody County Commissioners - Tentative Agenda  
Meeting Location: Moody County Courthouse: Farmer's Room  
Tuesday, July 1, 2025

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- 9:00 Call to Order  
Pledge of Allegiance  
Approve Agenda
- Community Comments
- Consent Agenda
- Minutes 06172025
- Travel Request 07012025
- 9:05 Board of Adjustment  
Conditional Use Permit #2025-8, Applicant: Pete Baumberger, seeking a 20' variance to construct a 50' x 80' storage shed closer to the road centerline setback. Property legal description is Tract 1 Baumberger's Addition N1/2NW1/4 Section 20, Township 106 North, Range 49.
- 9:15 Joint Board of Planning and Commissioners  
Plat of Lot 3 of Entringer Addition in the SE1/4 of Section 23, Township 107 North, Range 50 West of the 5<sup>th</sup> P.M., Moody County, South Dakota.
- 9:20 Andy Muller, Highway Superintendent – Staffing
- 9:25 Luke Muller, First District – PDM Grant
- 9:30 Cassi Chase, Legislative Audit – Audit Closing Conference
- 9:45 Executive Session – SDCL 1-25-2(1) Personnel
- 10:00 Marty Skroch, Commission Assistant – Raffle, Timecard Plus, Staffing
- 10:15 Budget Discussion
- OTHER BUSINESS:  
Warrants



# City of Colman Agenda

City of Colman  
Agenda  
Regular Council Meeting  
At Colman Community Center  
March 10, 2025 Agenda 6PM

6PM CALL TO ORDER: Mike Preheim  
Pledge of Allegiance  
Roll Call: Maria Groos

## **CONSENT CALENDAR APPROVAL**

- A. Agenda (motion)-Declaration of any Potential Conflict of Interest
- B. Minutes February 12, 2025 Meeting (motion)
- C. February Financials
- D. Bills Presented 3.10.25 + East River (motion)

**COMMUNITY COMMENTS** Community Comments will offer the opportunity for anyone not listed on the agenda to speak to the council. Speaking time will be limited to 3 minutes. No action will be taken on questions or items not on the agenda.

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## **ORDINANCES & RESOLUTIONS:**

- 458 Returned Checks (Guaranteed Funds only Accounts) (motion)

## **NEW BUSINESS:**

- 1<sup>st</sup> District Pre-Disaster Mitigation
- CEDC
  - Ticket Raffle Registration
- 2025 – 2027 Bar Lease
- Engineer Reports
  - IMEG
    - Golf Course Drainage Grant (motion)
- 2024 Audit Proposal, Independent Audit Services, Ben Elliott (motion)
  - \$8,000 + \$2500 if we have Federal Funding >\$750,000
- Great Life Contract
- Pool Manager
  - Wage (motion)

## **EMPLOYEE REPORTS:**

## **COMMITTEE ITEMS:**

**EXECUTIVE SESSION:** The City of Colman City Council reserves the right to go in to executive session at any point during the meeting. A motion to go in to executive session shall cite the applicable subsection under codified law 1-25-2 (1, 3 & 4) Personnel, Legal & Contracts

## **NEXT MEETING DATE:**

March 17, 2025 Equalization Meeting  
April 14, 2025 Regular Meeting – Request for Tuesday April 15th

## **ADJOURN:**



**City of Colman, Regular Council Meeting, Colman Community Center, March 10, 2025 Agenda 6PM**

**6PM CALL TO ORDER: Mike Preheim**

**Pledge of Allegiance**

**Roll Call: Mike Preheim—Mayor**

**Mike Uhing—Ward I**

**Travis Heiter—Ward I**

**Troy Smallfield—Ward III**

**Roger Broghammer—Ward III**

**Mitch Clark—Ward II**

**Cody Fritz—Ward II**

**OTHERS IN ATTENDANCE: Finance Officer Maria Groos, Grant Groos, Maintenance Supervisor, Jay Groos Golf/City Maintenance, Shane Waterman—IMEG, Carleen Wild, MCE, Billy Stitz, CEDC, Alicia Deschepper, Michelle Leeds, Chuck Leeds, Greg Van Mevern, Greg's Place, Jennifer Nelson, Attorney, Kelli Henricks, 1<sup>st</sup> Dist**

**Agenda -No Declaration of any Potential Conflict of Interest, Motion Clark, 2<sup>nd</sup> Fritz, 6 Ayes, carried**

**Minutes February 12, 2025 Meeting, Motion Clark, 2<sup>nd</sup> Smallfield, 6 Ayes, carried**

**February Financials, Motion Uhing, 2<sup>nd</sup> Clark, 6 Ayes, carried**

**Bills Presented 3.10.25 + East River when received, Motion Broghammer, 2<sup>nd</sup> Clark, 6 Ayes, carried**

**Bank West 14 fees Beal 1090.95 supplies Dak Bev 539.97 supplies GCSAA 425 membership IMEG 3360 services Johnson Bros 296.10 supplies SDRS 3013.39 retirement SDRS Supp 375 250 retirement US Treasury 3755.66 3601.83 withholding Shift4 247.82 fees AFLAC 53.54 insurance AT&T 51.25 services Big Sioux 4038.18 supplies Booster 30 Bormann 219.80 refund Bourcy 124.88 refund Chester Mechanical 495.22 Chesterman 622.30 City Utilities 7743.99 Clarity 493.77 Classic Corner 886.86 Colman Building Center 2552.30 Colman Fire Dept 675 operating Core & Main 3053.79 supplies Crossroads 127.21 supplies Docusend 25 services Eng 5502.15 services/supplies 1<sup>st</sup> Interstate Cards 1059.90 supplies Gordon Flesch 77.75 services Greg's Place 1403.89 lottery Heartland 73569.79 supplies J Groos 85.40 mileage Josh Olson Electric 292.75 services K Broghammer 86.80 mileage M&H Comm 200 services Maxwells 2614.28 supplies Menards 462.08 supplies Midwest Alarm 92.57 services M Gengler 35.70 M Solum 300 reimbursement supplies Moody County Enterprise 144.09 services Moody County Highway Dept 1450.74 supplies NB Golf 193.33 supplies Nelson & Ericsson Law 575 services Performance Foods 9911.10 supplies Poolwarehouse 10948 supplies Runnings 41.95 supplies Sams Club 244.65 supplies SD Ass of Rural Water 125 services Shoenrock Plumbing 875.56 services Sioux Valley 764.91 services Sioux Links 450 services State of SD 6350.31 1368.07 sales tax Team Lab 749.50 supplies USDA Payloader 1297 supplies Valley Fiber 203.96 services Vanco 55.25 services WAPA 11418.95 supplies**

No Community Comments were made.

**ORDINANCES & RESOLUTIONS:**

- 458 Returned Checks (Guaranteed Funds only Accounts) Motion Smallfield, 2<sup>nd</sup> Fritz, 6 Ayes, carried

**Ordinance #458 Guaranteed Funds/Cash Only Accounts**

**An Ordinance TO COMBAT INSUFFICIENT CHECKS PAID TO THE CITY OF COLMAN, SUNRISE RIDGE GOLF COURSE OR ANY AGENCY OF The City Of Colman, South Dakota**

**BE IT ORDAINED** by the City Council of the City of Colman, South Dakota, hereby establishes the following:

**Guaranteed Funds/Cash Only Accounts.** The Finance Officer is hereby authorized to designate certain accounts be "guaranteed funds/cash only" when he or she reasonably believes such a step is necessary to secure payment. For purposes of this chapter, "guaranteed funds/cash only" shall mean that the City shall accept only money order or cashier's check, physical currency, or a processed card payment.

**Mike Preheim, Mayor**

**Attest, Maria Groos, Finance Officer**

**1<sup>ST</sup> Reading February 12, 2025**

**Adopted: March 10, 2025**

**Published: March 19, 2025**

**NEW BUSINESS:**

- 1<sup>st</sup> District Pre-Disaster Mitigation-Kelli Henricks attended the meeting to update the Pre-disaster Mitigation Plan. Moody County is required to update this plan every 5 years in order to maintain eligibility for federal funding for disaster mitigation projects and other federal funding programs. An assessment worksheet helped determine potential hazards.
- CEDC Ticket Raffle Registration, Motion Clark, 2<sup>nd</sup> Heiter to register the raffle with the State. 6 Ayes, carried. Billy Stitz was in attendance informing the council that the State of SD will be informed of the raffle held for funds being raised to pay off the irrigation system. Raffle tickets cannot be sold until 30 days of filing the Raffle Request form. About \$148K has been raised currently. The Calcutta is scheduled for August 23-24, 2025. April 12<sup>th</sup> there will be a sign up for those who want to become members of the Sunrise Ridge Golf Course in 2025. Details on a discount and menu for the evening will be planned. Progress is being made on the potential daycare project. The ask of the City is to own the land and the building. The City will not be in charge of operating it. Maintenance on land and building would be the

responsibility of the City, much like the Municipal Bar building that is currently being leased out.

- 2025 – 2027 Bar Lease-the bid letting process will happen soon as the current lease is expiring on June 30th. Greg Van Meveren graciously offered to help by answering any questions a new lease holder would have for him to make the process as smooth as possible. Greg stated his appreciation for the many years he has operated Greg's Place.
- Golf Course Drainage Grant, tabled. Jay Groos presented to the council the drainage situation through the ponds on the golf course. Shane Waterman of IMEG was present to explain or answer any questions on the drainage study from 2020 and how it ties into the city sewer drainage system. Two application options were available to help with funding if the pond would be expanded-Game Fish & Parks and DANR. More research will be done on this before a decision would be made
- 2024 Audit Proposal, Motion by Fritz, 2<sup>nd</sup> Heiter to have this service performed by Independent Audit Services/Ben Elliott. Costs are \$8,000 + an additional \$2500 if we have Federal Funding >\$750,000 that need to be reported. 6 Ayes, carried
- Great Life Contract, Motion by Uhing, 2<sup>nd</sup> Smallfield to accept the agreement Jenifer Nelson provided to the council-which she was satisfied with. 6 Ayes, carried.
- Pool Manager Wage, Motion by Uhing, 2<sup>nd</sup> Heiter to offer Hailey Schmidt the position at \$4000 for the summer.

#### **EMPLOYEE REPORTS/COMMITTEE ITEMS:**

- Deck upgrade at Clubhouse-aluminum railing will be put on
- Interior kitchen upgrades almost complete
- 12-13 trees to be moved
- Nursery trees coming in mid to late April
- Security camera by kitchen will be moved by the company
- Clean up day is Wednesday April 30<sup>th</sup>
- Valves need to be replaced at the lagoons. The 2 main valves will cost \$13-14K to replace
- Testing is scheduled to find a water leak in town
- 2 fire hydrants have been repaired due to damage caused by vehicle accidents
- Pool table was moved downstairs at the Clubhouse to make more room for seating
- TV needs to be purchased for the back area at the Clubhouse & a light replaced
- Deck furniture needs to be replaced at the Clubhouse
- Irrigation pump is now available
- Offers of installing tile on the golf course
- Options for purchasing a City pickup
- Video Lottery/ATM inquiries for the Clubhouse

- Dog nuisance
- Mayor Preheim will be out of town March 23-28

**EXECUTIVE SESSION:** Motion by Smallfield, 2<sup>nd</sup> Clark to enter into executive session for legal matters at 7:13pm. Mayor Preheim declared out of executive session at 7:37pm

**NEXT MEETING DATE:**

March 17, 2025 Equalization Meeting

April 14, 2025 Tuesday April 15th

**ADJOURN:** Motion Fritz, 2<sup>nd</sup> Smallfield to adjourn at 8:23pm

Mike Preheim, Mayor

ATTEST Maria Groos, Finance Officer

Mitch Clark, Mike Uhing, Troy Smallfield, Roger Broghammer, Cody Fritz, Travis Heiter

## **Colman PDM Meeting 03/10/2025 Meeting Notes**

- Prerequisite for federal funding/grants you have to have in order to qualify
- Hazard mitigation project examples: Storm shelter, sirens, power line burials, tree branch trimming, drainage channels, etc. Projects that help to stave off probably emergency issues
- FEMA requires some sort of plan in place in order to qualify for the 80/20
  - FEMA says we need to prepare this plan to help minimize the chaos during emergency recovery efforts
  - Some events happen on a regular basis, sometimes, or almost never
- How likely are events to occur?
- ALWAYS GET COPY OF AGENDA
- When county updates premitigation plan so does the city
  - Updated every 5 years
- Worksheet #1
  - See Scanned Sheet for Choices
- Worksheet #2
  - See Scanned Sheet for Choices
- Critical Infrastructure List
  - 128 NE 3<sup>rd</sup> St is not a church anymore but an apartment building, which turned into a discussion of do all apartment buildings need to be on this list? If so there is a newer 8 plex called Sunrise Apartments that should be added
  - Remove 2 daycares, 328 S Florence Avenue and 114 SW 4<sup>th</sup> St as they no longer are running
  - 3 new daycares (1 is still in the process of getting set up and running)
    - 404 SE 3<sup>rd</sup>; Dezi Rus Privately owned
    - 207 S Loban; Tameru Persie Privately owned
- Map of Critical Infrastructure
  - Add/subtract daycares and apartments after discussion with Luke
- Map of Mitigation Activity Sites
  - No changes.
- City of Colman Problems
  - Tornado shelter
    - Haven't built one yet
  - Bury Overhead powerlines
    - Have done some, still working on this
  - Urban development has exceeded capacity. Upgrade infrastructure
    - This has only been done in newer developments; some will be done when road that goes through town is redone
  - Other Items Discussed:
    - If had unlimited budget, items that they would address:
      - Drainage issues

- Curb and gutter all streets/storm sewer to help mitigate water
- Clubhouse storm shelter
- Bury overhead lines
- New pickup/equipment as some of their current equipment is old and needing to be replaced

# City of Egan Agenda

AGENDA  
EGAN CITY – REGULAR MEETING  
March 19, 2025  
6:00 PM at Egan City Office  
101 N Irvin St. Egan, SD 57024

Persons wishing to comment on items on the Agenda shall raise their hand, state their name, and request to speak; following presentation of the agenda item and AFTER the Chairman opens the item up for public comment.

**Call Meeting to Order**

**Conflict of Interest Items on current agenda for anyone on the Council**

**Motion to approve agenda**

**Motion to Approve February 19, 2025 Meeting Minutes**

**Public Comment:** This is the opportunity for persons to address the Council on items NOT on the agenda. If the item requires Council action, it will be scheduled for an upcoming meeting. This session is limited to 30 minutes allowing 3 minutes per citizen.

**Zoning:** Update burnt trailer

**Old Business:** Monthly violations recap from Sherriff department  
Ambulance  
Election

**New Business:** Pre-Disaster Mitigation Plan Review:First District Association of Local Governments  
City Clean Up Day  
Mowing- Lagoon & Behind Ballfield  
Road Work- Gravel and Summer Maintenance

**Committee Reports:**

Compliance/Code Enforcement (Olsen & Hansen)–  
Maintenance/Streets (Chamblin & Hein)–  
Parks (Chamblin & Ten Eyck)– Burning Pile  
Personnel & Compliance (Olsen & Hansen) –  
Utilities (Hein)– Dump Station

**Motion to Approve Personnel & Financial Reports**

**Motion to approve bills presented**

**Other:** Review Correspondence

**Next Regular Meeting:** April 16<sup>th</sup>, 2025 6:00 pm

**Adjourn**

**AGENDASUBJECT TO CHANGE UP TO TWENTY FOUR (24) HOURS PRIOR TO MEETING TIME**



## City of Egan Minutes

### Egan City Minutes February 19<sup>th</sup>, 2025

The Board of Trustees of the City of Egan, South Dakota met in regular session on February 19, 2025, at Egan City Hall, 110 W 3rd Street, Egan, SD.

Present: Board of Trustees - Nancy Hansen, Mike Hein, Jerome Olson, Michelle Ten Eyck and Finance Officer Kayla Charles. Absent: Cody Chamblin. Also present: Randy Hemmer, Moody County Commissioner; Tawny Heinemann, Moody County Auditor; Marty Skroch, Moody County HR/Commissioners Assistant. Egan Residents: Don Hansen; Cameron Burleson and Donna and Norman Koehn.

6:02pm meeting was called to order by Vice-Chairman Olson.

Motion by Ten Eyck, second by Hansen to approve the agenda. All present voted "aye."

Motion by Ten Eyck to approve the January 15, 2025, Regular Meeting Minutes, second by Hansen. All present voted "aye."

**Public Comment:** Donna Koehn ask about an update with the Meet n' Greet, item will be revisited at May meeting after the election. Frank Steele asked about an update on nuisance property. Ten Eyck advised that the property is being handled by the city attorneys since the property owner is incarcerated.

**Zoning:** Letter was sent to the resident owning the partially burnt trailer. Resident has until March to clean up property.

**Old Business:** Sheriff Monthly Recaps: January report was shared. Floodplain Ordinance- No Update.

**New Business:** Ambulance- Hemmer, Heinemann, and Skroch were present to discuss the Moody County Ambulance moving to Egan. The current idea being discussed amongst the three along with Charles and Ten Eyck is the Ambulance would move to the front portion of the current city office, and the city office would move back to the Senior Center. The city would still own the building and utilize the back two bays. How this agreement would officially work has not been decided. The purpose of the three attending the meeting was to formally introduce the idea to the whole board and provide answers to any questions about the Ambulance. Motion by Ten Eyck for Charles to work with Skroch on the Ambulance moving to Egan and once more information is obtained to set a public meeting date to share information with the residents of Egan, second by Hansen. All present voted "aye."

Senior Center Carpet- Ten Eyck provided two quotes for new flooring in the senior center. Motion by Ten Eyck to table until next month to obtain updated/more quotes, second by Hein. All present voted "aye."

Election- Residents can pick up petitions during office hours. Petitions must be returned by February 28<sup>th</sup> at 5:00 pm. The city office will be open from 3pm – 5pm on that day. Two positions open, currently two petitions have been taken out. The election would take place on April 8.

Tractor Attachments- Don Hansen presented two bids obtained for snowblower attachments for the city tractor. Motion by Ten Eyck for Hein and Don Hansen to research different options of large equipment and see which investment would be the most beneficial to the city. They will present the information at the May 21<sup>st</sup> board meeting, second by Hansen. All present voted "aye."

**Committee Reports:** Compliance/Code Enforcement: none. Maintenance/Streets: Hein will work Baty to get streets scraped and windrow removed on Mainstreet this weekend once the weather warms. Parks: Ten Eyck dropped information off to Southeast Landscaping students to develop a possible plan for the main street park. Hein will be organizing burning the brush pile. Personnel/Compliance: None. Utilities: Quote for lift station will need to be redone as current one is no longer valid. Also quoting the installation of an RV dump station to be installed alongside the project. Hein will collect air compressor bids to present to the board.

