CLARK COUNTY

PRE-DISASTER MITIGATION PLAN

2024 - 2030

Prepared by:
First District Association
of Local Governments

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INTRODUCTION

Clark 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 Clark 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 Clark 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 and updated in 2014 and again in 2018. 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 2,680 Major Presidential Disaster Declarations (all hazards) have been proclaimed in the United States, of those declarations, 54 occurred fully or partially within the state of South Dakota. Clark County is no stranger to natural and man-made disasters. All or portions of Clark County have been included in 18 Presidential Disaster Declarations, five 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 Clark County Pre-Disaster Mitigation Plan was developed. This plan identifies hazards that occur throughout Clark 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

This 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 Clark 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.

CLARK COUNTY PROFILE

Population

Clark County is in northeastern South Dakota. The county is bordered by Day County to the north, Codington and Hamlin to the east, Kingsbury and Beadle to the south, and Spink to the west. The county has a geographic area of 967 square miles and its 2020 Census population was 3,837, which averages 4.0 persons per square mile which is a slight increase since 2010. According to 2020 Census data, 23.6% of the population is older than age 65. Education levels of persons twenty-five and older include 91.1% high school graduates and 18.7% with college degrees. The number of high school graduates has increased since 2010, which is a positive trend for the County, but the number of college graduates has slightly decreased.

The county seat is the City of Clark, which is situated at the intersection of US Highway 212 and County Road 46. Table 1.1 shows the population and number of housing units of the county's municipalities. Table 1.2 lists the 27 County Townships by population. The County has experienced a population small growth since the 2010 census.

Table 1.1: Clark County Municipalities

Name	2020 Population	2010 Population	Location	Elevation	Housing Units
Bradley	65	72	45.09/-97.58	1,814	44
Clark	1,148	1,139	44.88/-97.73	1,795	589
Garden City	33	53	44.95/-97.58	1,857	24
Naples	38	41	44.77/-97.51	1,785	12
Raymond	53	50	44.91/-97.93	1,457	35
Vienna	49	45	44.70/-97.50	1,834	22
Willow Lake	255	263	44.62/-96.63	1,781	127
Unincorporated Areas	2,196	2,028			750
Clark County	3,837	3,691	44 3' 3.1" N 97 7' 45.8" W	1,785	1,603

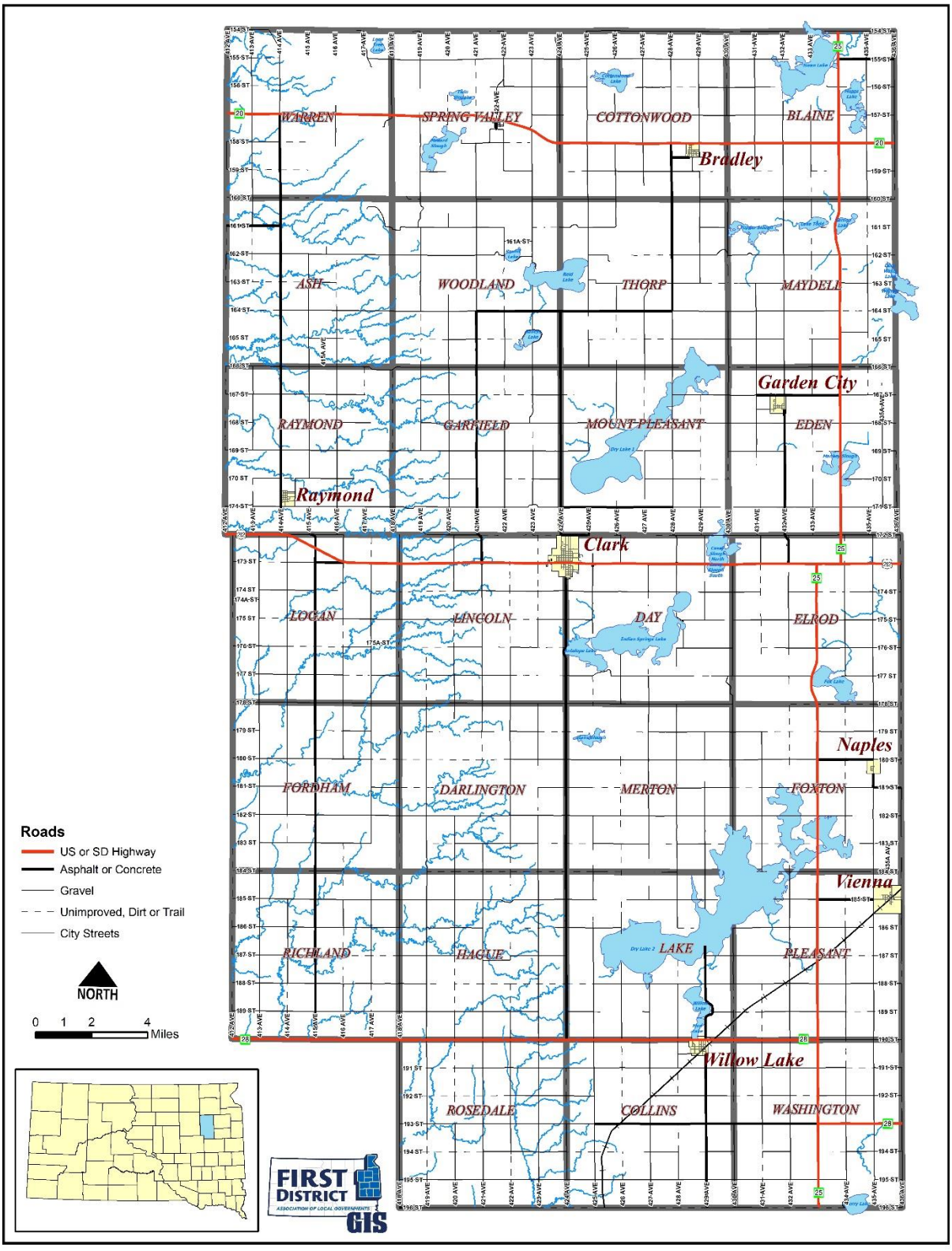
Source : 2020 & 2010 Census, www.Lat-Long.com, www.usbeacon.com

Table 1.2: Clark County Townships

Township	Population	Township	Population
Blaine	37	Cottonwood	94
Spring Valley	42	Warren	52
Ash	14	Woodland	48
Thorp	36	Maydell	54
Eden	63	Mount Pleasant	241
Garfield	33	Raymond	60
Logan	41	Lincoln	79
Day	94	Elrod	97
Foxton	33	Merton	55
Darlington	43	Fordham	154
Richland	61	Hague	41
Lake	177	Pleasant	194
Washington	74	Collins	214
Rosedale	65		

Source: *2020 Census*

Figure 1.1 Political Map



Social and Economic Description

Agriculture is the primary business activity in Clark County. While the number of farm and ranching units has decreased over the years, the size of each unit has increased dramatically. The number of acres farmed or ranched has remained stable throughout the years. Most non-agricultural employment is in tourism, education, health care, or service industries. Fishing and hunting, along with camping and lake use recreation, form the base for most tourism opportunities.

Unemployment rates in South Dakota have remained under 3.5% over the last 5 years with the exception of an 8.8% 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 through 2022, the rate has held steady around two percent in 2023. According to the US Bureau of Labor Statistics, Clark County followed a similar pattern with unemployment spiking to 6.5% in April of 2020 but fell back to about 3.5% by the fall. Since 2021, Clark County has experienced an uneven, but consistent decrease in the unemployment rate with an average around 2.0% through 2023. According to the 2020 census, approximately 13.5% of the population of Clark County falls below the poverty line.

The City of Clark is the largest community in Clark County, and serves as the county seat and retail hub of the county. Most of the smaller communities in Clark County serve as bedroom communities and have limited retail and service sectors which provide basic needs to their residents. Clark and Willow Lake have K-12 school facilities located in the county.

Minimal development has occurred in the County over the last five years. Clark County has issued 54 building permits for commercial and housing development. Fifty of the permits were for new housing development including mobile homes. Four permits were issued for new business construction. Each of the communities was contacted regarding the issuance of building permits. A total of five building permits for homes including mobile homes have been issued over the last five years. A total of two business permits have been issued by all communities over the last five years. Very little development that would affect the PDM plan has occurred in the County in the last five years.

Physical Description and Climate

The majority of the land area within Clark County is farmland consisting of grassland, pasture and cropland. Clark 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. Average summer temperatures are around eighty degrees Fahrenheit and winter temperature around twenty-one degrees (about twelve degrees in January). 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 21st and September 21st. 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 25.75 inches, with over 64% of the precipitation falling from May through September. Precipitation can vary significantly from year to year, and location to location within a given year. The heaviest most intense precipitation often occurs with localized downpours associated with thunderstorms in June through August. Significant flash flooding can result from these downpours with over 3 inches of precipitation reported in a few events. Widespread heavy precipitation events of 1 to 2 inches can occur every few years and is most common from April through June and September through early November.

Average winter snowfall ranges up to 37 inches. The heaviest snowstorms often occur from late March through May or mid-October to mid-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 midwinter, 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.

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 unavoidable element of the climate in Clark County is the often windy conditions. Average annual wind speed in Clark County is 19.7 mph. The average and peak sustained winds tend to be stronger over higher more exposed terrain. The highest sustained winds tend to occur in the spring and fall, with sustained winds over 40 mph occurring every year. The highest wind gusts are often associated with thunderstorms during the summer, with gusts over 60 mph occurring every year.

The highest recorded wind gust of 80 knots (92.1 mph) occurred in Clark, SD in June of 2017. The highest sustained winds tend to occur in the spring and fall, with sustained winds over 40 mph or greater occurring most years. Clark County can anticipate straight line wind speeds of 80 mph or more at least once every 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

Clark County is split by two watersheds, the Big Sioux River watershed and the James River watershed. These watersheds both convey water south to the Missouri River then on to the Mississippi River and the Gulf of Mexico. Approximately, the eastern two thirds of Clark County is located on the Coteau des Prairie. The Coteau is a plateau area from the ND/SD border that traverses southeasterly toward the State of Iowa. The roughly eastern one half of the county drains south/southeast into the Big Sioux River watershed. The western one third of the Clark County drains west into the James River. Drainage patterns on the Coteau de Prairie are generally characterized by poorly defined drainage channels and slow absorbing soils.

While the James River Lowland is generally characterized by exceptionally flat topography, the land draining into the James River in Clark County is located on the western slope of the Coteau de Prairie and varies in elevation by approximately one hundred feet.

Transportation and Utility Infrastructure

Clark County meets its current transportation needs through a mixture of state and federal highways, railroads, county roads, municipal road systems, and township 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.

Major transportation infrastructure in the county includes roads, railroads, and an airfield. South Dakota State Highway(s) 20, 25, 28, and US Highway 212 provide the main transportation routes through Clark County. Total State highway mileage in Clark County is approximately 115 miles. The bulk of the transportation infrastructure includes county highways and township roads that are used for rural transportation involving residents, agricultural products and other commodities.

In Clark County, the transportation choices are limited to mostly private automobiles traveling over state and federal highways and county roads. The County's 1,603 mile road system including communities encompasses 1,067 gravel road miles, 256 hard surfaced road miles, 280 miles of primitive/unimproved road miles, and 20 bridges.

The Burlington Northern Santé Fe railroad crosses the southeast corner of the county serving Vienna and Willow Lake and exits the south side of the county. Clark County has one small airport located in Clark. The airport is used primarily by local pilots, crop sprayers and other light aircraft. The airport does not have any precision nav-aid services but provides minimal flight service capabilities.

Clark Rural Water System (CRWS) serves most of the incorporated communities and the majority of rural residences in Clark County. CRWS serves the incorporated communities of Clark, Willow Lake, Raymond and Bradley plus the unincorporated community of Crocker. Garden City relies on a shallow aquifer/well system to provide its potable water needs. Sioux Rural Water System provides potable water services to Naples and Vienna plus a limited number of rural residences along the eastern portion of the county. Kingbrook Rural Water System serves a limited number of rural residences in the southeast portion of the county.

Regarding wastewater disposal, most of the incorporated municipalities within the County have municipal wastewater collection and treatment systems. Unincorporated communities and rural residences rely on individual septic tanks and drain fields. Although residential growth is not

expected to be significant in the county, new developments need to be controlled through planning and development guidelines.

Electric power is provided to rural county residents and people in the communities by Codington-Clark Electric Co-Op and Northwestern Energy. The primary telephone companies serving the County's population is Interstate Telephone Company, James Valley Telecommunication and Century Link. Cellular phone service is available in most parts of the county, but there are still places in the county where signals are weak.

The high-pressure, large diameter natural gas pipelines operated by Northern Border Pipeline and Northern Natural Gas Company pass through the county. TC Oil Pipeline Operations Inc. operates a crude oil pipeline that follows the western side of Clark County. Many high-transmission power lines cross the county.

Medical and Emergency Services

Emergency and medical services are available within the county. The main ambulance service is provided by Clark County Ambulance Service based in Clark, SD. The Willow Lake Fire Department also provides a volunteer ambulance service. Ambulance Services in Codington, Kingsbury, Hamlin, Spink, and Day Counties provide emergency services to portions of the County. Sanford Health Clinic serves as the main healthcare provider in Clark County alongside Clark Care and Rehabilitation Center. A nursing home and two assisted living centers are located within Clark. Clark County 911 services are dispatched through the City of Watertown Police Department and relayed to the Clark County Sheriff's Office.

The Clark County Sheriff's Department provides law enforcement for the entire county. Additional law enforcement agencies include the Clark Police Department, South Dakota Highway Patrol and South Dakota Game, Fish and Parks. The communities of Bradley, Clark, Garden City, Raymond, Vienna, and Willow Lake have their own volunteer fire departments that respond to both structural and wildland fires.

CHAPTER 2 | PREREQUISITES

ADOPTION BY LOCAL GOVERNING BODY

The local governing body that oversees the update of the Clark County Pre-Disaster Mitigation Plan is the Clark County Board of Commissioners. The Commission has tasked the Clark 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 201.6(c)(5)...Local Mitigation Plan Review Tool – E2.
Requirement 201.6(c)(5)…Local Mitigation Plan Review Tool – E1.

This plan is a multi-jurisdictional plan which serves the entire geographical area located within the boundaries of Clark County, South Dakota. The County has seven incorporated municipalities. All of the incorporated municipalities located within the County elected to participate in the planning process and the update of the existing PDM. Emergency Management Directors of the adjoining counties were also included on the January 2023 invitation correspondence to participate in the Roberts County PDM Plan update process. Others invited to participate in the County PDM plan update process include townships, 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*
Bradley	All 27 Townships
Clark	Carpenter Village
Garden City	Crocker Village
Naples	Clark Co. School Districts
Raymond	Electrical Coops
Vienna	Rural Water Systems
Willow Lake	Area Health Care Providers
Clark County	Communications Providers

*All villages and townships were represented by their Township Officials and are eligible to benefit from future mitigation projects identified by the 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 Clark County. Non-participants include the unincorporated communities with very small populations: Crocker (19 persons) is located approximately seven miles west of Bradley and Carpenter (14 persons) is located approximately 14 miles west of

Willow Lake. While none of the unincorporated communities directly participated in the PDM update, they were represented by their local Township Officials.

The unincorporated villages and townships are not direct participating entities in the plan because these entities are too small, both in population and in resources, to be capable of handling disaster needs on their own. The villages are governed by the township boards and are served by the County whenever necessary. The townships were invited to participate in the PDM update. Each township was asked to identify hazard risks, vulnerability, critical infrastructure and potential projects on maps they received via mail and return the information to the First District Association of Local Governments (First District) for incorporation in the plan. Ten out of 27 townships responded to the request.

Some of the rural utility providers attended planning meetings and provided system information for the updated plan.

The Clark 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
Town of Bradley	
City of Clark	
Town of Garden City	
Town of Naples	
Town of Raymond	
City of Vienna	
City of Willow Lake	
Clark 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, townships, 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 January 31, 2023 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 2024 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 A.

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

Nature of Participation	Bradley	Clark	Garden City	Naples	Raymond	Vienna	Willow Lake	Clark County
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).	■	■	■	■	■	■	■	■
■ Requirement Met								

CHAPTER 3 | PLANNING PROCESS

BACKGROUND

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 Clark 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 2019 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; Payton Carda, Planner/EDO; 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 Greg Maag. Maag complied and formatted the 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 – supplied classification and information regarding the value and number of flood insurance policies and claims.
- Doug Hinkle, SD State Fire Marshall Office – provided information on fires events throughout the County.

- Whitney Kilts, SD DANR, Water Rights Program – provided information on dams located in the County.

- Greg Pollreisz, SD Department of Transportation – provided bridges and road mileage information within the County's road system.

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

DOCUMENTATION OF THE PLANNING PROCESS

Requirement 201.6(b)(2)…Local Mitigation Plan Review Tool – A2.

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
2. Risk Identification and Assessment
3. Mitigation Strategy
4. Review of Plan
5. Plan Adoption and Maintenance

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;
- Identify public participation component
- Establish schedule for planning process

Prior to receiving funding, public meetings were held at the Clark 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 9/28/2022. Once funding was secured, the Clark County Emergency Management Director and the First District acted as the PDM Planning Team 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 Clark County Emergency Management Director wrote letters to all the stakeholders, community organizations, municipalities, townships, utility providers, health care providers, school districts, and 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 same correspondence was sent to the

Emergency Management Directors in the adjoining counties inviting them to participate in the Clark County PDM Plan update process. The letters included a brief description of the PDM. 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 all parties that were invited to participate as a PDM Planning Team member, and it includes their attendance at the planning meetings that were held as the plan was being developed. An agenda was sent out to the PDM Planning Team prior to each meeting, and the meeting minutes were sent to them after each meeting to keep everybody informed of what was discussed and any decisions that were made. All meetings were open to the public and notices were published in the local newspapers when the meetings were held.

Table 3.1: PDM Planning Team Members

Invited			Meeting Attendance		
Last Name	**First Name**	**Entity Represented**	**Meeting 1**	**Meeting 2**	**Meeting 3**
Ahrens	Travis	Clark School Supt.	■		
Andersen	Luke	ITC	■		
Anderson	Bryan	Day Co. EM Director			
Angermeier	Randy	Clark Co. Ambulance	■		
Bau	Cindy	Kingsbury Co. EM Director			
Birkholtz	Steve	Collins Township			
Bratland	Del	Willow Lake Mayor			
Brannan	Larry	Raymond President			
Bruley	Rick	Rosedale Township			
Burke	Chance	City of Willow Lake	■		
Caulfield	James	Bradley Fire Chief			
Clyde	Darwin	Eden Township			
Delgado	Andrew	Codington Co. EM Director			
Dunlavy	Darin	Warren Township			
Edeleman	Drew	Washington Township			
Eggleston	Ryan	Clark Co. High. Supt.			
Representative		First District	■		
Foster	Jason	Garden City Fire Dept.			
Fuller	Lee	Elrod Township			
Gaikowski	Kyle	Clark Ind. Dev. Corp.			
Glanzer	Tom	Northwestern Energy			

Invited			Meeting Attendance		
Last Name	**First Name**	**Entity Represented**	**Meeting 1**	**Meeting 2**	**Meeting 3**
Gjerde	Sara	Clark Co. Commissioner	■		
Grann	Jeff	Richland Township			
Hallberg	Jordan	Lincoln			
Hammrich	Angie	WEB Water Dev.			
Heaton	Tad	Clark Co. Sheriff	■		
Helkenn	Andrea	Garden City FO			
Helkenn	Ty	Fordham Township			
Hemmingson	Todd	Thorp Township			
Hermoe	John	Ash Township			
Hovde	Scott	Merton Township			
Huber	Jesse	Spring Valley Township			
Hurlbut	Dustin	Raymond Township			
Jans	Taylor	Beadle Co. EM Director			
Kaufman	Terry	CRWS Manager	■		
Kline	Kerry	Clark Mayor			
Knock	Wallace	Clark Co. Com. Chairman			
Lee	Chris	Willow Lake School Dist.			
Lewis	David	Clark Co. EM Director	■		
Linneman	Bob	Garfield Township			
Linneman	Liza	Clark Co. Com. Health Nurse	■		
Madsen	Heidi	Willow Lake FO			
McGraw	Wade	Logan Township			
Mudgett	Troy	Woodland Township			
Nelson	Bryan	Blaine Township			
Ness	Marlin	Foxton Township			
Pommer	Darcy	Willow Lake Area Adv.			
Redlinger	Hana	Naples FO			
Reil	Ron	Maydell Township			
Reis	Carrie	Raymond FO			
Roberts	Nancy	Vienna FO			
Roth	Ryan	ITC			
Schlagel	Terry	Clark Co. Commissioner	■		
Schutt	Brett	Hamlin Co. EM Director			
Seefeldt	Darrall	Day Township			
Seefeldt	Jeff	Clark Fire Chief			
Steffensen	Travis	SRWS Manager			
Stiefel	Lindsay	Clark Co. Deputy	■		

Invited			Meeting Attendance		
Last Name	**First Name**	**Entity Represented**	**Meeting 1**	**Meeting 2**	**Meeting 3**
Tarbox	Christine	Clark Co. Auditor			
Tebben	Larry	Spink Co. EM Director			
Temple	Brad	Darlington Township			
Terhark	Jared	Cod-Clark Electric Coop	■		
Thompson	Heath	KRWS Manager			
Vandersnick	Matt	Vienna Fire Chief			
Vandersnick	Tony	Pleasant Township			
Warkenthien	Jeanette	Bradley FO			
Warkenthien	Kim	Lake Township			
Warkenthien	Ryan	Hague Township			
Wellnitz	Alaina	Clark FO			
Wellnitz	Jeremy	Clark Police Dept.			
Werdel	Tony	Mount Pleasant Township			
Yexley	Doug	Cottonwood Township			
Representative		Sanford Health Clinic-Clark			

Leadership and guidance in the planning effort and at the planning meetings was provided by the Clark County Emergency Management Director and First District staff. 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 the Emergency Management Director or First District staff would provide the information or answer.

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 including any public persons in attendance, 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 Clark Legion Hall in the City of Clark on January 31, 2023. An agenda was distributed to prospective PDM Planning Team members. The Appendix B includes a copy of each meeting notice, meeting agenda, the signup sheet from each meeting, and the minutes from each meeting.

Those who attended the January 31st 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. There were no external contributors such as contractors or private businesses, other than the local utility providers. Each of the local jurisdictions had a member of their respective boards/councils represent the municipalities in the plan.

The representatives from the municipalities/participating 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.

The public was provided several opportunities to comment on the plan during the drafting stages at the PDM Planning Team meetings and local community meetings. There were several work sessions and public hearings held to keep the public updated and involved in the plan. Additionally, the County utilized an online survey to allow individuals that were unable to attend the community meetings, work sessions and hearings 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, posted 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 municipalities put the PDM update on the agenda at their regular meetings and allowed people to comment at the 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 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 lead 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.

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
Bradley	04/03/2023	■			■	
Clark	03/06/2023	■			■	
Garden City	06/05/2023	■			■	
Naples	06/05/2023	■			■	
Raymond	01/08/2024	■			■	
Vienna Willow Lake	07/13/23	■			■	
	01/08/2024	■			■	■
Clark County	PDM Grant Application 12/01/2021	■			■	
Clark County	01/31/2023		■		■	■
	04/16/2024	■			■	■
			■		■	■
	01/29/2024			■	■	■

Online Survey Results

Clark County and First District staff conducted an online survey regarding natural hazards identification and vulnerabilities. The online survey began on January 29, 2024 and ended on April 15, 2024. 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.

The County received nine completed responses from citizens/locals to the online survey. A summary of the responses can be found in Appendix F. Six responses appeared to be from rural residents and three from the communities (Clark 2, Garden City 1). Two of the local/citizens were affiliated with community organization and one was affiliated with a nonprofit. Sixty-six percent of the respondents indicated they had experienced or been impacted by a natural hazard. Three responses were impacted by winter storms/blizzards, three were impacted by flooding (detours/travel and lost farmland), two lost power due to ice storms, three were affected by high winds (debris, lost power and building damages), and one response was affected by an uncontrolled burn. Seventy-eight percent of the responses were somewhat concerned about the possibility of natural disasters. The remaining two responses were not concerned. When asked about the most effective way to receive information, social media/emails were the top answer, followed by TV/radio and public meeting. Most people carry smart devices that can receive emails or social media messages. The online responses ranked the same hazards as the County and communities. The rankings were very similar to each other. The top five hazards (tornado, severe winter storms, floods, high wind and thunderstorms) ranked by the local/citizens were all ranked as high by the County/communities. Drought was ranked in the middle (#6) by the local/citizens, but was ranked low by the County/communities. The County/communities rated extreme

temperatures and wildfire as high probability, but the locals/citizens ranked them #7 and #8. The last four hazards, urban fire (#9), ice jams (#10), dam failure (#11) and earthquake (#12) were similar to the County/communities low/unlikely to occur rating. Locals/citizens ranking may have been influenced by the hazard that impacted them. Respondents did not identify any other hazards that were not listed on the survey. Prior mitigation actions noted by the respondents include raising road grades, hazards education and training (storm spotter training, disaster training), social media storm warnings, designated shelters, fire condition warnings, burn bans and building construction recommendations to reduce hazard risks. Lastly, respondents were asked to provide potential mitigation projects to address hazards in the county. Most of the respondents suggested raising roads and maintaining surface drainage systems to reduce flooding events. Fire warnings, control burns, burn bans and fire department training and equipment for fire prevention. Designated shelters, backup generators for shelters and utilities, and checkup on elderly residents for severe winter weather, power outages and extreme temperatures. Adequate storm warning sirens, constructing tornado safe rooms and storm shelters, spotter training, storm warnings on social media and tree trimming for tornadoes, thunderstorm and high winds. Two respondents suggested the fairgrounds, parks and the golf course as possible locations for safe room/shelters.

Most of the responses on the completed surveys reflect the same hazard identification and vulnerabilities information from the PDM team, County and the communities that is included in the 2024 PDM plan. With regards to the suggested mitigation activities proposed by respondents, the County and communities have already accomplished many activities and projects that relate to the local citizens' concerns. The County and communities are proposing to undertake mitigation activities that will address additional respondents' suggestions. Local citizens should work with the local governments to alleviate any specific matters they have.

PDM Plan Process Timeline

- September 2022
  -Clark County receives FEMA/SD OEM funding to update county PDM plan

- October-December 2022
  -Develop PDM Team list
  -Invite persons listed for the PDM Team to January 2023 PDM Team meeting
  -Invite adjacent county EM Directors to the January 2023 PDM Team meeting
  -Public notices published in local newspapers regarding January 2023 PDM Team meeting

- January 2023
  -Hold PDM Team kickoff meeting
  -Establish the PDM Team
  -Review the existing 2019 PDM plan
  -Develop PDM Template and planning process

- February 2023-April 2024
  -Risk Assessment/Project Identification/Prioritization
    -Notices published
    -First District Staff attend community meetings
  -Conduct online hazard mitigation survey

-First District research data/information for PDM plan
-First District completes draft PDM plan preparation
-Provide adjacent county EM Directors PDM draft for their review (45 day comment period)

- May 2024
- -PDM Team meeting #2 & #3 notices published
  -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
- June-July 2024
  -Hold PDM Team meeting #3
  -Review/approve final draft PDM plan
  -Plan updated based on any comments received
  -Draft plan submitted to FEMA

- August-September 2024
  -FEMA plan approval received

- October-December 2024
  -Approved PDM plan adopted by County and participating communities

Risk Identification & Assessment/Mitigation Strategy/Review of Plan
Requirement 201.6(b)(1). Local Mitigation Plan Review Tool – A3.
Requirement 201.6(c)(1). Local Mitigation Plan Review Tool – A1.
Requirement 201.6(b)(3). Local Mitigation Plan Review Tool – A4.

The Risk Identification and Assessment component identified three strategies: Collect and Organize Data, Develop GIS Data, and Analyze Data. The Mitigation Strategy component identified five objectives: Review Existing PDM and other plans, Formation of Goals/Objectives, Compile existing resources to accomplish goals/objectives, Public review of Goals/Objectives, and PDM Planning Team Review of goals/objectives. The Review of PDM component identified three strategies: Writing of PDM, Public Review of PDM, and PDM Planning Team Review of PDM.

Based upon the discussions and information provided at the first meeting, it was determined that the existing PDM Risk Assessment and Mitigation Strategies needed to be updated. Before the second meeting, First District Staff updated the Introduction, Pre-requisites, Risk Assessment, Mitigation Strategy, and Plan Implementation components of the PDM.

Prior to the second PDM Planning Team meeting, First District Staff met with the participating municipalities 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 Clark County, Clark 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). Clark County and First District conducted an online hazard mitigation survey as an opportunity for the public to

provide input regarding hazard mitigation and participate in the process. 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.

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 of the planning documents of each of the communities had been previously developed by the First District. However, some of the smaller communities did 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 the local jurisdictions during the drafting of the 2024 PDM plan. A summary of the technical review and incorporation of existing plans is included in Table 3.3.

Table 3.3: Record of Review

Existing Program/ Policy/ Technical Documents	Local Jurisdiction					
	Bradley	City of Clark	Garden City	Naples	Raymond	Reference*
Comprehensive Plan and Existing Land Use Maps	N/A	Review existing and future land use maps, master street plan, and limitations on development in reference to perceived and objectively probable natural hazards; with the goal of maximizing efficacy of mitigation strategies and projects and the intent of aligning development strategies with mitigation strategies.	N/A	N/A	N/A	Chapters 1, 3, 4, 6, & Appendix F
Capital Improvement Plan	N/A	N/A	N/A	N/A	N/A	N/A
Flood Damage Prevention Ordinance	N/A	Reviewed effective flood maps to determine vulnerable private and public structures; their assessed values; anticipated number of displaced individuals. This information was used to assist in priortizing flood related projects.	N/A	N/A	Reviewed effective flood maps to determine vulnerable private and public structures; their assessed values; anticipated number of displaced individuals. This information was used to assist in priortizing flood related projects.	Chapters 4, 5, 6, & Appendices D & E
Economic Development Plan	N/A	N/A	N/A	N/A	N/A	N/A
Transportation Plan	N/A	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.	N/A	N/A	N/A	Chapters 1, 3, 4, & 5
Stormwater Management/ Drainage Plan	N/A	N/A	N/A	N/A	N/A	N/A
Land Use Regulation Near Pipelines	N/A	N/A	N/A	N/A	N/A	N/A

Existing Program/ Policy/ Technical Documents	Local Jurisdiction					
	Bradley	City of Clark	Garden City	Naples	Raymond	Reference*
Flood Insurance Studies or Engineering Studies for Streams	N/A	Reviewed effective flood maps to determine vulnerable private and public structures; their assessed values; anticipated number of displaced individuals. This information was used to assist in prioritizing flood related projects.	N/A	N/A	Reviewed effective flood maps to determine vulnerable private and public structures; their assessed values; anticipated number of displaced individuals. This information was used to assist in prioritizing flood related projects.	Chapters 4, 5, 6, & Appendices D & E
Hazard Vulnerability Analysis (by the local Emergency Management Office)	Though not directly referenced in this document, Clark 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					Chapters 1, 3, 4, & 5
Emergency Operations Plan	N/A	N/A	N/A	N/A	N/A	Chapter 4
Zoning Ordinance and Site Plan Review	N/A	Zoning Ordinance restrictions on setbacks, densities; availability of infrastructure and public facilities to more intensive uses; and Clark 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.	N/A	N/A	N/A	Chapters 3, 4, 5, & 6
Building Code	N/A	N/A	N/A	N/A	N/A	N/A
Subdivision Ordinance	N/A	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.	N/A	N/A	N/A	N/A
Drainage Ordinance	N/A	N/A	N/A	N/A	N/A	Chapter 4
Aquifer Protection Ordinance	N/A	N/A	N/A	N/A	N/A	N/A
State Hazard Mitigation Plan	The State Hazard Mitigation Plan was used as a resource for examples and background data. Where objective data which was still relevant to this plan was included in the state's plan it was considered, and in some cases, re-iterated in this plan.					All Chapters

Existing Program/Policy/ Technical Documents	Local Jurisdiction			
	Vienna	Willow Lake	Clark County	Reference
Comprehensive Plan	Review existing and future land use maps, master street plan, and limitations on development in reference to perceived and objectively probable natural hazards; with the goal of maximizing efficacy of mitigation strategies and projects and the intent of aligning development strategies with mitigation strategies.	Review existing and future land use maps, master street plan, and limitations on development in reference to perceived and objectively probable natural hazards; with the goal of maximizing efficacy of mitigation strategies and projects and the intent of aligning development strategies with mitigation strategies.	Review existing and future land use maps, master street plan, and limitations on development in reference to perceived and objectively probable natural hazards; with the goal of maximizing efficacy of mitigation strategies and projects and the intent of aligning development strategies with mitigation strategies.	Chapters 1, 3, 4, 6, & Appendix F
Capital Improvement Plan	N/A	N/A	N/A	N/A
Flood Damage Prevention Ordinance	N/A	Reviewed effective flood maps to determine vulnerable private and public structures; their assessed values; anticipated number of displaced individuals. This information was used to assist in priortizing flood related projects.	Reviewed effective flood maps to determine vulnerable private and public structures; their assessed values; anticipated number of displaced individuals. This information was used to assist in prioritizing flood related projects.	Chapters 1, 3, 4, 6, & Appendix F
Economic Development Plan	N/A	N/A	N/A	N/A
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 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 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
Stormwater Management/ Drainage Plan	N/A	N/A	N/A	N/A
Land Use Regulation Near Pipelines	N/A	N/A	N/A	N/A
Flood Insurance Studies or Engineering Studies for Streams	N/A	Reviewed effective flood maps to determine vulnerable private and public structures; their assessed values; anticipated number of displaced individuals. This information was used to assist in priortizing flood related projects.	Reviewed effective flood maps to determine vulnerable private and public structures; their assessed values; anticipated number of displaced individuals. This information was used to assist in priortizing flood related projects.	Chapters 4, 5, 6, & Appendices D & E

Existing Program/ Policy/ Technical Documents	Local Jurisdiction					
	Bradley	City of Clark	Garden City	Naples	Raymond	Reference*
Hazard Vulnerability Analysis (by the local Emergency Management Office)	Though not directly referenced in this document, 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					Chapters 1, 3, 4, & 5
Emergency Operations Plan	N/A		N/A		The County Emergency Manager reviewed the Emergency Operations Plan with the LEOP at regular meetings. Since this has been done during every update of the PDM over the last 12 years, no changes were necessary to the PDM to account for this plan unless specified by the given jurisdiction in Chapter 5.	Chapter 4 & 5
Zoning Ordinance & Site Plan Review	Zoning Ordinance restrictions on setbacks, densities; availability of infrastructure and public facilities to more intensive uses; and Clark 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.		Zoning Ordinance restrictions on setbacks, densities; availability of infrastructure and public facilities to more intensive uses; and Clark 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.		Zoning Ordinance restrictions on setbacks, densities; availability of infrastructure and public facilities to more intensive uses; and Clark 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
Building Code	N/A		N/A		N/A	N/A
Subdivision Ordinance	N/A		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.		N/A	Chapter 5
Drainage Ordinance	N/A		N/A		N/A	N/A
Aquifer Protection Ordinance	N/A		N/A		The aquifer protection ordinance was reviewed by not determined to be significantly impacted by any natural hazards. (Existing water services can handle drought conditions for potable water.)	N/A
State Hazard Mitigation Plan	The State Hazard Mitigation Plan was used as a resource for examples and background data. Where objective data which was still relevant to this plan was included in the state's plan it was considered, and in some cases, re-iterated in this plan.					All Chapters

* 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.