Motion by Hansen, second by Ten Eyck to approve Financial Report. All present voted "aye"

Motion by Hansen, second by Ten Eyck to approve the following bills: Payroll (General + employer taxes) \$1666.09; All present voted "aye".

Motion by Ten Eyck, second by Hansen to adjourn at 7:09pm. All present voted "aye"

Next Regular Meeting – Wednesday, March 19th, 2025, at 6pm.

Minutes submitted pending Board approval.

Jerome Olson, Vice-Chairman

Attest: Kayla Charles, Finance Officer

**Outline**  
**Pre-Disaster Mitigation Plan**  
**Community Meetings**  
**Egan, SD**


**Egan PDM Meeting 03/10/2025 Meeting Notes**

- Prerequisite for federal funding/grants you have to have in order to qualify
  - Hazard mitigation project examples: Storm shelter, sirens, power line burials, tree branch trimming, drainage channels, etc. Projects that help to stave off probably emergency issues
  - FEMA requires some sort of plan in place in order to qualify for the 80/20
    - FEMA says we need to prepare this plan to help minimize the chaos during emergency recovery efforts
    - Some events happen on a regular basis, sometimes, or almost never
  - How likely are events to occur?
  - ALWAYS GET COPY OF AGENDA
  - When county updates premitigation plan so does the city
    - Updated every 5 years
  - Worksheet #1
    - See Scanned Sheet for Choices
  - Worksheet #2
    - See Scanned Sheet for Choices
  - Critical Infrastructure List
    - Egan Fire Hall is also know as Egan City Hall and the address is 101 N Irvin
    - Egan City Hall for some reason has 2 addresses, it is both 110 W 3rd St as well as 101 N Irvan St
    - Senior Center address is 112 W 3<sup>rd</sup> St the council believes
  - Map of Critical Infrastructure
    - See Critical Infrastructure List updates
  - Map of Mitigation Activity Sites
    - No changes.
    - No new projects the past 5 years to update any water mains, sewer mains, or storm sewer drainage
      - County has cleaned out county owned culverts that are owned at edges of town
      - Will have some projects happening within the next couple of years
  - City of Egan Problems
    - City needs permanent generator for lift stations
      - Just put in a brand new one about 2 years ago
    - The City needs a tornado safe emergency shelter
-

- Not done yet, in the past the City has used the city hall as an emergency shelter. They have bunk beds, emergency items are also stored there like blankets and cots.
      - No church basement anymore nor can they use the old school as they are both privately owned now
  - The City needs additional evacuation routes for certain areas of the community
    - They currently have 4 routes leading in and out of the community
  - Urban development has exceeded capacity/capability of stormwater mgt system. Areas of the city are prone to flooding in heavy rain or rapid snow melt.
    - Stormwater damage a couple of years ago due to flash flood but otherwise no issues. Ice jammed culverts caused most of the issues but they are owned by the county. So the county has been cleaning out the culverts to be proactive after it was a sore subject after this event.
    - 2019 high water table so sewer problems but haven't had that issue past few years but water table wasn't that high as that year
    - Culverts plugged cause most problems, last summer cleaned out all culverts on the west side of the roads
    - Storm sewer on main street has issues at times when they have flash downpours due to grate being too small to suck water in fast enough/pipe is undersized to transport water out fast enough, grate gets plugged easily
      - Storm end comes out by elevator on a diamond shaped property, they believe Robbie Thompson owns it other wise Blackwells own the other part of it for sure
- Other Items Discussed:
  - If had unlimited budget, items that they would address:
    - Bury all power lines
    - Build tornado/storm shelter
    - New lift station/lift station upgrades like putting it at a higher elevation so it is not impacted due to flood events
    - New storm sewer on main street
    - New culverts (is the County responsibility) but they impact the city
    - Street work with all new curb/gutter, proper infrastructure to get water to flow in correct locations to create proper drainage flow to get water where it needs to go quickly

- Berms around lagoons to prevent any future issues/be proactive to protect them

City of Flandreau Agenda

	<h1>City of Flandreau</h1> <h2>City Council Meeting</h2>	
	<h1>Agenda</h1>	
<p>6:30 p.m., Monday          March 3<sup>rd</sup>, 2025          City Council Chambers          1005 W. Elm Avenue          Flandreau, SD</p>		
Meeting called by:	Mayor Sutton	
Type of meeting:	Regular	
<b><u>Agenda Topics</u></b>		
	Pledge of Allegiance	Alderman Bjerke
2	Adopt Agenda	
2	Approve Minutes-February 18 <sup>th</sup> , 2025	
2	Approve Bills	
	<b><u>Public Hearing</u></b>	
5	<p>Public Hearing: First Reading Ordinance          628: Rezone from Industrial to Central          Commercial the following property; All of          Block 14, except the E 100' of Lots 5-6-7-8-          9-10-11, in Pettigrew's First Addition, and all          of Block 5 of Railroad Addition, and all of          Block 4 of Park Addition, to the City of          Flandreau, Moody County, South Dakota.</p>	
	<b><u>Visitors to be Heard</u></b>	
<p><i>Visitors to be Heard is the opportunity for persons to address the Council on items not on the Agenda. If the item can be handled administratively without Council action, the Mayor will refer it to the City Administrator. If the item requires Council action, it will be scheduled for an upcoming meeting. Persons wishing to comment on items on the Agenda shall request to speak following presentation of the agenda item and after the Mayor opens the item up for public comment.</i></p>		
	<b><u>Administrative Reports</u></b>	
5	Mayor's Report	Mayor Sutton
5	City Administrator's Report	City Administrator Cohl Turnquist

2	Approve Administrative Reports
	<u>Old Business</u>
5	Second Reading Ordinance 627: Electric Rates
	<u>New Business</u>
10	Pre-Disaster Mitigation Plan Review: First District Association of Local Government
5	Temporary On-Sale Alcoholic Beverage License; Blue Jays: Event at William J Janklow Community Center: 3-29-25
5	Resolution 2025-03: Final Plat Lots 3A and 4A in Block 1 of Brown's Addition
10	Updated Letter of Engagement with Ketel Thorstenson
5	Placement of Myranda Wester on Aquatic Center Manager Wage Scale
<b>Special notes:</b>	Other business properly referred to the City Council.

Cohl Turnquist  
City Administrator

**Distribution:**  
Mayor Sutton  
Alderman Ahlers  
Alderman Bjerke  
Alderman Ekern  
Alderman Fargen  
Alderman Tufty  
Alderman Yeaton

Cc:  
Newspaper: Moody County Enterprise  
City Attorney: Corey Bruning



## City of Flandreau Minutes

**CITY OF FLANDREAU  
1005 W. Elm Avenue  
Flandreau, SD 57028-1404**

### **COUNCIL PROCEEDINGS Monday, March 3<sup>rd</sup>, 2025**

The City Council of the City of Flandreau, South Dakota, met in regular session on Monday, March 3<sup>rd</sup>, 2025 at 6:30 p.m. at the City Council Chambers, 1005 W. Elm Avenue, Flandreau, SD.

Present: Mayor Dan Sutton. Aldermen: Curt Ahlers, Mark Ekern, Mike Fargen and Karen Tufty. Absent: Alderman Brad Bjerke and Alderman Tim Yeaton. Also present were City Administrator Cohl Turnquist; Finance Officer Lori Kneebone; and Planning Commission members Brian Bergjord, Margie Powers, Bart Sample and Mike Witte; Kelli Henricks with First District, Loria Bromeling, Judy Bromeling, and Todd Hinricher.

The proposed agenda was reviewed. Motion by Fargen and seconded by Tufty to adopt the proposed agenda. The following members voted aye: Ahlers, Ekern, Fargen and Tufty. Nays: None. Absent: Bjerke and Yeaton. Motion carried.

Motion by Ekern and seconded by Ahlers to approve the minutes of February 18<sup>th</sup>, 2025. The following members voted aye: Ahlers, Ekern, Fargen and Tufty. Nays: None. Absent: Bjerke and Yeaton. Motion carried.

Motion by Ahlers and seconded by Tufty to allow the following claims for the City and to pay them: Payroll: 2/19/25: general, \$26,383.23; water, \$1,442.05; electric, \$6,017.82; sewer, \$3,323.34. (26579) AT&T Mobility, FPD phones, \$212.68; Betty VonEye, medical insurance, \$185.00; Big Al's Contracting, B&G Club concrete work, \$11,665.00; Booster Publishing, minutes/ads, \$400.00; Border States Electrical Supply, uniforms, \$150.90; Cannon Technologies, Inc., meters, \$443.04; Cenex Fleetcard, FPD gas/oil, \$1,417.32; Century Business Products, copier lease, \$431.75; Chase Amdahl, travel/conf. reimbursement, \$39.81; Cintas, First Aid cabinets refills, \$362.03; City of Sioux Falls, water tests, \$29.00; Claflin Excavating, LLC, emergency work, \$3,147.50; Core & Main LP, repairs/supplies, \$5,800.53; Dakota Pump & Control, Inc., repairs, \$780.61; Delta Dental of SD, dental insurance, \$1,037.10; DGR Engineering, professional services, \$1,129.40; Ekern Home Equipment, Inc., repairs/supplies, \$658.54; ELM Customs, repairs, \$9,064.25; Eng Services, hauling solid waste, \$15,504.00; FSST, utility taxes, \$708.12; Granicus, software, \$4,852.23; Graybar Electric Company, Inc., supplies-street light, \$11,217.90; Heiman Inc., battery packs, \$336.00; Helms & Associates, airport land acquisition, \$1,645.00; IIA Lifting Services, truck inspection, \$1,564.92; Jaymar, checks, \$509.80; K&K Insurance Group, Inc. Cardinals & Blue Teal insurance, \$636.30; Krull's Garage, repairs, \$1,995.96; Matt Joachims, Armory rental deposit, \$250.00; Moody County Abstract Co., MRES rebate, \$604.80; Moody County Enterprise, MRES rebate, \$226.80; Patriot Electric, Inc., MRES rebate, \$100.00; Principal Life Insurance Company, vision insurance, \$152.21; Pye Barker Fire & Safety, inspections, \$3,396.00; Ramsdell F&M LTD, propane & heater, \$749.40; SD Retirement System, retirement, \$12,698.10; SD Supplemental Retirement, supplemental retirement, \$50.00; Sparkle Car Wash, FPD car washes, \$3.60; Standard Insurance Company, life insurance, \$422.87; Studevant's Auto Supply, supplies, \$3,825.00; USA Bluebook, supplies, \$819.28 (26619). February EFT's: Avera

Health Plans, health insurance, \$13,170.19; City of Flandreau, city bills, \$8,303.92; EFTPS, taxes, \$21,128.03; Missouri River Energy Services, energy cost, \$173,602.81; Postmaster, postage to utility bills, \$449.36; SD State Treas-Sales Tax; taxes, \$13,303.41; US Dept. of Agriculture, 2019 water & sewer payment, \$21,487.00. The following members voted aye: Ahlers, Ekern, Fargen and Tufty. Nays: None. Absent: Bjerke and Yeaton. Motion carried.

At this time, Planning Commission Chairman Brian Bergjord called the planning commission meeting back into session at 6:35. Bergjord informed the city council that the planning commission recommends the council approve Ordinance 628, which would rezone the fire station lot from industrial to commercial.

A Public Hearing was held for Ordinance No. 628, along with the first reading. The proposed ordinance will rezone from industrial to central commercial the following property: all of Block 14, except the E 100' of Lots 5-6-7-8-9-10-11, in Pettigrew's First Addition, and all of Block 5 of Railroad Addition, and all of Block 4 in Park Addition, to the City of Flandreau, Moody County, South Dakota. Loria Bromeling, Judy Bromeling and Todd Hinricher were present for the public hearing. The public hearing was closed and the second reading will take place on March 17<sup>th</sup>, 2025. No council action was taken and Chairman Bergjord adjourned the Planning Commission at 6:39 p.m.

Visitors to Be Heard: None.

Mayor Dan Sutton expressed thanks to Moody County for their response letter to the City, allowing time for the city to develop an ambulance model. Sutton reported that the Boys and Girls Club is moving forward with the building of an Early Childhood Learning Center and a ribbon cutting ceremony is being planned for their expansion project.

City Administrator Cohl Turnquist also thanked the county for granting the city additional time to develop an ambulance model. Turnquist expects to have a plan ready for council review by mid-May. Turnquist reported on the successful legislative cracker barrel that was held at City Hall on March 1<sup>st</sup>, 2025. The city is currently hiring for a yard waste site laborer. Turnquist attended a meeting with Banner dealing with the proposed bike path, which will be bid next spring. The city is in the process of completing the 2023 audit with Ketel Thorstenson out of Rapid City. Ketel Thorstenson will also be completing the 2024 audit in July. There will be a pre-construction meeting for the upcoming water and sewer project on March 12<sup>th</sup>, 2025. The Local Board of Equalization will be meeting at 6:00 on Monday, March 17<sup>th</sup>. Residents must have appeals to the City Office before March 13, 2025.

Motion by Fargen and seconded by Ekern to approve the Administrator's Reports. The following members voted aye: Ahlers, Ekern, Fargen and Tufty. Nays: None. Absent: Bjerke and Yeaton. Motion carried.

Old Business: The second reading of Ordinance 627: Electric Rates was held. Motion by Ekern and seconded by Ahlers to approve Ordinance 627, which implements an approximate 5% increase to electric rates, being applied to the April utility bills. The following members voted aye: Ahlers, Ekern, Fargen and Tufty. Nays: None. Absent: Bjerke and Yeaton. Motion carried.

New Business: Kelli Henricks, from First District Association, did a pre-disaster mitigation plan review with the council. Council members filled out risk assessment worksheets and updated the city's information for FEMA and natural disaster coverage.

Motion by Ekern and seconded by Tufty to approve a temporary on-sale alcoholic beverage license to Blue Jays for an event at the William J. Janklow Community Center for an event on March 29, 2025. The following members voted aye: Ahlers, Ekern, Fargen and Tufty. Nays: None. Absent: Bjerke and Yeaton. Motion carried.

Motion by Tufty and seconded by Ahlers to approve Resolution 2025-03: Final Plat of Lots 3A and 4A in Block 1 of Brown's Addition. The following members voted aye: Ahlers, Ekern, Fargen and Tufty. Nays: None. Absent: Bjerke and Yeaton. Motion carried.

Motion by Ekern and seconded by Fargen to authorize the city to switch from modified accrual basis accounting to cash basis accounting for financial reporting. The following members voted aye: Ahlers, Ekern, Fargen and Tufty. Nays: None. Absent: Bjerke and Yeaton. Motion carried.

Motion by Fargen and seconded by Tufty to approve the updated letter of engagement for audit services with Ketel Thorstenson. The following members voted aye: Ahlers, Ekern, Fargen and Tufty. Nays: None. Absent: Bjerke and Yeaton. Motion carried.

Motion by Tufty and seconded by Fargen to approve the placement of Myranda Wester on the Aquatic Center wage scale at Step 1, which is \$7,204.96 for the summer season. The following members voted aye: Ahlers, Ekern, Fargen and Tufty. Nays: None. Absent: Bjerke and Yeaton. Motion carried.

Council Comments: None.

The Mayor declared the meeting adjourned at 7:37 p.m.

Daniel D. Sutton  
Mayor

ATTEST:

Cohl Turnquist  
City Administrator

**Outline Not Available**

## Town of Trent Agenda

### ***Town of Trent***

403 East 3<sup>rd</sup> Street  
PO Box 754  
Trent, SD 57065  
605-428-5160  
trenttown@siouxvalley.net

## ***Meeting Agenda***

***Tuesday, March 11, 2025 @ 6:00pm***

- Draw Names for Ballot Position for Election
- Kelli Hendricks – Pre-Disaster Mitigation, with First District of Local Governments
- Open Discussion
- Annual Town Clean-up and Rummage Sales
- Bills
- Adjournment

*The Town of Trent is an Equal Opportunity Employer and Provider*



## Town of Trent Minutes

January 17, 2025

The Board of Trustees, of the Town of Trent, South Dakota, met on Wednesday, Jan. 10, 6:30 p.m. at the City Office. Members present were Debra Goebel, Jeremy Struckman, Greg Biederstedt, and Matt Miller; absent Dylan Reuer.

Others attending: Jason Koistinen, Lason McDaniels, Kordel Koistinen

Chairwoman Debra Goebel called the meeting to order.

The Pledge of Allegiance was said.

Todd Kays, First District, brought forward the Comprehensive Land Use Plan. Details about current infrastructure and a projected plan for possible future growth was discussed.

Every 5 years it is required to review the municipalities Pre-Disaster Mitigation Plan. Todd Kays, with First District, helps identify areas that the town may want to make improvements to, to have safe-guards in place in case of a disaster. There being no further business, motion by Miller; seconded by Biederstedt to adjourn. All voted in favor, the meeting adjourned.