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

Since 2019, the City of Clark and Willow Lake have adopted Comprehensive updates to their zoning ordinances. Both jurisdictions reviewed rules regarding bulk, height, and density of development to determine whether consistent, not only with the established planning principles of the community but also to ensure those regulations practicably employed the goals of the pre-disaster mitigation plan with reference to protection from fire, drought (impacts on water supply),

limitation of density in flood prone areas and review of regulations for areas determined to be in a 100-year floodplain.

While reviewing those ordinances and changes at publicly noticed meetings, both entities chose to prioritize the adoption of updated special flood hazard areas as soon as possible. The City of Clark, Willow Lake, Raymond, and Clark County adopted the newly effective Special Flood Hazard Areas in the newly prepared Flood Insurance Rate Map as part of the Flood Insurance Study as soon as possible to remain consistent with the goals of this Plan. Each of the communities determined that the public would not support free-board or additional requirements above the minimum requirements to remain compliant.

Very few of the policies/documents/etc.in Table 3.3 above have been significantly updated since 2019.

The list of hazards that can potentially occur in Clark County is presented in Chapter 4. A profile of each of the hazards was begun at this meeting. The profile included information from each of the participating jurisdictions about how the hazard affected their community. Discussion also occurred regarding the existing strategies being used to mitigate each hazard, with a particular emphasis on the critical and essential facilities in each community. The Planning Team reduced the number of hazards to focus on to those hazards that occur more often or may cause significantly higher damages.

Upon completion of the draft plan, the Clark County EMD and the First District posted the draft plan on the Clark County and the First District Association of Local Governments 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: Codington, Day, Spink, Beadle, Kingsbury and Hamlin. 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.

At the second meeting, in June of 2024, staff covered the PDM plan changes that resulted from previous FEMA comments regarding the 2019 PDM plan. During the meeting Risk Identification/Assessment was discussed. The PDM Planning Team reviewed the updates prepared by the First District. This included first a review of the hazards identified in the State of South Dakota Hazard Mitigation Plan and that risk assessment portion of the existing PDM. 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 June 2024 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. One minor change was made to add fire prevention educational activities to Goal #1 of the Mitigation Activities for Fire and Drought Hazards. 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. Representatives from the jurisdictions were made aware of the critical role they needed to play to ensure the success of the mitigation strategy, such as implementing specific mitigation actions. 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. Also, responsible parties were identified for reporting on progress being made to implement the proposed mitigation actions, for evaluating the plan's overall effectiveness, and for getting the public more involved in the planning process. At the end of the meeting the First District was instructed to update the plan based on comments received and return for the final review and submission of the plan.

The final meeting of the PDM Planning Team was subsequently held in June of 2024 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 Clark County websites.

CHAPTER 4 | RISK ASSESSMENT

IDENTIFICATION OF HAZARDS

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

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 NCEI Storm Events Database. A summary of the findings for hazard occurrences from the past ten years is provided below in Table 4.1: The PDM Planning Team also identified potential hazards by observing development patterns, interviews from towns, township information, public meetings, PDM work sessions, previous disaster declarations and research of the history of hazard occurrences located within the County.

Table 4.1: Hazard Occurrences 2013-2023

Type of Hazard	# of Occurrences Since 2013	Source
Drought	13	NOAA/UNL
Fires (Urban and Wildfire)	93	NOAA & State Fire Marshall's Office
Extreme Heat	4	NOAA
Flood	6	NOAA
Heavy Rain	1	NOAA
Hail	30	NOAA
Lightning	0	NOAA
Thunderstorm and High Wind	67	NOAA
Tornado	13	NOAA
Extreme Cold	26	NOAA
Ice Storm	5	NOAA
Heavy Snow	15	NOAA
Winter Storm and Blizzards	44	NOAA
Earthquake	0	SDGS
Landslide	0	SD SHMP
Subsidence	0	SD SHMP
Dam Failure	0	SD SHMP
Ice Jams	0	SD SHMP

Hazards were analyzed in terms of the hazard's probability of occurrence in Clark County. Representatives from each participating jurisdiction and the PDM Planning Team were asked to complete worksheets that categorized hazards by the likelihood of occurrence within the county.

Every possible hazard or disaster was evaluated and placed into one of three separate columns depending on the likelihood of the disaster occurring in the PDM jurisdiction. Hazards that occur at least once a year or more were placed in the High Probability column; hazards that may have occurred in the past or could occur in the future but do not occur on a yearly basis were placed in

the low probability column; and hazards or disasters that have never occurred in the area before and are unlikely to occur in the PDM jurisdiction any time in the future were placed in the Unlikely to Occur column.

Due to the topographical features of the County and the nature of the natural hazards that affect the geographical area covered by this PDM, most areas of the county have similar likelihood of being affected by the natural hazards identified. Only the natural hazards from the High Probability and Low Probability Columns will be further evaluated throughout this plan, with an emphasis on the High Probability hazards. All hazards in the Unlikely to Occur column will not be further evaluated in the plan. Table 4.2 is an adjusted list of hazards produced from the FEMA worksheets completed by each participating jurisdiction and the PDM Planning Team.

Table 4.2: Hazards Categorized by Likelihood of Occurrence within Clark County

High Probability	Low Probability	Unlikely to Occur
Extreme Cold	Ice Jam	Dam Failure
Blizzard	Drought	Landslide
Extreme Heat	Urban Fire	Subsidence
Freezing Rain/Sleet/Ice		Earthquake*
Hail		
Heavy Rain		
Heavy Snow		
Lightning		
Rapid Snow Melt		
Strong Winds		
Thunderstorm		
Flood		
Tornado		
Wildfire		
*Earthquakes are marked with an asterisk because they occur but are so small that the effects are minimal. Thus, mitigation measures specifically for earthquakes are not a priority.		

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 Clark County. The hazards included avalanches, coastal storms, hurricanes and volcanic activity.

TYPES OF NATURAL HAZARDS IN THE PDM JURISDICTION AREA

Requirement 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 Clark 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.

HAZARD PROFILE

Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B1.
Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B2.
Requirement 201.6(c)(2)(ii). Local Mitigation Plan Review Tool – B3.

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

Table 4.3: Presidential Disaster Declarations in South Dakota Including Clark County

Date	Disaster Dec #	Type	Total Damage	Public Assistance Cost	Hazard Mitigation Assistance
05/03/1986	764	Severe Storms and Flooding	$5,158,130		
07/19/1993	999	Severe Storms, Tornadoes and Flooding	$53,068,748		
06/21/1994	1031	Severe Storms and Flooding	$8,187,938		
05/26/1995	1052	Flooding	$35,649,349		
01/05/1996	1075	Ice Storms	N/A		
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		
06/01/1998	1218	Flooding, Severe Storms and Tornadoes	$16,853,902		
05/17/2001	1375	Severe Winter Storm and Flooding	$10,441,684	$5,097,819	
12/20/2005	1620	Severe Winter Storm	$28,071,441	$24,647,040	
05/22/2007	1702	Severe Storms, Tornadoes, and Flooding		$6,226,611	
05/13/2010	1915	Flooding		$21,498,619	
05/13/2011	1984	Flooding		$52,090,678	
02/01/2017	4298	Severe Winter Storm		$9,834,694	$1,505,299
06/07/2019	4440	Severe Winter Storm, Snowstorm, and Flooding		$60,762,752	$9,432,655
11/18/2019	4469	Severe Storms, Tornadoes, and Flooding		18,594,268	2,988,996
02/27/2023	4689	Severe Winter Storms and Snowstorm		$2,200,559	
07/06/2023	4718	Flooding		$5,628,169	

SOURCE : http://www.fema.gov/news/disasters.fema

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

Dam breach or failure is of lesser concern for the citizens of the County than flooding. Clark County has a number of structures which control or regulate flow from one water body to another. South Dakota Department of Agricultural and Natural Resources (SD DANR) identifies five dams in the County listed below on Table 4.4. Based on the data base provided by the SD DANR, all five of the identified dams in Clark County were rated as low regarding their downstream hazard potential. A map showing high and significant hazard dams in South Dakota can be found below. The chart below shows the dam safety, hazard potential classification rating system. Based on the dam data for Clark County, the probability of a dam failure causing human life, economic environmental or lifeline losses is very low.

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)

FEMA-April 2004 Federal Guidelines for Dam Safety-Hazard Potential Classification System for Dams

4.4 South Dakota High and Significant Hazard Dams

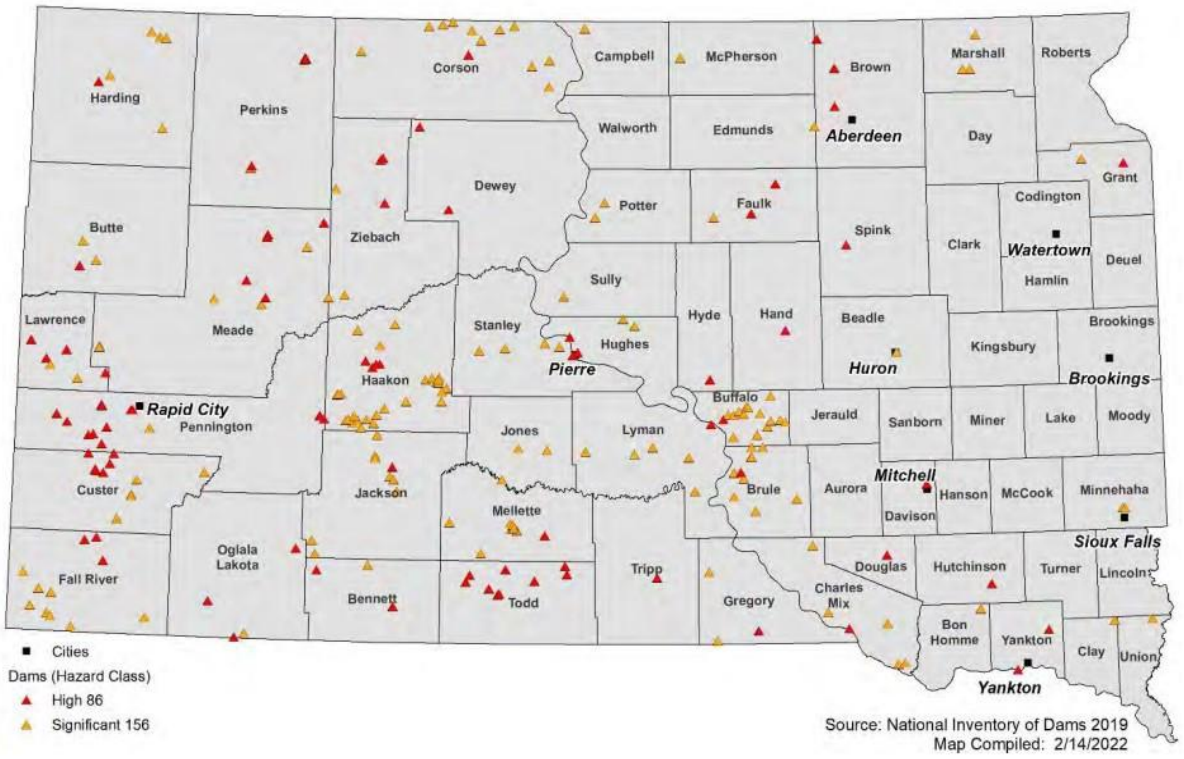


Table 4.4 Dam Locations in Clark County

Dam Name	Owner	Location	Water Body
Carpenter Dam	Audrey Norby-Williams (Private)	S1/4 of SE1/4 of Section 3-114N-59W	Shue Creek Tributary
Fordham Dam	SD GF&P (State)	SE1/4 of NW1/4 of Section 16-115N-59W	Foster Creek Tributary
Logan Dam	SD School and Public Lands (State)	SE1/4 of SW1/4 of Section 20-116N-59W	Foster Creek Tributary
Seefeldt Dam	Merritt Seefeldt (Private)	NW1/4 of NW1/4 of Section 9-115N-58W	Foster Creek Tributary
Stern Dam	Marvin Stern (Private)	SE1/4 of SE1/4 of Section 27-119N-59W	Timber Creek Tributary

Source *SD DANR-Office of Water-Water Rights Program*

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. 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 Clark County has an annualized frequency of zero 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.

Category	Description	Possible Impacts
D0	Abnormally Dry	Going into drought: • short-term dryness slowing planting, growth of crops or pastures Coming out of drought: • some lingering water deficits • pastures or crops not fully recovered
D1	Moderate Drought	• Some damage to crops, pastures • Streams, reservoirs, or wells low, some water shortages developing or imminent • Voluntary water-use restrictions requested
D2	Severe Drought	• Crop or pasture losses likely • Water shortages common • Water restrictions imposed
D3	Extreme Drought	• Major crop/pasture losses • Widespread water shortages or restrictions
D4	Exceptional Drought	• Exceptional and widespread crop/pasture losses • Shortages of water in reservoirs, streams, and wells creating water emergencies

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

Table 4.5 identifies the ten-year drought history for the County.

Table 4.5: Clark County Ten Year Drought History

Location	Date Start	Date End	Type
Clark County	07/03/2012	05/14/2013	Moderate to Severe Drought
Clark County	08/13/2013	10/08/2013	Moderate to Severe Drought
Clark County	12/02/2014	05/26/2015	Moderate Drought
Clark County	06/06/2017	06/06/2017	Moderate Drought
Clark County	07/18/2017	08/01/2017	Moderate Drought
Clark County	02/06/2018	02/27/2018	Moderate Drought
Clark County	06/12/2018	07/17/2018	Moderate to Severe Drought
Clark County	08/14/2018	10/09/2018	Moderate Drought
Clark County	08/25/2020	09/01/2020	Moderate Drought
Clark County	06/15/2021	08/31/2021	Moderate to Severe Drought
Clark County	09/27/2022	12/13/2022	Moderate to Severe Drought
Clark County	12/20/2022	04/11/2023	Moderate Drought
Clark County	06/20/2023	07/04/2023	Moderate Drought

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

Major Drought Occurrences:

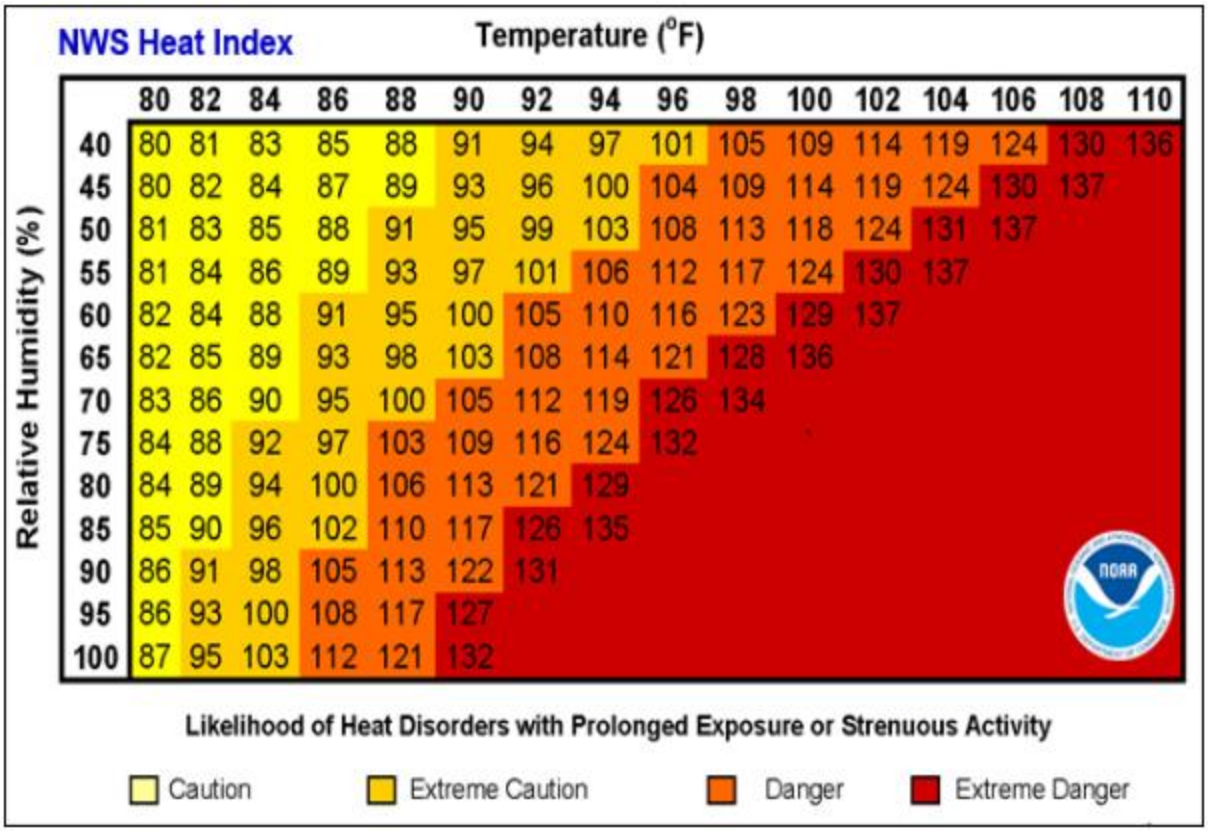
- 1987-1990: An abnormally low amount of precipitation in the summer of 1987 combined with a hot and dry summer during 1988, left South Dakota in dire straits. Agricultural income was down 0.8% and wheat price per bushel decreased significantly.

- 1930s: During the infamous dust bowl years, Clark County was not spared a fair share of problems. Particularly dry summers were in 1934 and 1936.

- 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.

EXTREME HEAT

Extreme Heat, also known as a Heat Wave, is a prolonged period of excessively hot weather, which may be accompanied by high humidity. Temperatures in the County have a very wide range typically between 0 to 100 degrees Fahrenheit, therefore anything outside those ranges could be considered extreme. The term is applied both to routine weather variations and to extraordinary spells of heat which may occur only once a century. Extreme heat can have dangerous implications to humans, livestock, and critical structures and facilities if certain conditions are present. The Heat Index measures the impact of extreme heat on people and livestock. See Heat Index below. The FEMA NRI states the annualized frequency for heat waves in Clark County is 0.6 events per year. Table 4.11 found below shows the history of extreme heat in Clark County. Source of information was the National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Information (NCEI) Storm Events Database.



Source-NES/NOAA

A large upper-level high pressure area built 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.

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.

Table 4.6: Clark County History of Extreme Heat

Location	Date	Time	Type
Clark County	07/20/2016	12:00	Excessive Heat
Clark County	09/06/2022	16:00	Heat
Clark County	08/21/2023	12:00	Excessive Heat
Clark County	09/02/2023	13:00	Excessive Heat

SOURCE : https://www.ncei.noaa.gov/stormevents/

EARTHQUAKES

An earthquake is the result of a sudden release of energy due to an adjustment in the earth's crust. This adjustment causes the ground to tremble and produce vibrations that radiate out from the focus of the quake. Earthquakes primarily occur along fault zones, fractures in the Earth's crust, where stress builds until one side slips. In South Dakota, the likely causes for earthquakes result from plate movements underlying the state and ongoing isostatic (glacial) rebound. Severe earthquakes can cause damage to infrastructure and injury or loss of life. However, earthquakes in South Dakota are minor and typically result in low rumbles with no damage. According to the South Dakota Geological Survey, no recorded earthquakes have occurred in Clark County. The closest earthquake to occur was six miles west of Clark County in Spink County near Doland, SD on January 12, 1959 with a recorded magnitude of 4.0.

Although the Midwest is often referred to by geologists as the "stable midcontinent", earthquake shock waves can travel farther and faster from the epicenter due to the older, cooler, and more dense geological makeup. However, because earthquakes in South Dakota tend to be mild with little to no damage other than rattling dishes, cracked windows, or stuck doors, this hazard poses a low risk to the County. The Richter Scale measures earthquake intensity. The potential for an earthquake to occur in the County is 0.015% annually, according to the FEMA NRI .

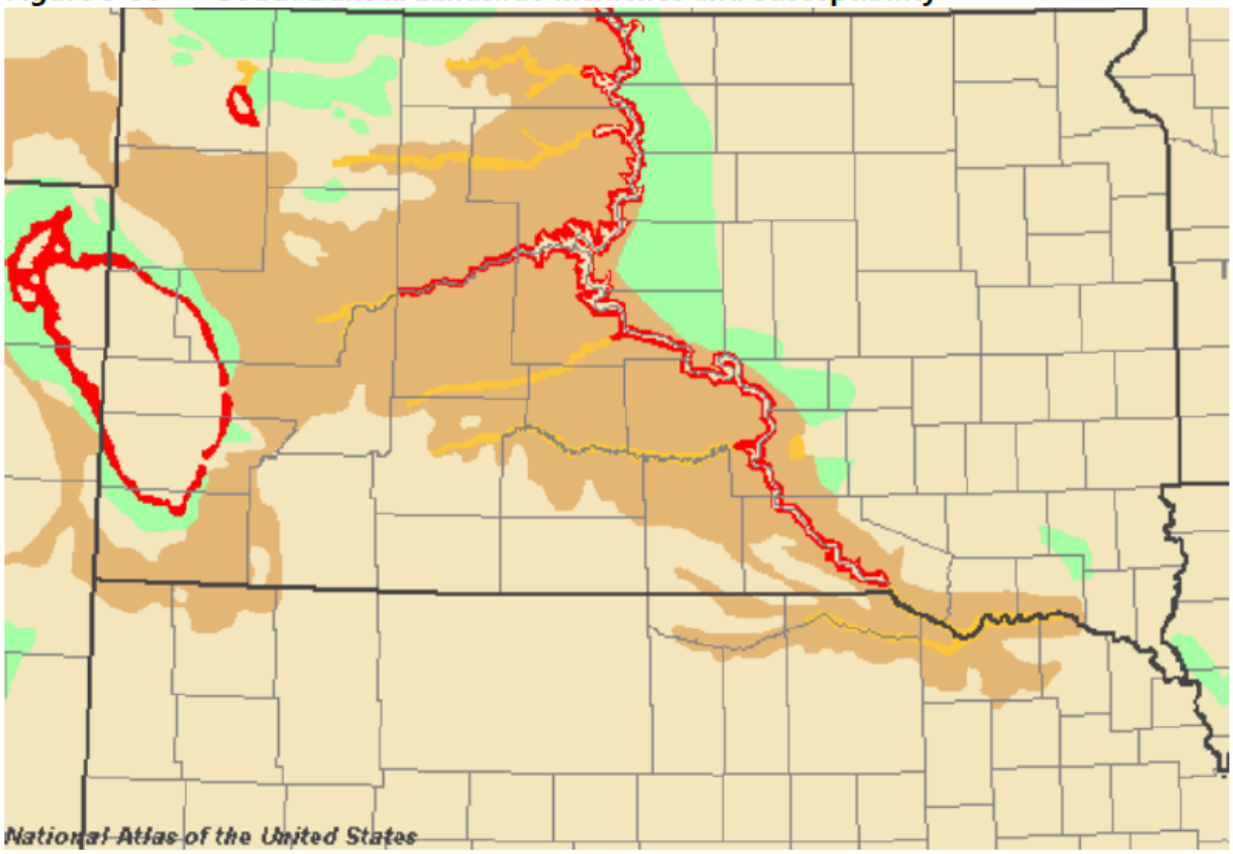
Richter scale of earthquake magnitude

magnitude level	category	effects	earthquakes per year
less than 1.0 to 2.9	micro	generally not felt by people, though recorded on local instruments	more than 100,000
3.0–3.9	minor	felt by many people; no damage	12,000–100,000
4.0–4.9	light	felt by all; minor breakage of objects	2,000–12,000
5.0–5.9	moderate	some damage to weak structures	200–2,000
6.0–6.9	strong	moderate damage in populated areas	20–200
7.0–7.9	major	serious damage over large areas; loss of life	3–20
8.0 and higher	great	severe destruction and loss of life over large areas	fewer than 3

> *John P. Rafferty*

Landslide is a geological phenomenon which includes a wide range of ground movement, such as rock falls, deep failure of slopes and shallow debris flows, which can occur in offshore, coastal and onshore environments. Although the action of gravity is the primary driving force for a landslide to occur, there are other contributing factors build up specific sub-surface conditions that make the area/slope prone to failure, whereas the actual landslide often requires a trigger before being released. The following map from the SD SHMP shows landslide incidence and susceptibility in South Dakota including Clark County. Landslide risks are minimal in Clark County. The FEMA NRI indicates that zero events per year are expected.

Figure 3-39 South Dakota Landslide Incidence and Susceptibility



Source: U.S. Geological Survey, map generated by https://nationalmap.gov/ www.nationalatlas.gov

Subsidence is defined as the motion of a surface as it shifts downward relative to a datum. The opposite of subsidence is uplift, which results in an increase in elevation. There are several types of subsidence such as dissolution of limestone, mining-induced, fault induced, isostatic rebound, extraction of natural gas, groundwater related, and seasonal effects. The following map from the SD SHMP show the risks of subsidence in South Dakota including Clark County. Subsidence risks are minimal in Clark County.

Figure 3-40 State of South Dakota Subsidence Risk

Source: The National Karst Map http://www.nckri.org/map/maps/engineering_aspects/davies_map_PDF.pdf

FLOOD

Flooding is a temporary overflow of water onto lands not normally covered by water producing measurable property damage or forcing evacuation of people and resources. Floods 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. Floods can develop slowly as rivers swell during an extended period of rain, or during a warming trend following a heavy snow. Heavy rains and rapid snow melt can cause flooding or flash flooding. Both are included under this hazard profile. Even a small stream or dry creek bed can overflow and create flooding. Two different 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.

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 attached Clark County 100-year flood plain map (Figure 4.1) below. The County should anticipate having at least one flood event each year. According to the FEMA NRI, Clark County has the potential for 0.8 riverine flooding events to occur annually. Table 4.7 contains the County's flood history for the last ten years.

Figure 4.1

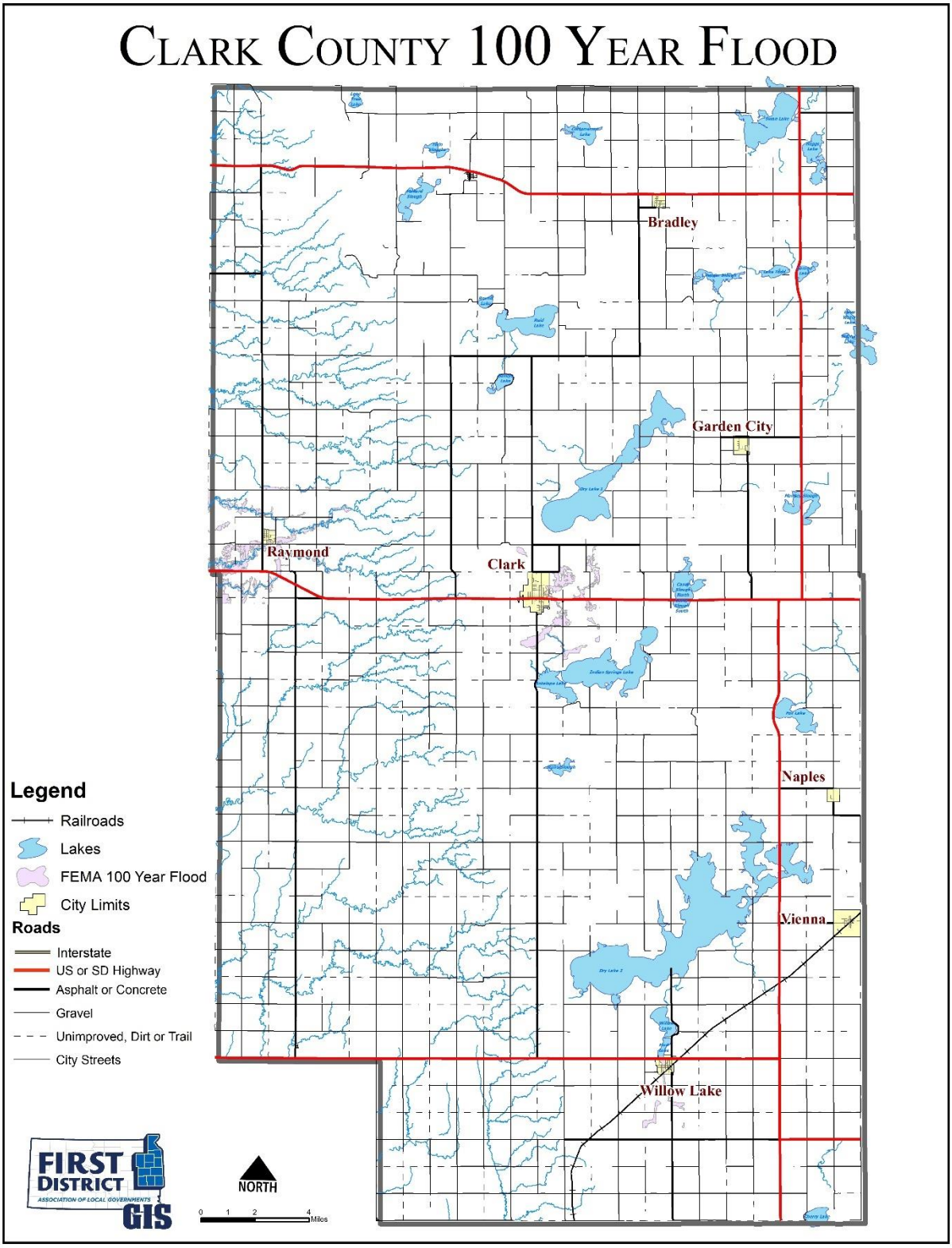

CLARK COUNTY 100 YEAR FLOOD
Bradley
Garden City
Raymond
Clark
Naples
Vienna
Willow Lake
Legend
Railroads
Lakes
FEMA 100 Year Flood
City Limits
Roads
Interstate
US or SD Highway
Asphalt or Concrete
Gravel
Unimproved, Dirt or Trail
City Streets
FIRST DISTRICT
ASSOCIATION OF LOCAL GOVERNMENTS
GIS
NORTH
0 1 2 4
Miles

Table 4.7: Clark County 10-year Flood History

Location	Type	Date	Time	Property Damage	Crop Damage
Carpenter	Flash Flood	08/15/2014	01:30		
Crocker	Flood	03/26/2019	07:00		
Crocker	Flood	04/01/2019	00:00	120.80K	
Crocker	Flood	05/01/2019	00:00		16.100M
Crocker	Flood	06/01/2019	00:00	150.00K	150.00K
Crocker	Flood	04/10/2023	00:00		

SOURCE : https://www.ncei.noaa.gov/stormevents/

Major Flood Occurrences:

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

  Due to the high groundwater, a countless number of homes received water in their basements. A few towns were partially flooded, including Twin Brooks in Grant County, Corona in Roberts County, and Raymond in Clark County. On March 27th, in the early morning hours, water flowed into Raymond filling the basements of several homes. In rural areas, several farms were surrounded by water and were inaccessible, leaving some people stranded and livestock marooned. Many other residences and businesses, mainly across northeast South Dakota, were threatened by highwater while others received significant damage or were a total loss. As a result, several people had to be evacuated. Many long-term residents said this was the most significant flooding they had seen in their lifetimes. The flooding continued into early to mid-April.