**Outline  
Pre-Disaster Mitigation Plan  
Community Meetings  
Trent, SD**

**Trent PDM Meeting 03/11/2025 Meeting Notes**

- Prerequisite for federal funding/grants you have to have in order to qualify
  - Hazard mitigation project examples: Storm shelter, sirens, power line burials, tree branch trimming, drainage channels, etc. Projects that help to stave off probably emergency issues
  - FEMA requires some sort of plan in place in order to qualify for the 80/20
    - FEMA says we need to prepare this plan to help minimize the chaos during emergency recovery efforts
    - Some events happen on a regular basis, sometimes, or almost never
  - How likely are events to occur?
  - ALWAYS GET COPY OF AGENDA
  - When county updates premitigation plan so does the city
    - Updated every 5 years
  - Worksheet #1
    - See Scanned Sheet for Choices
  - Worksheet #2
    - See Scanned Sheet for Choices
  - Critical Infrastructure List
    - Corner of 1<sup>st</sup> Avenue & 3<sup>rd</sup> St – Gone
    - Trent Swimming Pool is Private
      - It's a glorified swimming/fishing hole
    - Trent Campground is Private
    - Trent Community Hall is also Town Office, is 403 E 3<sup>rd</sup>
    - Lift Station Address is 311 Walnut Ave
    - Lagoon is same address as Lift Station
    - Emergency Siren is 101 E 3<sup>rd</sup> right behind Fire Hall
    - Don't use the water tank but only building at 104 N 3<sup>rd</sup> Ave
    - Golden West Telecommunications is 204 W 3<sup>rd</sup> St
    - Add 209 W 3<sup>rd</sup> St it's the city's shop/maintenance building. The shop used to be in the old City building but that is no longer there anymore
  - Map of Critical Infrastructure
    - Update accordingly to suggestions in Critical Infrastructure list
  - Map of Mitigation Activity Sites
    - See map with notes
    - Golden West was bermed temporarily for flood event, no longer bermed so should that diamond be removed?
    - The other diamonds don't have anything going on anymore
  - City of Trent Problems
-

- Town needs a Tornado Safe Emergency Shelter
  - Not done; Church basement used current as storm shelter
- The 3rd cell of town's sanitary sewer lagoon is prone to inundation in flood events.
  - Not done, 3<sup>rd</sup> cell is basically a wetland. Only using the 2 cells currently but if those were to flood then the entire town would be flooded
- Urban development has exceeded capacity/capability of stormwater mgt system.
  - No new storm sewer additions
  - They have cleaned out some culverts
  - They have replaced/not really added any culverts
- Town residents need to be aware of services during inclement weather.
  - No, don't have anything. Everyone pretty much knows but the council will do some brainstorming on things to try to spread the word to notify the public
  - They mostly rely on the Red Cross during large storm events to provide cots, medical supplies, etc as there is no really good place to store them safely or correctly.
    - They had some old army tents that were stored and ended up moth ridden and full of holes due to mice
- The Town needs to upgrade existing storm siren system.
  - Had repairs done a couple years ago.
  - Had tested it last week and it was sounding poorly/didn't reach the entire town. Are going to do more testing on it in the near future to get it working properly for this storm season
- Overhead lines are vulnerable to high winds and freezing rain/sleet/ice
  - Not done.
  - Ottertail has come in and done some tree trimming each year.
  - Used to have issues with power glitching during strong wind events and Ottertail started coming in yearly to do tree trimming and since then power outages have gone away for the most part
- Other Items Discussed:
  - No other upgrades have been made. No new water mains, no new storm sewer, no new sewer projects, no new buildings, etc.
    - If had unlimited budget, items that they would address:
    - Bury all powerlines
    - Tornado shelter to allow everyone plus campground
    - All new water mains
    - Brand new water tower
    - Berm around the river to stop flooding events
    - New sewer & storm infrastructure

- New city buildings with heat to help people get out of the cold during freezing events/allow people to store equipment during snow events that will be needed for clean snow events or other natural disasters
- New equipment; new snow removal equipment like skid steer, pale loader, dump truck, etc
- Fire hydrants that actually work as all of them in town are rusted shut; and if they do work the water pressure is so low it wouldn't help much
- Water bladder to fill fire trucks
- Hook and ladder fire truck
- Had to use Colman's hook and ladder fire truck when elevator caught on fire a few years ago
- All streets redone to asphalt with proper curb and gutter/storm sewer
- Computers to allow better communication
- Multi use recreational center. It could be a rec center when not being used as an emergency shelter or to hold community meetings/community center



# AGENDA

- 1. Call to Order**
- 2. Roll Call**
- 3. Last Month's Minutes**
- 4. Finance Officer Report-No election**
- 5. Water Department**
- 6. Animal Control-Dogs**
- 7. Business**
  - a. Equalization March 17<sup>th</sup> 7:00 pm**
  - b. Mowing bids**
  - c. Annual Appropriations**
  - d. Kennel License**
  - e. Kelli-1<sup>st</sup> District**
- 7. Citizen Comments-Burning**
- 8. Bills**
- 9. Adjourn**

**MEETING: March 10, 2025 7:00 PM**



## City of Ward Minutes

The Ward Town Board met on January 16, 2024 at 6:00 pm at the Ward Community Center. Members present: Leslee Roe, Babe Dean, DJ Donahoe and Josh Seppanen. Many members from the community were in attendance along with Todd Kays from First District. Donahoe called the meeting to order. The minutes from the previous meeting were read and approved. Open Public Session followed. Few voiced their concerns about the proposed dairy. The board then said they sent out a questionnaire to the home residents of the City of Ward. The questionnaire contained the following questions: I do not want the City of Ward to grant a waiver to Riverview LLP; I want the City of Ward to grant a waiver to Riverview LLP; or N/A (I am OK with/without the granting of a waiver to Riverview LLP). There was 67 questionnaires sent out, 47 replied. 39 did not want the town to grant the waiver, 5 wanted the town to grant the waiver and 3 were N/A. Donahoe then asked the board if there was any discussion, they said no. Donahoe then asked for the vote: Seppanen=No; Dean=No; Donahoe=No. The City of Ward has decided to deny the Waiver of Separation Distance Requirements to Riverview LLP. Out of respect of the best interest for the residents of the City of Ward. Todd Kays from First District talked to the board about the Moody County Pre-Disaster Mitigation (PDM). Moody County is required to update its PDM Plan every five years in order to maintain eligibility for federal funding for disaster mitigation projects and other federal funding/programs. Todd Kays was also here to start talking about updating the City of Ward zoning ordinance. Over the course of the next several months he will come to the board meetings to make updates to the ordinance. Dean made motion to designate the Harold Enterprise as our official newspaper for publications, 2<sup>nd</sup> by Seppanen, motion carried. The 2024 wage scale was discussed. Seppanen made motion to raise the town labor hourly wage from \$11.20 per hour to \$18.00 per hour for 2024, 2<sup>nd</sup> by Dean, motion carried. Dean made motion to approve the 2024 wage scale, 2<sup>nd</sup> by Donahoe, motion carried. Seppanen made motion to declare the property south of town; legal description Farmland part of outlot 14 .92 acres as surplus property to be sold by sealed bids, 2<sup>nd</sup> by Donahoe, motion carried. Donahoe made motion to draft a purchase offer letter to Kathy Spolum for the purchase of the south portion of 10-20 acres of her quarter at a price of \$3500.00 per acre, 2<sup>nd</sup> by Seppanen, motion carried. Dean made motion to pay bills 2<sup>nd</sup> by Seppanen, motion carried. **GENERAL:** Northwestern Energy \$518.29 electricity; Cooks Wastepaper and Recycling Inc. \$80.50 garbage; ITC \$44.89 telephone; Moody County Publishing \$22.30 publishing; William Neale & Co. PC \$84.96, W2-W3 preparations; First District \$334.75 local government support; United States Treasury \$224.91 4<sup>th</sup> Quarter 941 form 2023 taxes. **SEWER:** Northwestern Energy \$42.31 electricity; United States Treasury \$183.60 4<sup>th</sup> Quarter form 941 2023 taxes. The next board meeting will be February 13, 2024 at 6:00 pm at the Ward Community Center. Being no further business Seppanen made motion to adjourn meeting 2<sup>nd</sup> by Dean, motion carried.

Leslee Roe Finance Officer

**Outline  
Pre-Disaster Mitigation Plan  
Community Meetings  
Ward, SD**

**Ward PDM Meeting 03/10/2025 Meeting Notes**

- Prerequisite for federal funding/grants you have to have in order to qualify
  - Hazard mitigation project examples: Storm shelter, sirens, power line burials, tree branch trimming, drainage channels, etc. Projects that help to stave off probably emergency issues
  - FEMA requires some sort of plan in place in order to qualify for the 80/20
    - FEMA says we need to prepare this plan to help minimize the chaos during emergency recovery efforts
    - Some events happen on a regular basis, sometimes, or almost never
  - How likely are events to occur?
  - ALWAYS GET COPY OF AGENDA
  - When county updates premitigation plan so does the city
    - Updated every 5 years
  - Worksheet #1
    - See Scanned Sheet for Choices
  - Worksheet #2
    - See Scanned Sheet for Choices
  - Critical Infrastructure List
    - No Changes.
  - Map of Critical Infrastructure
    - No Changes.
  - Map of Mitigation Activity Sites
    - No changes.
  - City of Ward Problems
    - Overhead lines are vulnerable
      - None has been buried
    - Water lines are inadequate for sustainable fire suppression
      - Lines not updated yet, pumps have had upgrades/worked on
    - High water table results in flooding/ponding during high rain events
      - Went thru process then learned that it would cost way more than what they were willing to spend/drought happened and some of the issues disappeared. They know as soon as we go back into wet years the problems will come back and they will readdress them again then
    - Town needs a tornado safe emergency shelter
      - None has been built
  - Other Items Discussed:
-

- Does everyone in town have a basement? No, if not they are going to make sure that the church still agrees to be used as the storm shelter and that everyone is aware that if they do not have a basement they can go there for safety
- No major projects for water, sanitary sewer, storm etc. They are happy with only having 1 paved road and no intentions to pave anything else anytime soon
- Ottertail does yearly tree trimming
- If they had unlimited budget:
  - Upgrade plumbing to water system as it is 100 years old
  - New pump house
  - No need for curb and gutter since they only have the 1 paved road, no interest in asphaltting the rest of town/making taxes increase
  - Make County do some drainage ditch improvements to help water flow easier during major rain events

## 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>
Moody County Commission	July 1, 2025
Colman	March 10, 2025
Egan	March 19, 2025
Flandreau	March 3, 2025
Trent	March 11, 2025
Ward	March 10, 2025

Master worksheets for Hazard Identification and Vulnerability for jurisdictions and utilities (multiple were submitted for Moody County) below.

**Moody 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

<u>Hazard</u>	<u>Frequency/Probability</u> (See Above)	<u>Vulnerability</u> (See Below)
Dam Failure		
Drought		
Extreme Cold		
Extreme Heat		
Flood		
Freezing Rain/Sleet/Ice		
Hail		
Heavy Rain		
Heavy Snow		
Ice Jam		
Lightning		
Rapid Snow Melt		
Strong Winds		
Tornado		
Urban Fire		
Wild Fire		

**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."*)

**Moody 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		
Drought		
Extreme Cold		
Extreme Heat		
Flood		
Freezing Rain/Sleet/Ice		
Hail		
Heavy Rain		
Heavy Snow		
Ice Jam		
Lightning		
Rapid Snow Melt		
Strong Winds		
Tornado		
Urban Fire		
Wild Fire		

**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."*)

**Moody County PDM  
Worksheet #1 (City of Colman)**

**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>Frequency/Probability (See Above)</b>	<b>Vulnerability (See Below)</b>
Dam Failure	<b>0</b>	<b>1</b>
Drought	<b>2.5</b>	<b>2</b>
Extreme Cold	<b>5</b>	<b>4</b>
Extreme Heat	<b>4.5</b>	<b>4</b>
Flood	<b>2.5</b>	<b>3</b>
Freezing Rain/Sleet/Ice	<b>4.5</b>	<b>4</b>
Hail	<b>4</b>	<b>4</b>
Heavy Rain	<b>4</b>	<b>4</b>
Heavy Snow	<b>5</b>	<b>4</b>
Ice Jam	<b>2</b>	<b>3</b>
Lightning	<b>3</b>	<b>1</b>
Rapid Snow Melt	<b>2</b>	<b>3</b>
Strong Winds	<b>5</b>	<b>4</b>
Tornado	<b>2</b>	<b>1</b>
Urban Fire	<b>0</b>	<b>0</b>
Wild Fire	<b>1</b>	<b>1</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.”)**

**Moody County PDM  
Worksheet #2 (City of Colman)**

**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	3
Extreme Cold	3	3.5
Extreme Heat	4	4
Flood	4	4
Freezing Rain/Sleet/Ice	4	4
Hail	4	4
Heavy Rain	4	4
Heavy Snow	4	3
Ice Jam	3	2.5
Lightning	2	1
Rapid Snow Melt	4	3
Strong Winds	4	5
Tornado	2.5	3
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. (*"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."*)

**Moody County PDM  
Worksheet #1 (City of Egan)**

**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>Frequency/Probability (See Above)</b>	<b>Vulnerability (See Below)</b>
Dam Failure	<b>0</b>	<b>0</b>
Drought	<b>1</b>	<b>3</b>
Extreme Cold	<b>1.5</b>	<b>5</b>
Extreme Heat	<b>2</b>	<b>5</b>
Flood	<b>4</b>	<b>2</b>
Freezing Rain/Sleet/Ice	<b>3</b>	<b>4</b>
Hail	<b>1</b>	<b>3.5</b>
Heavy Rain	<b>2</b>	<b>4</b>
Heavy Snow	<b>2.5</b>	<b>4</b>
Ice Jam	<b>0</b>	<b>0</b>
Lightning	<b>0</b>	<b>3</b>
Rapid Snow Melt	<b>1</b>	<b>4</b>
Strong Winds	<b>4</b>	<b>4</b>
Tornado	<b>0</b>	<b>0</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.”)**

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**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.”)**

**Moody County PDM  
Worksheet #2 (City of Egan)**

**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	3
Extreme Cold	5	4
Extreme Heat	5	4
Flood	2	2
Freezing Rain/Sleet/Ice	4	3
Hail	3	3
Heavy Rain	4	3
Heavy Snow	4	3
Ice Jam	0	0
Lightning	3	3
Rapid Snow Melt	4	3
Strong Winds	4	3
Tornado	0	0
Urban Fire	4	3
Wild Fire	3	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.** (*"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."*)

**Moody County PDM  
Worksheet #1 (City of Flandreau)**

**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>Frequency/Probability (See Above)</b>	<b>Vulnerability (See Below)</b>
Dam Failure	<b>0</b>	<b>0</b>
Drought	<b>3</b>	<b>3</b>
Extreme Cold	<b>3</b>	<b>3</b>
Extreme Heat	<b>3</b>	<b>3</b>
Flood	<b>0</b>	<b>0</b>
Freezing Rain/Sleet/Ice	<b>5</b>	<b>5</b>
Hail	<b>2.5</b>	<b>2.5</b>
Heavy Rain	<b>4</b>	<b>4</b>
Heavy Snow	<b>3.5</b>	<b>3.5</b>
Ice Jam	<b>0</b>	<b>0</b>
Lightning	<b>0</b>	<b>0</b>
Rapid Snow Melt	<b>0</b>	<b>0</b>
Strong Winds	<b>5</b>	<b>5</b>
Tornado	<b>0</b>	<b>0</b>
Urban Fire	<b>0</b>	<b>0</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. (“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.”)**

**Moody County PDM  
Worksheet #2 (City of Flandreau)**

**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	0
Extreme Cold	3	3
Extreme Heat	3	3
Flood	2	4
Freezing Rain/Sleet/Ice	4	4
Hail	2.5	3
Heavy Rain	3	3
Heavy Snow	3	3
Ice Jam	3.5	4
Lightning	0	0
Rapid Snow Melt	2	2
Strong Winds	5	5
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. (*"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."*)

**Moody County PDM  
Worksheet #1 (City of Trent)**

**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>Frequency/Probability (See Above)</b>	<b>Vulnerability (See Below)</b>
Dam Failure	<b>0</b>	<b>0</b>
Drought	<b>4</b>	<b>1</b>
Extreme Cold	<b>3</b>	<b>2</b>
Extreme Heat	<b>3</b>	<b>2</b>
Flood	<b>3</b>	<b>4</b>
Freezing Rain/Sleet/Ice	<b>4</b>	<b>2</b>
Hail	<b>3</b>	<b>2.5</b>
Heavy Rain	<b>3</b>	<b>3</b>
Heavy Snow	<b>3</b>	<b>2</b>
Ice Jam	<b>4</b>	<b>4</b>
Lightning	<b>3</b>	<b>2</b>
Rapid Snow Melt	<b>3</b>	<b>3</b>
Strong Winds	<b>4</b>	<b>5</b>
Tornado	<b>3</b>	<b>5</b>
Urban Fire	<b>2.5</b>	<b>4</b>
Wild Fire	<b>1</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. (“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.”)**

**Moody County PDM  
Worksheet #2 (City of Trent)**

**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>0</b>	<b>0</b>
Drought	<b>3</b>	<b>2</b>
Extreme Cold	<b>4</b>	<b>3</b>
Extreme Heat	<b>4</b>	<b>2</b>
Flood	<b>3</b>	<b>3</b>
Freezing Rain/Sleet/Ice	<b>3</b>	<b>1</b>
Hail	<b>3</b>	<b>3</b>
Heavy Rain	<b>3</b>	<b>3</b>
Heavy Snow	<b>3</b>	<b>3</b>
Ice Jam	<b>3</b>	<b>3</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>1</b>	<b>5</b>
Urban Fire	<b>0</b>	<b>4</b>
Wild Fire	<b>0</b>	<b>1</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."*)

**Moody County PDM  
Worksheet #1 (Town of Ward)**

**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>Frequency/Probability (See Above)</b>	<b>Vulnerability (See Below)</b>
Dam Failure	<b>0</b>	<b>0</b>
Drought	<b>1</b>	<b>2</b>
Extreme Cold	<b>3</b>	<b>2.5</b>
Extreme Heat	<b>3</b>	<b>2</b>
Flood	<b>0</b>	<b>0</b>
Freezing Rain/Sleet/Ice	<b>3.5</b>	<b>3</b>
Hail	<b>3</b>	<b>3</b>
Heavy Rain	<b>3</b>	<b>3</b>
Heavy Snow	<b>3</b>	<b>2.5</b>
Ice Jam	<b>0</b>	<b>0</b>
Lightning	<b>4</b>	<b>1</b>
Rapid Snow Melt	<b>3</b>	<b>1</b>
Strong Winds	<b>5</b>	<b>3</b>
Tornado	<b>1</b>	<b>4</b>
Urban Fire	<b>1</b>	<b>2</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. (“I’m sure this has happened, but nobody is concerned about what would happen if it occurs again.”)**

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**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.”)**

**Moody County PDM  
Worksheet #2 (Town of Ward)**

**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	1	1.5
Extreme Cold	4	2.5
Extreme Heat	3.5	3
Flood	0	0
Freezing Rain/Sleet/Ice	2	2
Hail	3	3
Heavy Rain	3	3
Heavy Snow	3	3
Ice Jam	0	0
Lightning	5	2
Rapid Snow Melt	2	2
Strong Winds	5	4
Tornado	2	4
Urban Fire	1	4
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."*)
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- 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 April of 2025, First District mailed a request to the Township Clerk or Road Supervisor of every township in Moody 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. Townships were requested to complete the maps and hazard information. Of the 13 requests sent, all maps, 10 were returned with vulnerable areas identified (see table below).

Township Name	Response
Alliance	Identified vulnerabilities
Blinsmon	Identified vulnerabilities
Clare	DID NOT RESPOND
Colman	Identified vulnerabilities
Egan	Identified vulnerabilities
Enterprise	Identified vulnerabilities
Flandreau	DID NOT RESPOND
Fremont	Identified vulnerabilities
Grovena	Identified vulnerabilities
Jefferson	DID NOT RESPOND
Lone Rock	Identified vulnerabilities
Lynn	Identified vulnerabilities
Riverview	Identified vulnerabilities

Maps identifying vulnerable areas for those townships which identified such areas are shown below. For those townships that did not respond in 2025, the previous maps are displayed.



## First District Association of Local Governments

418 18th Ave NE ■ PO Box 1207 ■ Watertown, SD 57201  
Phone: (605) 882-5115 Fax: (605) 882-5049  
Serving counties and communities for over 50 years

MEMO TO: Moody County Townships  
FROM: Kelli Henricks, First District Association of Local Governments  
DATE: April 2nd, 2025  
RE: Pre-Disaster Mitigation Plan Information

As you may be aware, the First District is assisting Moody County in the update of the county's Pre-Disaster Mitigation (PDM) Plan. Moody County is required to update its PDM Plan every five years in order to maintain eligibility for federal funding for disaster mitigation projects and other federal funding/programs. For the purposes of this plan, Townships are considered participating units of government under the umbrella of the County. One of the components of the PDM Plan involves identifying critical infrastructure to be protected from potential hazards.

Included you will find a map of your township. This is different than the DOT Road Report Map you have received from First District. Please review the map to verify the locations of any critical infrastructure (if any) which is owned, operated, and/or maintained by your Township. Also review the areas where the township, as a result of natural hazards, has repeatedly experienced the following: water over the road, soft spots in the road, undersized or washed-out bridges/culverts, the need for drainage improvement, places where snow drifts and frequently causes issues, or other projects which may minimize the impact of natural disasters in your township. Please mark and label these locations on the map included. If you have applied for Rural Access Infrastructure Funds for any of these areas please include a list of those locations/projects as well. If no changes from previous plan please kindly mark that on the map and send back.

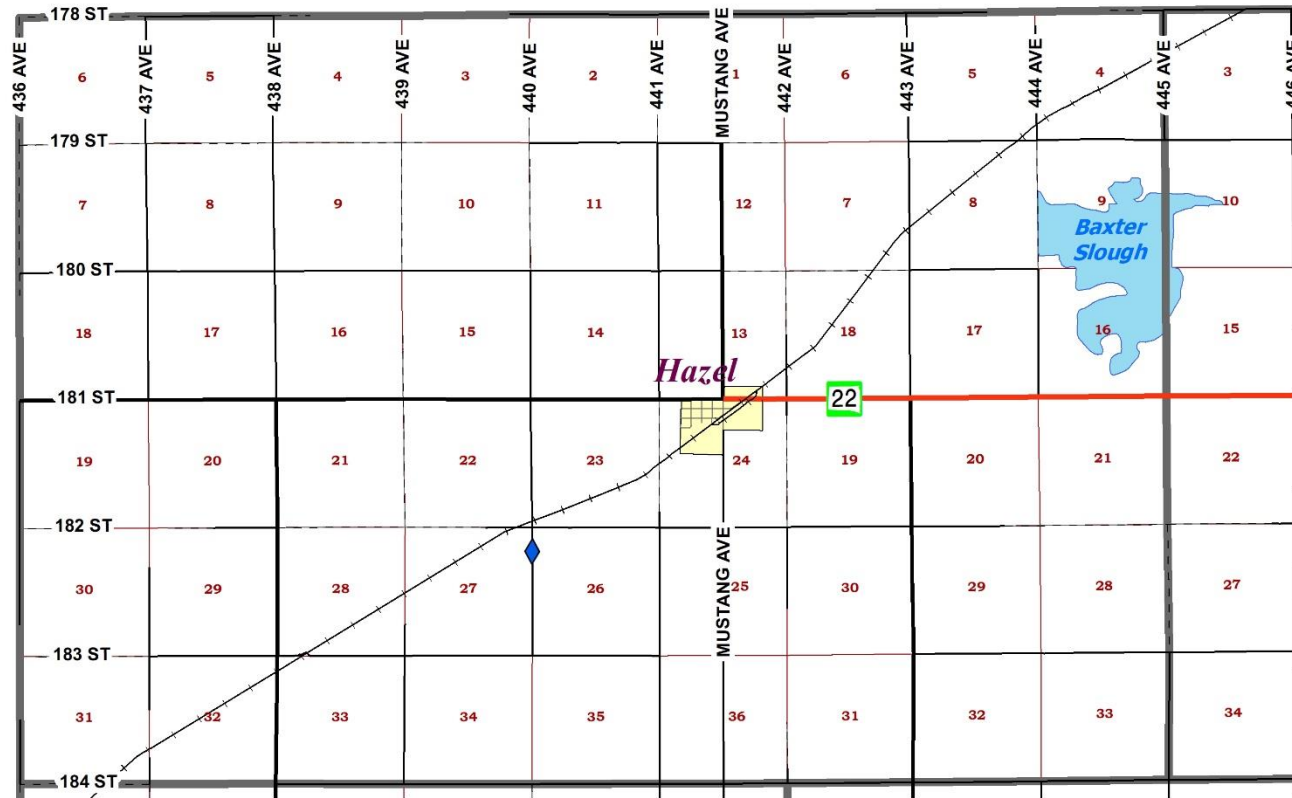
I have enclosed a self-addressed, stamped envelope for your use; or you may email ([kelli@1stdistrict.org](mailto:kelli@1stdistrict.org)) to send in your responses. We would appreciate receiving your information by May 15<sup>th</sup>, 2025 to include them in the initial PDM plan draft. Please contact me (605-882-5115) regarding any questions, comments, or for any discussion regarding the information requested here. I look forward to hearing from you soon.

Sincerely,

Kelli Henricks  
GIS Specialist  
First District Association of Local Governments

# BRANTFORD TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



0 0.5 1 Miles



### Legend

- Creeks
- Lakes
- City Limits
- Section Boundary
- Township Boundary

### Roads

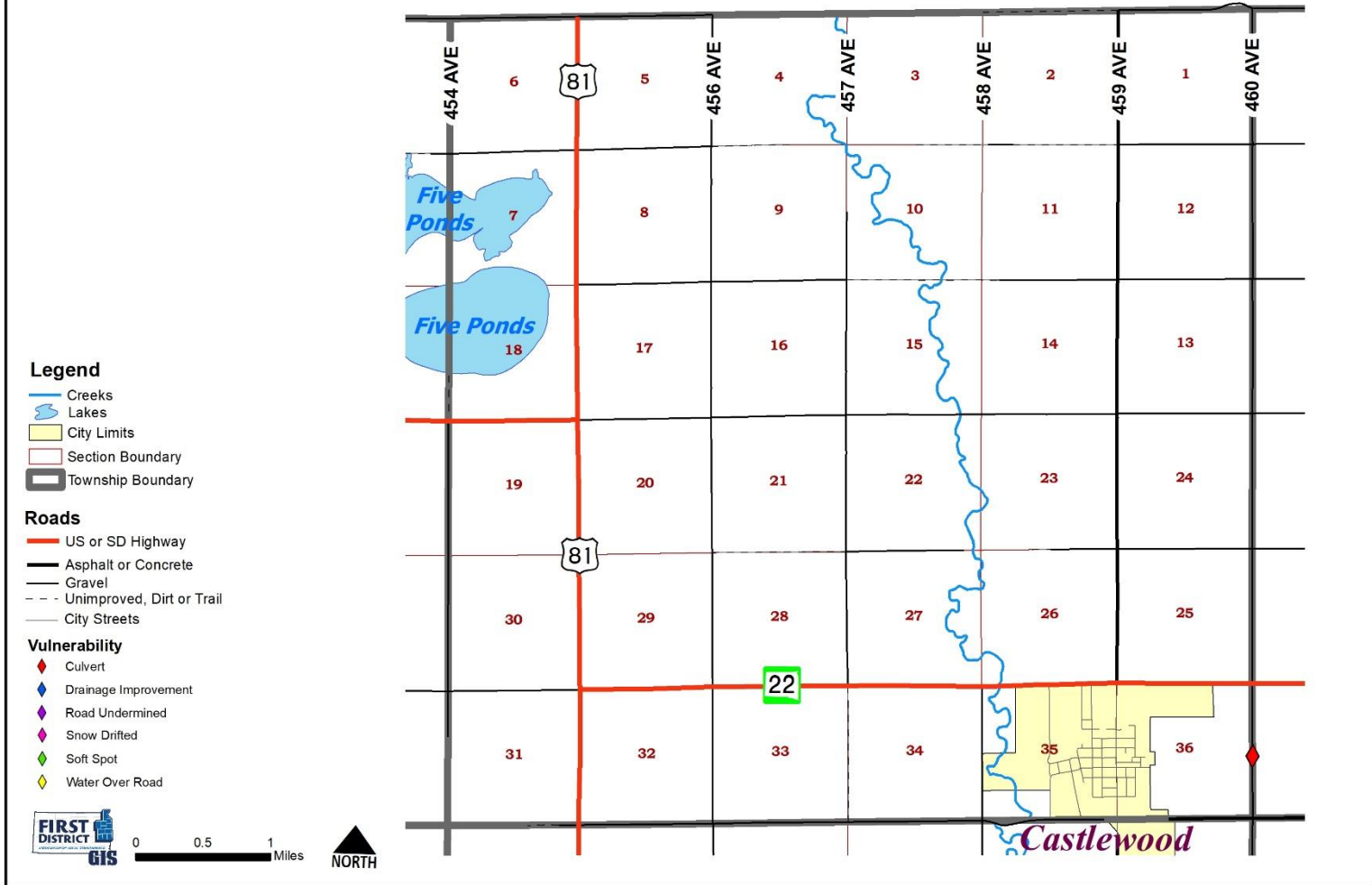
- US or SD Highway
- Asphalt or Concrete
- Gravel
- Unimproved, Dirt or Trail
- City Streets

### Vulnerability

- Culvert
- Drainage Improvement
- Road Undermined
- Snow Drifted
- Soft Spot
- Water Over Road

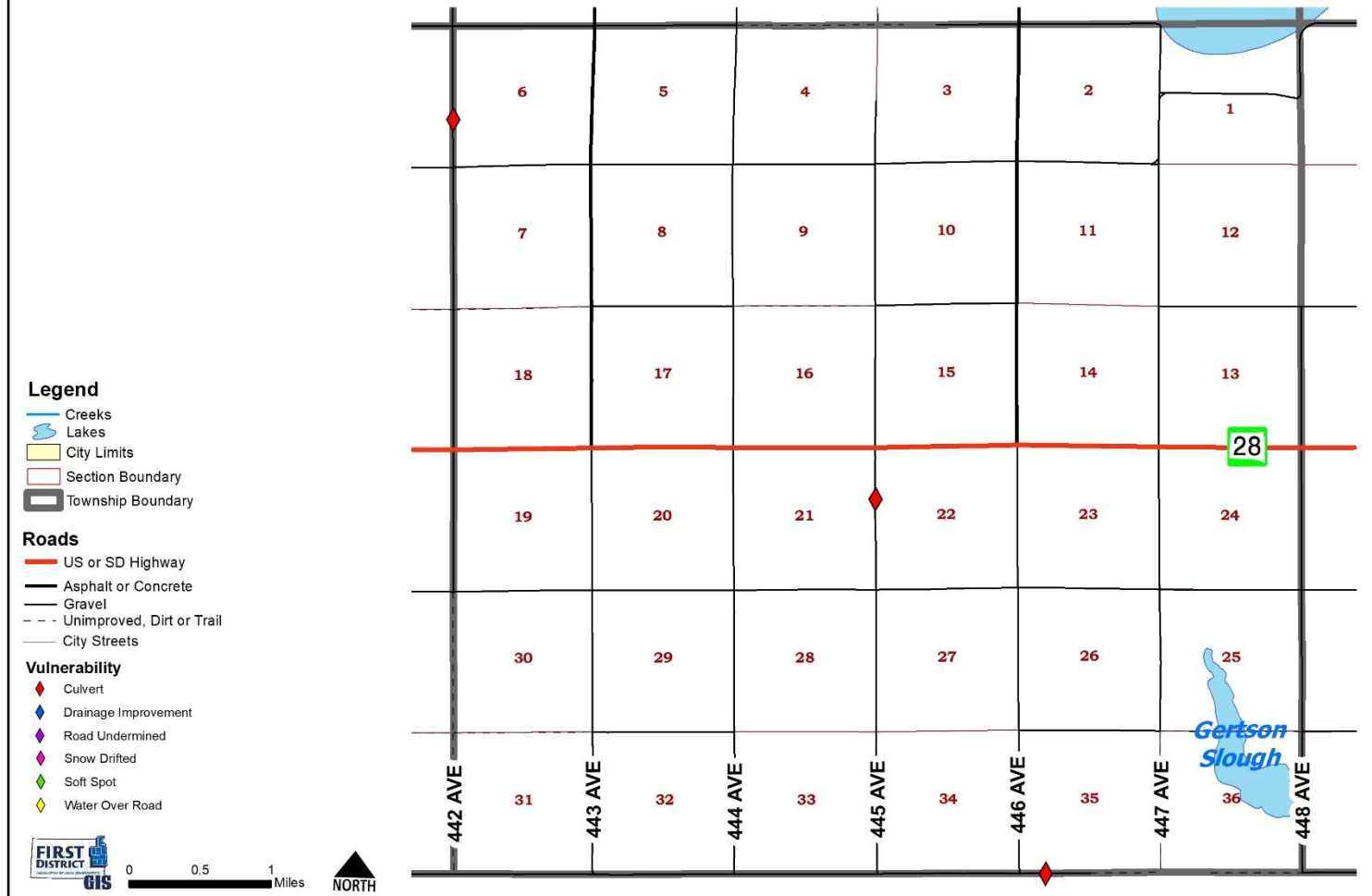
# CASTLEWOOD TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



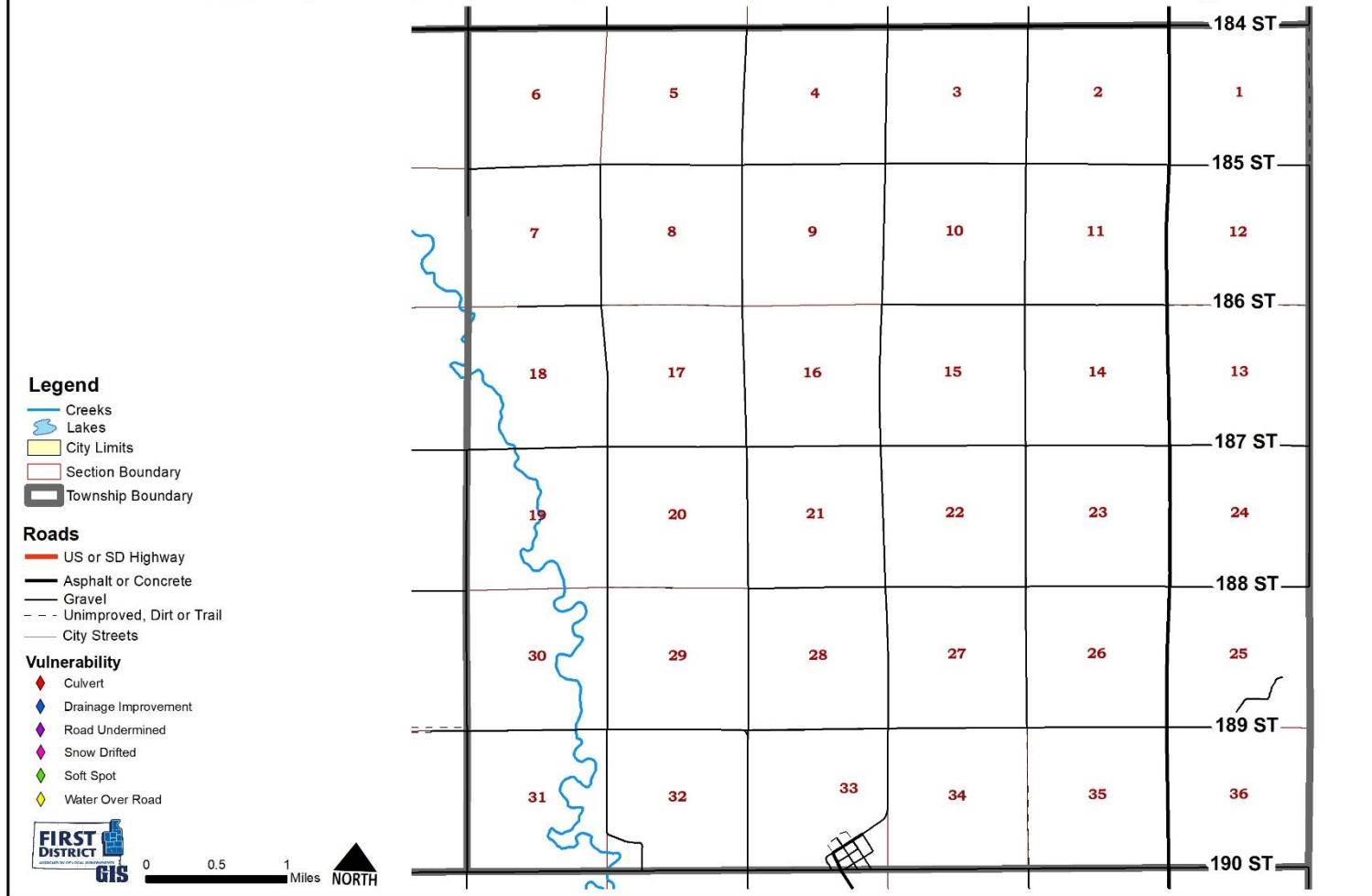
# CLEVELAND TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



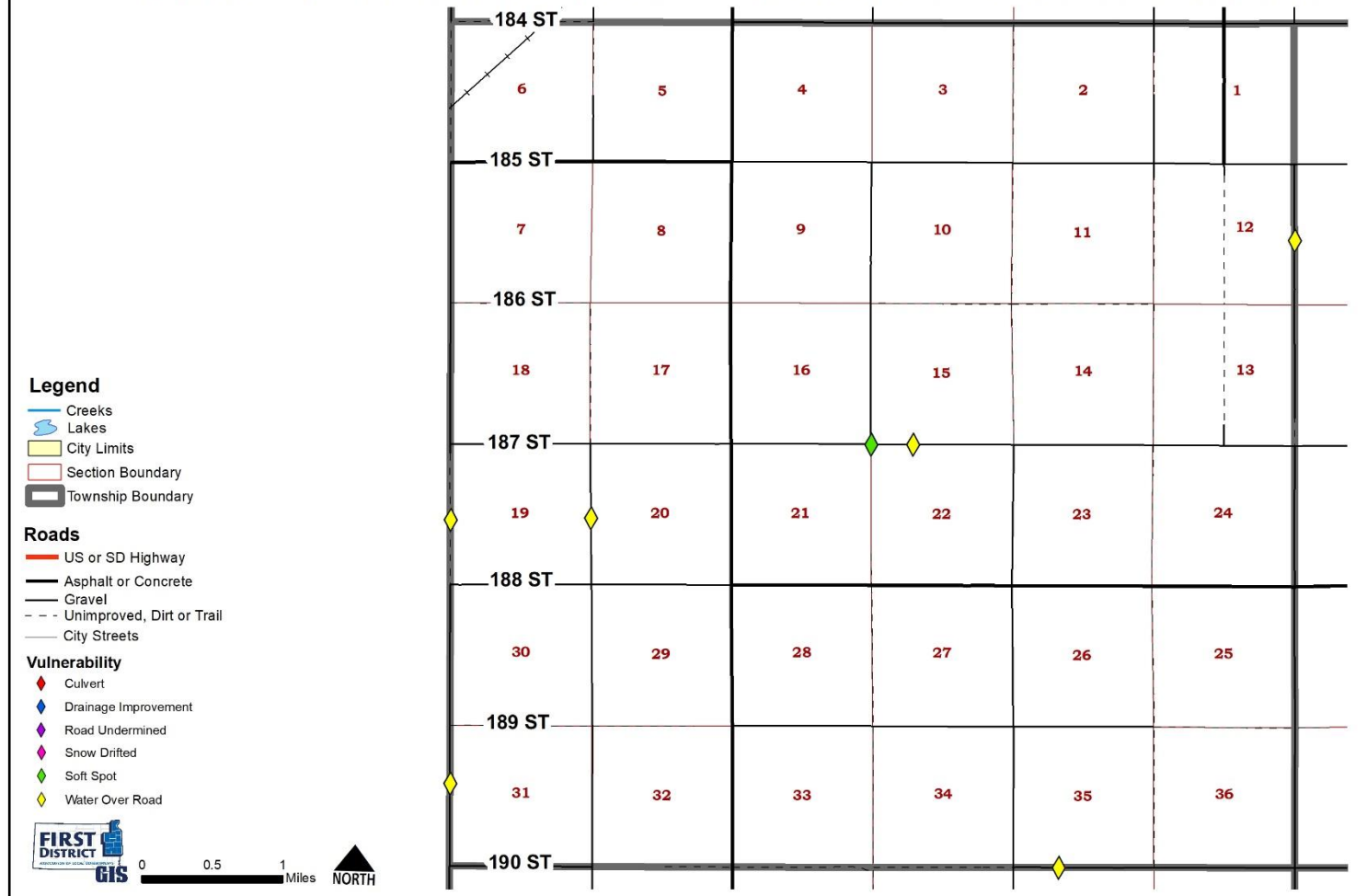
# DEMPSTER TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