- **April 2001 -** Heavy rain of 1 to 3 inches combined with snowmelt runoff brought flooding to parts of northeast South Dakota. Many roads across Clark, Grant, Hamlin, Deuel, and Roberts counties were flooded and damaged. Floodwater moving towards the town of Willow Lake overpowered culverts and flooded several homes and several streets. Highway 28 had to be cut through to allow the water to flow away from the town, averting a disaster. Highwater from the creek west of Corona in far Southern Roberts County flowed towards Corona. As a result, 3 1/2 feet of water coursed through town flooding several homes and streets and knocking out the sewer system. Also, 1000 feet of railroad track was damaged by the floodwaters. The Big Sioux River and Lake Poinsett in Hamlin county also rose and resulted in some agricultural land and road flooding.

- **April 2019 -** The continuation of snowmelt from an above normal snowfall combined with a historic heavy snow/blizzard in mid-April, resulted in widespread flooding across central and northeast South Dakota. Countless roads along with thousands of acres of cropland were flooded throughout April. Impacts include damaged roads, culverts, and bridges, and livestock, homes, and businesses were affected. Delayed planting resulted across all of the region as well. Cattle and calves were stressed by the cold and wet pattern, as the mud and cold caused some sickness with the livestock. Flooded roads made it difficult for many farmers or ranchers to get to their fields or livestock. The wet pattern along with the flooding continued into May, further delaying planting across the region.

  South Dakota's governor declared a disaster for the state in March. This declaration was followed by a disaster declaration by the President of the United States. As a result, 24 of the 26 counties across central and northeast SD had access to public property damage assistance. Overall, damage estimates from the blizzards and floods for the state were 43 million dollars.

- **June 2019 -** Spring snowmelt and heavy rain flooding from March, April, and May continued into June. This combined with above normal June rainfall resulted in hundreds of thousands of acres of crops damaged or unplanted across central and northeast South Dakota. For the entire state of South Dakota, nearly 4 million acres of crops were left unplanted as a result of the flooding. Total damaged or unplanted crop loss estimates for central and northeast South Dakota were near 307 million dollars.

- **April 2023 –** Above normal seasonal snowfall and unusually cold late spring conditions resulted in a persistent and unusually deep snowpack into early April. In the second week of April temperatures became abnormally warm, surging to the 70s and 80s. This resulted in a period of very rapid snowmelt and both river and overland flooding. As a result of the flooding, many roads were not suitable for travel. Ten counties and one reservation suffered severe impacts to public infrastructure. An estimated $2,305,362 in qualifying costs were incurred during the flooding in those counties.

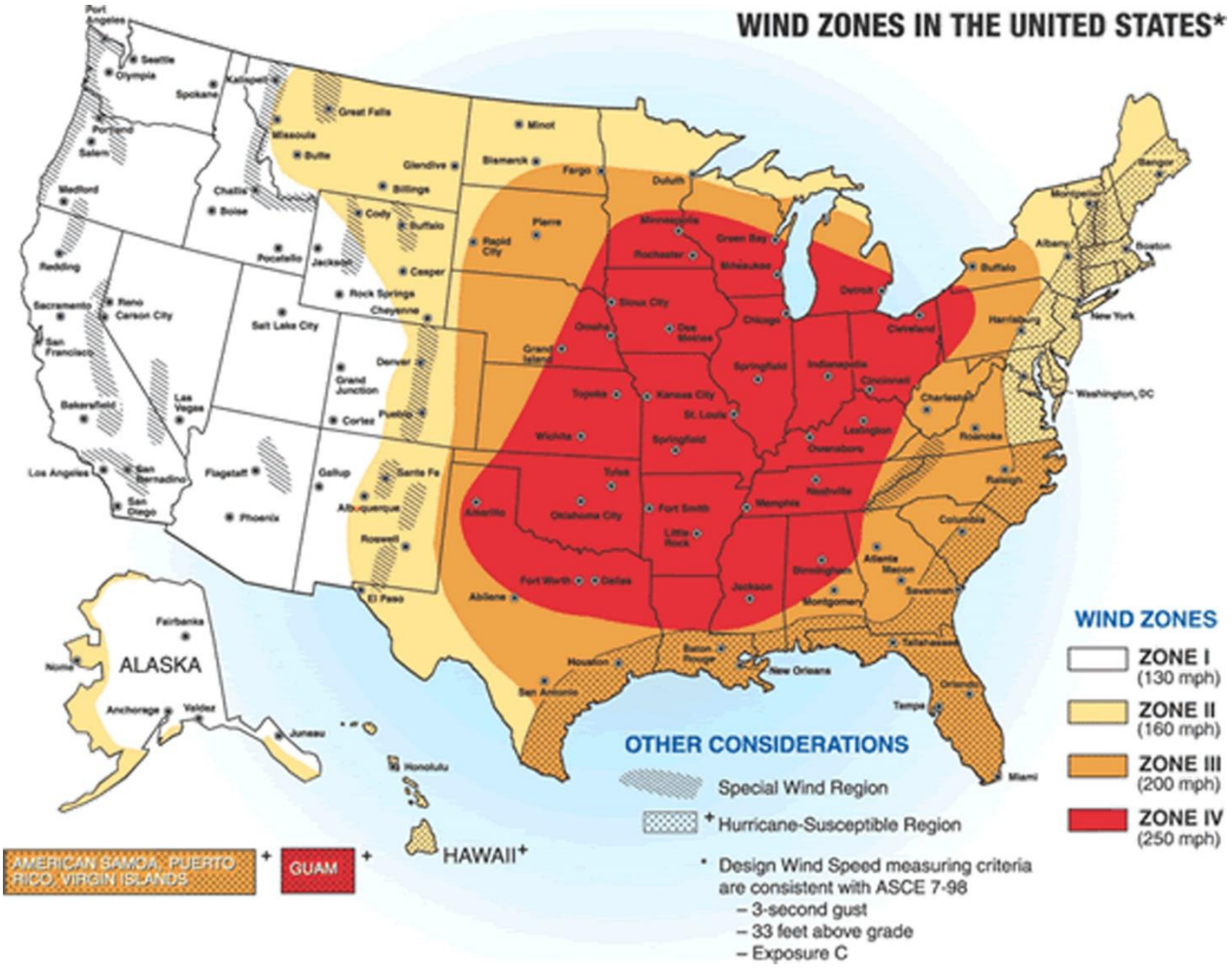
SUMMER STORMS

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.

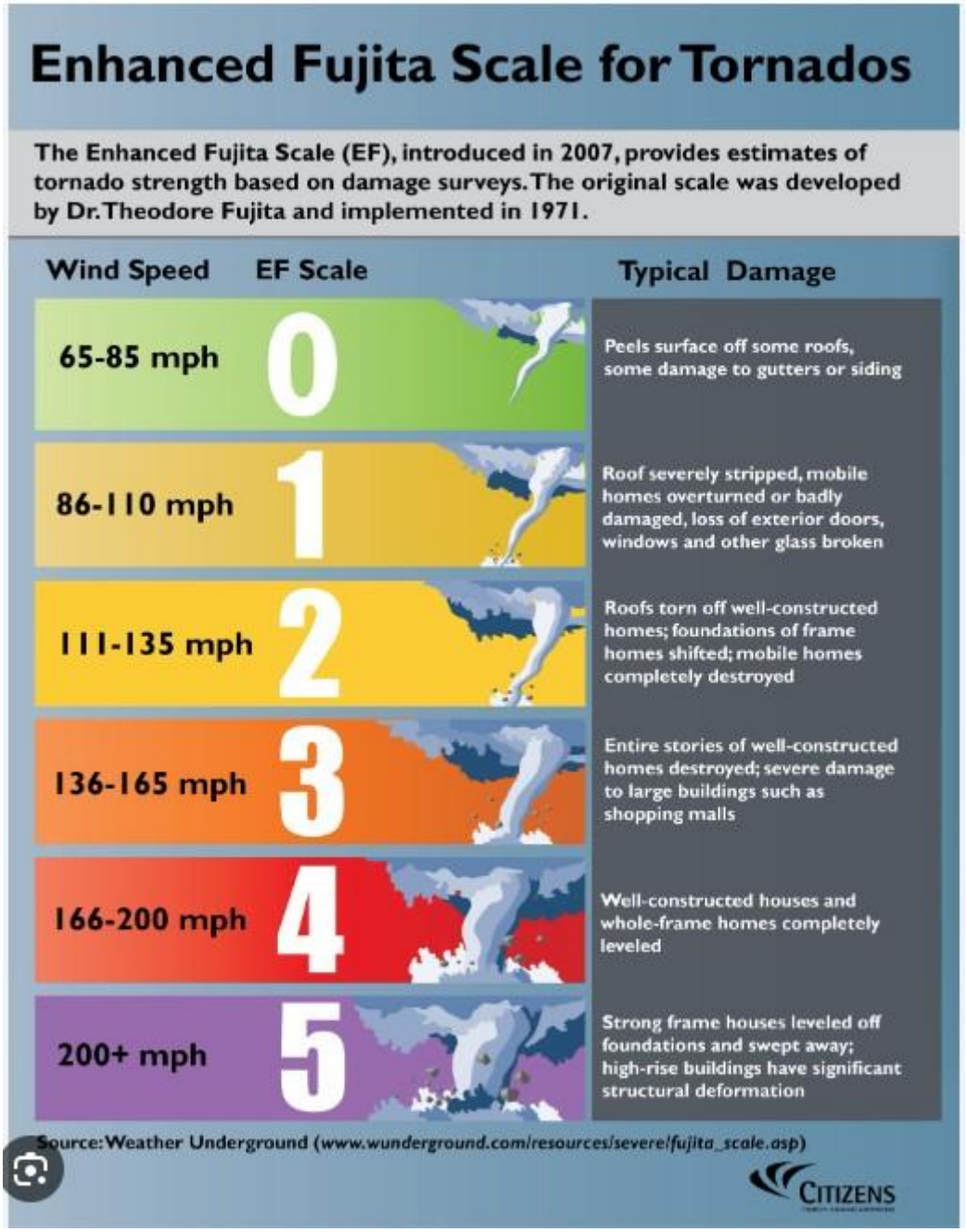
According to an article by Emily Greenhalgh featured on the NOAA/Climate.gov website, history says mid-to-late June brings a higher probability of severe weather across much of the contiguous United States. As we move from spring to summer, the predominant way severe weather forms across the U.S. changes. 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.

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 the Wind Zones in the United States Map below.



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



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 2023, the County confirmed thirty-nine 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. Clark County has less than one percent chance (.5%) of a tornado occurring each year based on FEMA NRI.

Table 4.8: Clark County 10-year Tornado History

Location	Date	Time	Type	Magnitude
Carpenter	06/21/2013	13:55	Tornado	EF 0
Carpenter	06/21/2013	14:08	Tornado	EF 0
Bradley	07/17/2015	19:13	Funnel	
Raymond	07/16/2016	18:42	Funnel	
Clark	07/16/2016	19:12	Funnel	
Clark	07/16/2016	19:23	Tornado	EF 0
Clark	09/19/2017	19:55	Tornado	EF 0
Bradley	09/19/2017	20:26	Tornado	EF 0
Elrod	05/12/2022	16:45	Tornado	EF 0
Raymond	05/12/2022	16:45	Tornado	EF 0
Garden City	05/12/2022	17:02	Tornado	EF 1
Clark Co. Airport	06/07/2023	13:30	Tornado	EF 0
Willow Lake	08/10/2023	18.47	Tornado	EF 0

SOURCE : https://www.ncei.noaa.gov/stormevents/

Major Tornado Occurrences:

June 1979 – A major outbreak of tornadoes occurred over the central and northern plains beginning on the afternoon of June 19th. A total of thirteen tornadoes along with damaging winds and hail of up to 2 ¾ inches was reported over South Dakota. Damage estimate was approximately $2,500,000.

July 2013 – A tornado touched down for a few minutes with no damage reported. A few minutes later a second tornado touched down with no damage reported. The public reported over eighty mph inflow winds with some tree damage occurring.

July 2016 - A weak tornado touched down briefly south of Clark with no damage reported.

September 2017 - A tornado touched down briefly in an open field SW of the City of Clark with no damage occurring. Approximately 20 minutes later a second tornado touched down near Bradley with no damage reported.

Each year, many storms and a few tornadoes affect the county. Summer storms in the County usually produce a wide range of damages 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 NCEI Storm Events Database online were the primary source for this information.

THUNDERSTORMS/STRONG WIND

Thunderstorms and high wind occurrences in the County are also common. Strong winds can be detrimental to the area. According to the SD SHMP, these winds, which can exceed 100 mph, represent the most common type of severe weather in South Dakota 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 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 usually 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 3.1 strong wind events per year.

According to the NCEI Storm Events Database, the County experienced 67 wind events from 2013-2023. Table 4.12 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 4.9: Clark County 10-Year History for Thunderstorms/High Winds

Location	Date	Time	Type	Magnitude
Clark Co. Airport	05/19/2013	00:55	Thunderstorm Wind	69 kts. MG
Carpenter	06/21/2013	13:54	Thunderstorm Wind	66 kts. EG
Vienna	06/21/2013	14:10	Thunderstorm Wind	61 kts. EG
Elrod	06/21/2013	14:40	Thunderstorm Wind	52 kts. EG
Elrod	06/21/2013	15:00	Thunderstorm Wind	52 kts. EG
Willow Lake	08/28/2013	06:35	Thunderstorm Wind	61 kts. EG
Raymond	06/19/2014	03:40	Thunderstorm Wind	52 kts. EG
Willow Lake	06/09/2015	16:13	Thunderstorm Wind	56 kts. EG
Bradley	07/17/2015	19:15	Thunderstorm Wind	61 kts. EG
Raymond	07/25/2015	18:35	Thunderstorm Wind	52 kts. EG
Carpenter	07/25/2015	18:50	Thunderstorm Wind	52 kts. EG
Clark County	10/12/2015	05:50	High Wind	55 kts. MG
Clark County	11/12/2015	12:10	High Wind	50 kts. MG
Clark County	11/18/2015	20:10	High Wind	58 kts. MG
Clark County	02/07/2016	16:00	High Wind	35 kts. MS
Clark County	03/07/2017	14:00	High Wind	35 kts. ES
Willow Lake	05/28/2017	16:33	Thunderstorm Wind	52 kts. EG
Clark	06/11/2017	03:40	Thunderstorm Wind	61 kts. EG
Clark	06/13/2017	17:58	Thunderstorm Wind	80 kts. MG
Clark	06/13/2017	17:58	Thunderstorm Wind	70 kts. EG
Elrod	06/13/2017	18:05	Thunderstorm Wind	56 kts. EG
Carpenter	07/17/2017	17:15	Thunderstorm Wind	52 kts. EG
Clark County	11/29/2017	12:00	High Wind	50 kts. MG
Elrod	06/06/2018	00:33	Thunderstorm Wind	52 kts. MG
Crocker	07/04/2018	03:28	Thunderstorm Wind	57 kts. MG
Elrod	07/20/2019	05:40	Thunderstorm Wind	52 kts. EG

Location	Date	Time	Type	Magnitude
Elrod	08/15/2019	16:35	Thunderstorm Wind	52 kts. EG
Elrod	08/15/2019	16:41	Thunderstorm Wind	50 kts. MG
Clark County	10/21/2019	17:00	High Wind	50 kts. MG
Clark County	06/15/2020	01:27	High Wind	71 kts. MG
Clark County	11/05/2020	09:00	High Wind	55 kts. MG
Clark County	03/29/2021	14:59	High Wind	55 kts. MG
Clark	05/23/2021	23:45	Thunderstorm Wind	65 kts. EG
Clark	08/26/2021	08:22	Thunderstorm Wind	70 kts. EG
Clark	08/26/2021	08:27	Thunderstorm Wind	52 kts. EG
Willow Lake	08/26/2021	08:32	Thunderstorm Wind	61 kts. EG
Elrod	08/26/2021	08:36	Thunderstorm Wind	57 kts. MG
Vienna	08/26/2021	08:40	Thunderstorm Wind	52 kts. EG
Elrod	10/09/2021	16:29	Thunderstorm Wind	50 kts.MG
Clark County	11/11/2021	09:57	High Wind	52 kts. MG
Clark County	11/13/2021	19:51	High Wind	53 kts. MG
Clark County	12/15/2021	22:28	High Wind	53 kts. MG
Clark County	02/01/2022	07:58	High Wind	50 kts. MG
Clark County	02/18/2022	13:18	High Wind	52 kts. MG
Clark County	04/06/2022	12:00	High Wind	51 kts. MG
Clark County	04/14/2022	00:00	High Wind	53 kts. MG
Clark County	04/23/2022	02:00	High Wind	52 kts. MG
Willow Lake	05/12/2022	16:36	Thunderstorm Wind	55 kts. MG
Carpenter	05/12/2022	16:37	Thunderstorm Wind	50 kts. MG
Bradley	05/12/2022	17:14	Thunderstorm Wind	50 kts. MG
Willow Lake	05/29/2022	00:20	Thunderstorm Wind	65 kts. EG
Willow Lake	05/29/2022	00:27	Thunderstorm Wind	56 kts. MG
Clark	05/29/2022	00:34	Thunderstorm Wind	65 kts. EG
Clark	05/29/2022	00:34	Thunderstorm Wind	65 kts. EG
Elrod	05/29/2022	00:34	Thunderstorm Wind	54 kts. MG
Clark Co. Airport	05/30/2022	00:43	Thunderstorm Wind	50 kts. MG
Bradley	05/30/2022	01:00	Thunderstorm Wind	52 kts. MG
Clark County	06/13/2022	01:56	High Wind	52 kts. MG
Vienna	06/20/2022	20:50	Thunderstorm Wind	52 kts. EG
Elrod	06/20/2022	20:53	Thunderstorm Wind	56 kts. MG
Elrod	06/24/2022	22:21	Thunderstorm Wind	62 kts. MG
Clark County	06/29/2022	21:00	High Wind	55 kts. MG
Bradley	07/23/2022	06:57	Thunderstorm Wind	61 kts. MG
Elrod	08/05/2022	20:54	Thunderstorm Wind	50 kts. MG
Clark County	01/27/2023	03:55	High Wind	38 kts. MS
Elrod	08/10/2023	18:11	Thunderstorm Wind	64 kts. MG
Willow Lake	08/10/2023	18:46	Thunderstorm Wind	52 kts. EG

SOURCE : https://www.ncei.noaa.gov/stormevents/

Major Wind Occurrences:

- **May 2013** – In Clark County, one tree was downed and there was partial damage to a warehouse roof northeast of town. A weak upper level disturbance moving across South Dakota interacted with an unstable surface environment resulting in severe thunderstorms. Winds gusting up to near 80 mph in Clark county caused some damage. However with a slow storm motion, some thunderstorms produced locally heavy rainfall. Some rainfall amounts included; 3.24 inches 10 miles southeast of Roscoe; 2.36 inches near Herreid; 2.19 inches in Roscoe; 2.17 inches near Hoven and 1.92 inches in Onida. Note: The measured wind gust of 69 knots is equivalent to 79 mph.

- **June 2013** – Near Carpenter, estimated wind gusts up to 75 mph. Note: The estimated wind gust of 66 knots is equivalent to 76 mph. A tornado touched down for a few minutes with no damage reported. A strong warm front along with very unstable air and strong deep layer winds brought several supercell thunderstorms along with a damaging line of thunderstorms/bow echo to parts of central and northeast South Dakota during the afternoon hours. Damaging winds up to 90 mph uprooted large trees and caused considerable structural and crop damage and loss of power to those in its path. The worst wind damage was located at Lake Poinsett, Watertown, and Milbank. A woman was killed, and her husband was seriously injured on Lake Poinsett when their lake house was destroyed. Numerous trees were downed along with many structures damaged or destroyed. Many trees had fallen onto homes, cabins, and trailers. The bowling alley in Clear Lake lost its roof along with numerous pole barns being destroyed along the storm's path. Thousands of people were also left without power. Four tornado touchdowns occurred along with hail up to the size of softballs. Isolated flash flooding also occurred. Codington, Hamlin, Grant, and Deuel counties were all declared in a Federal Disaster Declaration. Total damage estimates were around 1,100,000 dollars. A tornado touched down with no damage reported. The public reported over eighty mph inflow winds with some tree damage occurring. Eighty mph winds downed several trees which blocked the highway. Note: The estimated wind gust of 70 knots is equivalent to 81 mph. In Elrod Township, sixty mph winds were reported. The winds brought a large tree branch down onto a garage roof. Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

- **June 2017 -** A large upper-level low pressure trough lifting northeast over the region along with a surface cold front interacting with a warm and very humid air mass brought severe thunderstorms to the region. During the mid-afternoon hours, storms rapidly developed over central and eastern South Dakota, between Pierre and Aberdeen. These storms quickly strengthened and produced large hail, damaging winds, and eventually tornadoes. The storms evolved into mainly a wind and tornado event around 7 pm CDT. Widespread wind damage occurred across northeast South Dakota as the storms formed a line and moved northeast. Many tornadoes occurred across the region, causing EF-0 and EF-1 damage. In Clark, eighty mph winds removed a shed roof along with downing several trees. A wing gust of 80 knots (92 mph) was recorded in Clark. Estimated winds of 65 MPH occurred in Elrod Township. Note: The estimated wind gust of 70 knots is equivalent to 81 mph Note: The estimated wind gust of 78 knots is equivalent to 90 mph.

- **May 2022 -** 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 Castlewood 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 Castlewood during cleanup.

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.

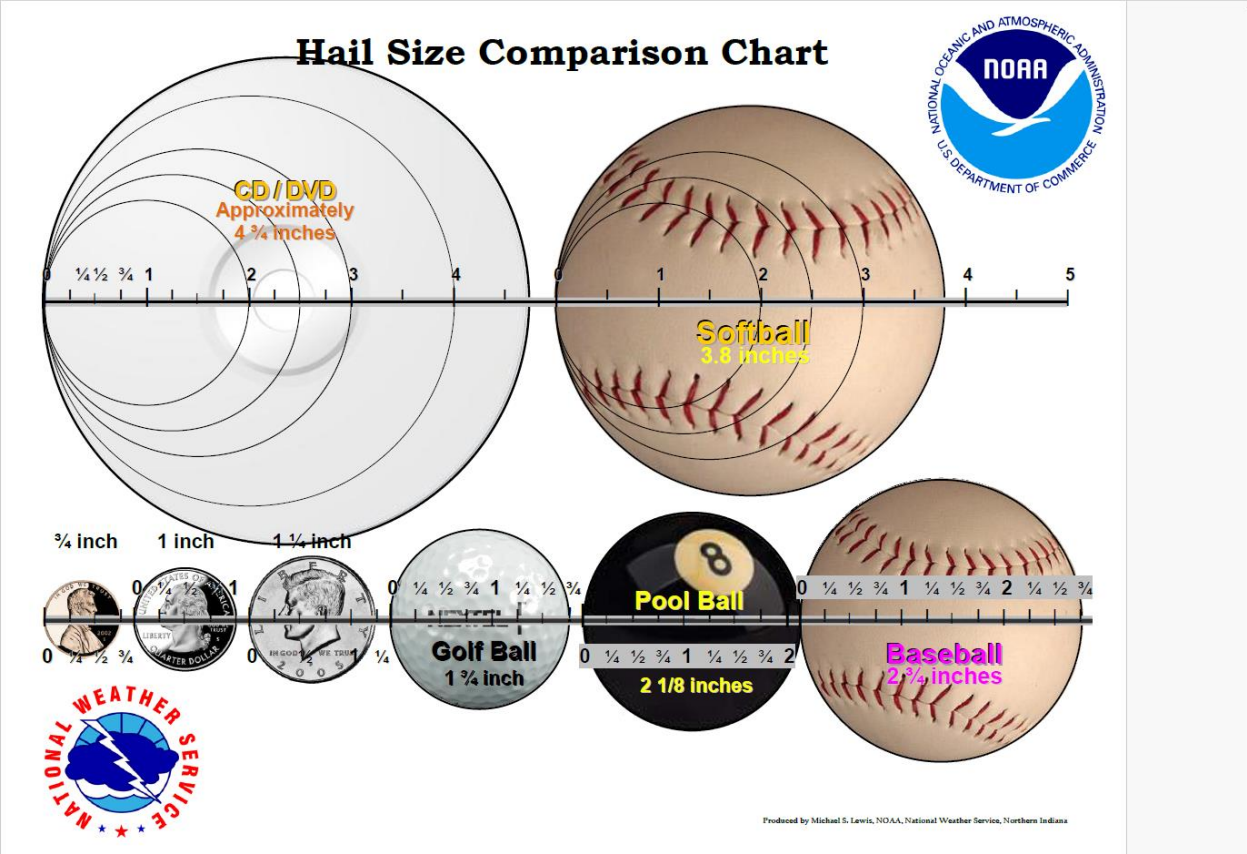
The County has a 100% potential for thunderstorms occurring each year. Most of these thunderstorms will produce hail of varying sizes. The FEMA NRI states 4.6 hail events per year. The following charts shows the hail size comparisons.

Hail Size Description Chart

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

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

Source-*NWS/NOAA*



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

Table 4.10: Clark County 10-year Hail History

Location	Date	Time	Magnitude
Raymond	09/18/2013	20.55	1.25 in.
Clark	09/18/2013	22:30	1.00 in.
Willow Lake	07/24/2014	09:23	1.00 in.
Bradley	07/24/2014	12:25	1.00 in.
Willow Lake	06/06/2015	17:30	0.75 in.
Willow Lake	06/06/2015	17:45	1.00 in.
Willow Lake	06/09/2015	16:24	1.00 in.
Bradley	07/17/2015	19:26	1.00 in.
Naples	08/06/2015	13:52	1.00 In.
Raymond	07/16/2016	18:40	1.00 in.

Location	Date	Time	Magnitude
Raymond	07/16/2016	18:45	1.00 in.
Raymond	07/16/2016	18:50	1.75 in.
Clark	07/16/2016	19:19	1.75 in.
Clark	07/16/2016	19:20	2.50 in.
Garden City	06/11/2017	03:38	1.00 in.
Carpenter	06/22/2017	02:40	1.00 in.
Elrod	07/17/2017	16:03	0.88 in.
Naples	08/13/2017	10:33	1.75 in.
Bradley	05/08/2018	17:15	1.00 in.
Willow Lake	07/02/2018	21:45	1.00 in.
Carpenter	07/08/2020	20:50	1.75 in.
Carpenter	07/08/2020	21:30	1.75 in.
Garden City	05/09/2022	05:45	1.75 in.
Willow Lake	05/12/2022	04:22	1.00 in.
Willow Lake	05/12/2022	16:22	1.00 in.
Bradley	06/29/2022	19:58	1.00 in.
Carpenter	07/13/2023	15:08	1.25 in.
Willow Lake	07/13/2023	15:18	1.00 in.
Willow Lake	07/13/2023	15:25	1.00 in.
Naples	07/25/2023	23.20	1.00 in.

SOURCE : https://www.ncei.noaa.gov/stormevents/

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 Clark County each year. The FEMA NRI shows 30.3 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 49 people a year are killed by lightning strikes. The following chart shows the lightning activity levels that are used.

Lightning Activity Levels

Level	Description
1	No thunderstorms
2	Isolated thunderstorms. Lightning is very infrequent, 1–5 cloud-to-ground strikes in a five-minute period.
3	Widely scattered thunderstorms. Lightning is infrequent, 6–10 cloud-to-ground strikes in a five-minute period.
4	Scattered thunderstorms. Lightning is frequent, 11–15 cloud-to-ground strikes in a 5-minute period.
5	Numerous thunderstorms. Lightning is frequent and intense, greater than 15 cloud-to-ground strikes in a five-minute period.
6	Dry lightning (same as LAL 3 but without rain). This type of lightning has the potential for starting fires, and is normally highlighted in fire weather forecasts with a red flag warning.

Source-*NWS*

The NCEI 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.

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 is very minimal. Blizzard, Freezing Rain/Sleet/Ice and Heavy Snow are components of winter storms and included under this profile. The FEMA NRI states the County should anticipate 8.3 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 Clark County annually is minimal, but can cause significant damages when they occur. The FEMA NRI indicates 0.5 ice storm events per year.

Sleet does not generally cling to objects like freezing rain, but it does make the ground very slippery. This also increases the number of traffic accidents and personal injuries due to falls. Sleet can severely slow down operations within a community. Not only is there a danger of slipping, but with wind, sleet pellets become powerful projectiles that may damage structures, vehicles, or other objects. Sleet normally occurs several times each year.

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

Table 4.11 shows just how common blizzards, snow and ice storms are in the County. While such storms would be considered extreme in many parts of the State, the consistent nature of such weather hazards are expected in this area. Thus, planning and response mechanisms for snow and ice storms are vital to the County and are routine procedures in the County due to the common nature of such storms. Winter storms in South Dakota are known to cover large geographical areas, often an entire county or multiple counties can be affected by a single storm. All of the storms identified in Table 4.14 were considered to have occurred countywide and affected all participants of the plan. Due to the multiple occurrences of storms each year, an exhaustive compilation is not possible.