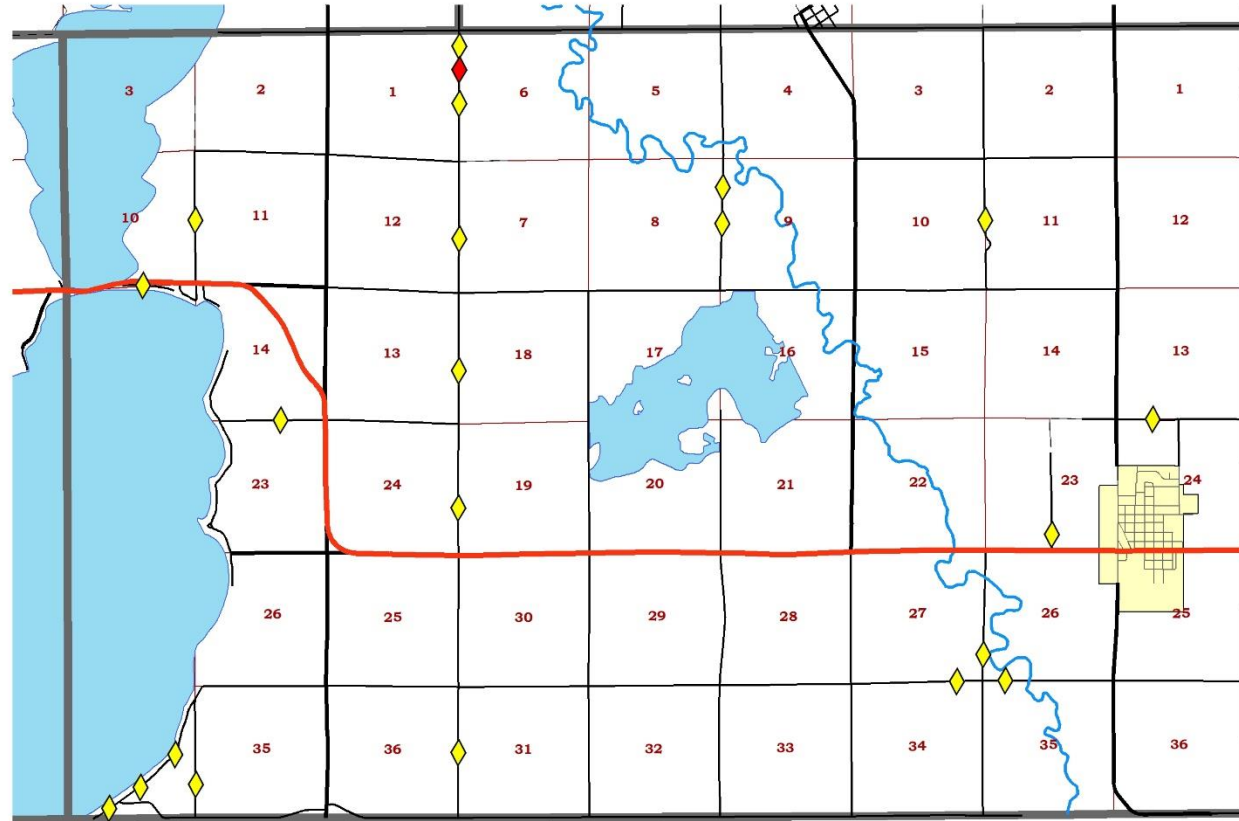
# DIXON TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



# ESTELLINE TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



### Legend

- Creeks
- Lakes
- City Limits
- Section Boundary
- Township Boundary

### Roads

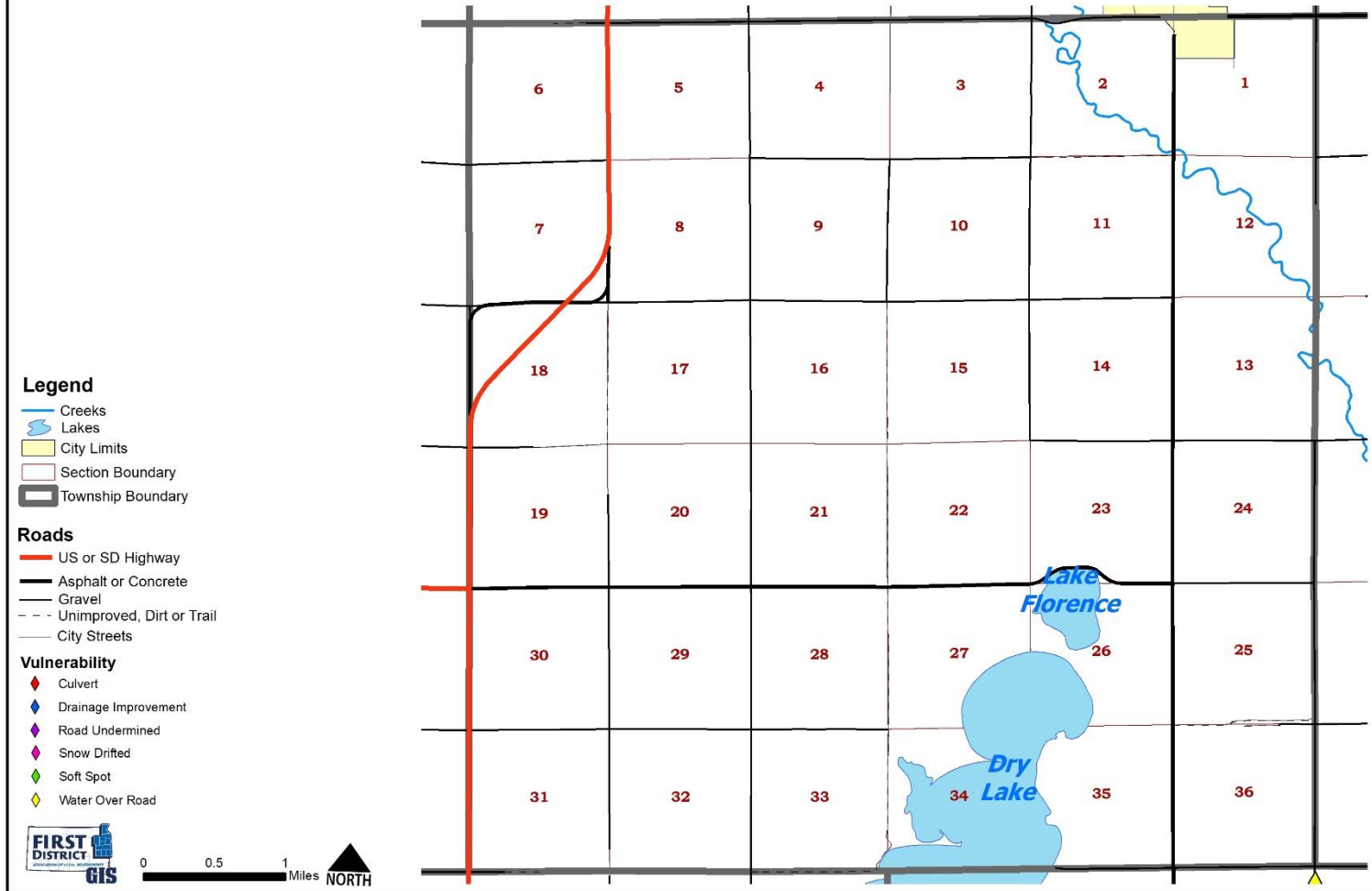
- US or SD Highway
- Asphalt or Concrete
- Gravel
- Unimproved, Dirt or Trail
- City Streets

### Vulnerability

- ◆ Culvert
- ◆ Drainage Improvement
- ◆ Road Undermined
- ◆ Snow Drifted
- ◆ Soft Spot
- ◆ Water Over Road

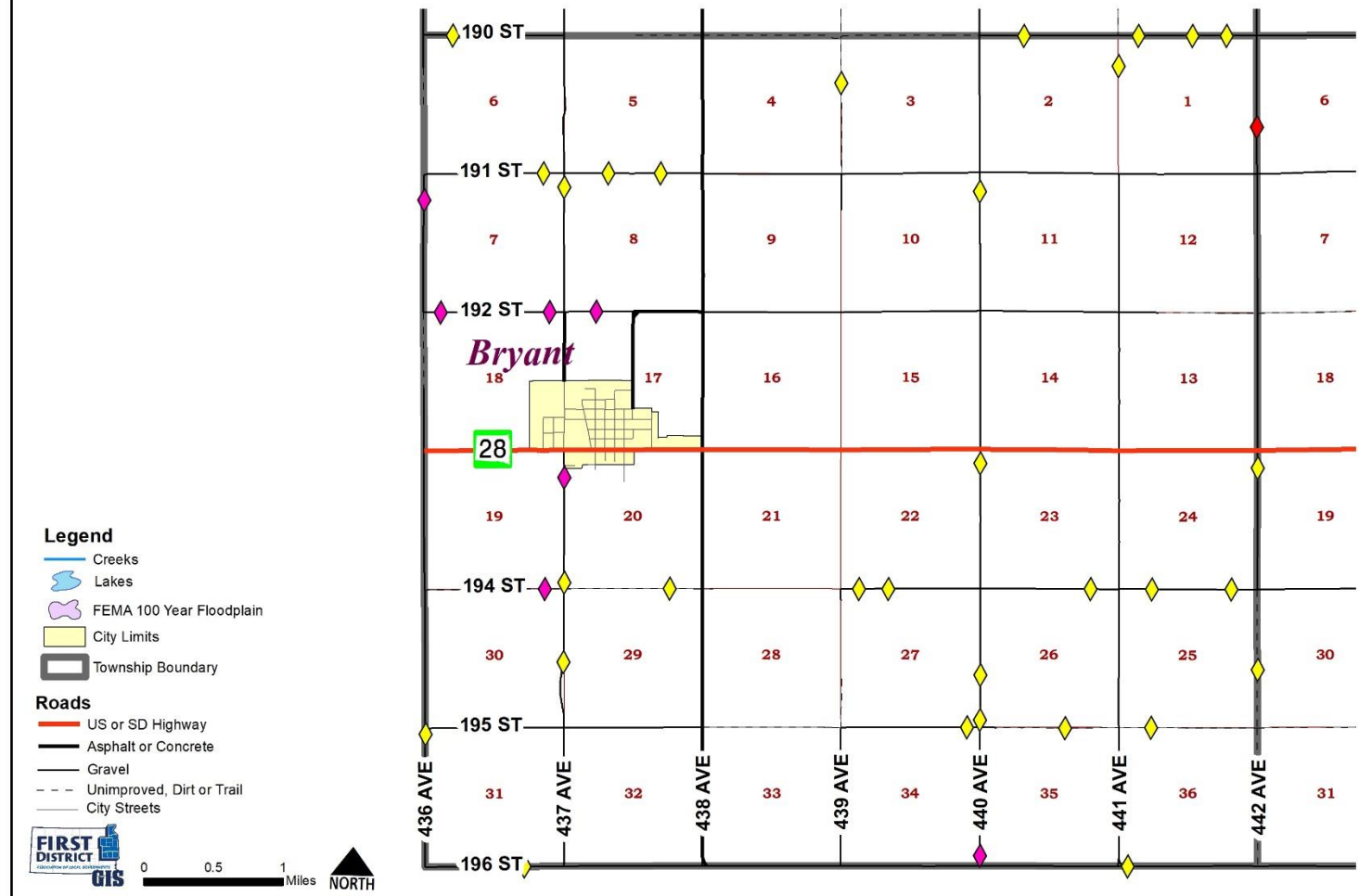
# FLORENCE TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



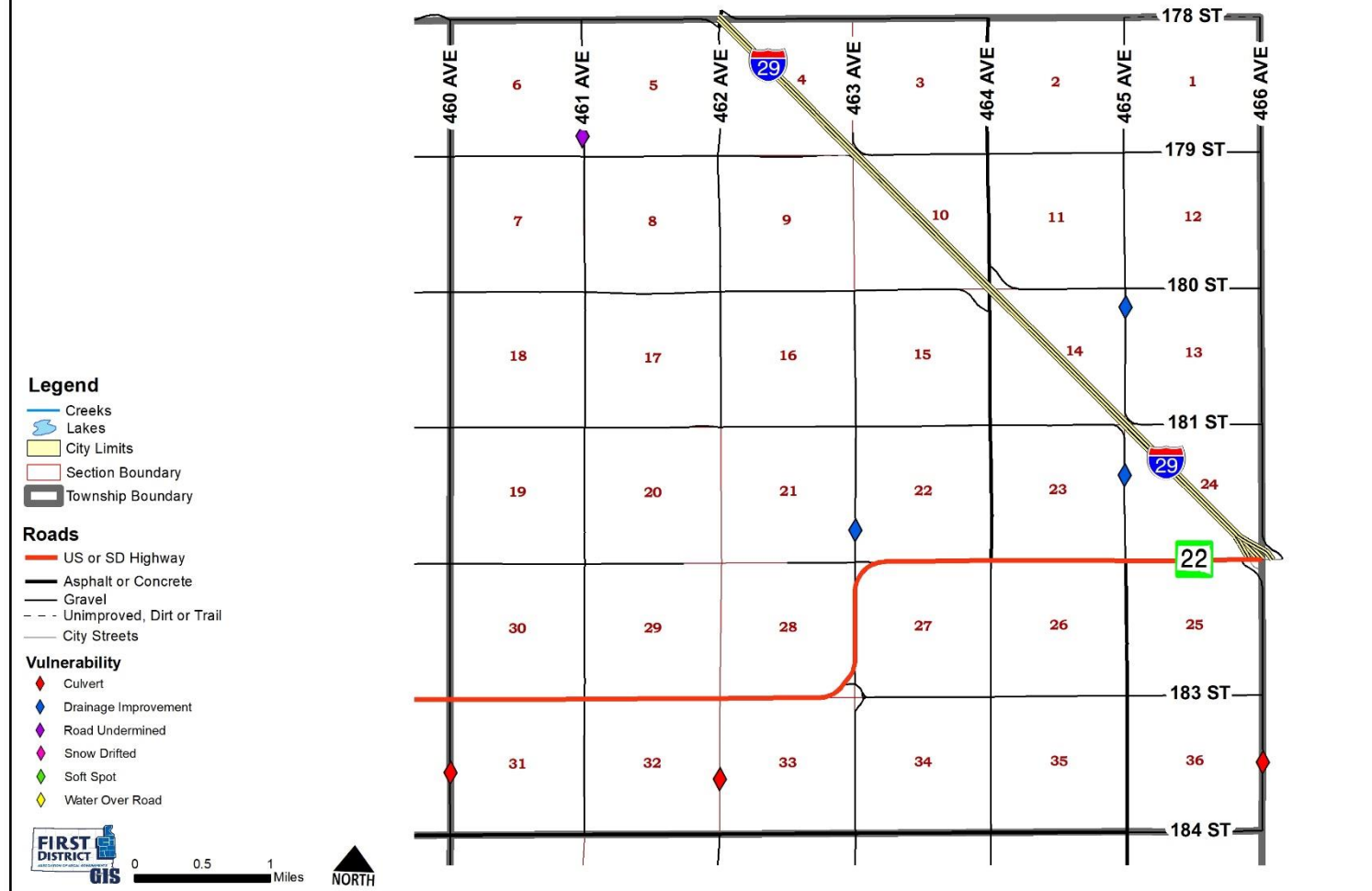
# GARFIELD TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



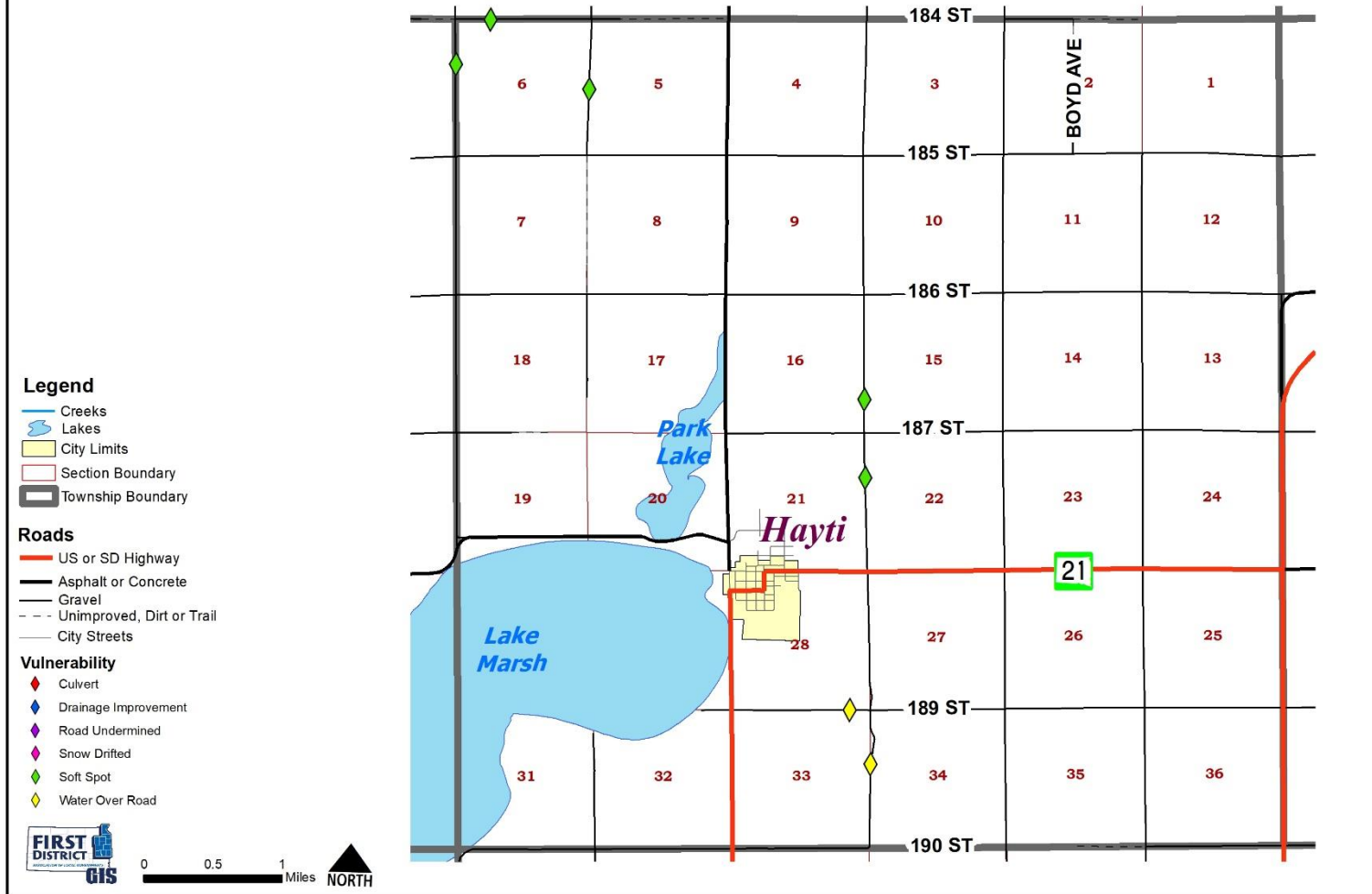
# HAMLIN TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