Table 4.11 Clark County 10-Year History of Snow and Ice Storms

Location	Date	Time	Type	Property Damage
Clark County	01/28/2013	15:00	Winter Storm	
Clark County	02/10/2013	12:00	Blizzard	
Clark County	02/18/2013	13:00	Blizzard	
Clark County	03/08/2013	20:00	Ice Storm	
Clark County	03/18/2013	04:00	Blizzard	
Clark County	04/11/2013	01:00	Winter Storm	
Clark County	04/14/2013	00:00	Winter Storm	
Clark County	12/03/2013	16:00	Winter Storm	
Clark County	01/03/2014	09:00	Blizzard	
Clark County	01/16/2014	08:00	Blizzard	
Clark County	01/18/2014	02:00	Blizzard	
Clark County	01/22/2014	05:00	Blizzard	
Clark County	01/23/2014	20:00	Blizzard	
Clark County	01/25/2014	18:00	Blizzard	
Clark County	02/13/2014	08:15	Blizzard	
Clark County	03/31/2014	19:00	Blizzard	
Clark County	11/09/2014	23:00	Heavy Snow	
Clark County	12/15/2014	07:00	Winter Weather	
Clark County	01/08/2015	13:00	Blizzard	

Location	Date	Time	Type	Property Damage
Clark County	02/10/2015	04:00	Winter Weather	
Clark County	03/03/2015	07:00	Blizzard	
Clark County	11/30/2015	12:00	Heavy Snow	
Clark County	12/01/2015	00:00	Heavy Snow	
Clark County	11/18/2016	06:00	Blizzard	
Clark County	12/10/2016	10:00	Heavy Snow	
Clark County	12/25/2016	13:00	Ice Storm	1.180M
Clark County	12/26/2016	05:30	Blizzard	
Clark County	03/12/2017	10:00	Heavy Snow	
Clark County	12/04/2017	17:00	Blizzard	
Clark County	03/05/2018	07:00	Heavy Snow	
Clark County	03/23/2018	21:00	Heavy Snow	
Clark County	04/08/2018	10:00	Heavy Snow	
Clark County	12/27/2018	19:00	Blizzard	
Clark County	12/31/2018	07:30	Blizzard	
Clark County	01/27/2019	12:00	Heavy Snow	
Clark County	02/07/2019	11:00	Blizzard	
Clark County	02/19/2019	20:00	Heavy Snow	
Clark County	02/24/2019	04:40	Blizzard	
Clark County	03/09/2019	07:00	Heavy Snow	
Clark County	03/14/2019	09:30	Blizzard	
Clark County	04/11/2019	07:00	Blizzard	
Clark County	10/10/2019	12:00	Heavy Snow	
Clark County	11/29/2019	21:00	Winter Storm	
Clark County	12/01/2019	00:00	Winter Storm	
Clark County	12/28/2019	04:00	Winter Storm	
Clark County	01/17/2020	11:00	Blizzard	
Clark County	01/21/2020	02:40	Blizzard	
Clark County	02/12/2020	08:00	Blizzard	
Clark County	10/20/2020	04:00	Heavy Snow	
Clark County	10/22/2020	00:00	Heavy Snow	
Clark County	12/23/2020	08:00	Blizzard	
Clark County	01/14/2021	18:00	Blizzard	
Clark County	03/10/2021	10:00	Heavy Snow	
Clark County	11/11/2021	20:00	Blizzard	
Clark County	12/17/2021	08:00	Heavy Snow	
Clark County	12/26/2021	11:00	Heavy Snow	
Clark County	01/04/2022	17:00	Blizzard	

Location	Date	Time	Type	Property Damage
Clark County	01/14/2022	00:00	Winter Storm	
Clark County	02/20/2022	21:14	Heavy Snow	
Clark County	02/21/2022	08:00	Blizzard	
Clark County	12/13/2022	00:00	Ice Storm	
Clark County	12/13/2022	00:00	Heavy Snow	
Clark County	12/15/2022	10:00	Blizzard	
Clark County	12/23/2022	09:00	Blizzard	
Clark County	01/16/2023	05:00	Winter Weather	
Clark County	02/09/2023	08:54	Winter Weather	
Clark County	02/14/2023	22:00	Blizzard	
Clark County	02/20/2023	13:00	Winter Weather	
Clark County	02/21/2023	17:00	Winter Weather	
Clark County	02/22/2023	19:00	Blizzard	
Clark County	02/25/2023	07:34	Winter Weather	
Clark County	03/01/2023	00:00	Heavy Snow	
Clark County	03/05/2023	10:00	Heavy Snow	
Clark County	03/16/2023	04:00	Winter Weather	
Clark County	03/21/2023	13:00	Heavy Snow	
Clark County	03/31/2023	16:00	Blizzard	
Clark County	04/04/2023	06:00	Heavy Snow	
Clark county	04/05/2023	05:00	Winter Weather	

SOURCE : https://www.ncei.noaa.gov/stormevents/

Major Winter Storm Occurrences:

- **January 1888 –** According to an article on the SDSU website for National History Day in SD, an extreme blizzard in January 1888 led to 170 deaths in South Dakota alone. Many of those who passed away were school children trying to walk home, giving this blizzard its name. This blizzard is also sometimes referred to as the Schoolhouse/Children's Blizzard of 1888.

- **March 1966 –** One of the worst blizzards in South Dakota history occurred in the northern Great Plains in March 1966. The blizzard dumped several feet of snow and brought winds of 40-55 MPH with gusts as high as 100 MPH. The storm caused several fatalities, killed numerous livestock and caused structural damages. Roads were blocked and schools and businesses were closed.

- **February 2013 -** A very strong low pressure area moving across the region brought widespread heavy snow of 6 to as much as 19 inches. Along with the heavy snow came very strong winds of 30 to 50 mph causing widespread blowing and drifting snow. Roads, highways, along with Interstates 29 and 90 were closed for a time. Schools started late or were closed on Monday the 11th. A man died from exposure when he left his vehicle after he became stranded about three miles west of Redfield. Some snowfall amounts included;

6 inches at Murdo; 7 inches at Kennebec and Onida; 8 inches east of Hayes and Bowdle; 9 inches at Roscoe; 10 inches at Watertown, Miller, Clear Lake, Doland, and Highmore; and 11 inches at Castlewood. Locations with a foot or more of snow included; 12 inches at Clark and Ipswich; 13 inches at Columbia and Aberdeen; 14 inches at Milbank and Faulkton; 15 inches at Waubay; 16 inches at Britton and Victor; 17 inches at Sisseton, Summit, and Wilmot; 18 inches at Webster; and 19 inches three miles west of Sisseton. The highest wind gust was 48 mph at Pierre during the late afternoon of the 10th. The snow began between 8 pm and Midnight on the 9th and ended in the late afternoon of the 10th across central South Dakota and around noon on the 11th across the northeast.

- **December 2016 -** An intense surface low pressure area moved from northeast Colorado to South Dakota from the 24th through the 26th. This storm was unusually warm for the region for late December and produced record breaking heavy rain along with flooding in some cases. Significant icing occurred across areas at or just below the freezing point, which resulted in widespread tree and power pole and line damage to the area. Some downed branches and trees fell onto homes across the region. This storm also brought high winds along with snow and blizzard conditions to the region. This significant storm resulted in massive power outages, stranded motorists, and closed roads.

  Ice accumulations were significant across central and northeastern South Dakota with over an inch accumulation for some locations. High winds during this event increased the amount of power pole, line, and tree damage. Those who did not see freezing rain accumulations had to deal with ice as well. The ponding of the heavy rain froze overnight once much colder air moved in. Roads and walkways became treacherous ice rinks and remained as such for many days. There were numerous injuries from slips on the ice, as well as several vehicular accidents and flight cancellations. Livestock was also affected, though most made it through the storm. Dairy operations dealt with frozen drinking water tanks.

  Precipitation amounts were very impressive for late December, as the system had near record levels of atmospheric moisture to work with. Rain or freezing rain was the predominant precipitation type for those roughly east of the Missouri River on the 25th. Some of the heaviest rainfall amounts include: 0.82 inches at Sisseton and Summit. From this rainfall, ice accumulation amounts ranged from a quarter inch to nearly an inch and a half in places. The highest measured ice accumulation was 1.37 inches about 2 miles east of Summit.

  High winds gusting to over 70 mph impacted the entire region on the 25th and 26th. The combination of snow and ice and high winds snapped or otherwise damaged hundreds of power poles, downed several thousand miles of power lines, damaged several hundred transmission structures and brought many substations down. Many roads were blocked by power lines. Overall, more than one hundred linemen worked to bring the power back. Twenty-one counties encompassing 30 communities and 3 Indian reservations were impacted. Entire communities, thousands of homes, and businesses, and ultimately over 12,000 people went without power. For some, power was not restored for 10 days despite tireless efforts. All power was restored by January 4th, 2017. Water and sewer systems shut down for several days for some communities and emergency shelters were necessary. Deuel, Day, Marshall, Clark, and Grant counties were the hardest hit. County and city governments were overwhelmed by ice accumulations and blizzard conditions and struggled with maintaining accessibility even for emergency traffic. Road conditions deteriorated to the point where it took up to several hours for emergency officials to

respond to 911 calls. Due to widespread significant impacts, the Governor of South Dakota declared a State of Emergency on the 26th which helped facilitate the movement of out-of-state crews to aid with power restoration. There was also a Presidential Disaster Declaration for damage to public property. The total estimated damage was nearly 8 million dollars for central and northeast South Dakota.

- **March 2018 -** An intense surface low pressure area brought scattered showers and thunderstorms along with heavy snow to much of north central and northeast South Dakota from the 5th to the 6th. The scattered showers and thunderstorms moved across the region during the early morning hours of the 5th while heavy snow developed from the mid-morning to the early afternoon. There were several reports of thundersnow across the region. Snowfall amounts ranged from 6 to as much as 18 inches before it ended on the 6th. The very heavy snow resulted in closed businesses, schools, government offices, difficult travel conditions with several accidents reported, along with closed highways and Insterstate-29. Many activities and events were also postponed or cancelled.

- **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 across Marshall, Day, Codington, Grant, and Clark Counties. Winds gusted generally between 45 and 60 mph.

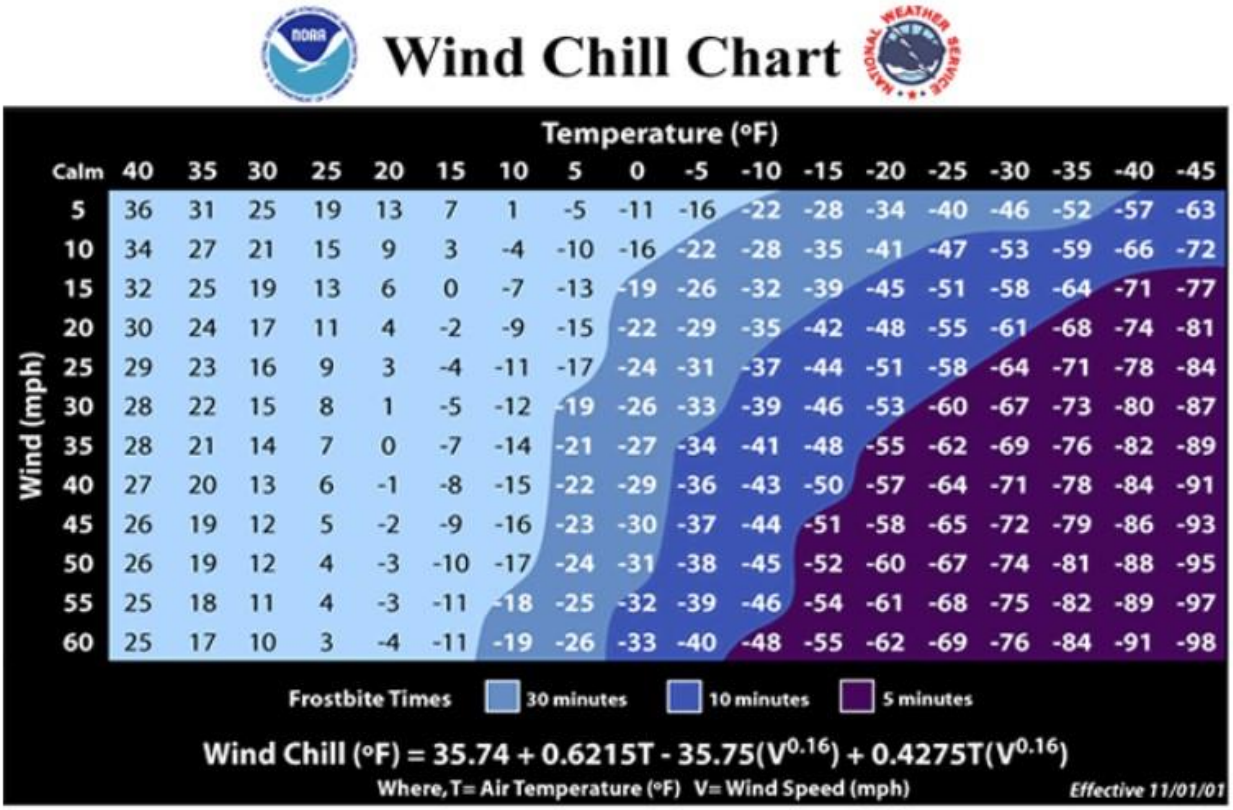
  The South Dakota Department of Transportation placed nearly the entire state under No Travel Advised or had road closures by Thursday, as numerous roads had become impassable. I90 closed from Chamberlain to Rapid City from 10am CST on Tue Dec 13th through mid-day Sat Dec 17th (from Kadoka to Chamberlain), 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.

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 Clark 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 2.8 cold wave events per year.



Wind Chill Chart

Wind (mph) \ Temperature (°F)	Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
5		36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
10		34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15		32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20		30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25		29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30		28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35		28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40		27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45		26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50		26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
55		25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
60		25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98

Frostbite Times: 30 minutes | 10 minutes | 5 minutes

$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Where, T= Air Temperature (°F) V= Wind Speed (mph)

Effective 11/01/01

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 SHELDUS and NOAA websites. Table 4.11 identifies dates and times of the temperature extremes. The location in table 4.11 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 4.12: Clark County 10-Year History of Extreme Cold Temperatures

Location	Date	Time	Type
Clark County	01/20/2013	23:00	Extreme Cold/Wind Chill
Clark County	01/31/2013	03:00	Extreme Cold/Wind Chill
Clark County	12/07/2013	05:00	Extreme Cold/Wind Chill
Clark County	12/23/2013	03:00	Extreme Cold/Wind Chill
Clark County	12/29/2013	01:00	Extreme Cold/Wind Chill
Clark County	01/05/2014	11:00	Extreme Cold/Wind Chill
Clark County	01/27/2014	04:00	Cold/Wind Chill
Clark County	03/01/2014	20:30	Extreme Cold/Wind Chill
Clark County	02/22/2015	07:00	Extreme Cold/Wind Chill
Clark County	01/16/2016	21:00	Extreme Cold/Wind Chill
Clark County	12/18/2016	01:00	Extreme Cold/Wind Chill
Clark County	12/26/2017	06:30	Extreme Cold/Wind Chill
Clark County	12/30/2017	10:00	Extreme Cold/Wind Chill
Clark County	01/01/2018	00:00	Extreme Cold/Wind Chill
Clark County	01/15/2018	06:00	Extreme Cold/Wind Chill
Clark County	01/29/2019	08:00	Extreme Cold/Wind Chill
Clark County	02/08/2019	05:00	Extreme Cold/Wind Chill
Clark County	03/03/2019	01:00	Extreme Cold/Wind Chill
Clark County	02/12/2020	14:00	Extreme Cold/Wind Chill
Clark County	02/06/2021	00:00	Extreme Cold/Wind Chill
Clark County	12/28/2021	18:00	Extreme Cold/Wind Chill
Clark County	01/01/2022	00:00	Extreme Cold/Wind Chill
Clark County	01/06/2022	01:45	Extreme Cold/Wind Chill
Clark County	01/20/2022	00:00	Extreme Cold/Wind Chill
Clark County	01/25/2022	03:23	Extreme Cold/Wind Chill
Clark County	02/02/2022	08:30	Extreme Cold/Wind Chill
Clark County	02/03/2022	08:56	Extreme Cold/Wind Chill
Clark County	02/22/2022	07:33	Extreme Cold/Wind Chill
Clark County	12/21/2022	20:00	Extreme Cold/Wind Chill
Clark County	01/30/2023	02:00	Extreme Cold/Wind Chill
Clark County	02/24/2023	04:43	Extreme Cold/Wind Chill

SOURCE : https://www.ncei.noaa.gov/stormevents/

On January 13, 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.

The coldest air in recent history moved into the region during the early morning hours of January 5, 2014 and continued into the afternoon hours of the 6th. The combination of sub-zero temperatures with north winds produced dangerously cold wind chills from 40 below to around 55 degrees below zero. Winds gusted to over 40 mph at times. Several area activities were cancelled, as well as many schools on Monday the 6th. Some of the coldest wind chills include; 56 below in Summit; 55 below near Hillhead; 54 below in Brandt and Webster; 53 below in Clear Lake and Frederick; 52 below in Herreid; 51 below in Clark and Leola; 50 below in Watertown, Sisseton, Bowdle, Hayti, Peever, Mahto, and McIntosh. With these types of temperature extremes, the biggest concern for people is exposure because prolonged exposure means almost certain death.

Arctic air combined with north winds of 10 to 20 mph to bring extreme wind chills of 35 to nearly 50 below zero across northeast South Dakota during the morning hours of February 22, 2015.

Arctic air combined with strong north winds brought bitter cold wind chills to north central and northeast South Dakota from the evening of January 16, 2016 through the morning of the 17th. Wind chills of 35 below to around 45 below zero occurred through this time period.

Extreme wind chills which began on December 30th, 2017 across central and northeast South Dakota continued into January 1st. 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. Some of the record lows on January 1st include -30 degrees at Mobridge, -32 degrees at Aberdeen and Timber Lake, -35 degrees at Kennebec, and -44 degrees 17 miles west southwest of Fort Pierre. Temperatures did not respond well for daytime highs on January 1st as several record low highs in the single digits below zero occurred. Some of the most bitter wind chills on the 1st include -45 degrees at Mobridge and Eureka, -49 degrees at Aberdeen, -50 degrees at Summit, and -55 degrees at Shambo Ranch in Corson county.

URBAN FIRE/WILDFIRE

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.

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) 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.

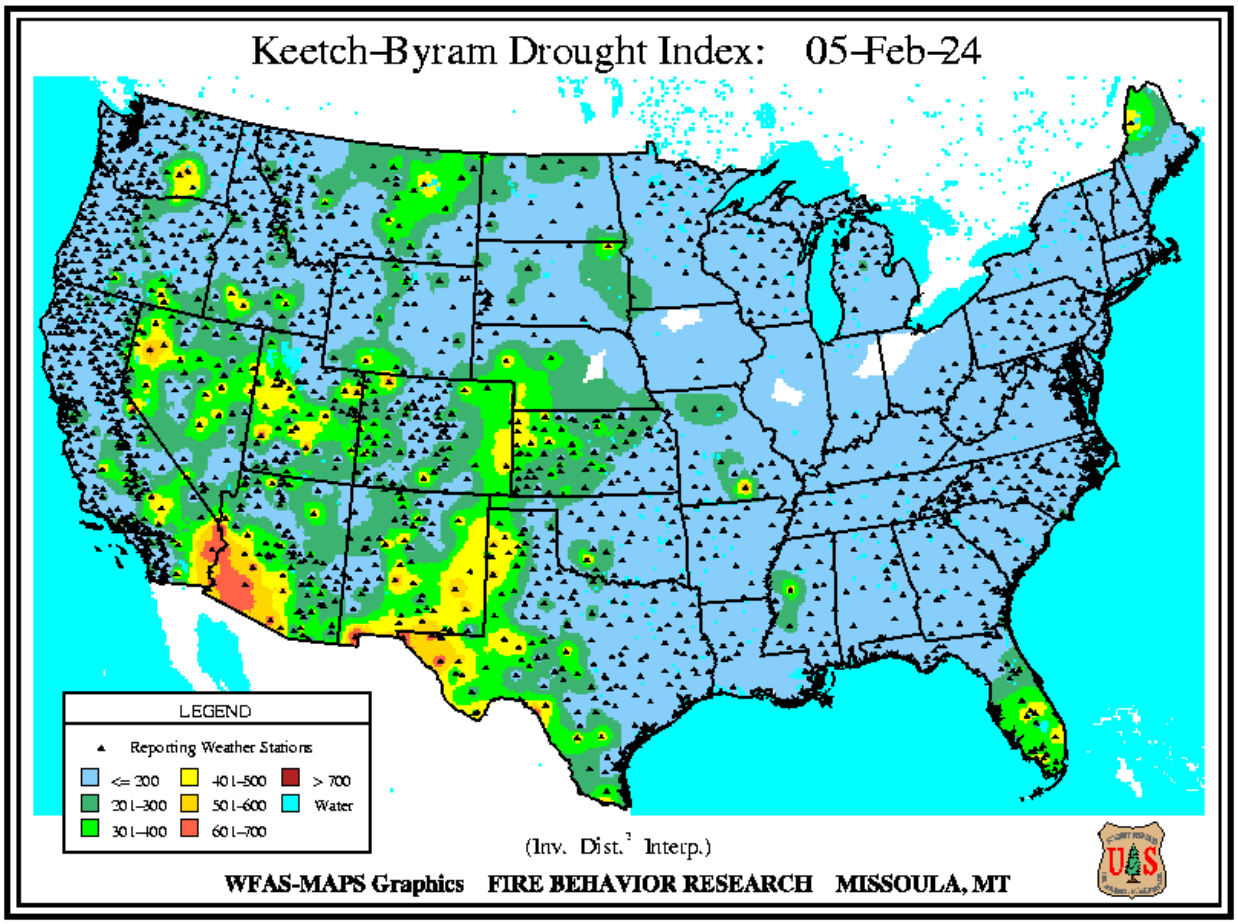
According to the SD Drought Mitigation Plan (SD DMP), lightning fires burn more acreage than human-caused fires, in part, because 1) multiple lightning fire ignitions often occur at the same time; 2) lightning fires can occur throughout the protection area, while most human-caused fires occur in accessible 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 NCEI Storm Events Database website was incomplete. Therefore, other sources were contacted whenever possible. Specifically, NCEI 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 SFMO information provided is derived from the reports submitted by the local fire departments who respond to the fires. Representatives from the SFMO explained that since many of the fire departments in the County are volunteer, many times wildfires are extinguished, and reports are never filed with the State. Thus, the information provided by the SFMO 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 in determining the likelihood of a wildfire hazard occurrence within the jurisdiction.

The information provided by the SFMO identifies 22 structure fire responses, 23 vehicle fire responses, and 48 outdoor fire responses reported from 2013 to 2022. 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. According

to the information provided, zero civilian or firefighter injuries were reported from 2013 to 2022. During the same time period, two civilian fatalities and zero firefighter fatalities were reported.

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 48 outdoor (wildfire) fires as some events required multiple departments to respond.

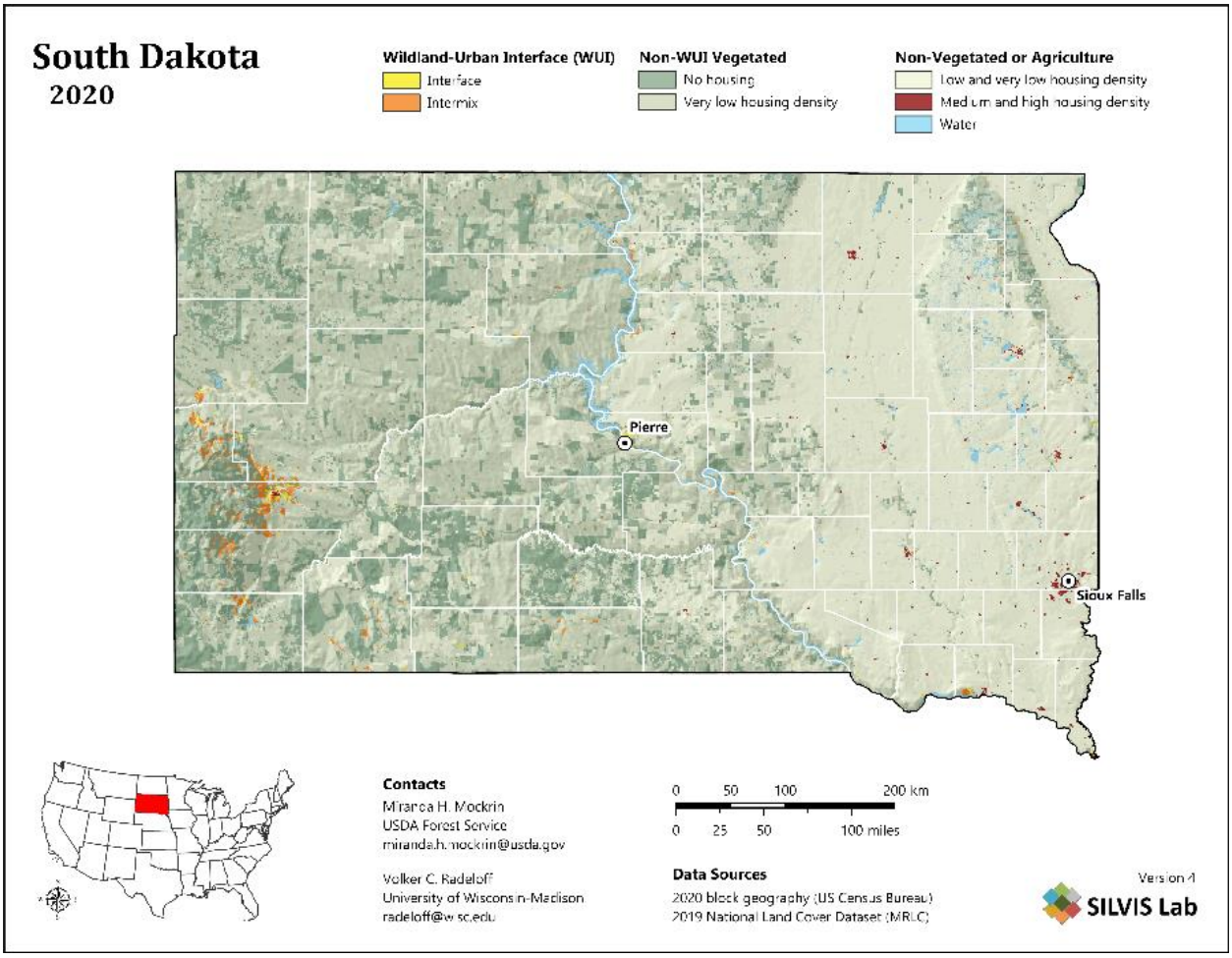
Table 4.13 Clark County Structural, Vehicle and Outdoor (Wildfire) Department Responses

Year	Structural Fires	Vehicle Fires	Outdoor Fires
2013	2	2	3
2014	3	2	6
2015	1	2	7
2016	3	2	17
2017	4	7	8
2018	2	1	0
2019	0	2	2
2020	3	1	4
2021	4	4	1
2022	0	0	0
Total	**22**	**23**	**48**

Data from 2023 was not available at the time of this update.
SOURCE: South Dakota State Fire Marshall Office

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 Clark County jurisdiction. The FEMA NRI shows a 0.102% chance of wildfire per year.

Figure 4.2: SD Wildland Urban Interface Map



ASSESSING VULNERABILITY: OVERVIEW

Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B1.
Requirement 201.6(c)(2)(i). Local Mitigation Plan Review Tool – B2.
Requirement 201.6(c)(2)(ii). Local Mitigation Plan Review Tool – B3.

Hazards were also analyzed in terms of the level of the community or county's perceived vulnerability to the hazard. Vulnerability to the hazard is the susceptibility of life, property, and the environment to injury or damage if a hazard occurs. Representatives from each participating jurisdiction and the PDM Planning Team were asked to complete worksheets that rated their perception to vulnerability of hazards for either their specific geographical location, or for county-wide risks. A low vulnerability hazard is one that has very low damage potential to either life or property (minor damage to less than 5% of the jurisdiction). A "medium" vulnerability hazard is unlikely to threaten human life, although some people may be at risk, but may pose moderate damage potential (causing partial damage to 5% to 10% of the jurisdiction, on an irregular occurrence). A "high" vulnerability hazard may threaten human life, and more than ten percent of the jurisdiction may be at risk on a regular occurrence. Table 4.14 below is an overall summary of perceived vulnerability by jurisdiction produced from the FEMA worksheets completed by each participating jurisdiction and PDM Planning Team.

Table 4.14: Overall Summary of Vulnerability by Jurisdiction

Type of Disaster	Clark County	Bradley	Clark	Garden City	Naples	Raymond	Vienna	Willow Lake	Avg. Rating
Dam Failure	N	N	N	N	N	N	N	N	N
Drought	H	L	L	N	L	L	L	H	L
Earthquake	N	L	N	N	N	N	N	L	N
Extreme Cold	H	M	H	M	H	H	H	M	M
Extreme Heat	H	M	H	M	H	L	H	M	M
Flood	H	L	M	L	L	M	M	L	M
Freezing Rain/Sleet/Ice	M	H	H	H	M	M	H	H	H
Hail	M	M	H	H	H	L	H	H	H
Heavy Rain	M	H	H	L	H	M	H	M	H
Heavy Snow	M	H	H	M	H	L	H	H	H
Ice Jam	N	N	N	L	L	L	N	L	L
Landslide	N	N	N	N	N	N	N	N	N
Lightning	L	L	H	L	M	L	M	L	M
Rapid Snow Melt	M	M	H	L	H	L	H	M	M
Strong Winds	M	H	H	H	H	M	H	H	H
Subsidence	N	L	L	N	N	N	N	N	N
Thunderstorm	M	L	H	L	M	L	M	H	M
Tornado	M	M	H	H	H	M	H	H	M
Urban Fire	L	L	H	L	M	L	M	L	M
Wildfire	L	L	H	L	M	L	M	M	M

N : Not applicable; not a hazard to the jurisdiction.

L : Low risk/vulnerability; little damage potential (minor damage to less than 5% of the jurisdiction).

M : Medium risk/vulnerability; moderate damage potential (causing partial damage to 5-10% of the jurisdiction, and irregular occurrence).

H : High risk/vulnerability; significant risk/major damage potential (for example, destructive, damage to more than 10% of the jurisdiction and/or regular occurrence).

After identifying and assessing the natural hazards that may affect Clark County and discussing their perceived vulnerabilities, the Team decided to concentrate on the following natural hazards: flooding, severe summer storms, severe winter storms and drought/fire. The remaining natural hazards, earthquakes; dam failure; ice jams, landslides and subsidence had a low/no probability of occurrence and a low/no vulnerability in the County. These hazards will no longer be considered by this plan.

Regional Climate Change Trends

FEMA requires PDM plans to include climate change projections as a part of the hazard's accessibility and vulnerability analysis. The Third National Climate Assessment (TNCA) was published in 2014 that addresses the impacts of climate change on the United States, now and

in the future. The reports discuss climate-related impacts for various sectors and regions across the nation. This report was reviewed, and information/conclusions were incorporated into this plan. The information summarized in the report points to increasing mean temperatures in the northern Great Plains region where South Dakota is located. Winter season temperatures are warming faster than summer season temperatures. This may lead to increased evaporation and drought frequency. New agricultural practices will be needed to cope with changing conditions. Across South Dakota, there is a long-term trend of increasing annual precipitation. The majority of this increase is occurring in spring and fall seasons. The report suggests precipitation extremes will increase in frequency and intensity that could exacerbate flooding, especially in the spring. The Fourth National Climate Assessment was released in 2018. It reaffirms the findings within the Third National Climate Assessment. Other studies that were reviewed include the South Dakota State Multi-Jurisdictional Hazard Mitigation Plan, US Environmental Protection Agency-Climate Impacts in the Great Plains, NOAA NCEI-State Climate Summaries 2022 for South Dakota with similar information as the third and fourth climate assessments.

Hazard Vulnerabilities

The following paragraphs summarize the description of the jurisdiction's vulnerability to each hazard and the impact of each hazard on the jurisdiction**.**

Flooding

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.

Clark County has experienced severe damages to roads and culverts periodically from flooding. 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, Clark County can expect 0.8 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.

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.

Severe Storms

Summer Storms

Summer storms can occur anywhere in the County. Summer storms historically occur from early spring to early fall. Summer storms can develop into thunderstorms that include strong winds, heavy rains and flooding, lightning and hail; they can also spur the development of funnel clouds and tornadoes. They can vary in intensity from mild to severe, and can cause injury or death, destroy property and kill livestock. This section covers five types of hazards caused by summer storms especially thunderstorms: hail, heavy rains, lightning, strong winds and tornadoes. Flooding was covered previously.

Hail causes 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 property such as homes and roads. Often 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. Roads, culverts and bridges can be washed out, thus causing traffic hazards for travelers and commuters. Many times 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.

Lightning often strikes the tallest objects within the area. In towns 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.

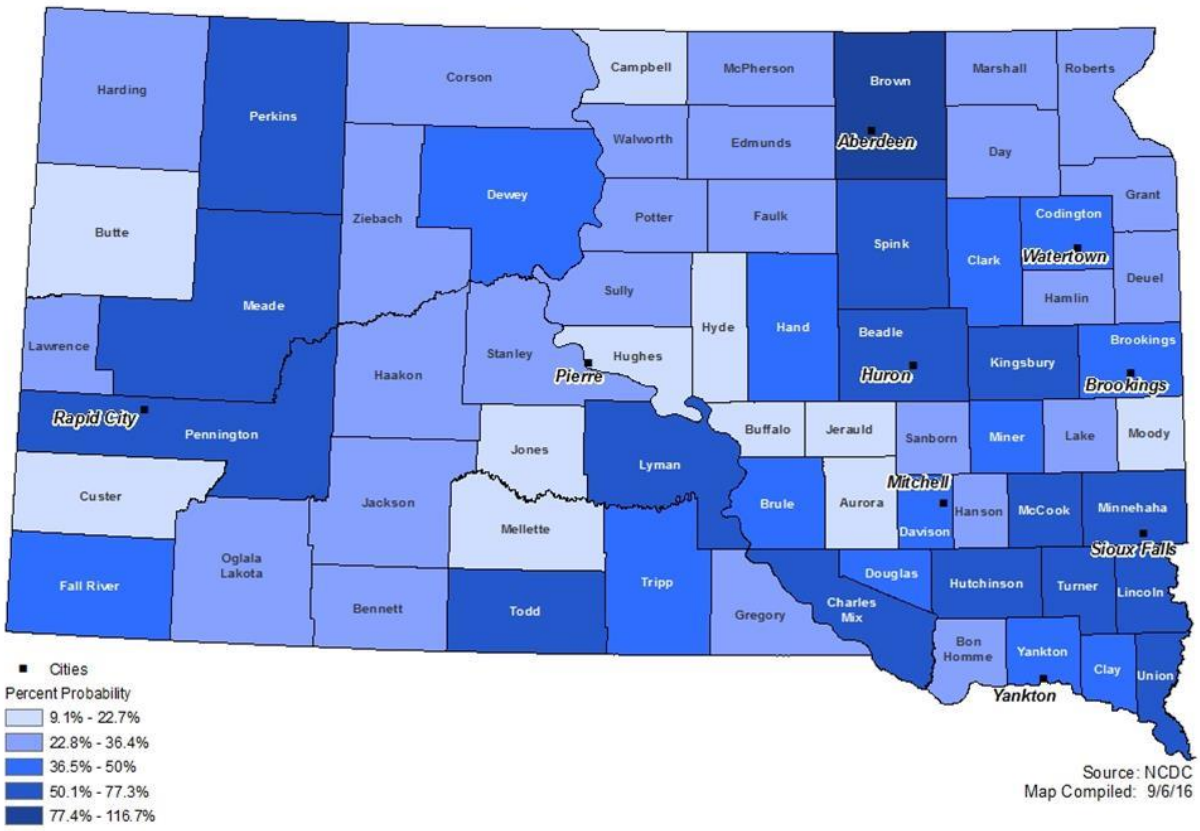
One of lightning's dangerous attributes includes the ability to cause fires. Since the entire county is vulnerable to lightning strikes and subsequent fires, these fires will be treated under the fire section of this PDM.

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.

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 NCEI, there were 1,711 tornadoes, of which 636 were F1 or higher, in South Dakota between 1950 and 2016 (66 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 4.3 depicts the probability of a damaging tornado occurring in each county based on the historical data. FEMA NRI projects the potential for 0.5 tornado events per year.

Figure 4.3 Damaging Tornado Probability by County



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, so will 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.

Winter Storms

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 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.

Extreme cold temperatures in the County are common occurrences. It is expected that at least two 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.

Flooding was previously covered in this section.

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.

Drought/Fires

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. 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 Clark County has an annualized frequency of zero drought events per year.

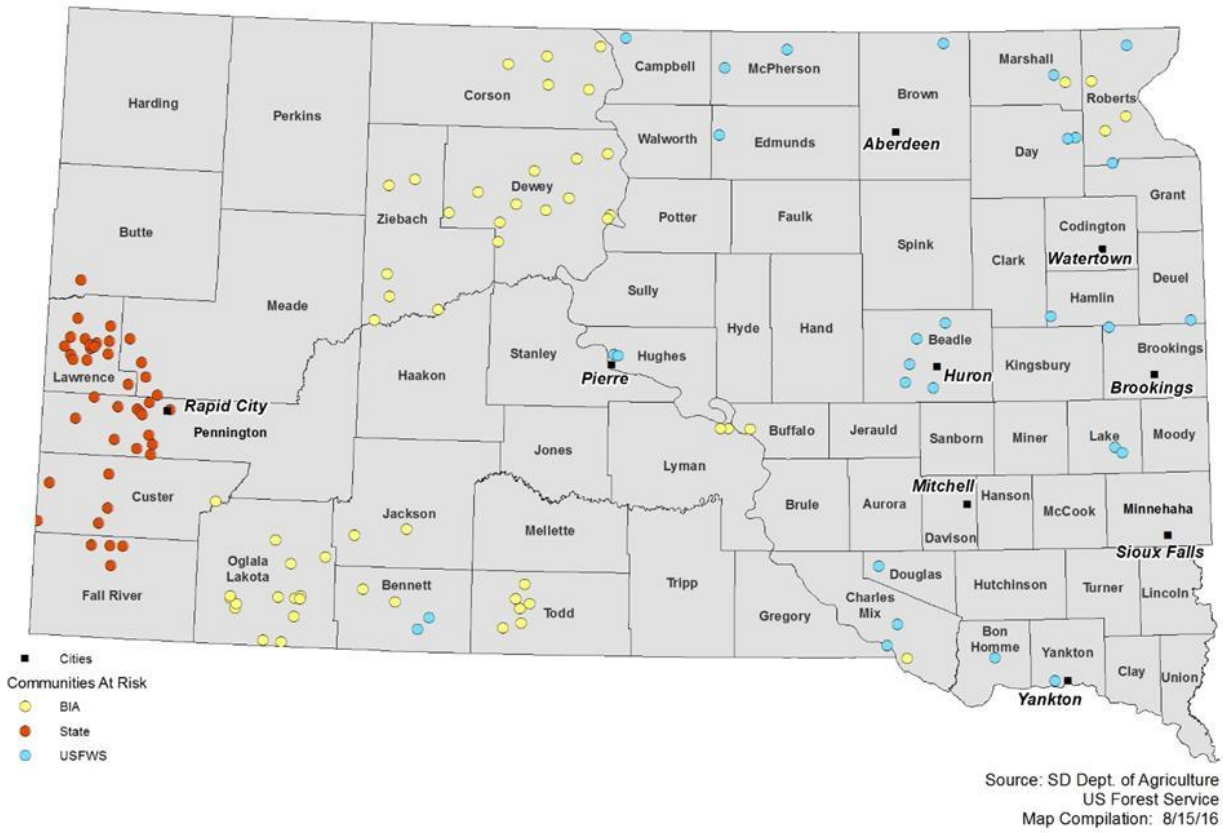
Severe heat waves, a component of drought, have caused catastrophic crop damage, deaths from hyperthermia, and widespread power failures due to increased use of air conditioning. Loss of power and crop damage is the largest vulnerabilities to the county during extreme heat. Both have an effect on quality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

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

Moisture amounts have the biggest impact on fire situations. During wet years, fire danger is low. More controlled burns are conducted, and fewer mishaps occur. During dry years, severe restrictions are placed on any types of burns. For information on dealing with open/controlled burning within the county, see SDCL 34-29B and SDCL 34-35. The FEMA NRI states Clark County has a 0.102% chance of wildfire per year.

Since there are no remote forested regions in Clark County, wildfires can be easily spotted and are capable of being maintained. Most of the land in Clark County is used for agriculture or pasture land. Most wildfires that occur in Clark County are grass/brush fires. All of the communities in the County are surrounded by ag land or open pastures meaning there is a lesser risk of wildfire encroaching upon the communities. The communities of Bradley, Clark, Naples, Vienna and Willow Lake have intermix areas (sloughs) that border on these communities. All communities receive fire protection from local fire departments. The following map shows the SD communities at risk from wildfire including Clark County.

SD Communities at Risk from Wildfire



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

Urban fires are a potential threat to the County and its communities. According to the US Fire Administration (USFA), 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 in Clark County have a volunteer fire department for fire suppression or are covered by a neighboring department. Most of the communities in Clark County have smaller populations. The City of Clark is the largest and the city has its own fire department.

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 spread and for fire access. According to the USFA, the number of fires, fire casualties, and economic losses has continued to decline over the last several years.

Climate Change Considerations

In the Fourth National Climate Assessment, climate model projections paint a clear picture of a warmer future in the Northern Great Plains, with conditions becoming consistently warmer in two to three decades and temperatures rising steadily towards the middle of the century. Overall, climate models project an increase in the number of heavy precipitation events for much of the region. Most precipitation events are projected to occur during the winter and spring seasons. Rising temperatures will lead to increased evaporation and increasing drought frequency and intensity. The probability for more very hot days (days with maximum temperatures above 90°F) is expected to increase during the summer months, with potential impacts on agriculture, energy production, human health, stream flows, snowmelt, and fires. Less precipitation and warmer temperatures during the summer growing season, potentially causing drought conditions, may adversely affect agriculture (no irrigation), human health and fires.

According to the SD DMP and SD SHMP, wildfire conditions across South Dakota and the western United States in general are likely to worsen in the future due to climate change. The increase in moisture can provide favorable conditions for fuel (vegetation) growth. Longer, hotter summers deplete moisture in soils and vegetation potentially promoting drought conditions. The increase in temperatures can dry out fuels more rapidly allowing them to burn more easily. Hotter temperatures and drought conditions may adversely affect water supplies by decreasing their availability for fire suppression. Climate change is also believed to increase the severity of thunderstorms, leading to more lightning strikes that can ignite fires.

It appears that climate change will not have a major impact on urban fires, except when a wildfire crosses into a community.

ASSESSING VULNERABILITY: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE
Requirement 201.6(c)(3)(ii). Local Mitigation Plan Review Tool – C2.

The municipalities of Clark, Raymond and Willow Lake all participate in the National Flood Insurance Program (NFIP). Table 4.15 shows County entities that participate in the NFIP. Those municipalities adopted maps in 2024 to update their respective floodplain regulations and maps to come into compliance with federal requirements. The communities of Clark County, City of Clark, Raymond and Willow Lake will continue to participate and ensure compliance of the participating local jurisdictions located within the flood plain.

Table 4.15: Communities Participating in the National Flood Program

Community Name	Community ID	Current Map Effective Date
Clark County	***Not Participating***	
Bradley	***Not Participating***	
Clark	460013A	01/11/24
Garden City	***Not Participating***	
Naples	***Not Participating***	
Raymond	461205A	01/11/24(M)
Vienna	***Not Participating***	
Willow Lake	460014A	01/11/24(M)

The Clark County Auditor maintains the flood zone maps and the Director of Equalization utilizes DFIRMS for all planning mechanisms occurring in the unincorporated areas of the county; specifically development of new structures. Each individual participating community has 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. The DFIRMS are used to determine where the natural drainage occurs and ensures that new development will not interrupt the natural drainage.

ADDRESSING VULNERABILTY: REPETITIVE LOSS PROPERTIES
Requirement 201.6(c)(2)(ii). Local Mitigation Plan Review Tool – B4.

Due to various geomorphologic and topographical conditions, periodic flooding affects numerous areas in both incorporated and unincorporated areas of the County. The City of Clark, Raymond, and Willow Lake all have identified Flood Hazard Areas. See Table 4.15 for County NFIP statistics.

Table 4.16: Clark 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 Clark	9	0	N/A	0	0
Town of Raymond	0	0	N/A	0	0
Town of Willow Lake	2	3	0	0	0
Unincorporated areas of Clark County	2	6	$142,000	0	0
Totals	**13**	**9**	**$142,000**	**0**	**0**

SOURCE: South Dakota State NFIP Coordinator (2023)

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. Clark County has no repetitive loss claims throughout the county with total payments for losses at $142,000 (Table 4.16). Repetitive loss properties are those for which two or more losses of at least $1,000 each have been paid under the National Flood Insurance Program (NFIP) within any ten-year period. A goal of the County is to protect specific areas in the county from flooding. This goal aims to protect properties prone to flood losses, but does not discount the possibility that in some cases structures located in the floodplain may need to be removed.

ADDRESSING VULNERABILTY: SEVERE REPETITIVE LOSS PROPERTIES
Requirement 201.6(c)(2)(ii). Local Mitigation Plan Review Tool – B4.

The Flood Insurance Reform Act of 2004 identified another category of repetitive loss, severe repetitive loss, and defined it as “a single family property (consisting of one-to-four residences) that is covered under flood insurance by the NFIP and has incurred flood-related damage for which four or more separate claims payments have been paid under flood insurance coverage with the amount of each claim payment exceeding $5,000 and with cumulative amount of such claims payments exceeding $20,000; or for which at least two separate claims payments have been made with the cumulative amount of such claims exceeding the reported value of the property. Since Clark County does not have any properties classified “severe repetitive loss.”

ASSESSING VULNERABILITY: IDENTIFYING STRUCTURES
Requirement 201.6(c)(2)(ii). Local Mitigation Plan Review Tool – B3.

One of the primary purposes of this PDM is identifying critical facilities, emergency shelters, and summer storm shelters and equipping those facilities with the means to provide the necessary energy for access to sanitation and maintain important functions during a natural hazard occurrence. In the event of a disaster as a result of severe summer or winter storms, the County and participating entities will have the ability to prevent further loss of life by backup generator powered critical facility shelters. The communities have many structures that are vital to emergency operations. Each jurisdiction was responsible for listing critical infrastructure within their communities. Table 4.17 is a list of critical facilities that would cause the greatest distress in the county if destruction occurred. The information provided in Table 4.17 was compiled via survey of the participating communities.

Table 4.17: Critical Structures in Clark County

Jurisdiction/ Entity	Location	Address	Sector	Sub sector	Name	Owner Type
Clark County	Clark County	N/A	Utility	Power Supply	LREA Power lines	Private
Clark County	Clark County	N/A	Energy	Pipeline	Northern Natural Gas Northern Border Pipeline Keystone Pipeline	Private
Clark County	Clark County	200 N Commercial St	Emergency Services	Building	County Sheriff's Office	Public
Clark County	Clark County	1531 426th Street	Government Facility	Airport	Clark Airport	Public
Clark County	Clark County	1023 N Cloud St	Government Facility	Building	County Highway Department Facility	Public
Clark County	Clark County	Various locations	Population to Protect	Building	Hutterite Colony Schools	Private
Clark County	Clark County	Various locations	Population to Protect	Building	Dairy Dormitories	Private
Clark County	Clark County	200 N Commercial St	Government Facility	Building	Clark County Courthouse/Shelter	Public
Town of Bradley	Bradley	226 Main Street	Emergency Services	Building	Fire Hall	Public
Town of Bradley	Bradley	210 Main Street	Government Facility	Building	City Hall	Public
Town of Bradley	Bradley	220 Main Street	Government Facility	Building	Community Center	Public
Roberts County	Bradley	425 Railway Street	Government Facility	Building	County Highway Shop	Public
Town of Bradley	Bradley	228 3rd Street	Population to Protect	Building	Christian School	Private
Town of Bradley	Bradley	Ash & 3rd	Population to Protect	Recreation	Park	Public
Town of Bradley	Bradley	1 Ball Park Road	Population to Protect	Recreation	Ballfield	Public
Town of Bradley	Bradley	201 Main Street	Utility	Building	ITC Facility	Private
City of Clark	Clark	107 2nd Ave NW	Utility	Building	ITC Building	Private
City of Clark	Clark	120 N Commercial St	Government Facility	Building	City Hall/Community Center/Police Station	Public
City of Clark	Clark	227 Clausen Ave	Government Facility	Building	City Maintenance Shop/Fire Hall	Public
City of Clark	Clark	135 N Kansas St	Government Facility	Water Service	Water Treatment Plant	Public
City of Clark	Clark	100 N Cloud St	Population to Protect	Recreation	Park	Public
City of Clark	Clark	535 5th Ave SE	Government Facility	Sanitary Sewer	Wastewater Treatment Plant	Public
City of Clark	Rural Clark County	174th Street	Government Facility	Sanitary Sewer	Wastewater Lagoons	Public
City of Clark	Clark	200 N Clinton St	Population to Protect	Recreation	Park	Public
City of Clark	Clark	310 N Utah St	Population to Protect	Recreation	Swimming Pool/Park	Public
City of Clark	Clark	222 Clausen Ave	Emergency Services	Building	Clark County Ambulance Service	Public
City of Clark	Clark	3rd Ave NW	Government Facility	Water Service	Water Tower	Public
City of Clark	Clark	N Kansas St & 4th Ave NE	Non-Emergency Facility	Sanitary Sewer	Lift Station	Public
City of Clark	Clark	East End of 3rd Ave NE/Fairgrounds	Non-Emergency Facility	Sanitary Sewer	Lift Station	Public
City of Clark	Clark	S Cloud St & 7th Ave SE	Non-Emergency Facility	Sanitary Sewer	Lift Station	Public
City of Clark	Clark	1ST Ave E – Behind mobile home park	Non-Emergency Facility	Sanitary Sewer	Lift Station	Public
City of Clark	Clark	210 N Idaho St	Population to Protect	Building	Clark Elementary School	Public
City of Clark	Clark	220 N Clinton St	Population to Protect	Building	Clark High School	Public

Jurisdiction/ Entity	Location	Address	Sector	Sub sector	Name	Owner Type
City of Clark	Clark	211 N Commercial St	Emergency Facility	Building	Sanford Health Clark Clinic	Private
City of Clark	Clark	201 8th Ave NW	Population to Protect	Building	Avantara Clark	Private
City of Clark	Clark	108 S Smith St	Population to Protect	Building	Rotells Assisted Living Center	Private
City of Clark	Clark	700 N Smith St	Population to Protect	Building	Wookey's Assisted Living Center	Private
City of Clark	Clark	101 & 103 S Commercial St	Population to Protect	Buildings	City View Apartments	Private
City of Clark	Clark	221 S Cloud St	Population to Protect	Buildings	Viking Apartments	Private
City of Clark	Clark	402 N Dakota St	Population to Protect	Buildings	Colonial Apartments	Private
City of Clark	Clark	400 S Commercial St	Population to Protect	Buildings	Griffin Apartments	Private
City of Clark	Clark	204 S Dakota St	Population to Protect	Building	Hallstrom Daycare	Private
City of Clark	Clark	114 S Commercial St	Population to Protect	Building	Angie's Daycare	Private
City of Clark	Clark	410 N Kansas St	Population to Protect	Building	LaFortune Daycare	Private
City of Clark	Clark	529 1st Ave E	Population to Protect	Buildings	Mobile Home Park	Private
City of Clark	Clark	311 N Cloud St	Population to Protect	Building	Foster Daycare	Private
City of Clark	Clark	606 N Commercial St	Population to Protect	Building	Amazing Grace Daycare	Private
City of Clark	Clark	307 N Smith St	Population to Protect	Building	Huffman Daycare	Private
Town of Garden City	Garden City	Main St &Grover Ave	Government Facility	Building	City Building/Fire Hall	Public
Town of Garden City	Garden City	153 Main St W	Emergency Services	Building	Fire Department	Public
Town of Garden City	Rural Clark County	432nd Ave & 168th St	Government Facility	Water Service	Well House	Public
Town of Garden City	Garden City	SE corner of 1st St. NE & Hayward Ave	Non-Emergency Facility	Sanitary Sewer	Lift Station	Public
Town of Garden City	Garden City	¼ mile west of 432nd Ave & 168th St.	Non-Emergency Facility	Sanitary Sewer	Sewer Lagoon	Public
Town of Garden City	Garden City	South of City Park	Government Facility	Water Service	City Water Wells	Public
Town of Garden City	Garden City	1900 Grover Ave	Population to Protect	Recreation	Prairie Ridge Lodge	Private
Town of Garden City	Garden City	Hayward Ave & Main St	Population to Protect	Recreation	School Park	Public
Town of Garden City	Garden City	Railway Avenue	Population to Protect	Building	Opera House	Public
Town of Garden City	Garden City	South of Main St between Hayward Ave & McKinley Ave	Population to Protect	Recreation	City Park	Public
Town of Naples	Naples	N ½ of Section 14-115N- 56W	Non-Emergency Response Facility	Solid Waste Disposal	Tree Dump	Public
Town of Raymond	Raymond	202 Ranney Ave	Non-Emergency Response Facility	Energy	Community Oil Bulk Tanks	Private
Town of Raymond	Raymond	206 Ranney Ave	Government Facility	Water Service	Water Tower/Pump House	Public
Town of Raymond	Raymond	201 Flower St	Government Facility	Building	Fire Hall/Community Center	Public
Town of Raymond	Raymond	206 Ranney Ave	Government Facility	Sanitary Sewer	Lift Station	Public
Town of Raymond	Raymond	301 Yost Ave	Government Facility	Building	County Shop	Public
Town of Raymond	Raymond	201 Private Ave	Utility	Building	ITC Building	Private
Town of Raymond	Raymond	202 Flower St	Population to Protect	Building	Bethke Lodge	Private

Jurisdiction/ Entity	Location	Address	Sector	Sub sector	Name	Owner Type
Town of Vienna	Vienna	Main St & Milwaukee Ave	Government Facility	Building	Town Hall	Public
Town of Vienna	Vienna	314 Main St	Government Facility	Building	County Shed	Public
Town of Vienna	Vienna	Main St & Dakota Ave	Population to Protect	Recreation	Park	Public
Town of Vienna	Vienna	SW corner of Main St & Dakota Ave	Government Facility	Building	Fire Hall	Public
Town of Vienna	Vienna	¼ block north of Clark St N & Main St	Government Facility	Building	Town Shed	Public
Town of Vienna	Vienna	407 Clark Ave	Population to Protect	Building	Lutheran Church	Private
Town of Vienna	Vienna	NE corner of Clark Ave& Main St	Utility	Building	ITC Building	Private
City of Willow Lake	Willow Lake	213 Garfield Ave	Population to Protect	Building	Community Center	Public
City of Willow Lake	Willow Lake	211 Garfield Ave	Government Facility	Building	City Office	Public
City of Willow Lake	Willow Lake	214 Garfield Ave	Government Facility	Building	Post Office	Pubic
City of Willow Lake	Willow Lake	2nd Ave & Dexter St	Government Facility	Sanitary Sewer	Lift Station	Public
City of Willow Lake	Willow Lake	110 Garfield Ave	Government Facility	Building	Fire Department	Public
City of Willow Lake	Rural Willow Lake	SE ½ of 33-114N-57W	Government Facility	Water Service	City Water Supply	Public
City of Willow Lake	Willow Lake	400 Garfield Ave	Population to Protect	Building	Willow Lake High School	Public
City of Willow Lake	Willow Lake	111 Elevator Road	Non-Emergency Response Facility	Energy	Agtegra	Private
City of Willow Lake	Willow Lake	400 Grant Ave	Population to Protect	Recreation	Swimming Pool/Baseball Field	Public
City of Willow Lake	Willow Lake	310 Garfield Ave	Government Facility	Water Services	City Shop/Water Tower	Public
City of Willow Lake	Willow Lake	415 Lincoln Ave	Population to Protect	Recreation	City Park	Public
City of Willow Lake	Willow Lake	NE ¼ Section 35-114N-57W	Government Facility	Sanitary Sewer	Wastewater Treatment Plant	Public
City of Willow Lake	Willow Lake	400 Jackson Ave	Non-Emergency Facility	Building	School Bus Garage	Public
City of Willow Lake	Willow Lake	320 Garfield Ave	Non-Emergency Facility	Building	School Shop	Public
City of Willow Lake	Willow Lake	North 3rd St	Non-Emergency Facility	Building	County Highway Shop	Public
City of Willow Lake	Willow Lake	302 3rd St	Population to Protect	Building	Community Daycare Facility	Public

ASSESSING VULNERABILITY: COMMUNITY CAPABILITIES

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

Each community has a unique set of capabilities, including authorities, policies, programs, staff, funding, and other resources for accomplishing mitigation. One important step in assessing the vulnerability of a given community is to objectively review the capabilities to implement mitigation strategies and to identify limiting factors. Each community reviewed existing administrative documents, procedures, and policies This helped the communities and planning team to evaluate how existing capabilities contribute to the vulnerability by reducing or exacerbating disaster impacts. Table 4.18 identifies whether each community has the specified administrative and technical capabilities, and who serves in such capacity. Table 4.19 encapsulates the efficacy of the specified planning mechanisms regarding disaster mitigation and to identify potential deficiencies in the specified plans.

Table 4.18: Administrative and Technical Capabilities

Administrative/Staff Composition	Local Jurisdiction							
	Bradley	***Clark***	***Garden City***	***Naples***	***Raymond***	***Vienna***	***Willow Lake***	***Clark County***
Board of Adjustment	NA	Elected Officials	NA	NA	NA	Elected Officials	Elected Officials	Elected Officials
Building Official	NA	NA	NA	NA	NA	NA	NA	NA
Community Planner	NA	NA	NA	NA	NA	NA	NA	NA
Elected Officials	Trustee	Aldermanic	Trustee	Trustee	Trustee	Trustee	Aldermanic	Commission
Emergency Manager	NA	NA	NA	NA	NA	NA	NA	Appointed
Engineer/Highway Superintendent	NA	Appointed	NA	NA	NA	NA	NA	Appointed
Floodplain Administrator	NA	Finance Officer	NA	NA	NA	NA	Finance Officer	NA
GIS Coordinator	NA	NA	NA	NA	NA	NA	NA	NA
Planning Commission	NA	Elected Officials	NA	NA	NA	Elected Officials	Elected Officials	Elected Officials
Zoning Officer	NA	Finance Officer	NA	NA	NA	Finance Officer	Finance Officer	Appointed (Director of Equalization)
Grant Writing Capability	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*
Non-profit organizations focused on environmental protection.	Yes**	Yes**	Yes**	Yes**	Yes**	Yes**	Yes**	Yes**
Public-Private partnership initiatives addressing disaster-related issues.	No	No	No	No	No	No	No	No

NA: This jurisdiction has nobody serving in this role.
****First District Association of Local Governments provides these services without cost.***
*****Services provided by East Dakota Watershed Development District.***

Table 4.19 Capabilities of Growth Guidance Instruments

Capabilities of Community Planning Mechanisms	Bradley	Clark	Garden City	Naples	Raymond	Vienna	Willow Lake	Clark County
Does the Future Land-Use Map identify natural hazard areas?	NA	Y	NA	NA	NA	Y	Y	Y
Do the land-use policies discourage development or redevelopment within natural hazard areas?	NA	Y	NA	NA	NA	Y	Y	Y
Does the plan provide adequate space for expected future growth in areas located outside natural hazard areas?	NA	Y	NA	NA	NA	Y	Y	Y
Does the transportation plan limit access to hazard areas?	NA	Y	NA	NA	NA	N	N	N
Is transportation policy used to guide growth in safe locations?	NA	Y	NA	NA	NA	Y	Y	Y
Are movement systems designed to function under disaster conditions (e.g., evacuation)?	NA	Y	NA	NA	NA	Y	Y	Y
Are environmental systems that protect development from hazards identified and mapped?	NA	N	NA	NA	NA	N	N	N
Do environmental policies provide incentives to development that is located outside protective ecosystems?	NA	Y	NA	NA	NA	N	N	N
Do environmental policies maintain and restore protective ecosystems?	NA	N	NA	NA	NA	N	N	N
Are the goals and policies of the comprehensive plan related to those of the FEMA Local Hazard Mitigation Plan?	NA	N	NA	NA	NA	N	N	N
Is safety explicitly included in the plan's growth and development policies?	NA	Y	NA	NA	NA	Y	Y	Y
Does the monitoring and implementation section of the plan cover safe growth objectives?	NA	N	NA	NA	NA	N	N	N
Does the Zoning Ordinance conform to the comprehensive plan in terms of discouraging development or redevelopment within natural hazard areas?	NA	Y	NA	NA	NA	Y	Y	Y

Capabilities of Community Planning Mechanisms	Bradley	Clark	Garden City	Naples	Raymond	Vienna	Willow Lake	Clark County
Does the zoning ordinance contain natural hazard overlay zones that set conditions for land use within such zones?	NA	Y	NA	NA	N*	Y	Y	Y
Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use?	NA	Y	NA	NA	NA	Y	Y	Y
Does the zoning ordinance restrict development within, or filling of, wetlands, floodways, and floodplains?	NA	Y	NA	NA	N*	Y	Y	Y
Do the subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas?	NA	Y	NA	NA	NA	NA	Y	NA
Do the subdivision regulations provide for conservation subdivisions or cluster subdivisions in order to conserve environmental resources?	NA	N	NA	NA	NA	NA	N	NA
Do the subdivision regulations allow density transfers where Hazard areas exist?	NA	N	NA	NA	NA	NA	N	NA

NA: This jurisdiction does not have the specified document.

** This jurisdiction has adopted these restrictions outside of a zoning ordinance.*

ASSESSING VULNERABILITY: ESTIMATING POTENTIAL LOSSES

Requirement 201.6(b)(3). Local Mitigation Plan Review Tool – A4.
Requirement 201.6(c)(2)(ii). Local Mitigation Plan Review Tool – B3.
Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – D1.

The information provided in the following tables was collected from the Clark County Director of Equalization. Inconsistencies and missing information result from lack of existing mechanisms, plans, and technical documents available.

The assessor's office provided the assessed valuation of total structures on each property within the incorporated and rural areas of the county. The data provides a total value for structures of a certain use on each property. It was not possible to discern the value of each structure on a 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, Agricultural, and Manufactured Homes were included. More specifically, all agricultural structures were included; only primary residential structures (houses, apartments, etc.) and not including sheds, lean-tos, and garages were included. All commercial or industrial structures were included, whether considered primary or accessory structures. Public or quasi-publicly owned structures and other structures for which the Department of Equalization did not have an assessed value were not

included in the calculation. Structures throughout the incorporated and unincorporated portions of the county were reviewed based upon updated and effective flood hazard areas (Zone "A") boundaries adopted by the applicable jurisdictions in 2024. If it was determined any structures on the applicable lot were located within the flood hazard area, the total assessed value for structures on said lot was included in the value of structures in the hazard area. The information does not account for letters of map amendment or letters of map revision which may have been approved.

All properties with structures, whether owner occupied or not were included in the valuations provided in Tables 4.20 through 4.25. 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. The following tables also do not address information regarding religious, governmental, or utility structures.