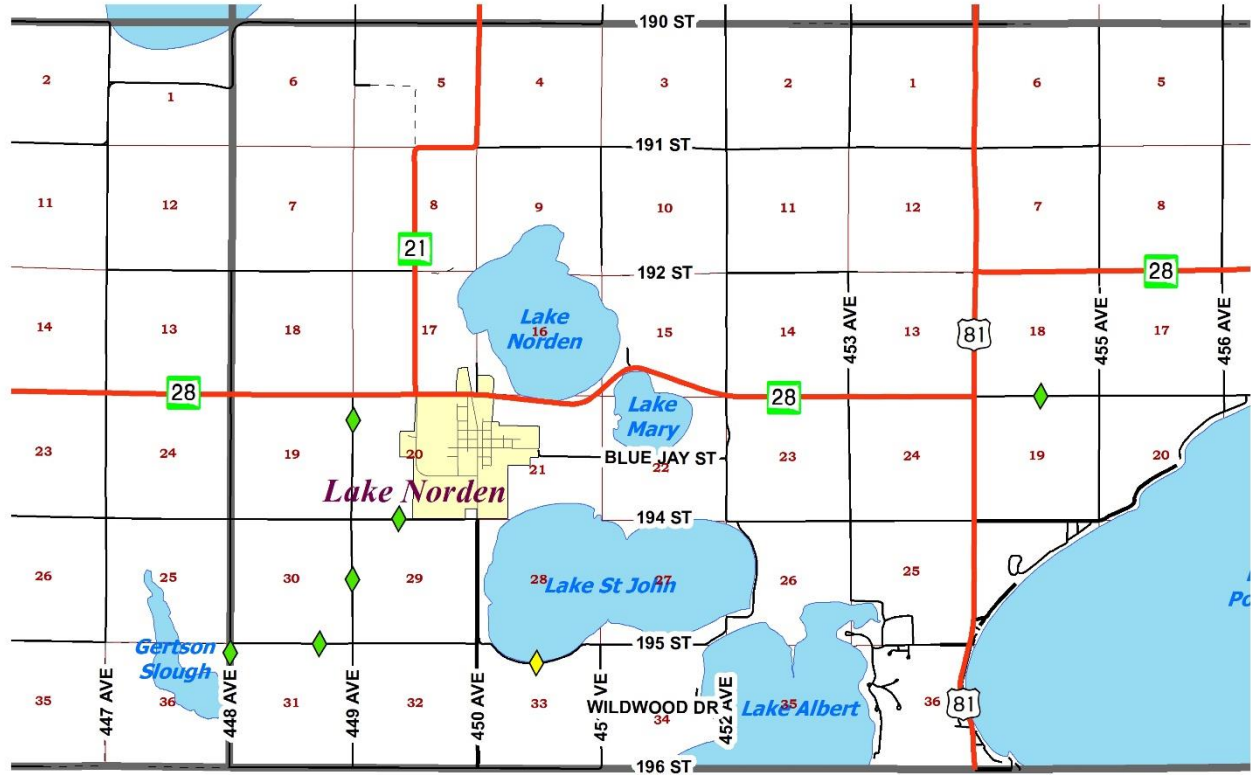
# HAYTI TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



# NORDEN TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



- |   |  |  |
|---|--|--|
| <p><b>Legend</b></p> <ul style="list-style-type: none"> <li><span style="color: blue;">—</span> Creeks</li> <li><span style="color: blue;">—</span> Lakes</li> <li><span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> City Limits</li> <li><span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Section Boundary</li> <li><span style="border: 2px solid black; display: inline-block; width: 15px; height: 10px;"></span> Township Boundary</li> </ul> | <p><b>Roads</b></p> <ul style="list-style-type: none"> <li><span style="color: red; font-weight: bold;">—</span> US or SD Highway</li> <li><span style="border-bottom: 2px solid black; width: 20px; display: inline-block;"></span> Asphalt or Concrete</li> <li><span style="border-bottom: 1px dashed black; width: 20px; display: inline-block;"></span> Gravel</li> <li><span style="border-bottom: 1px dashed black; width: 20px; display: inline-block;"></span> Unimproved, Dirt or Trail</li> <li><span style="border-bottom: 1px solid black; width: 20px; display: inline-block;"></span> City Streets</li> </ul> | <p><b>Vulnerability</b></p> <ul style="list-style-type: none"> <li><span style="color: red;">◆</span> Culvert</li> <li><span style="color: blue;">◆</span> Drainage Improvement</li> <li><span style="color: purple;">◆</span> Road Undermined</li> <li><span style="color: pink;">◆</span> Snow Drifted</li> <li><span style="color: green;">◆</span> Soft Spot</li> <li><span style="color: yellow;">◆</span> Water Over Road</li> </ul> |
|---|--|--|

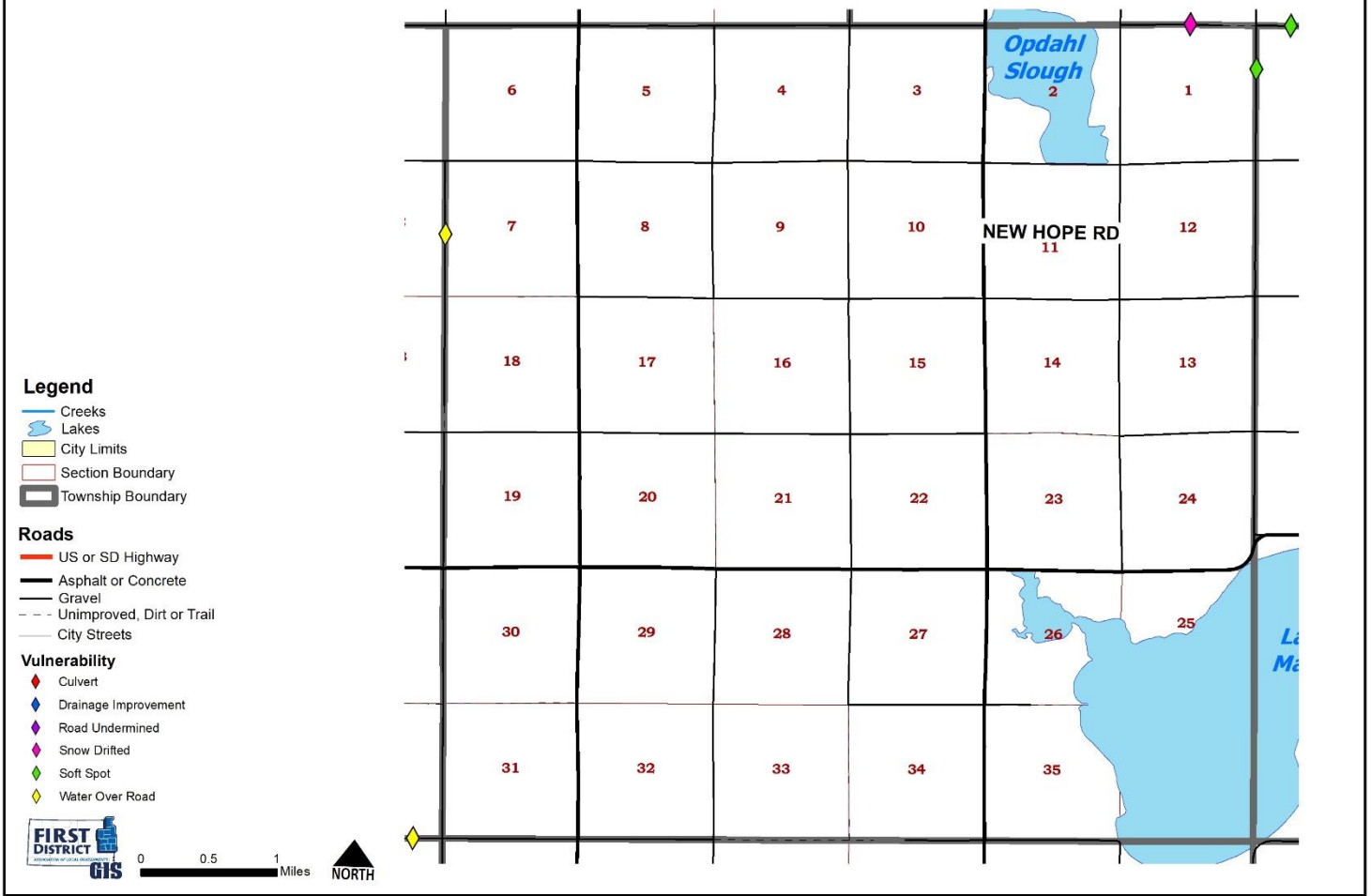
**FIRST DISTRICT**  
ASSOCIATION OF LOCAL GOVERNMENTS  
**GIS**

0 0.5 1 Miles

▲  
NORTH

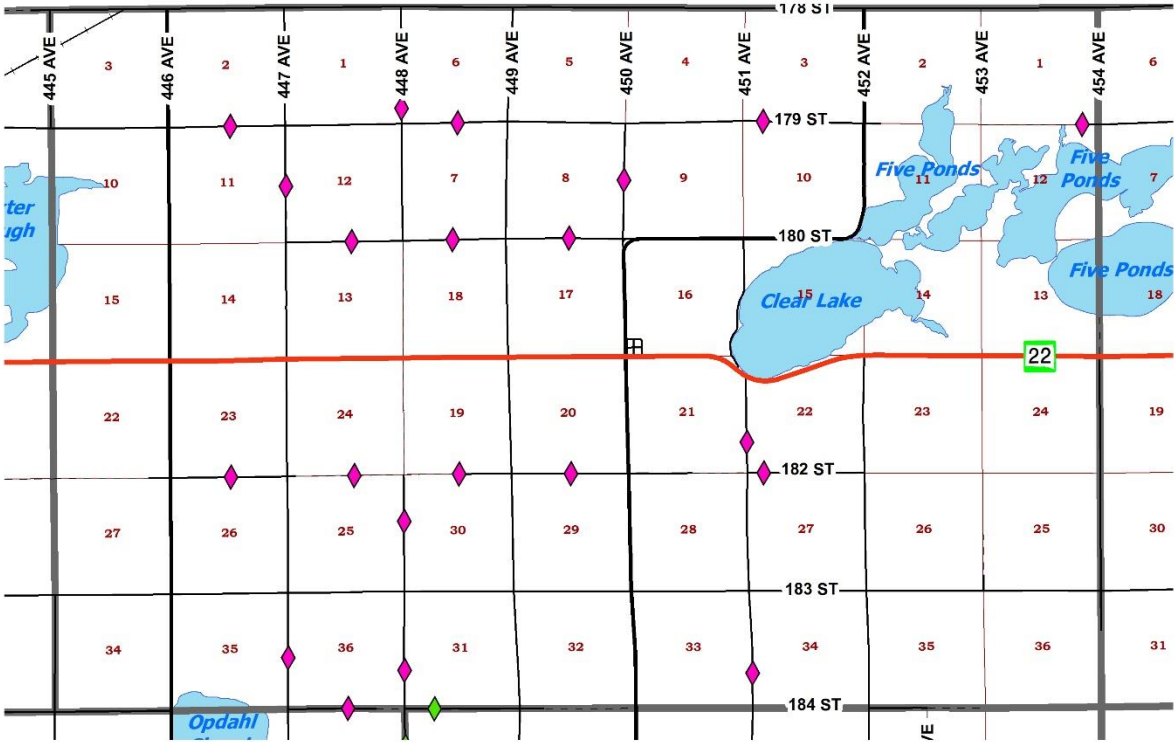
# OPDAHL TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



# OXFORD TOWNSHIP

## HAZARD VULNERABILITY / MITIGATION PROJECT SITES



0 0.5 1 Miles



- |   |   |  |
|---|---|--|
| <p><b>Legend</b></p> <ul style="list-style-type: none"> <li><span style="color: blue;">—</span> Creeks</li> <li><span style="color: lightblue;">—</span> Lakes</li> <li><span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> City Limits</li> <li><span style="border: 1px dashed black; display: inline-block; width: 10px; height: 10px;"></span> Section Boundary</li> <li><span style="border: 2px solid black; display: inline-block; width: 10px; height: 10px;"></span> Township Boundary</li> </ul> | <p><b>Roads</b></p> <ul style="list-style-type: none"> <li><span style="border-bottom: 2px solid red; width: 20px; display: inline-block;"></span> US or SD Highway</li> <li><span style="border-bottom: 2px solid black; width: 20px; display: inline-block;"></span> Asphalt or Concrete</li> <li><span style="border-bottom: 2px dashed black; width: 20px; display: inline-block;"></span> Gravel</li> <li><span style="border-bottom: 2px dotted black; width: 20px; display: inline-block;"></span> Unimproved, Dirt or Trail</li> <li><span style="border-bottom: 2px solid gray; width: 20px; display: inline-block;"></span> City Streets</li> </ul> | <p><b>Vulnerability</b></p> <ul style="list-style-type: none"> <li><span style="color: red;">◆</span> Culvert</li> <li><span style="color: blue;">◆</span> Drainage Improvement</li> <li><span style="color: purple;">◆</span> Road Undermined</li> <li><span style="color: pink;">◆</span> Snow Drifted</li> <li><span style="color: green;">◆</span> Soft Spot</li> <li><span style="color: yellow;">◆</span> Water Over Road</li> </ul> |
|---|---|--|

## Appendix F – Online Survey Information

### Survey Notice to Participate

PDM Planning Team Members:

Thank you for your continued participation in the 2025 Moody County Pre-Disaster Mitigation Plan. As you may recall, our first meeting was held on March 27, 2025. At that meeting an online survey for the Moody 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/s3/8223559/Moody-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,

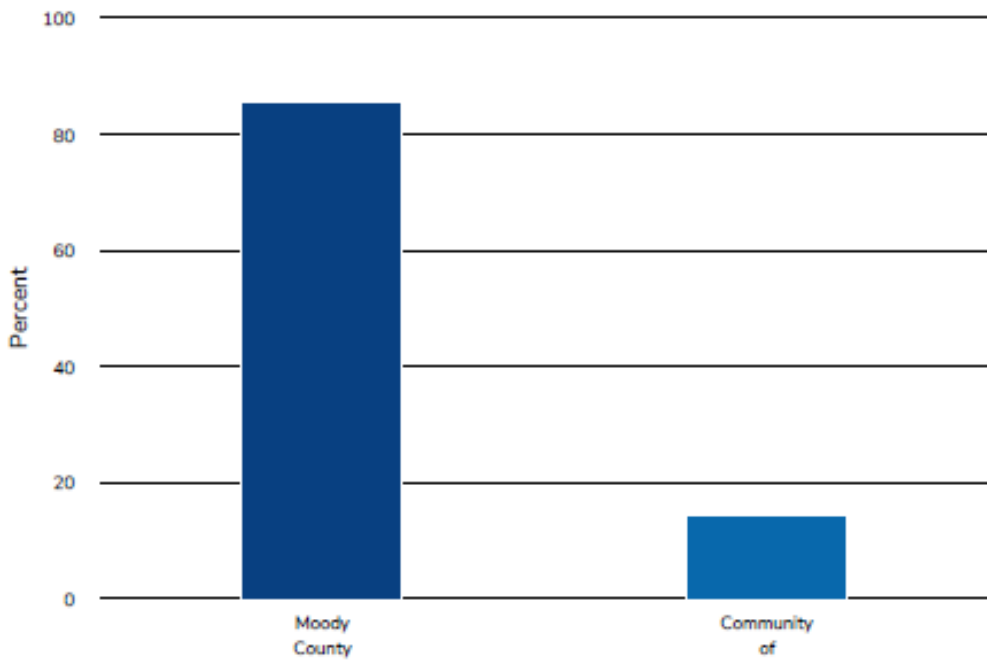
Jerrick Charles  
Director  
Moody County Emergency Management  
(605) 997-3251



# Report for Moody County PDM

## Response Counts



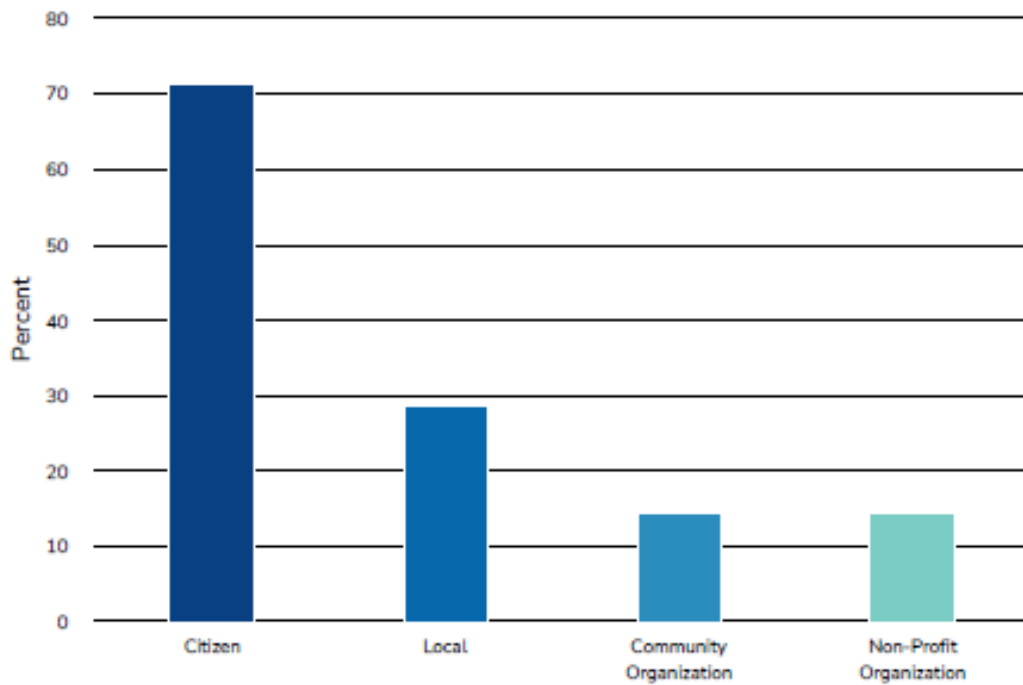
### 1. Please indicate the municipality you reside in:



Value	Percent	Responses
Moody County	85.7% 	6
Community of	14.3% 	1

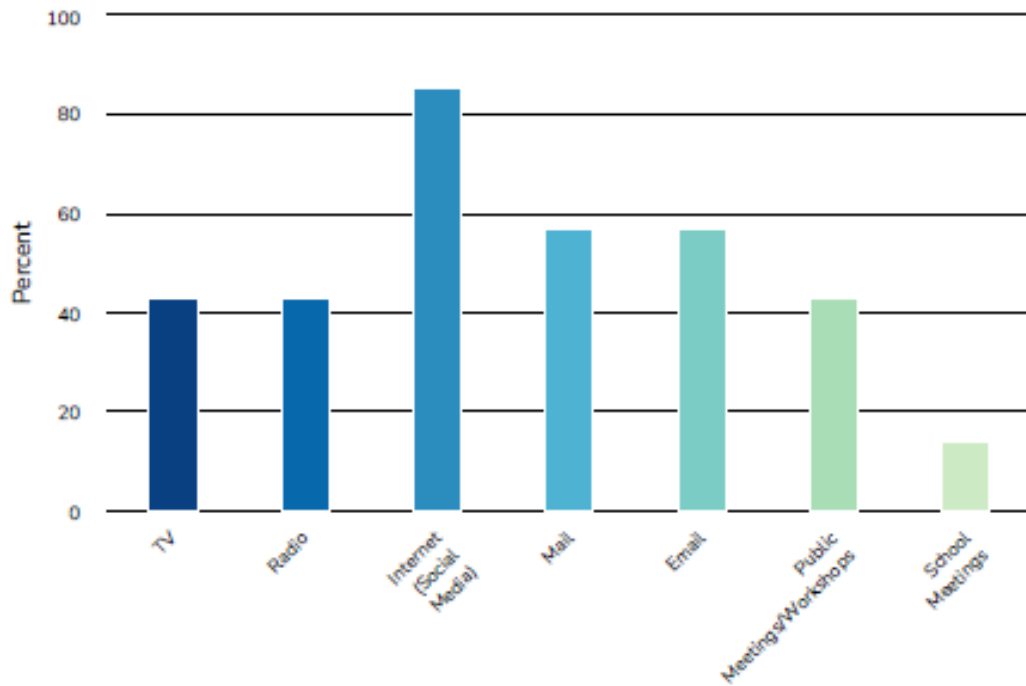
Community of	Count
Colman	1
Totals	1

## 2. Are you responding as:



Value	Percent	Responses
Citizen	71.4%	5
Local	28.6%	2
Community Organization	14.3%	1
Non-Profit Organization	14.3%	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	42.9%	3
Radio	42.9%	3
Internet (Social Media)	85.7%	6
Mail	57.1%	4
Email	57.1%	4
Public Meetings/Workshops	42.9%	3
School Meetings	14.3%	1

#### 4. Have you ever experienced or been impacted by a natural disaster?



Value	Percent	Responses
Yes	57.1% 	4
No	42.9% 	3

Totals: 7

#### 5. Please describe what type of hazard and how it affected you:

ResponseID	Response
2	100 mph winds. Destroyed many trees and power lines.
3	The dreacho of 2022
4	We have been impacted by multiple natural disasters which damaged our facilities
6	Derecho, ice storms and floods

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	6	1	0	0	0	0	7
Row %	85.7%	14.3%	0.0%	0.0%	0.0%	0.0%	
<b>Drought</b>							
Count	0	0	1	3	2	1	7
Row %	0.0%	0.0%	14.3%	42.9%	28.6%	14.3%	
<b>Extreme Cold</b>							
Count	0	0	0	1	4	2	7
Row %	0.0%	0.0%	0.0%	14.3%	57.1%	28.6%	
<b>Extreme Heat</b>							
Count	0	0	0	4	2	1	7
Row %	0.0%	0.0%	0.0%	57.1%	28.6%	14.3%	
<b>Flood</b>							
Count	0	2	0	5	0	0	7
Row %	0.0%	28.6%	0.0%	71.4%	0.0%	0.0%	
<b>Freezing Rain/Sleet/Ice</b>							
Count	0	0	0	3	3	1	7
Row %	0.0%	0.0%	0.0%	42.9%	42.9%	14.3%	
<b>Hail</b>							
Count	0	0	0	3	4	0	7
Row %	0.0%	0.0%	0.0%	42.9%	57.1%	0.0%	
<b>Heavy Rain</b>							
Count	0	0	0	3	2	2	7
Row %	0.0%	0.0%	0.0%	42.9%	28.6%	28.6%	
<b>Heavy Snow</b>							
Count	0	0	0	3	4	0	7
Row %	0.0%	0.0%	0.0%	42.9%	57.1%	0.0%	
<b>Ice Jam</b>							
Count	2	0	1	3	1	0	7
Row %	28.6%	0.0%	14.3%	42.9%	14.3%	0.0%	

	0	1	2	3	4	5	Responses
<b>Lightning</b>							
Count	0	0	0	1	3	3	7
Row %	0.0%	0.0%	0.0%	14.3%	42.9%	42.9%	
<b>Rapid Snow Melt</b>							
Count	0	1	0	6	0	0	7
Row %	0.0%	14.3%	0.0%	85.7%	0.0%	0.0%	
<b>Strong Winds</b>							
Count	0	0	0	1	3	3	7
Row %	0.0%	0.0%	0.0%	14.3%	42.9%	42.9%	
<b>Tornado</b>							
Count	2	3	0	1	1	0	7
Row %	28.6%	42.9%	0.0%	14.3%	14.3%	0.0%	
<b>Urban Fire</b>							
Count	2	2	1	2	0	0	7
Row %	28.6%	28.6%	14.3%	28.6%	0.0%	0.0%	
<b>Wild Fire</b>							
Count	3	0	2	1	1	0	7
Row %	42.9%	0.0%	28.6%	14.3%	14.3%	0.0%	
<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	6	1	0	0	0	0	7
Row %	85.7%	14.3%	0.0%	0.0%	0.0%	0.0%	
<b>Drought</b>							
Count	0	0	2	3	1	1	7
Row %	0.0%	0.0%	28.6%	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	2	1	7
Row %	0.0%	0.0%	14.3%	42.9%	28.6%	14.3%	
<b>Flood</b>							
Count	0	0	0	1	5	1	7
Row %	0.0%	0.0%	0.0%	14.3%	71.4%	14.3%	

	0	1	2	3	4	5	Responses
<b>Freezing Rain/Sleet/Ice</b>							
Count	0	0	3	1	3	0	7
Row %	0.0%	0.0%	42.9%	14.3%	42.9%	0.0%	
<b>Hail</b>							
Count	0	0	1	5	1	0	7
Row %	0.0%	0.0%	14.3%	71.4%	14.3%	0.0%	
<b>Heavy Rain</b>							
Count	0	0	2	1	3	1	7
Row %	0.0%	0.0%	28.6%	14.3%	42.9%	14.3%	
<b>Heavy Snow</b>							
Count	0	0	2	2	2	1	7
Row %	0.0%	0.0%	28.6%	28.6%	28.6%	14.3%	
<b>Ice Jam</b>							
Count	1	2	1	1	1	1	7
Row %	14.3%	28.6%	14.3%	14.3%	14.3%	14.3%	
<b>Lightning</b>							
Count	0	2	2	3	0	0	7
Row %	0.0%	28.6%	28.6%	42.9%	0.0%	0.0%	
<b>Rapid Snow Melt</b>							
Count	0	1	1	2	2	1	7
Row %	0.0%	14.3%	14.3%	28.6%	28.6%	14.3%	
<b>Strong Winds</b>							
Count	0	0	1	1	4	1	7
Row %	0.0%	0.0%	14.3%	14.3%	57.1%	14.3%	
<b>Tornado</b>							
Count	0	0	0	1	1	5	7
Row %	0.0%	0.0%	0.0%	14.3%	14.3%	71.4%	
<b>Urban Fire</b>							
Count	0	0	1	1	3	2	7
Row %	0.0%	0.0%	14.3%	14.3%	42.9%	28.6%	
<b>Wild Fire</b>							
Count	1	1	1	0	2	2	7
Row %	14.3%	14.3%	14.3%	0.0%	28.6%	28.6%	
<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	5	0	0	0	2	0	7
Row %	71.4%	0.0%	0.0%	0.0%	28.6%	0.0%	
<b>Drought</b>							
Count	0	2	1	0	1	2	6
Row %	0.0%	33.3%	16.7%	0.0%	16.7%	33.3%	
<b>Extreme Cold</b>							
Count	0	2	1	0	1	2	6
Row %	0.0%	33.3%	16.7%	0.0%	16.7%	33.3%	
<b>Extreme Heat</b>							
Count	0	2	1	0	2	1	6
Row %	0.0%	33.3%	16.7%	0.0%	33.3%	16.7%	

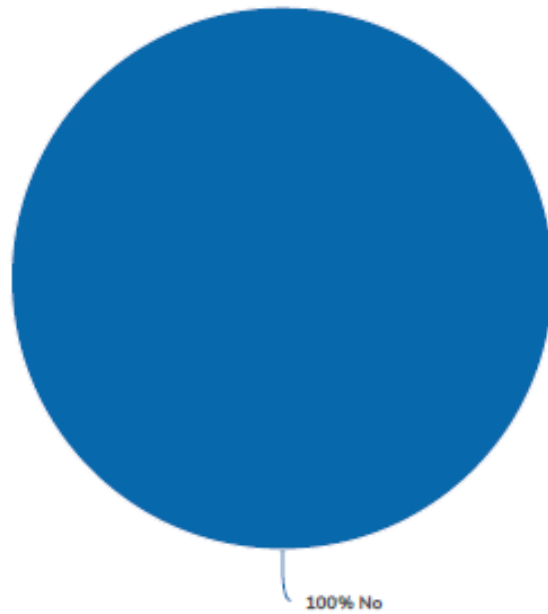
	0	1	2	3	4	5	Responses
<b>Flood</b>							
Count	0	0	0	1	3	2	6
Row %	0.0%	0.0%	0.0%	16.7%	50.0%	33.3%	
<b>Freezing Rain/Sleet/Ice</b>							
Count	0	1	2	1	2	0	6
Row %	0.0%	16.7%	33.3%	16.7%	33.3%	0.0%	
<b>Hail</b>							
Count	0	2	1	2	1	0	6
Row %	0.0%	33.3%	16.7%	33.3%	16.7%	0.0%	
<b>Heavy Rain</b>							
Count	0	0	2	0	3	1	6
Row %	0.0%	0.0%	33.3%	0.0%	50.0%	16.7%	
<b>Heavy Snow</b>							
Count	0	0	1	1	3	1	6
Row %	0.0%	0.0%	16.7%	16.7%	50.0%	16.7%	
<b>Ice Jam</b>							
Count	0	1	2	1	1	1	6
Row %	0.0%	16.7%	33.3%	16.7%	16.7%	16.7%	
<b>Lightning</b>							
Count	0	1	2	2	1	0	6
Row %	0.0%	16.7%	33.3%	33.3%	16.7%	0.0%	
<b>Rapid Snow Melt</b>							
Count	0	0	2	2	1	1	6
Row %	0.0%	0.0%	33.3%	33.3%	16.7%	16.7%	
<b>Strong Winds</b>							
Count	0	0	1	1	2	2	6
Row %	0.0%	0.0%	16.7%	16.7%	33.3%	33.3%	
<b>Tornado</b>							
Count	0	0	1	0	2	3	6
Row %	0.0%	0.0%	16.7%	0.0%	33.3%	50.0%	
<b>Urban Fire</b>							
Count	0	0	1	1	3	1	6
Row %	0.0%	0.0%	16.7%	16.7%	50.0%	16.7%	
<b>Wild Fire</b>							
Count	1	0	1	1	0	3	6
Row %	16.7%	0.0%	16.7%	16.7%	0.0%	50.0%	
	0	1	2	3	4	5	Responses

**Totals**

Total Responses

7

9. Is there another significant natural hazard that is a threat to your community that is not listed above?

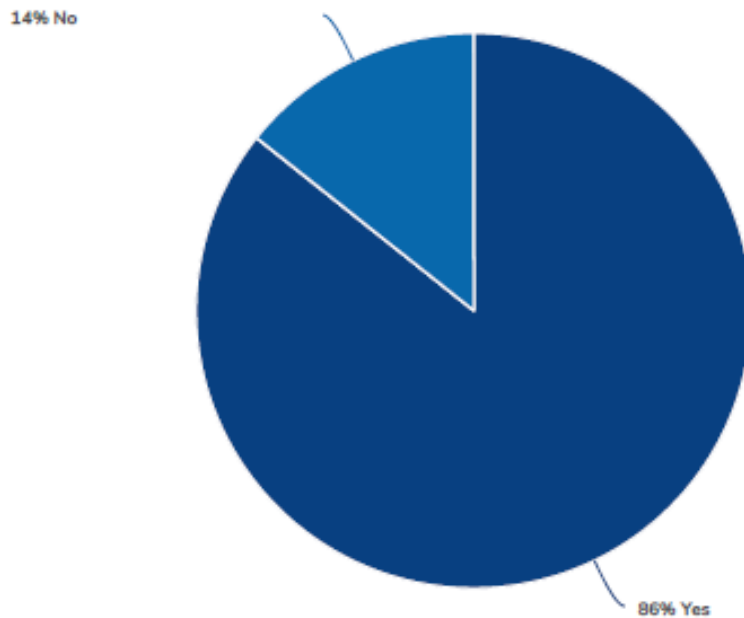


Value	Percent	Responses
No	100.0%	7
		Totals: 7

10. Please specify:

ResponseID	Response
------------	----------

11. Have you or your community taken any actions to make your home or community more resistant to hazards?



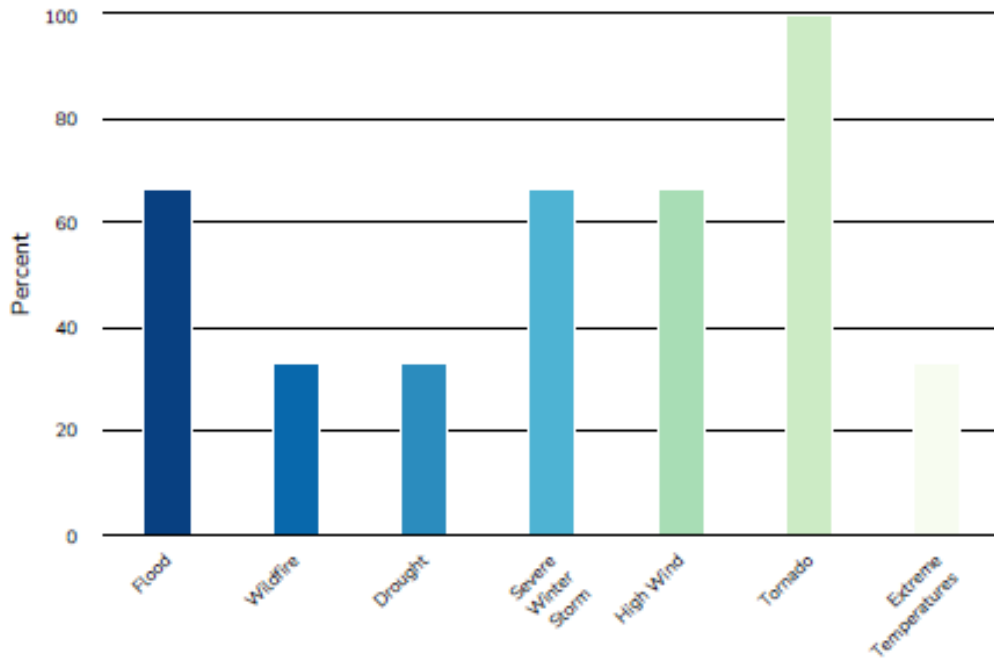
Value	Percent	Responses
Yes	85.7%	6
No	14.3%	1

Totals: 7

12. Please explain:

ResponseID	Response
1	stock more food that doesnt spoil and have more batteries on hand.
2	PDMP. Updating in 2025. Fire Extinguishers.
3	Buried electrical lines after a wind event prior to 2022
4	Rebuild facilities to more damage-resistant standards
5	Extra sump pump Generator hook up on house
6	Drought, heavy snow. High winds

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% 	2
Wildfire	33.3% 	1
Drought	33.3% 	1
Severe Winter Storm	66.7% 	2
High Wind	66.7% 	2
Tornado	100.0% 	3
Extreme Temperatures	33.3% 	1

<b>Flood</b>	<b>Count</b>
Flood plane maps	1
Totals	1

<b>Wildfire</b>	<b>Count</b>
Totals	0

<b>Drought</b>	<b>Count</b>
Totals	0

<b>Severe Winter Storm</b>	<b>Count</b>
Interlakes Community Action helps with fuel assistance.	1
Totals	1