Table 4.20: Clark 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 County	# in HA	% in HA
Residential	385	13	3.38%	$200,663,300	$672,372	0.34%	2,196	41	1.87%
Commercial/Industrial	54	4	7.41%	$82,976,436	$108,911	0.13%			
Agricultural	834	10	1.20%	$93,237,567	$223,891	0.24%			
Manufactured Homes	19	1	5.26%	$721,802	$7,573	1.05%	Included in "Residential"		
Total	**1,292**	**28**	**2.17%**	**$200,663,300**	**$1,012,747**	**0.51%**	**2,196**	**41**	**1.87%**

Table 4.21: Bradley 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	71	0	0	$1,772,688	0	0	65	0	0
Commercial/Industrial	8	0	0	$59,706	0	0			
Agricultural	2	0	0	$113,603	0	0			
Manufactured Home	4	0	0	$78,229	0	0			
Total	**85**	**0**	**0**	**$2,024,266**	**0**	**0**	**65**	**0**	**0**

Table 4.22: Clark 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	523	2	0.38%	$41,876,914	$87,390	0.21%	1,148	4	0.35%
Commercial/Industrial	96	3	3.13%	$14,893,950	$325,891	2.19%			
Agricultural	2	1	50.00%	$2,296	$851	37.06%			
Manufactured Home	24	0	0	$1,018,087	0	0			
Total	**645**	**6**	**0.93%**	**$57,791,247**	**$414,132**	**0.72%**	**1,148**	**4**	**0.35%**

Table 4.23: Garden City Estimated Potential Dollar Losses to Vulnerable Structures

Type of Structure	Number of Structures			Value of Structures			Number of People		
	# in City	# in HA	% in HA	# in City	$ in HA	% in HA	# in City	# in HA	% in HA
Residential	23	0	0	$128,019	0	0	33	0	0
Commercial/Industrial	15	0	0	$3,956,040	0	0			
Agricultural	1	0	0	$12,543	0	0			
Manufactured Home	0	0	0	$31,052	0	0			
Total	**39**	**0**	**0**	**$4,127,654**	**0**	**0**	**33**	**0**	**0**

Table 4.24: Naples 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	17	0	0	$251,376	0	0	38	0	0
Commercial/Industrial	0	0	0	$0					
Agricultural	3	0	0	$9,352					
Manufactured Home	0	0	0	$0					
Total	**20**	**0**	**0**	**$260,728**	**0**	**0**	**38**	**0**	**0**

Table 4.25: Raymond 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	45	0	0	$823,033	0	0	53	0	0
Commercial/Industrial	11	0	0	$262,693	0	0			
Agricultural	6	0	0	$51,104	0	0			
Manufactured Home	4	0	0	$88,582	0	0			
Total	**66**	**0**	**0**	**$1,225,412**	**0**	**0**	**53**	**0**	**0**

Table 4.25: Vienna 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	35	0	0	$835,691	0	0	49	0	0
Commercial/Industrial	5	0	0	$50,589	0	0			
Agricultural	3	0	0	$5,544	0	0			
Manufactured Home	4	0	0	$9,152	0	0			
Total	**47**	**0**	**0**	**$900,976**	**0**	**0**	**49**	**0**	**0**

Table 4.25: Willow Lake 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	138	31	22.46	$8,167,800	$1,910,850	23.39	255	77	30.20%
Commercial/Industrial	29	3	10.34	$2,086,272	$41,612	1.99			
Agricultural	0	0	0	$0	$0	0			
Manufactured Home	8	0	0	$186,981	$40,645	21.74			
Total	**175**	**34**	**19.43**	**$10,441,053**	**$1,993,107**	**19.09**	**255**	**77**	**30.20%**

Table 4.27: Clark County Estimated Potential Dollar Losses to Vulnerable Structures

Type of Structure	Number of Structures			Value of Structures			Number of People		
	# in City	# in HA	% in HA	# in City	$ in HA	% in HA	# in City	# in HA	% in HA
Residential	1,237	46	3.71%	$254,518,821	$2,670,612	1.05%	3,837	122	3.18%
Commercial/Industrial	218	6	2.75%	$104,285,686	$476,414	0.46%			
Agricultural	851	11	1.29%	$93,432,009	$224,712	0.24%			
Mobile Homes	63	1	1.59%	$7,001,568	$48,218	0.69%	Included in "Residential"		
Total	**2,369**	**64**	**2.70%**	**$459,238,084**	**$3,419,956**	**0.74%**	**3837**	**122**	**3.18%**

Notes:

 # in HA: Number of structures in hazard area was determined using aerial photography and DFIRM boundaries provided by FEMA. 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 Clark 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).

ASSESSING VULNERABILITY: ANALYZING DEVELOPMENT TRENDS

Requirement 201.6(b)(3). Local Mitigation Plan Review Tool – A4.
Requirement 201.6(c)(3). Local Mitigation Plan Review Tool – C1.
Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – D1.
Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – D2.

The land use and development trends for each jurisdiction were identified by the representatives from each of the jurisdictions. Some communities within Clark County are experiencing growth and have comprehensive land use plans which identify future areas for development. Five of the seven participating communities showed no growth. They have not issued any building permits for new homes or commercial structures. The other two communities issued building permits for five new homes including mobile homes and two business structures over the last five years. The County issued 50 building permits for new homes and mobile homes over the last five years. Four building permits were issued for new commercial structures over the last five years. No major developments are being planned. Based on this information, there has been some growth, but it was minimal. No major plan revisions were made from 2019.

In addition to Clark County, the cities of Clark, Vienna, and Willow Lake all have adopted Comprehensive Land Use Plans with Future Land Use Maps. With the exception of the City of Willow Lake which updated its Comprehensive Land Use Plan in 2023, no other communities have updated its land use plan since 2019. 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. 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. Earlier in 2024, communities in Clark County have adopted the most recently prepared National Flood Insurance Program Flood Hazard and approved recommended ordinances for the proper regulation of property within the floodplain. Tables 4.35 – 4.39 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 4.29: Clark County (Unincorporated Area)
Potential Floodplain Development – By Land Use Type

	Community Totals		Flood Hazard Area			
Land Use Category	*Projected Development Density (Acres/Unit)*	*Acres of projected future development*	*Acres of future development in Hazard Area*	*% Area for future development*	*Potential # of Lots for future development*	*# of Undeveloped Lots Already Appropriately Zoned*
Ag – Residential	1	N/A	3,577	N/A	3,577	3,577
Commercial	1	N/A	N/A	N/A	0	0
Industrial	1	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.

Table 4.30: City of Clark
Potential Floodplain Development – By Land Use Type

	Community Totals		Flood Hazard Area			
Land Use Category	*Projected Development Density (Units/Acre)*	*Acres of projected future development*	*Acres of future development in Hazard Area*	*% Area for future development*	*Potential # of Lots for future development*	*# of Undeveloped Lots Already Appropriately Zoned*
Residential	4	43.5	0.0	0.0	0	0
Commercial	2.0	6	0.0	0.0	3	1
Industrial	1.0	20	3.0	15.0	3	0

Table 4.31: Town of Vienna
Potential Floodplain Development – By Land Use Type

	Community Totals		Flood Hazard Area			
Land Use Category	*Projected Development Density (Units/Acre)*	*Acres of projected future development*	*Acres of future development in Hazard Area*	*% Area for future development*	*Potential # of Lots for future development*	*# of Undeveloped Lots Already Appropriately Zoned*
Residential	4	37	0	0.0	0	0
Commercial	2.0	1.5	0	0.0	0	0
Industrial	1.0	2.5	0	0.0	0	0

Table 4.32: City of Willow Lake
Potential Floodplain Development – By Land Use Type

	Community Totals		Flood Hazard Area			
Land Use Category	*Projected Development Density (Units/Acre)*	*Acres of projected future development*	*Acres of future development in Hazard Area*	*% Area for future development*	*Potential # of Lots for future development*	*# of Undeveloped Lots Already Appropriately Zoned*
Residential	4	90	2	2.2	4	4
Commercial	2.0	2	.5	25.0	1	1
Industrial	1.0	53	0	0	0	0

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 – B3.
Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – D1.

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 Clark 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 are about as likely to occur in one part of the county as another. 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 4.4 through 4.11).

Figure 4.4: Clark County Hazard Vulnerability Map

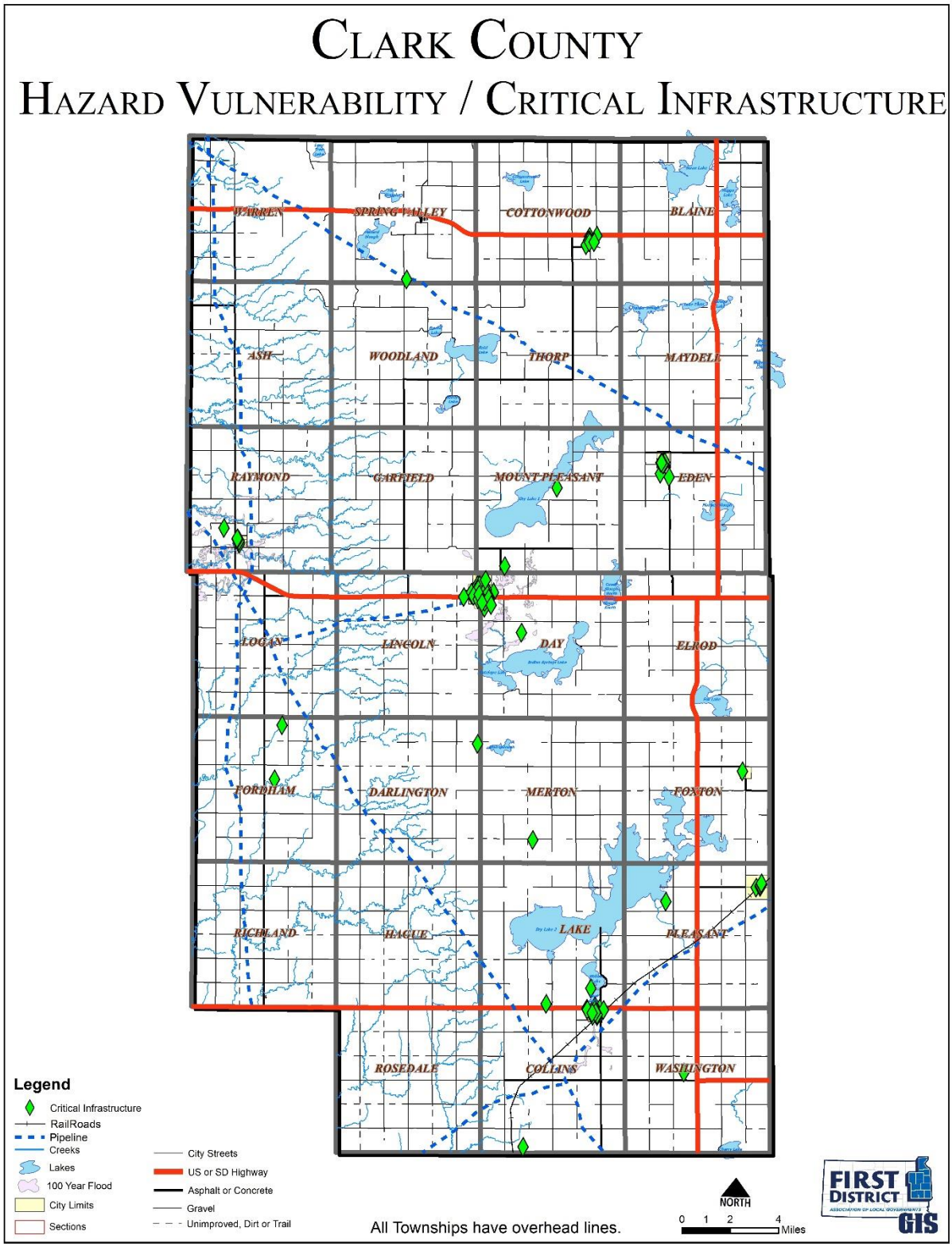


Figure 4.5: Town of Bradley Hazard Vulnerability Map

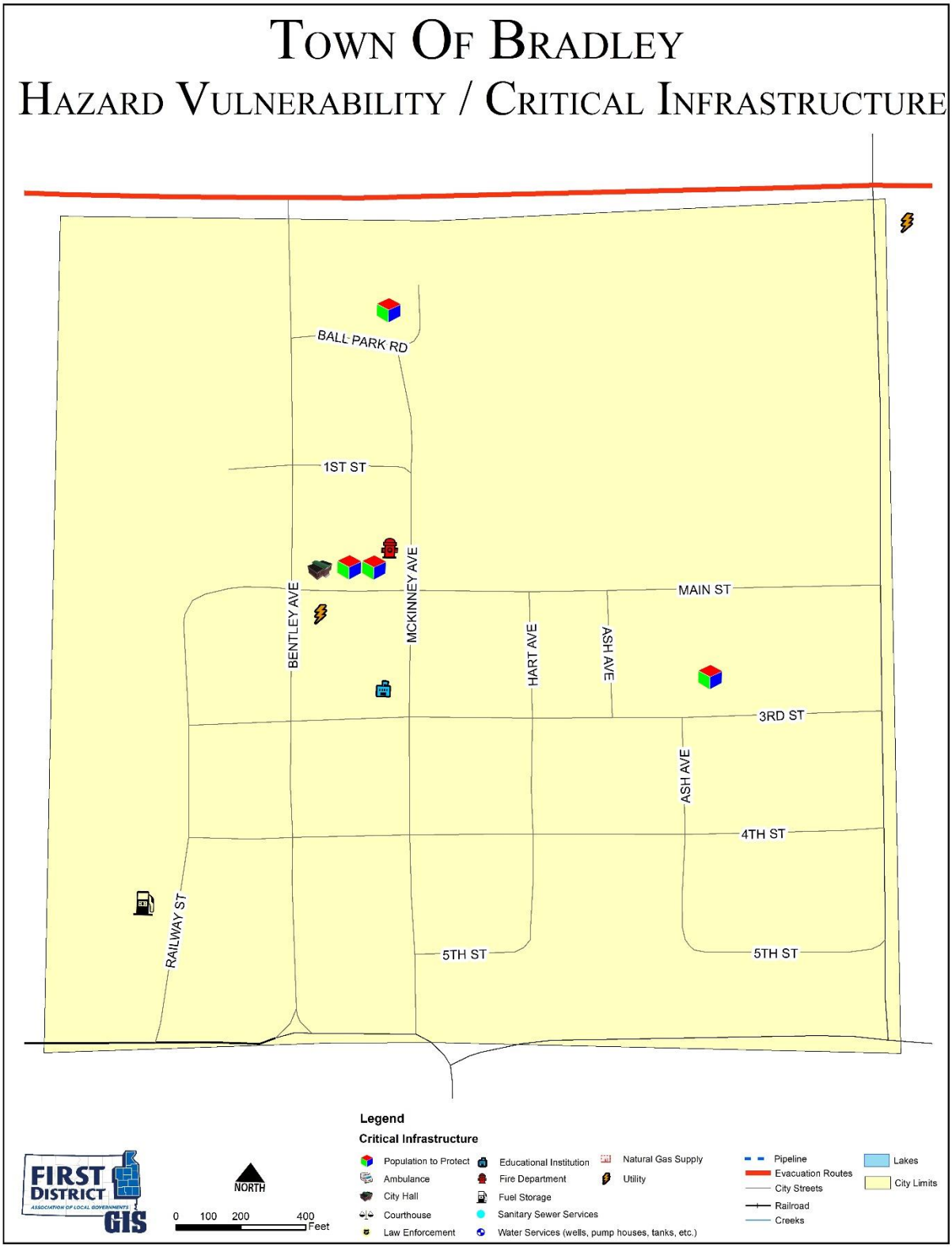


Figure 4.6: City of Clark Hazard Vulnerability Map

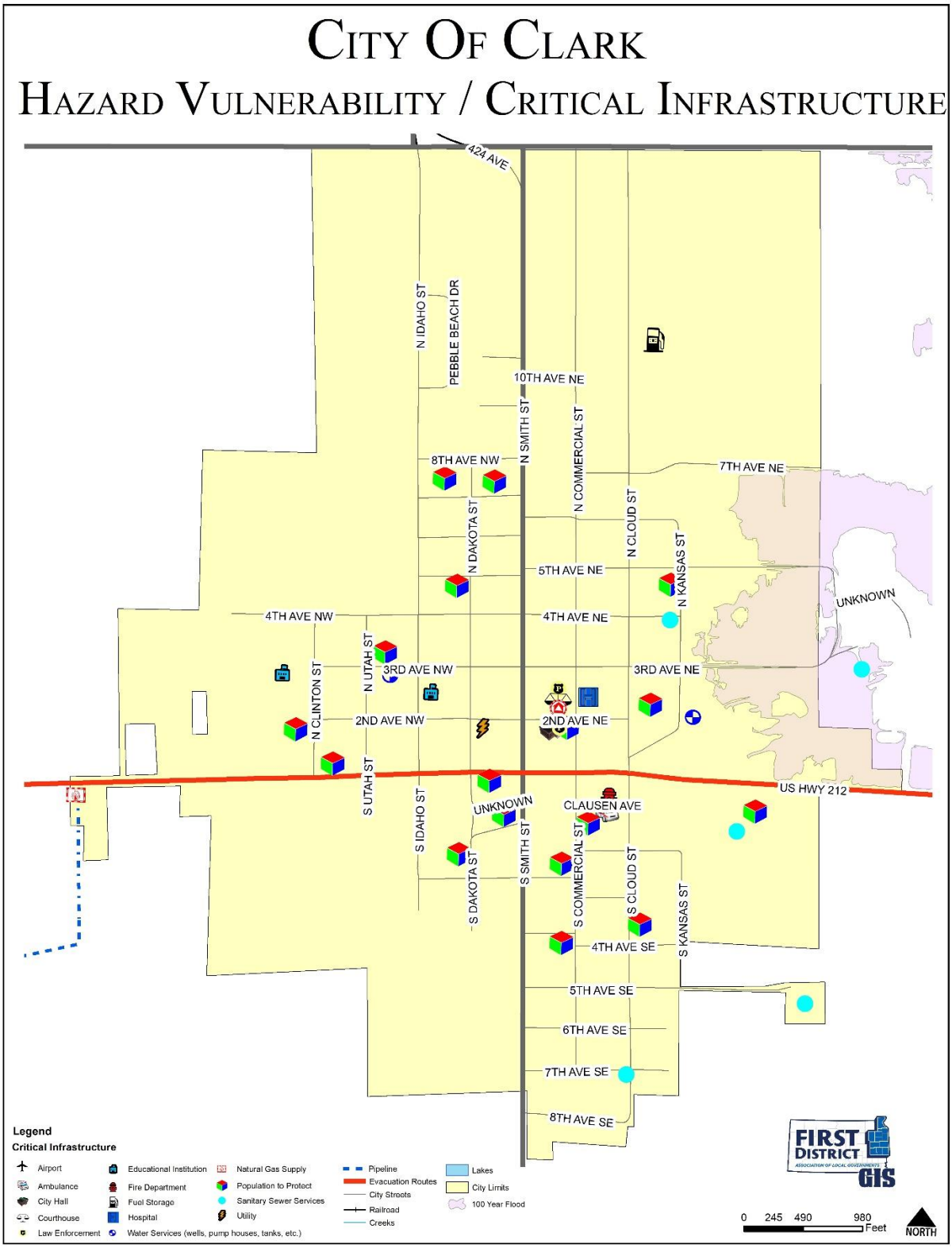


Figure 4.7: Town of Garden City Hazard Vulnerability Map

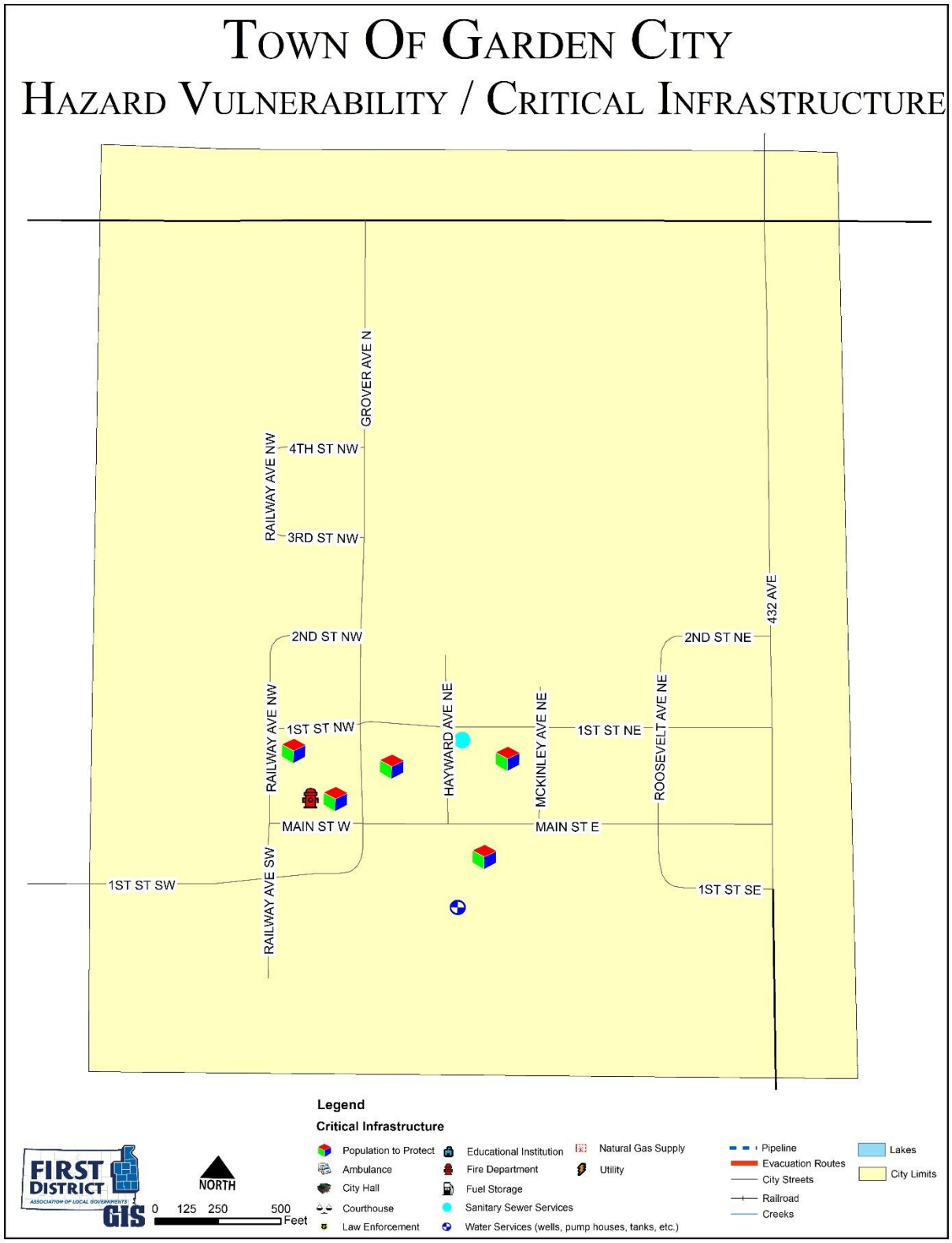


Figure 4.8: Town of Naples Hazard Vulnerability Map

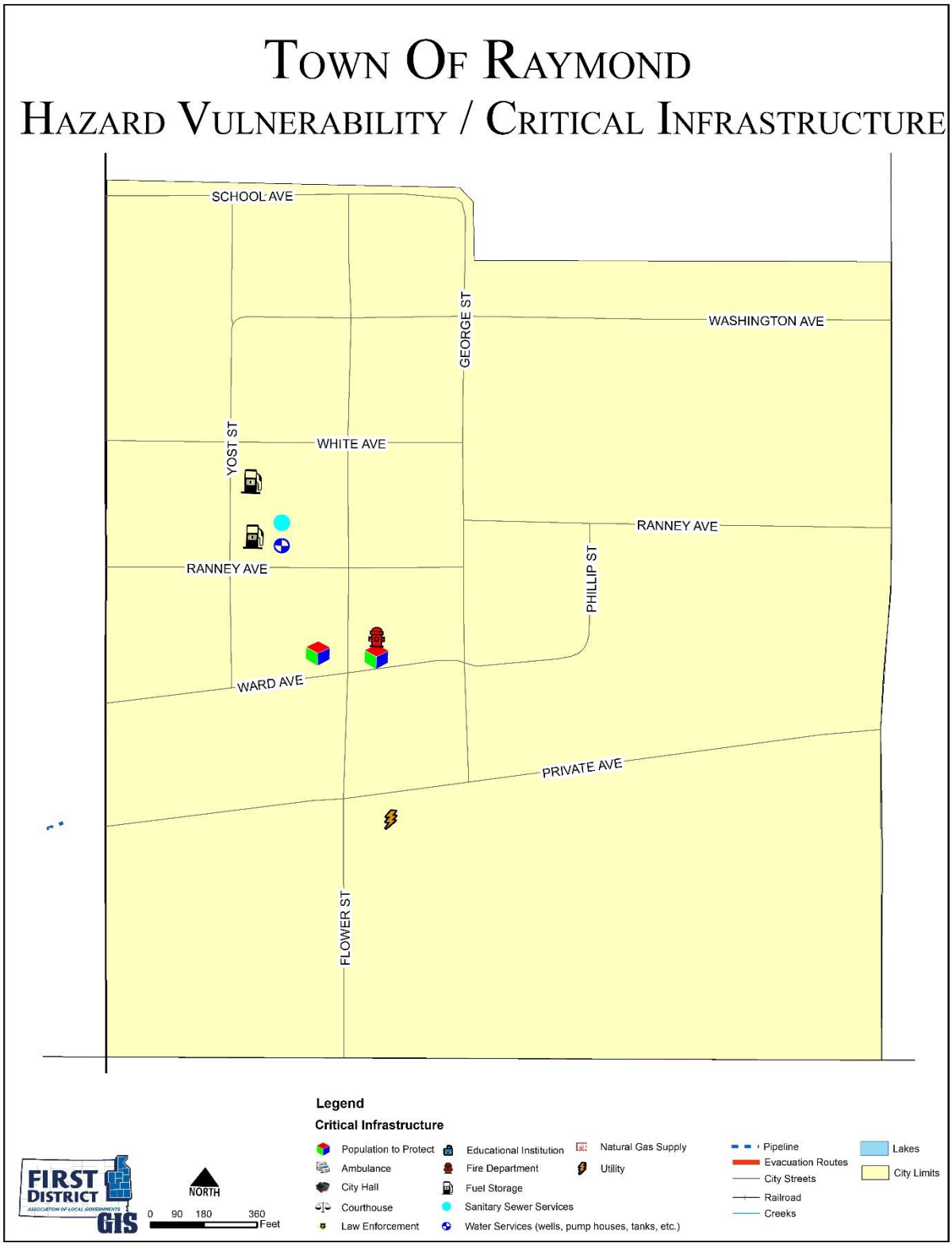


Figure 4.9: Town of Raymond Hazard Vulnerability Map

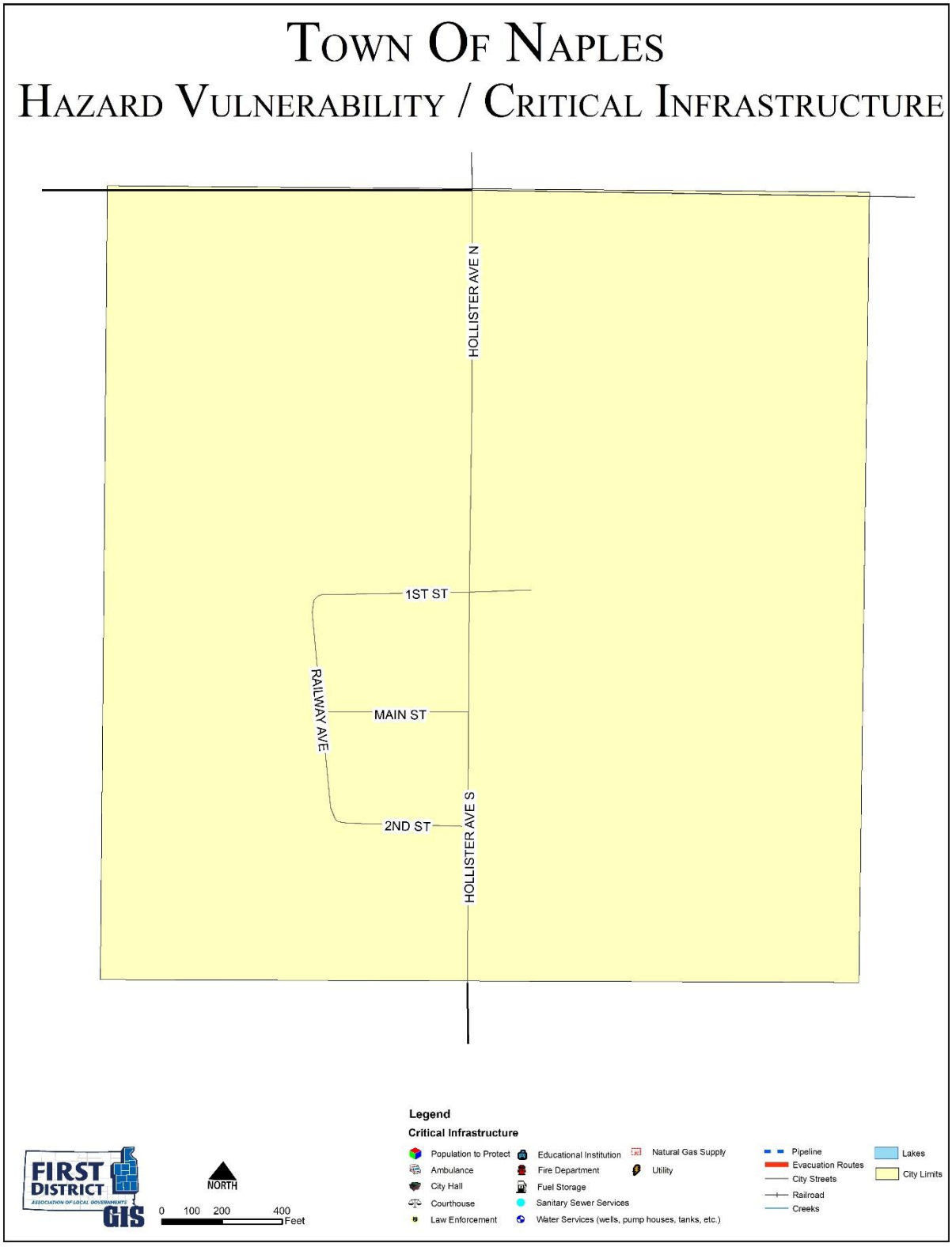


Figure 4.10: Town of Vienna Hazard Vulnerability Map

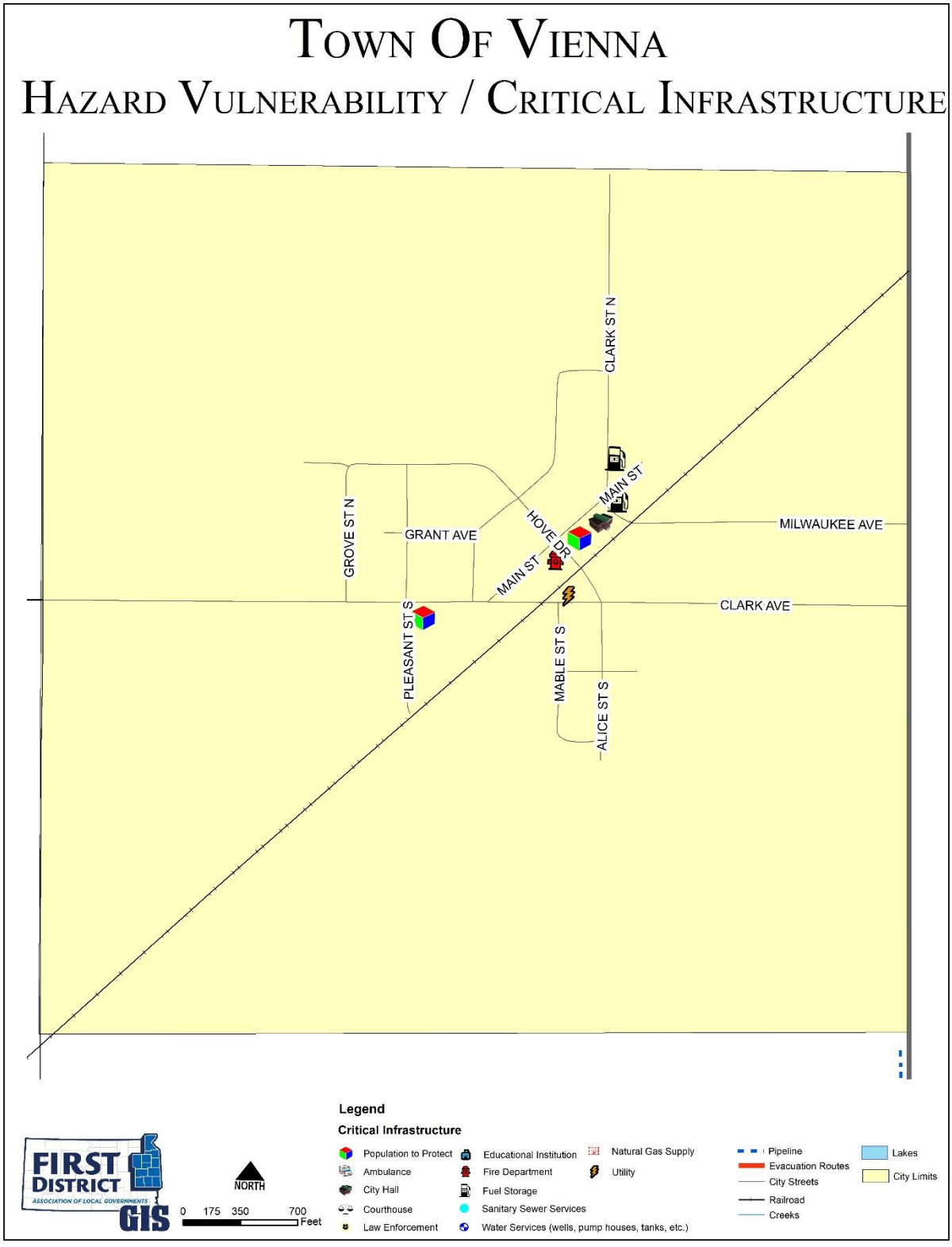
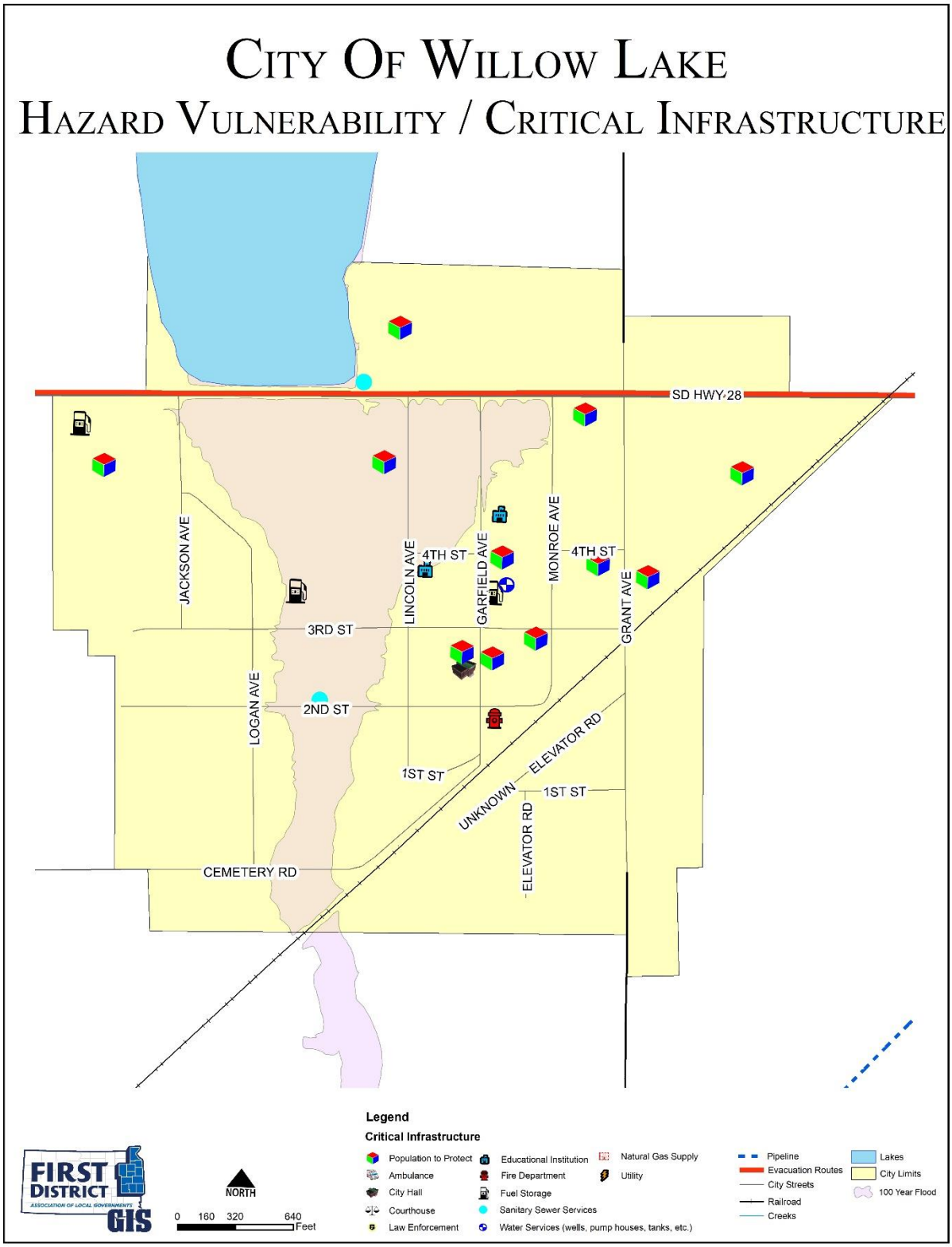


Figure 4.11: City of Willow Lake Hazard Vulnerability Map



CHAPTER 5 | MITIGATION STRATEGY

MITIGATION OVERVIEW

Requirement 201.6(c)(3)(i). Local Mitigation Plan Review Tool – C3.
Requirement 201.6(c)(3)(ii). Local Mitigation Plan Review Tool – C4.
Requirement 201.6(c)(3)(iii) & (iv). Local Mitigation Plan Review Tool – C5.
Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – D3.

The SD SHMP addresses several mitigation categories including warning and forecasting, community planning, and infrastructure reinforcement. The County and participating entities' greatest needs are mitigating high wind and flood hazards, backup generators for critical infrastructure, construction of tornado safe rooms/storm shelters, and public awareness.

After the completion of the risk assessment (identification of hazards, probability of hazards and vulnerability to hazards), it was the mutual consensus of the PDM Planning Team that mitigation strategies of the PDM should focus on the following hazards: winter storms, severe summer storms, flooding, and drought/wildfires (urban/rural).

The PDM Planning Team first reviewed the goals, objectives and priorities of the 2019 Plan. The goals and objectives of the previous plan were still considered appropriate with some minor changes and were incorporated into the updated plan. The priorities and foci of mitigation strategies were also considered appropriate and were incorporated into the updated plan. The PDM Planning Team completed the goal identification process by considering the county and participating jurisdictions' vulnerability to each identified hazard, and the severity of the threat posed by each hazard. Much of the discussion focused on damage caused by past events, and what could be done to ensure that future damage will be lessened or eliminated. By reviewing each jurisdiction's Comprehensive Land Use Plan (if available), the participants also considered how future development might affect the county and participating jurisdictions' vulnerability to the hazards they face. When identifying goals, numerous activities or projects were identified with broadly defined benefits to numerous jurisdictions within the County. Numerous actions were agreed by the PDM Planning Team to have broad reaching benefits but due to scope or varying levels of importance to individual jurisdictions no specific cost, timeframe, or priority was assigned. Likewise many infrastructure projects and policies throughout all communities would mitigate hazards but were not located in the most vulnerable areas. All communities reviewed the activities/policies and corresponding problem statements to identify whether they applied to their respective jurisdiction. The results of the community review of those general activities/policies are displayed in Tables 5.1 – 5.12. Specific projects for each community are listed in Table 5.13. Those projects intended to mitigate problems at a specific location are represented in Figures 5.1 to 5.10.

Principal Goals

1. **Reduce the loss of life, property, infrastructure, critical facilities, cultural resources and impacts from severe weather, flooding, and other natural disasters.**

2. **Improve public safety during severe weather, flooding, and other natural disasters.**

3. **Improve the County's Emergency Preparedness and Disaster Response and Recovery capabilities.**

Mitigation Activities for Flooding Hazards

Goal #1: Protect specific areas of Clark County from flooding.
Goal #2: Educate and inform Clark County residents regarding flooding safety.
Goal #3: Reduce the extent to which utility interruptions affect areas during flooding events.

- *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 weather issues.
Goal #2: Improve public safety during severe weather.
Goal #3: Reduce the extent to which utility interruptions affect areas during severe weather situations.
Goal #4: Reduce crippling effects of winter storms, especially regarding smaller communities.

- *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 5.1: Actions/Projects to Reduce Flood Risk through Policy Implementation

Problem Statements	Actions	*Bradley*	*Clark*	*Garden City*	*Naples*	*Raymond*	*Vienna*	*Willow Lake*	*Clark County*
Public is unaware of scope of flood risk and existing emergency plans.	Public education. Disseminate information regarding how to deal with flooding. This would include transportation issues, home protection strategies, safety issues, and how to move forward after a flooding situation.	✓	✓	✓	✓	✓	✓	✓	✓
	Encouraging homeowners in flood-prone areas to purchase flood insurance.	✓	✓	✓	✓	✓	✓	✓	✓
Jurisdiction is unaware potential hydrologic impacts of drainage or development projects.	Conduct necessary studies addressing drainage (stormwater flow/runoff, etc.).	✓	✓	✓	✓	✓	✓	✓	✓
Residents are not eligible for flood insurance.	Begin participation in the National Flood Insurance Program.		✓			✓		✓	
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 flood plain management ordinance.	✓		✓	✓				✓
Jurisdiction is unaware of opportunities to participate 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.					✓			
Jurisdiction has little legal mechanism to regulate drainage.	Developing a county/city drainage ordinance.	✓	✓	✓	✓	✓			

Problem Statements	Actions	*Bradley*	*Clark*	*Garden City*	*Naples*	*Raymond*	*Vienna*	*Willow Lake*	*Clark County*
Need to continue to regulate minimum land use and development standards.	Continue enforcement of zoning and subdivision ordinances.	✓	✓	✓	✓		✓	✓	✓
Need to continue to regulate minimum construction standards.	Continue enforcement of building codes.								
No technical analysis or identification of specific mitigation projects.	Identify and prioritize capital/structural mitigation projects that are cost effective and technically feasible.	✓	✓	✓	✓	✓	✓	✓	✓

Table 5.2: Actions/Projects to Change the Characteristics or Impacts of Flood Hazards

Problem Statements	Actions	*Bradley*	*Clark*	*Garden City*	*Naples*	*Raymond*	*Vienna*	*Willow Lake*	*Clark County*
Portions of storm sewer system is not designed to 100-year flood event.	Install or upgrade storm sewer piping.	✓	✓	✓	✓	✓	✓	✓	✓
Flooding impacts have become more severe along lakes, creeks, and streams.	Install or upgrade dam structures to increase flood control and store water.								✓
Drainage patterns have changed; culverts are inadequate for conveyance of water.	Install or enlarge drainage culverts.	✓	✓	✓	✓	✓	✓	✓	✓
	Install drain tile.								✓
	Install or enlarge detention/retention ponds.	✓	✓	✓	✓	✓	✓	✓	✓

Problem Statements	Actions	*Bradley*	*Clark*	*Garden City*	*Naples*	*Raymond*	*Vienna*	*Willow Lake*	*Clark County*
Certain streets have substandard or no curb and gutter.	Curbing and guttering of city streets to improve stormwater flow.	✓	✓	✓	✓	✓	✓	✓	✓
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.	✓	✓	✓	✓	✓	✓	✓	✓
	Install additional stream gages along rivers within the County.								✓
	Install riprap along creek shorelines.				✓				✓
Sanitary and/or storm sewer are vulnerable to back-up in flood event.	Install valves or plugs in sanitary and stormwater 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 5.3: Actions/Projects to Reduce Loss Potential of Infrastructure to Flood Hazards

Problem Statements	Actions	*Bradley*	*Clark*	*Garden City*	*Naples*	*Raymond*	*Vienna*	*Willow Lake*	*Clark County*
Many roads and bridges were built prior to identification of flood hazard areas.	Replace and raise bridges.	✓	✓	✓	✓	✓	✓	✓	✓
	Elevating roads in flood-prone areas.	✓	✓	✓	✓	✓	✓	✓	✓
Some utility structures are located in areas vulnerable to flooding.	Flood-proof or replace utility structures in flood-prone areas.	✓	✓	✓	✓	✓	✓	✓	✓
Structures constructed in the floodplain prior to identification of flood hazard areas.	Making structural retrofits to infrastructure.	✓	✓	✓	✓	✓	✓	✓	
	Work with property owners to mitigate repetitive loss residences through elevation, acquisition, or relocation.							✓	✓

Table 5.4: Actions/Projects to Reduce Severe Weather Risk through Policy Implementation

Problem Statements	Actions	*Bradley*	*Clark*	*Garden City*	*Naples*	*Raymond*	*Vienna*	*Willow Lake*	*Clark 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 within the information would include safety issues on downed power lines, electrical and fire dangers, the necessity for generators and advice on using them, protecting property, survival strategies during storms, and purchasing of back-up power for various household and farming operations.	✓	✓	✓	✓	✓	✓	✓	✓
Lack of data regarding vulnerability to severe storms.	Gather data to create a more precise loss estimate for winter storms.	✓	✓	✓	✓	✓	✓	✓	✓
	Gather data to create a more precise loss estimate for summer storms.	✓	✓	✓	✓	✓	✓	✓	✓

Table 5.5: Actions/Projects to Change the Characteristics or Impacts of Severe Weather Hazards

Problem Statements	Actions	*Bradley*	*Clark*	*Garden City*	*Naples*	*Raymond*	*Vienna*	*Willow Lake*	*Clark County*
Certain areas and populations are not served by storm shelters.	Construct tornado safe rooms or community shelters.	✓	✓	✓	✓	✓	✓	✓	✓
	Construct storm shelters at manufactured home and RV parks.		✓				✓	✓	✓
Critical facilities are vulnerable to power failure.	Install backup generators.	✓	✓	✓	✓	✓	✓	✓	✓
Certain areas are susceptible to snow drifting.	Survey areas in need of snow shelterbelts and plant trees accordingly.								✓
	Install or plant living snow fences.								✓
Certain areas of town cannot hear storm sirens and other emergency warning systems.	Construct new warning systems.	✓	✓	✓	✓	✓	✓	✓	✓
Storm sirens and other emergency warning systems are outdated.	Replace or upgrade existing warning systems.	✓	✓	✓	✓		✓	✓	
Lack of emergency preparedness supplies and equipment.	Ensure emergency shelters are stocked with adequate supplies.	✓	✓	✓	✓	✓	✓	✓	✓

Table 5.6: Actions/Projects to Reduce Loss Potential of Infrastructure to Severe Weather Hazards

Problem Statements	Actions	*Bradley*	*Clark*	*Garden City*	*Naples*	*Raymond*	*Vienna*	*Willow Lake*	*Clark County*
Utility lines and structures are subject to failure in high wind, heavy rain, and ice events.	Upgrading of utility lines.	✓	✓	✓	✓	✓	✓	✓	✓
	Burial of utility lines when needed.	✓	✓	✓	✓	✓	✓	✓	✓
	Require upgrading of overhead lines when age or disasters provide an opportunity.	✓	✓	✓	✓	✓	✓	✓	✓
	Removal of trees near power lines.	✓	✓	✓	✓	✓	✓	✓	✓
	Attachment of guy wires to dead-end poles.	✓	✓	✓	✓	✓	✓	✓	✓
	Testing integrity of poles.	✓	✓	✓	✓	✓	✓	✓	✓
	Usage of anti-galloping devices.	✓	✓	✓	✓	✓	✓	✓	✓
	Making structural retrofits to facilities.	✓	✓	✓	✓	✓	✓	✓	✓

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

- **Actions/Projects to Reduce Fire and Drought Risk through Policy Implementation (See Table 5.7)**

- **Actions/Projects to Reduce Loss Potential of Infrastructure to Fire and Drought Hazards (See Table 5.8)**

- **Actions/Projects to Change the Characteristics or Impacts of Fire and Drought Hazards (See Table 5.9)**

General Mitigation Activities

Technological (See Table 5.10):

Planning (See Table 5.11):

Administration/Coordination (See Table 5.12)

Table 5.7: Actions/Projects to Reduce Fire and Drought Risk through Policy Implementation

Problem Statements	Actions	*Bradley*	*Clark*	*Garden City*	*Naples*	*Raymond*	*Vienna*	*Willow Lake*	*Clark 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.	✓	✓	✓	✓	✓	✓	✓	✓
	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 benefits of conserving water.	Educate residents on the benefits of conserving water at all times, not just during a drought.	✓	✓	✓	✓	✓	✓	✓	✓

Table 5.8: Actions/Projects to Reduce Loss Potential of Infrastructure to Fire and Drought Hazards

Problem Statements	Actions	*Bradley*	*Clark*	*Garden City*	*Naples*	*Raymond*	*Vienna*	*Willow Lake*	*Clark County*
Firefighting equipment becomes out of date quickly.	Ensure that fire departments are adequately equipped to respond to wildfires.	✓	✓	✓	✓	✓	✓	✓	✓
Fire hydrants become unusable.	Have rural fire departments locate dry fire hydrants.	✓	✓	✓	✓	✓	✓	✓	✓
Fire protection capabilities are limited.	Construct additional water supply and improve existing infrastructure to allow hydrant hook-ups.			✓			✓	✓	✓
	Construct additional fire station.								

Table 5.9: Actions/Projects to Change the Characteristics or Impacts of Fire and Drought Hazards

Problem Statements	Actions	*Bradley*	*Clark*	*Garden City*	*Naples*	*Raymond*	*Vienna*	*Willow Lake*	*Clark County*
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.	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 5.10: Technological Activities

Problem Statements	Actions	*Bradley*	*Clark*	*Garden City*	*Naples*	*Raymond*	*Vienna*	*Willow Lake*	*Clark County*
Current data and software can become obsolete or out of date	Continue utilizing a working computer aided mapping project for the County. This includes using overlays of GIS data, HazMat, 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.	✓	✓	✓	✓	✓	✓	✓	✓
	Work with South Dakota State University to explore additional methods of estimating losses in natural hazards.	✓	✓	✓	✓	✓	✓	✓	✓

Table 5.11: Planning Activities

Problem Statements	Actions	*Bradley*	*Clark*	*Garden City*	*Naples*	*Raymond*	*Vienna*	*Willow Lake*	*Clark County*
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. Specifically, require the consideration of downstream flooding impacts caused by new projects.	✓	✓	✓	✓	✓	✓	✓	✓
	Integrate disaster mitigation concerns into transportation projects (e.g., drainage improvements, underground utilities, etc.).	✓	✓	✓	✓	✓	✓	✓	✓
This community's mitigation projects are not coordinated with other communities' projects.	Develop a means for sharing information on a regional basis about successful disaster mitigation planning and programs.	✓	✓	✓	✓	✓	✓	✓	✓

Table 5.12: Administration/Coordination Activities

Problem Statements	Actions	*Bradley*	*Clark*	*Garden City*	*Naples*	*Raymond*	*Vienna*	*Willow Lake*	*Clark County*
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 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 meetings with the PDM Team, local jurisdictions, and opportunities for public input, the mitigation goals from the 2019 plan were confirmed as the best aid for the County in reducing and lessening the effects of hazards. Projects previously identified in the 2019 PDM that have been completed were removed. The remaining projects 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. New projects were discussed and added if they were deemed as necessary and meeting county/community requirements. See the attached community outlines found in Appendix C. These projects (current and new) were evaluated based on a cost/benefit ratio and priority. For most projects, the benefits were not quantifiable, so a cost/benefit analysis was not completed. Although this PDM focuses on disaster mitigation rather than disaster preparedness, some communities discussed 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 currently are not well served.

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 determined. 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. Projects were then assigned their priority and other parameters.

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 in some cases additional data will be necessary, 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, and “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 – estimated costs for many of the actions were obtained from knowledgeable sources based on current information. Estimates 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 wide ranging implications to them 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 July of 2023, each individual township in Clark County was mailed maps upon which they were asked to identify potential mitigation activities and vulnerable roads or infrastructure and to return the completed 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 proposed by the townships in the County that returned their maps.

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:

<u>Grant and loan programs/sources</u>

- 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

<u>Local resources</u>

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

Table 5.13: Proposed Mitigation Activities

CLARK COUNTY PROBLEM STATEMENTS	CLARK COUNTY ACTIONS	PRIORITY RATING	TIMEFRAME	CONTACT	COST/BENEFIT	FUNDING SOURCE	HAZARD	GOAL
Radio communication is haphazard in portions of Clark Co.	Purchase and install three additional emergency transmission repeaters	High	Short	Clark County Sheriff's Office	$150,000/improve emergency services in the county	County, FEMA, DHS, 911 funds	Severe Weather Hazards	Improve public safety during severe weather
Educate County residents regarding risks, vulnerability, and mitigation activities for hazardous events	Periodic newspaper articles Severe Weather Awareness, Winter Weather Awareness and Fire Prevention Weeks	Medium	Ongoing	Emergency Management Director	>$1,000/Unknown	County	All	Improve public safety during hazardous conditions
High water along county highway cannot drain away due to local topography	Install drain tile to move water into a neighboring drainage	High	Short	Clark County Highway Superintendent	Unknown-depends on construction type/reduce flooding in the county	County, FEMA	Flooding	Protect Specific Areas of Clark County from floods
Drainage capacity of bridges/culverts/etc. is not coordinated through the county	Conduct study to Identify location, elevation, size, and condition(s) of culverts and other drainage improvements in rights-of-way	High	Short	Clark County Commissioners	$100,000/reduce flooding in the county	County, East-Dakota Watershed	Flooding	Protect Specific Areas of Clark County from floods
High storm water drainage along county highway periodically inundates road	Install drainage culverts, raise road grade, and install riprap	Medium	Short	Clark County Highway Superintendent	Unknown-depends on construction type/reduce flooding in the county	County, FEMA	Flooding	Protect Specific Areas of Clark County from floods
Bridge structure backs up storm water run-off/drainage flooding local landowners and property	Replace existing bridge structure with larger box culvert to improve storm water run-off and drainage	Medium	Short	Clark County Highway Superintendent	Unknown/Depends on location and construction type	County, FEMA	Flooding	Protect Specific Areas of Clark County from floods
Identify areas of high risk and develop strategies to mitigate those risks.	Develop inventories of at-risk buildings and infrastructure and prioritize mitigation projects	Medium	Ongoing	Emergency Management Director	Unknown/Unknown	County	All	Improve public safety during hazardous conditions
Improve training and response by county firefighters	Conduct additional training for county firefighters to complete Firefighter 1 and/or 2 certifications	High	Medium	Emergency Management Director, Fire Chiefs	Unknown/Unknown	County, FD, FEMA-AFG, SD Fire Marshall	Fire	Maintain firefighting capabilities
Improve safety by conducting assessment of storm shelters	Assess all current storm shelters for readiness	High	Short	Emergency Management Director/Cities	Unknown/Unknown	County/Cities	All	Improve public safety during severe weather

TOWN OF BRADLEY PROBLEM STATEMENTS	BRADLEY ACTIONS	RATING	TIMEFRAME	CONTACT	COST/BENEFIT	FUNDING SOURCE	HAZARD	GOAL
Community center/shelter does not have an emergency backup generator in case of power failure	Purchase and installation of emergency backup generator for community center	High	Short	Town Board	$100,000/ provide a location for persons needing shelter	HMGP/OEM, TOWN, USDA	Severe Weather Hazards	Improve public safety during severe weather
No emergency supplies are available at the community center in the event of severe weather	Purchase emergency supplies	Medium	Short	Town Board	$10,000/ provide a location for persons needing shelter	HMGP/OEM, TOWN, USDA	Severe Weather Hazards	Improve public safety during severe weather
Need to maintain firefighting equipment and training	Ensure that fire department has required firefighting capabilities respond to fires	Medium	Medium	Fire Chief	Update equipment/ training as needed/reduce damages, injuries and save lives	Town, USDA, FEMA AFG, BFD	Fire	Maintain firefighting capabilities

CITY OF CLARK PROBLEM STATEMENTS	CLARK ACTIONS	RATING	TIMEFRAME	CONTACT	COST/BENEFIT	FUNDING SOURCE	HAZARD	GOAL
Loss of sanitary sewer services during a power outage	Purchase and install an emergency backup generator for the lift station	High	Short	City Council	$100,000/prevent loss of service and potentially reduce/prevent residential damages	OEM/HMGP, City, USDA, SD DANR, CDBG	Severe Weather Hazards	Reduce the extent to which utility interruptions affect areas during severe weather situations.
Surface drainage on the north side of the city is insufficient to handle flooding events	Construct drainage ditches and retention ponds as needed	Medium	Medium	City Council	$1,000,000/reduce flood damages in city	HMGP/PDM, City, USDA, SD DANR	Flooding	Protect Specific Areas of Clark County from floods
Identify city areas prone to repetitive flooding	Complete a study to identify flood prone areas	Medium	Medium	City Council	$100,000/reduce flood damages in city	BRIC, USDA, City	Flooding	Protect Specific Areas of Clark County from floods
City has issues with local standing water and flooding	Install storm water drainage system	Medium	Medium	City Council	$100,000/reduce flood damages in town	OEM/HMGP, City, USDA, SD DANR	Flooding	Protect Specific Areas of Clark County from floods
Existing water tower needs major repairs and is past its useful life	Construct a new water tower	High	Medium	City Council	$1,000,000/prevent loss of water service	City, SD DANR, USDA, CDBG	Severe Weather Hazards	Reduce the extent to which utility interruptions affect areas during severe weather situations.
Improve training and response by emergency services in the City	Conduct additional training sessions for emergency services personnel	High	Ongoing	Clark Co EM, Fire Chief, Clark PD, City Council	Conduct training as required/improve emergency services in City	FEMA, Fire Department, City, Clark Co.	All Hazards	Improve public safety during hazards
Assess all current storm shelters for readiness during hazard event	City staff conduct assessment of all storm shelters	High	Short	City Council	Unknown/prevent injuries and save lives	City	All Hazards	Improve public safety during severe weather
Current fire station no meeting dept. needs	Construct a new fire station	Medium	Medium	City Council/Fire Chief	$1,000,000/Unknown	City/USDA	Fire	Improve public safety during fire events
Fires pose a potential threat in Clark	Purchase and disseminate fire prevention educational materials	High	Short	City Council, Fire Chief	$1,000/prevent deaths, damages and injuries due to fire events	City, FEMA- US Fire Admin, SD Fire Marshall, fire dept	Fire	Improve public safety during fire events

TOWN OF GARDEN CITY PROBLEM STATEMENTS	GARDEN CITY ACTIONS	RATING	TIMEFRAME	CONTACT	COST/BENEFIT	FUNDING SOURCE	HAZARD	GOAL
Existing warning siren is not meeting the need of town residents	Purchase and install a new storm warning siren	High	Medium	Town Board	$50,000/prevent injuries and save lives	Town, USDA	Severe Weather Hazards	Improve public safety during severe weather
Town water service is not reliable	Connect to Clark Rural Water System	Medium	Medium	Town Board	$450,000/prevent loss of service	Town, USDA, SD DANR	All Hazards	Reduce the extent to which water utility interruptions affect areas during hazard situations
Maintain local firefighting capabilities	Ensure all fire fighters are properly equipped and trained	Medium	On going	Fire Chief	Update equipment/ training as needed/reduce damages, injuries and save lives	FEMA, Fire Department, Town, Townships	Fire	Increase firefighting capabilities
Wastewater lagoon berms are exposed to flooding	Place riprap on lagoon berms	Low	Medium	Town Board	$100,000/reduce flood damages to wastewater lagoons	HMGP/OEM, Town, USDA, SD DANR	Flooding	Protect Specific Areas of Clark County from floods

TOWN OF NAPLES PROBLEM STATEMENTS	NAPLES ACTIONS	RATING	TIMEFRAME	CONTACT	COST/BENEFIT	FUNDING SOURCE	HAZARD	GOAL
Hollister Ave is prone to flooding	Install culverts	Medium	Medium	Town Board	$50,000/ reduce flood damages in town	PDM/HMGP, Town, USDA	Flooding	Protect Specific Areas of Clark County from floods
Town does not have a back-up generator for emergency use	Purchase of portable back-up generator	High	Short	Town Board	$30,000/provide temporary power during an emergency	OEM/HMGP, Town, USDA	Severe Weather Hazards	Reduce the extent to which utility interruptions affect areas during severe weather situations
Town does not have a tornado safe room	Construction of tornado safe room	Medium	Long	Town Board	$500,000/prevent injuries and save lives	OEM/HMGP, Town, USDA	Severe Weather/ Tornado	Improve public safety during severe weather/tornadoes
No emergency supplies are available for hazard event	Purchase emergency supplies	High	Short	Town Board	$10,000/ prevent injuries and save lives	Town, USDA	All Hazards	Improve public safety during all hazard situations
No emergency shelter for extreme temperatures/winter storms	Construct a community center/emergency shelter	High	Medium	Town Board	$500,000/provide a location for persons to shelter	Town/USDA	Severe Weather Hazards	Improve public safety during severe weather

TOWN OF RAYMOND PROBLEM STATEMENTS	RAYMOND ACTIONS	RATING	TIMEFRAME	CONTACT	COST/BENEFIT	FUNDING SOURCE	HAZARD	GOAL
Existing warning siren is not meeting the needs of residents	Purchase and install a new storm warning siren	High	Medium	Town Board	$50,000/prevent injuries and save lives	Town, USDA	Severe Weather Hazards	Improve public safety during severe weather.
Surface water drainage issues on the west side of town	Hire engineer for study and implement recommendations	Medium	Medium	Town Board	Unknown/Unknown	Town, USDA, SD DANR, BRIC, HMGP	Flooding	Protect Specific Areas of Clark County from floods

TOWN OF VIENNA PROBLEM STATEMENTS	VIENNA ACTIONS	RATING	TIMEFRAME	CONTACT	COST	FUNDING SOURCE	HAZARD	GOAL
Areas of town are prone to flooding	Install storm sewer/culverts	Medium	Medium	Town Board	$100,000/ reduce flood damages in town	Town, USDA, PDM/HMGP	Flooding	Protect Specific Areas of Clark County from floods
Community Hall/ Shelter does not have an emergency backup generator in case of power failure	Purchase and installation of emergency backup generator for community hall/ shelter	High	Short	Town Board	$100,000/ provide a location for persons needing shelter	HMGP, Town, USDA	Severe Weather Hazards	Improve public safety during severe weather
No emergency supplies are available in the community hall/ shelter	Purchase emergency supplies	Medium	Short	Town Board	$10,000/ prevent injuries and save lives	Town, USDA	Severe Weather Hazards	Improve public safety during severe weather
Improve EMS street access after snow storms	Purchase a snow plow	Medium	Medium	Town Board	$300,000/Unknown	Town/USDA	Severe Weather Hazard	Improve public safety during severe weather
Town Hall basement floods	Construct floodproofing activities	Medium	Medium	Town Board	$500,000/Unknown	Town/USDA	Flooding	Protect Specific Areas of Clark County from floods

CITY OF WILLOW LAKE PROBLEM STATEMENTS	WILLOW LAKE ACTIONS	RATING	TIMEFRAME	CONTACT	COST	FUNDING SOURCE	HAZARD	GOAL
City does not have a tornado safe room in the park	Construct a tornado safe room in the park	Low	Long	City Council	$1,000,000/ prevent injuries and save lives	HMGP, City, USDA	Severe Weather/ Tornadoes	Improve public safety during severe weather and tornadoes
No emergency supplies are available at the Community Center/shelter	Purchase emergency supplies	Medium	Short	City Council	$10,000/ prevent injuries and save lives	City	Severe Weather Hazards	Improve public safety during severe weather
Tree branches growing near overhead power lines	City will implement a tree trimming program to reduce risks to overhead power lines	Medium	On going	City Council	Unknown/prevent loss of power service	City	Severe Weather Hazards	Reduce the extent to which utility interruptions affect areas during severe weather
Educate city residents and visitors regarding evacuation routes, storm shelter and tornado safe room locations	Purchase education materials for distribution and signage to be posted in locations for at risk persons	Medium	Medium	City Council	Unknown/ prevent injuries and save lives	City	All Hazards	Improve public safety during all hazards
Fires pose a potential threat in Willow Lake	Purchase and disseminate fire prevention educational materials	High	Short	City Council, Fire Chief	$1,000/prevent deaths, damages and injuries due to fire events	City, FEMA-US Fire Admin, SD Fire Marshall, local fire department	Fire	Improve public safety during fire events