<b>Thunderstorm (Including Lightning/Hail)</b>	<b>Count</b>
Totals	0

<b>High Wind</b>	<b>Count</b>
Storm Shelters	1
Totals	1

<b>Tornado</b>	<b>Count</b>
Storm Shelters	1
more shelters and sirens	1
Totals	2

<b>Dam Failure</b>	<b>Count</b>
Totals	0

**Extreme Temperatures****Count**

Totals

0

**Urban Fire****Count**

Totals

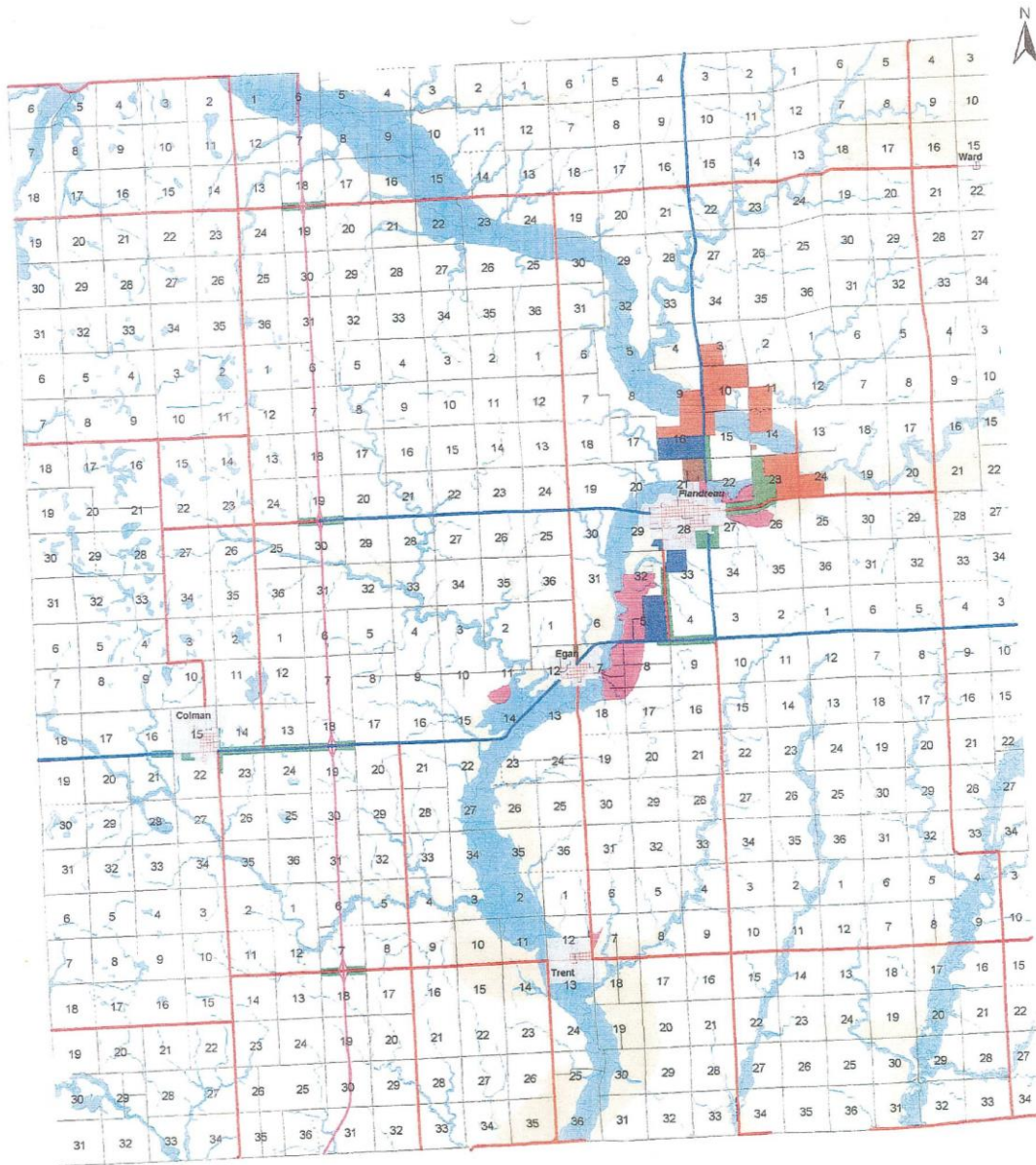
0

**Ice Jam****Count**

Totals

0

# Appendix G – Moody County Future Land Use Map



## MOODY COUNTY COMPREHENSIVE LAND USE PLAN FUTURE LAND USE MAP

### ROADS

- Asphalt/Concrete
- Gravel
- - - - - Primitive/Unimproved
- I-29

### WATER

- River/Stream
- Lake

### AREAS OF DEVELOPMENT TRANSITION

- Transition Areas
- Flandreau Santee Sioux Tribe Fee Lands
- Flandreau Santee Sioux Tribe Trust Lands
- U.S. Government Land

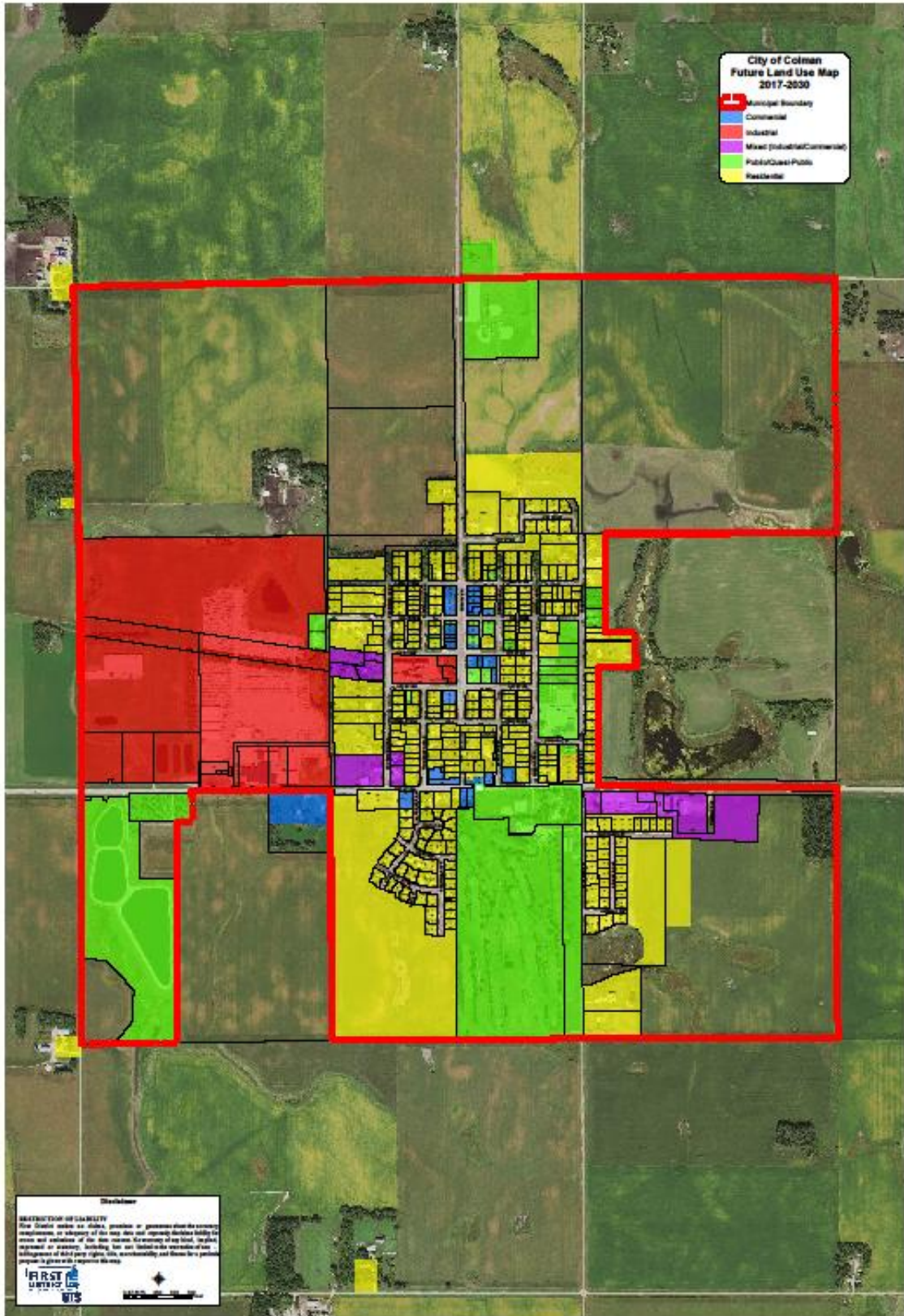
- ### AREAS OF DEVELOPMENT OPPORTUNITY
- Incorporated municipality

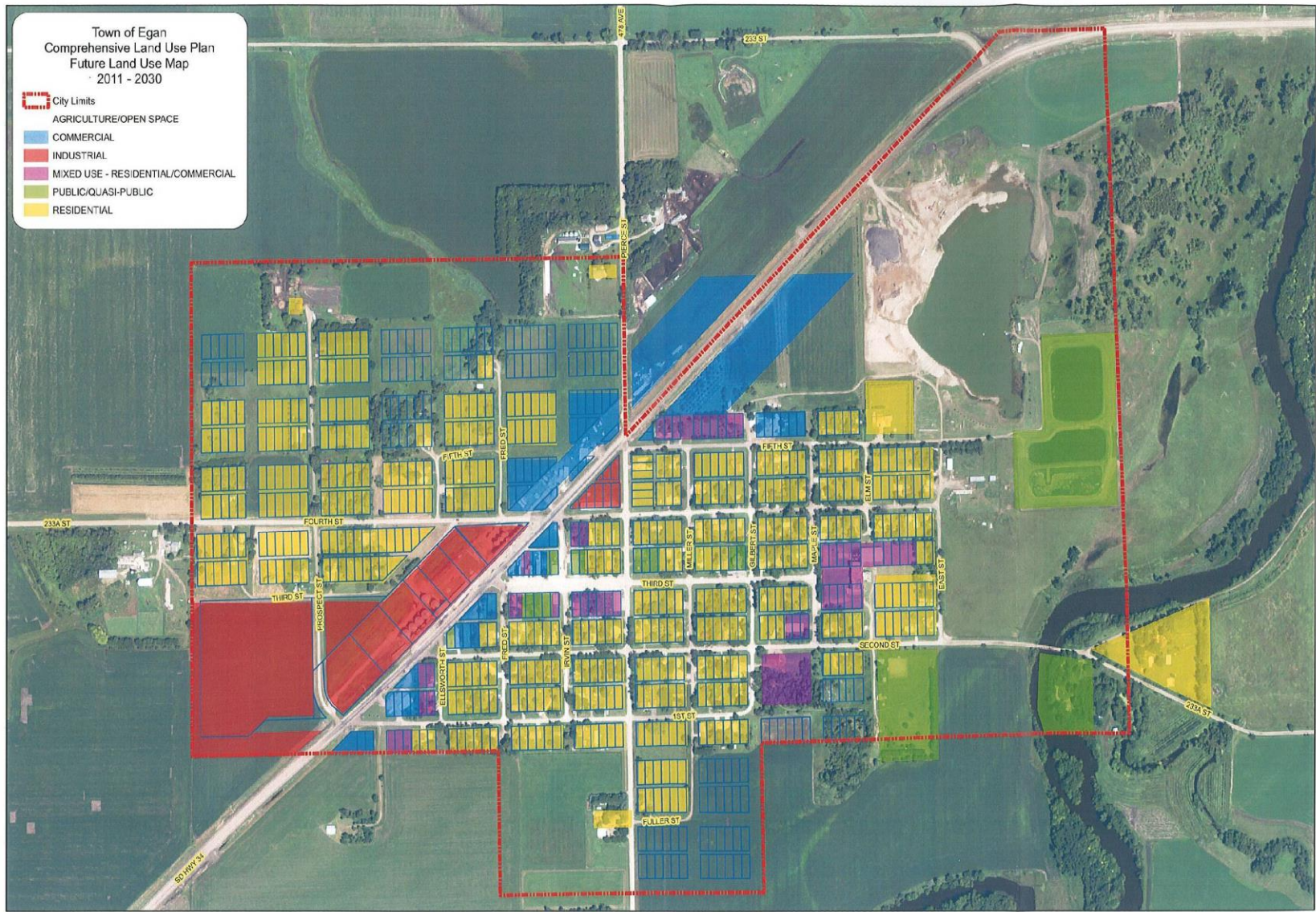
### AREAS OF DEVELOPMENT STABILITY

- AGRICULTURAL LANDS

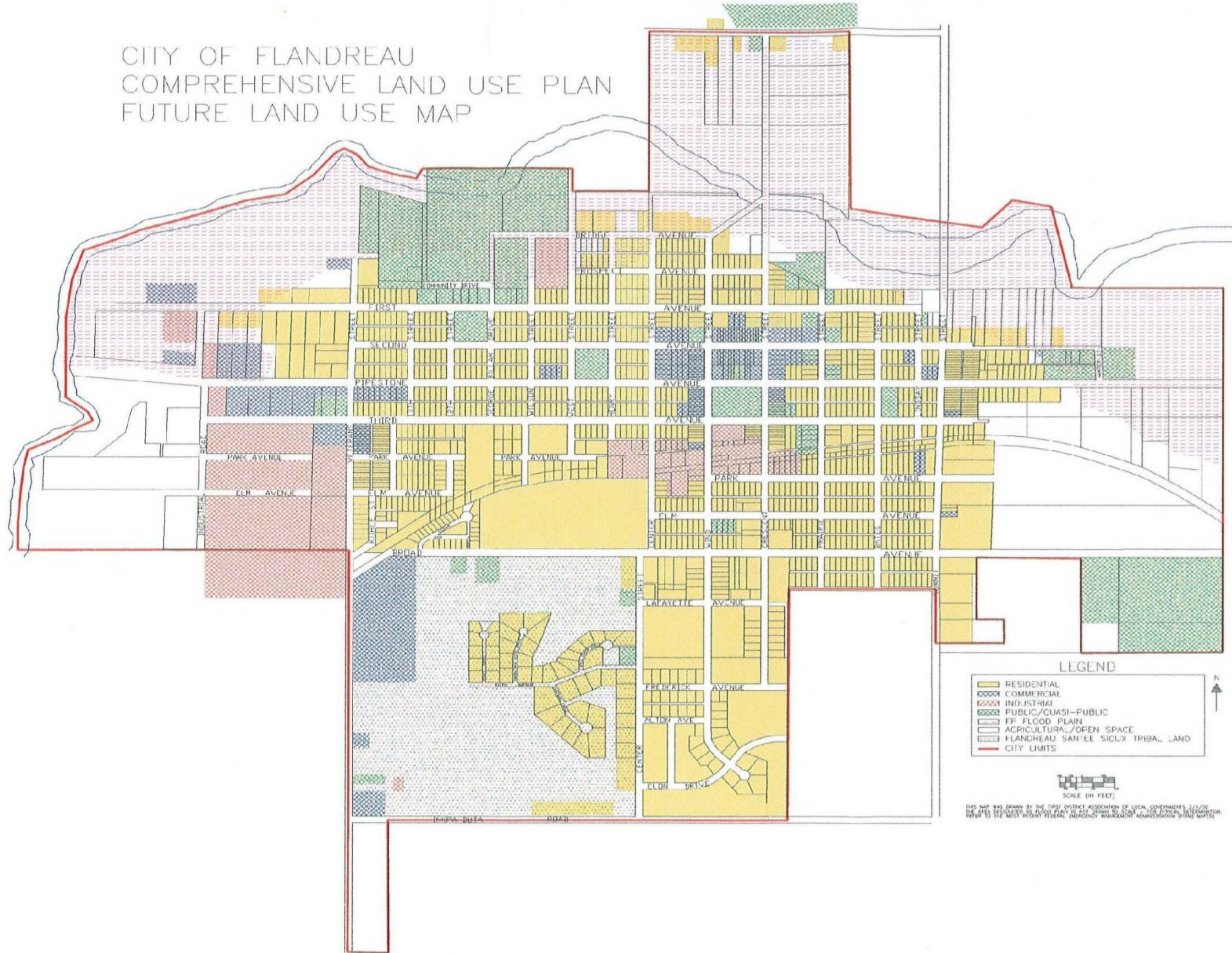
### AREAS OF DEVELOPMENT LIMITATION

- Shallow Aquifer
- Wellhead Protection Area
- One-Hundred Year Flood Plain





CITY OF FLANDREAU  
 COMPREHENSIVE LAND USE PLAN  
 FUTURE LAND USE MAP



# TOWN OF TRENT COMPREHENSIVE LAND USE PLAN FUTURE LAND USE MAP B 1998-2010



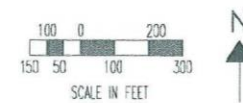
RESIDENTIAL  
 COMMERCIAL

INDUSTRIAL  
 FLOOD PLAIN

AGRICULTURAL/OPEN SPACE  
 PUBLIC/QUASI-PUBLIC

CITY LIMITS

THIS MAP WAS DRAWN BY THE FIRST DISTRICT ASSOCIATION OF LOCAL GOVERNMENTS - MARCH 1, 1998.  
 \*NOTE - THE FLOOD PLAN IS NOT DRAWN TO SCALE - PLEASE SEE DECEMBER 6, 1974 HUD FLOOD HAZARD BOUNDARY MAP



## Appendix H – Review of Previous PDM Mitigation Project Implementation

*Projects retained from previous plan are identified in Tables 5.2 – 5.14 as noted in introductory text. This Appendix includes only those projects that were listed in the Previous PDM Plan but are not listed in the 2025 PDM Plan.*

### 2019 PDM Plan Mitigation Project Implementation

COMMUNITY	POTENTIAL MITIGATION PROJECTS	HAZARD	INCLUDED IN 2024 PLAN?	STATUS
Egan	Purchase of Permanent Generator for Critical Infrastructure (lift stations).	Severe Weather Hazards (Summer and Winter)	No	Complete
Egan	Improve and add alternative evacuation routes.	All	No	Complete
Flandreau	Construct new fire station for the City.	Fire	No	Completed in 2024
Flandreau	Implement Drainage Improvements Including Storm Sewer in multiple areas of community.	Flooding	Yes	Ongoing – 1st Ave was worked on in 2019. Plans to bid project this year (2025).
Flandreau	Educate public on use and enrollment in the City's emergency alert system.	All	Yes	Ongoing – People are constantly enrolling in Code Red system.
Trent	Upgrade storm siren system.	Severe Weather Hazards (Summer and Winter)	Yes	Ongoing – Repairs done a couple years ago, but after testing recently (2025) sound was weak and unable to reach all of community.
Ward	Install drain tile system to remove excess water.	Flooding	No	Removed – Began quoting the project & discovered the cost would be much higher than they would be willing to spend.

## 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

Moody County Comprehensive Land Use Plan and Zoning Ordinance – First District Association of Local Governments, 2014.

Moody County Multi-Hazard Mitigation Plan, 2014.

City of Colman Comprehensive Land Use Plan and Zoning Ordinance - First District Association of Local Governments, 2017.

City of Egan Comprehensive Land Use Plan and Zoning Ordinance - First District Association of Local Governments, 2011.

City of Flandreau Comprehensive Land Use Plan and Zoning Ordinance - First District Association of Local Governments, 2000.

Town of Trent Comprehensive Land Use Plan and Zoning Ordinance - First District Association of Local Governments, 1998.

Local Hazard Mitigation Planning Tool. 2011. Federal Emergency Management Agency.

Discovery Report Moody County, South Dakota. 2016. Federal Emergency Management Agency Region VIII and South Dakota Office of Emergency Management.

NFIP Flood Insurance Rate Maps.

State of South Dakota Hazard Mitigation Plan. South Dakota Office of Emergency Management. 2019.