Figure 5.1: Clark County Potential Mitigation

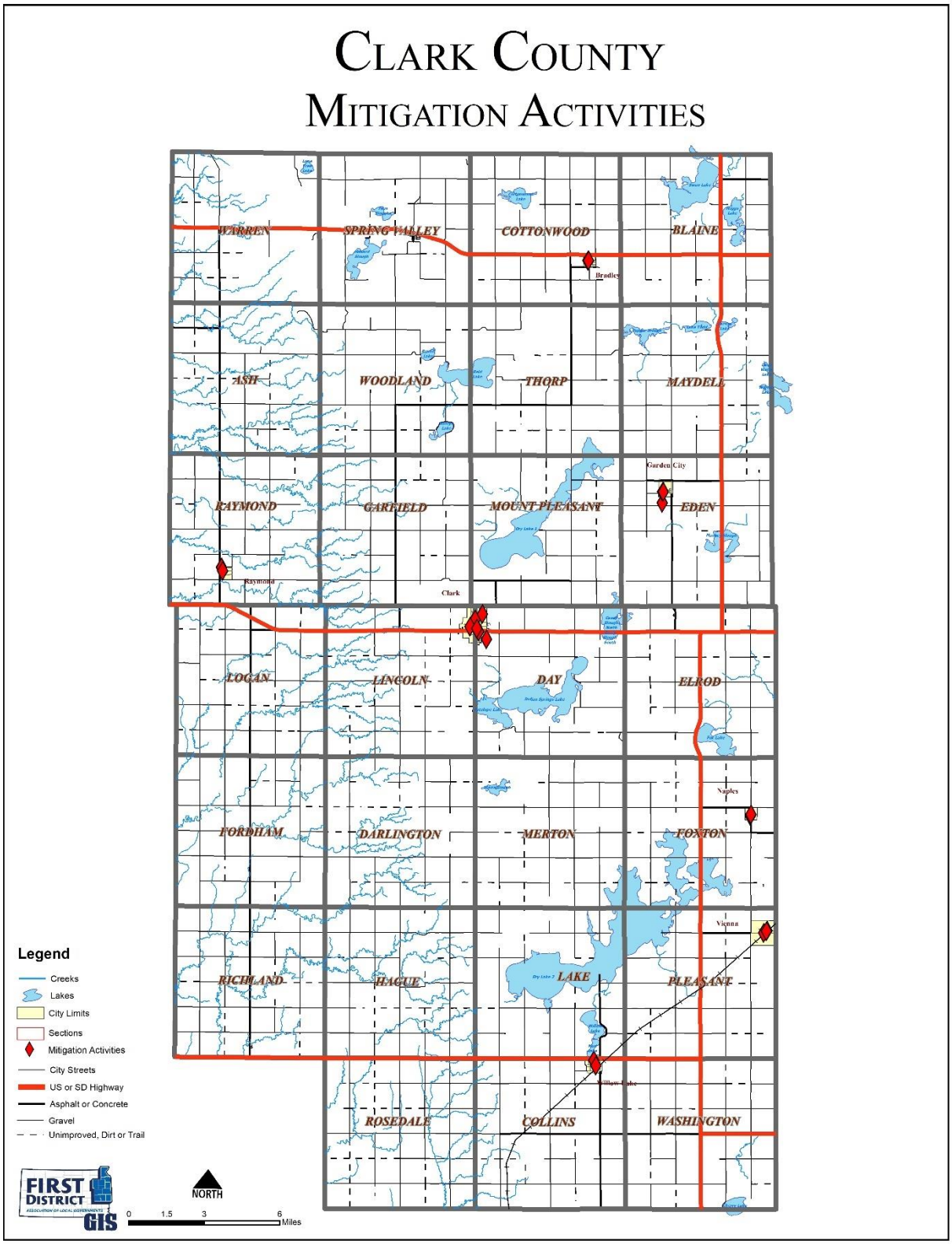


Figure 5.2: Town of Bradley Potential Mitigation

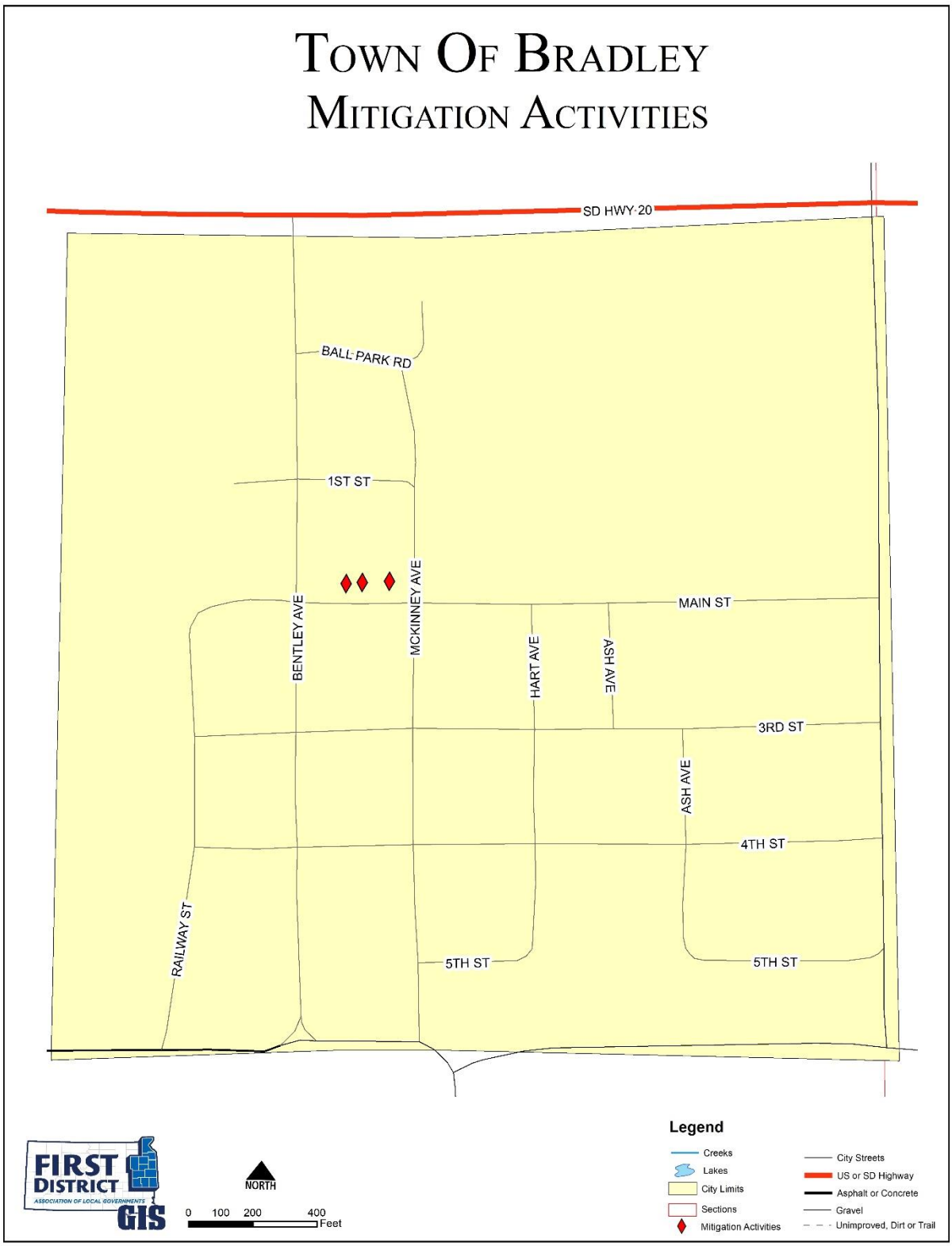


Figure 5.3: City of Clark Potential Mitigation Project Map

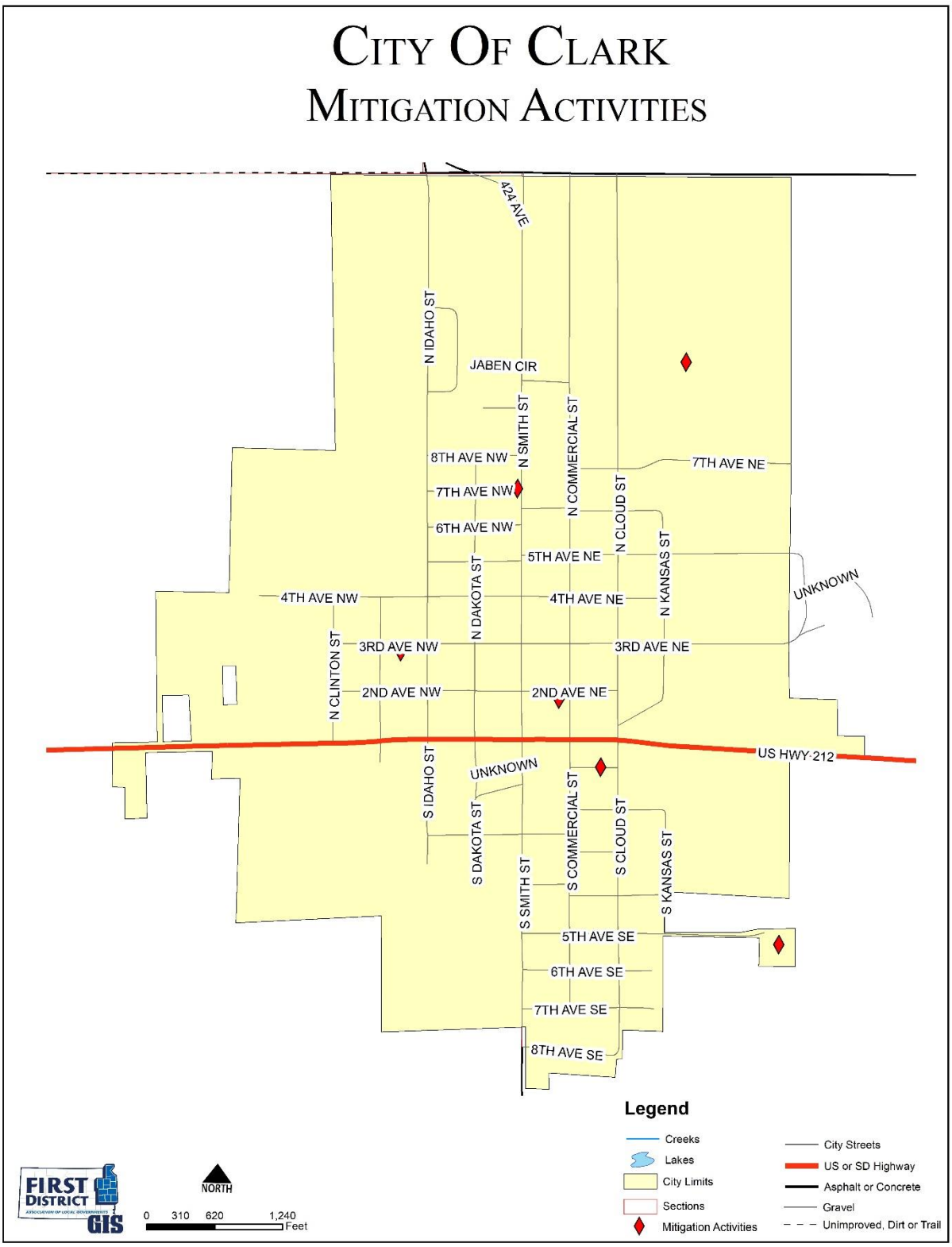


Figure 5.4: Town of Garden City Potential Mitigation Project Map

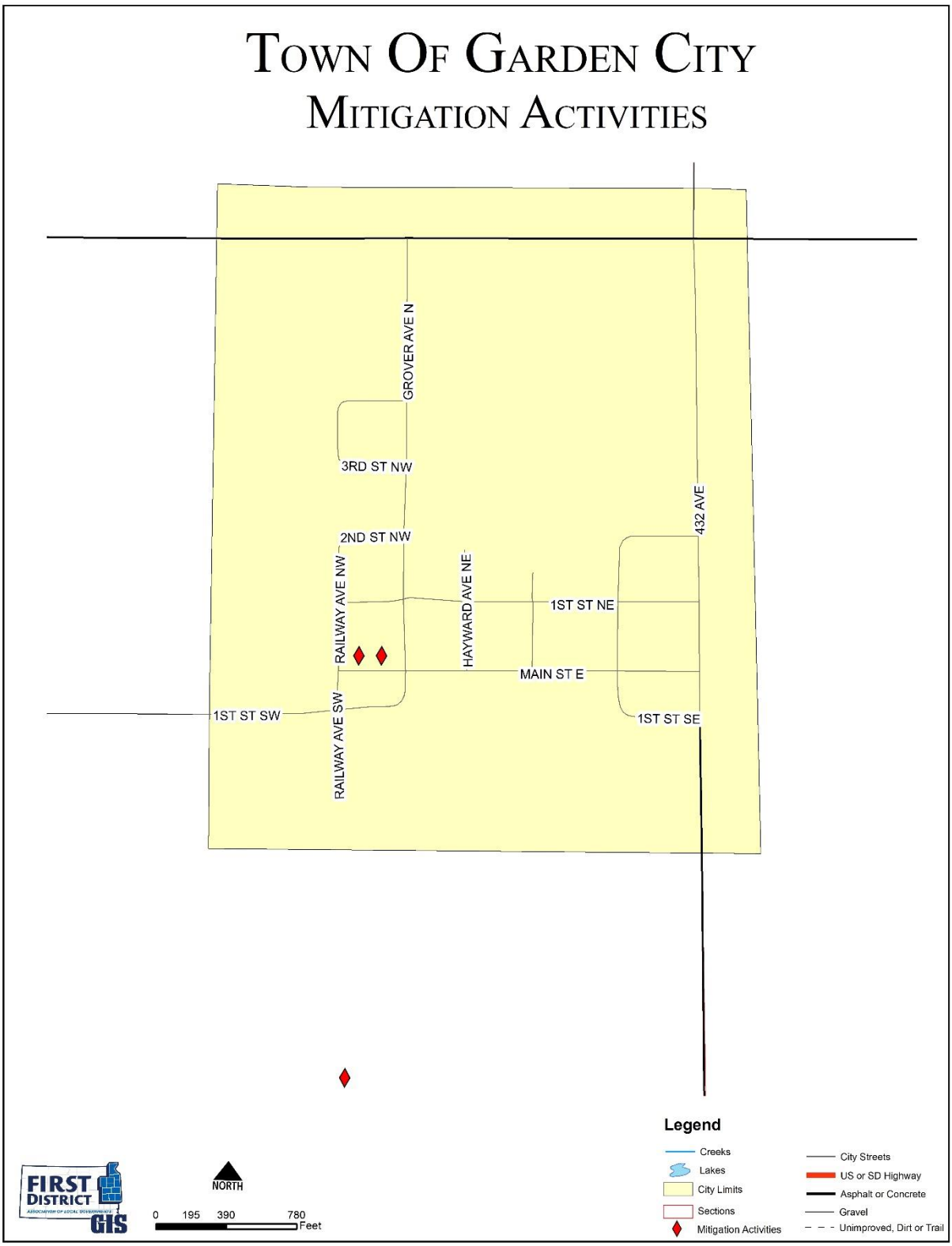


Figure 5.5: Town of Naples Potential Mitigation Project Map

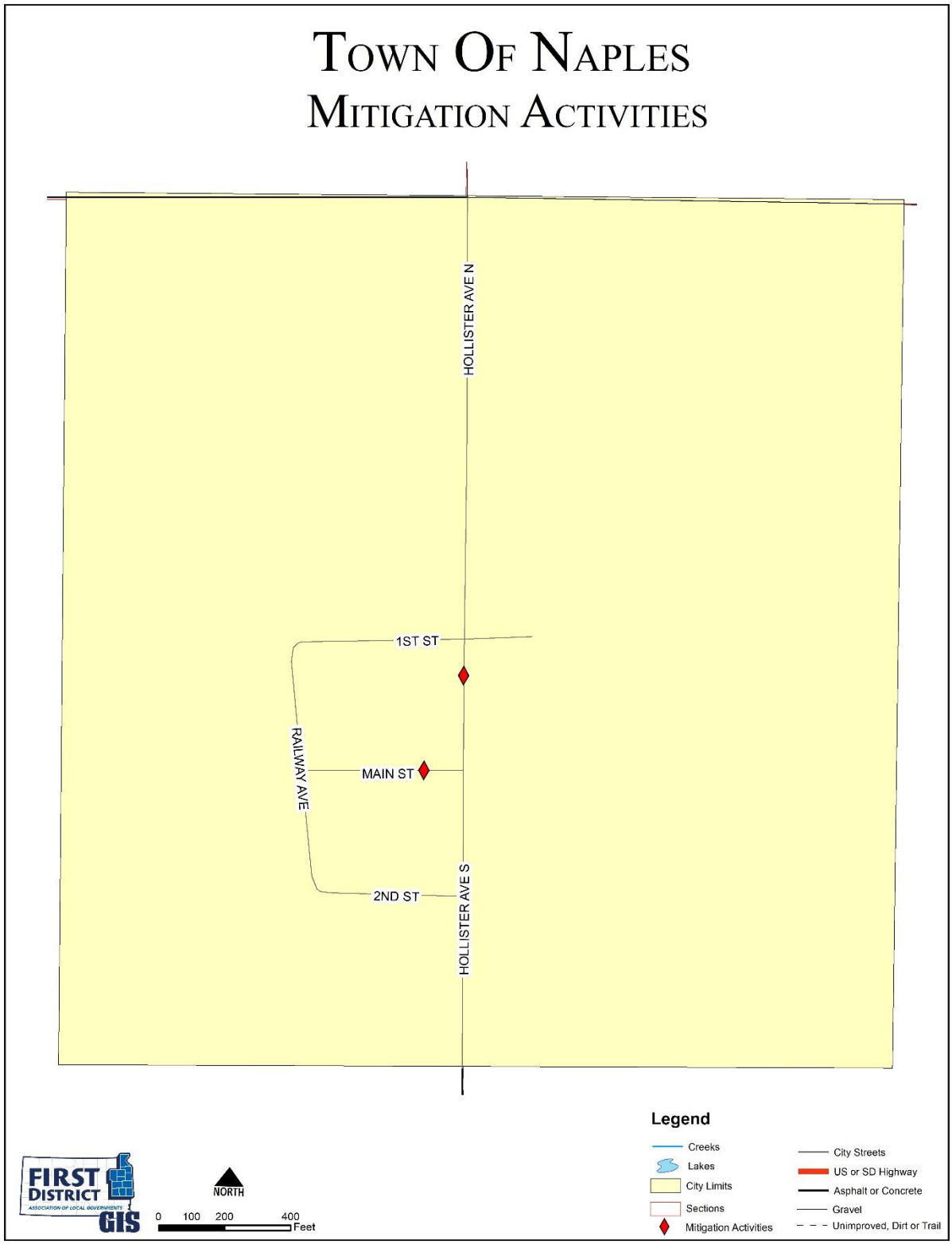


Figure 5.6: Town of Raymond Potential Mitigation Project Map

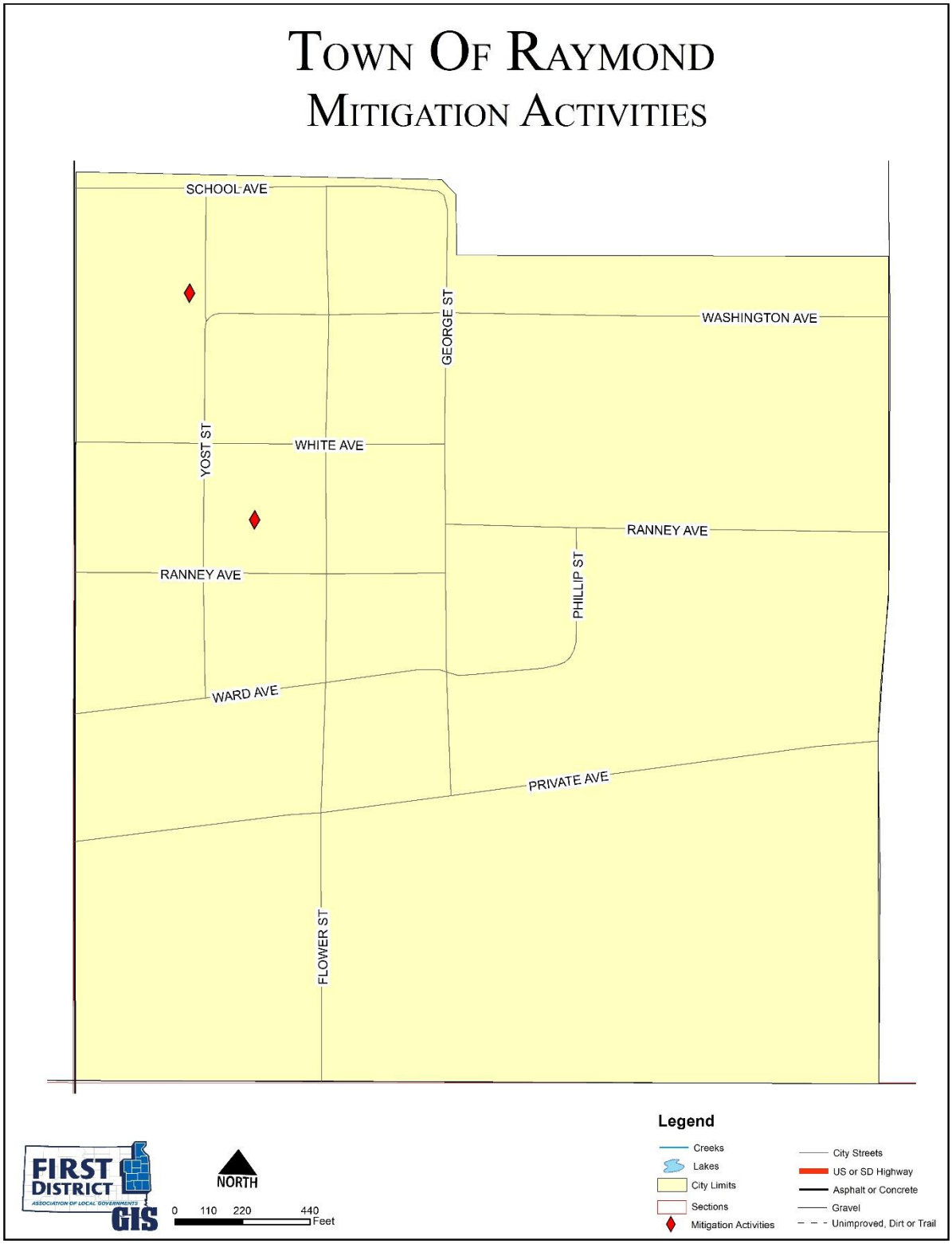


Figure 5.7: Town of Vienna Potential Mitigation Project Map

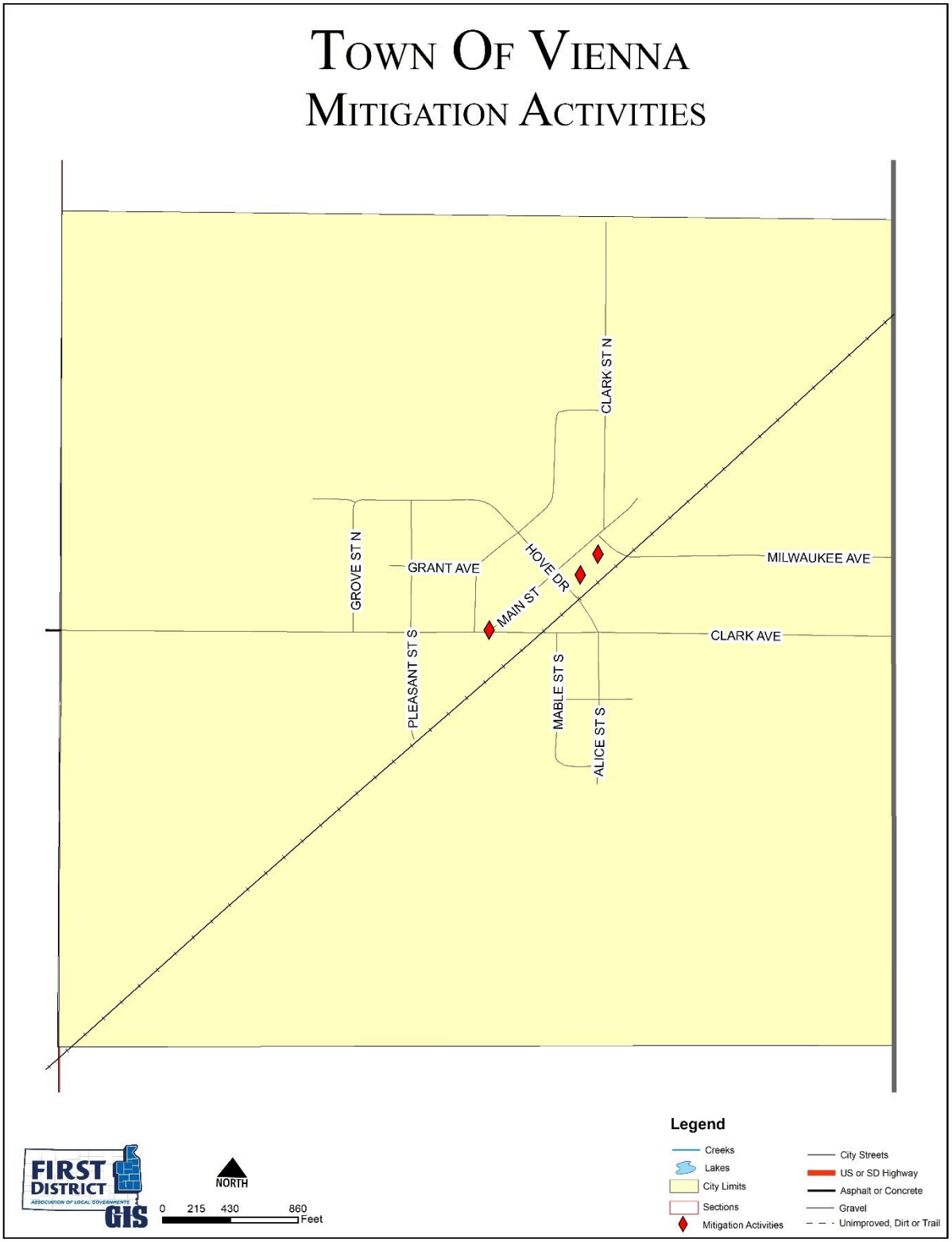
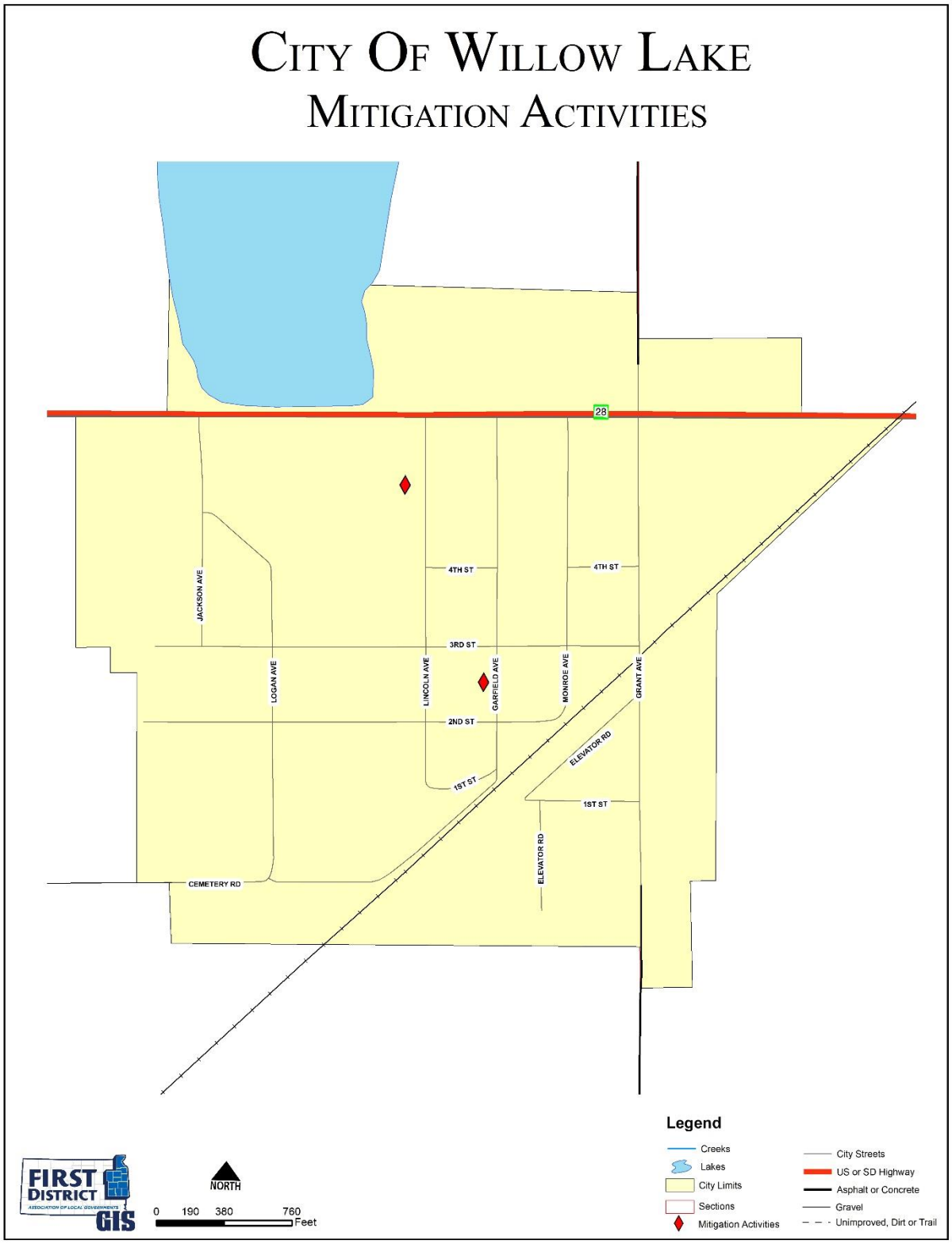


Figure 5.8: City of Willow Lake Potential Mitigation Project Map



IMPLEMENTATION OF MITIGATION ACTIONS

Requirement 201.6(c)(4)(ii). Local Mitigation Plan Review Tool – C6.
Requirement 201.6(d)(3). Local Mitigation Plan Review Tool – D3.

Upon adoption of the updated Clark 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 the 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, thus the PDM lacked relevant information that could be utilized and easily integrated into the County’s and Municipalities’ existing planning mechanisms. Thus, 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. The 2014 plan was the basis for updating the 2019 plan. 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. Additionally, by involving all the local jurisdictions and by bringing the PDM to the attention of neighboring communities, the planning process has brought more awareness of mitigation to the people residing in the County, which will encourage further involvement in the future. The 2019 PDM plan was used during the 2024 PDM update process.

CHAPTER 6 | PLAN MAINTENANCE

MONITORING, EVALUATING, AND UPDATING THE PLAN

Requirement 201.6(c)(4)(ii). Local Mitigation Plan Review Tool – C6.

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 Clark County Emergency Management Director. 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 – A5.
Requirement 201.6(c)(4)(ii). Local Mitigation Plan Review Tool – C6.

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 Clark County Emergency Management Office located in the Clark 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. Comments will always be received whether orally, written or 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)(ii). Local Mitigation Plan Review Tool – C6.

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 Clark County Emergency Management Director will 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; and
3. The report will recommend, as appropriate, any required changes or amendments to the PDM.

FIVE-YEAR PDM REVIEW

Requirement 201.6(c)(4)(i). Local Mitigation Plan Review Tool – A6.
Requirement 201.6(c)(4)(ii). Local Mitigation Plan Review Tool – C6.

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)(ii). Local Mitigation Plan Review Tool – C6.

PDM amendments will be considered by the Clark 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.

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 & 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
Private Agency-Community Wildfire Planning Center

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

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

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

Title: Hazard Mitigation Grant Program Post Fire Grant Program
Agency: Federal Emergency Management Agency

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

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

Title: Urban and Community Forestry (UCF) Program
Agency: USDA Forest Service

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

Title: Flood Mitigation Assistance Grant Program
Agency: Federal Emergency Management Agency

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

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

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

Title: Community Development Block Grants
Agency: U.S. Department of Housing and Urban Development

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

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

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

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

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

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

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

Title: Public Assistance (Infrastructure) Program, Section 406
Agency: Federal Emergency Management Agency

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

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

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

* Roads, bridges & culverts
* 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: 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: 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: 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: STAR Community Rating System 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

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 2007 PDM Mitigation Project Implementation

Appendix I - References

Appendix A
Resolution of Adoption by Jurisdiction

Clark County

Town of Bradley

City of Clark

Town of Garden City

Town of Naples

Town of Vienna

Appendix B
PDM Planning Team Meeting Materials

Affidavit of Publication for Clark County Kickoff Meeting Notice

Clark County Pre-disaster Mitigation Plan Meeting

Clark County will begin the process of updating the Clark 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 1:00 p.m. on January 31, 2023 in the Clark Legion Hall located at 103 N. Commercial St., Clark, S.D. 57225, South Dakota. The public is welcome to attend. Questions or comments may be directed to Clark County Emergency Manager, David Lewis @ (605) 532-6921.

Published twice at the approximate cost of $17.41 and can be viewed free of charge at www.sdpublicnotices.com

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PAID
FEB 7 2023

Affidavit of Publication

State of South Dakota
§
County of Clark

William J. Krikac of said county, being first duly sworn, on oath says that he is the publisher of the ***Clark County Courier***, a weekly newspaper printed and published in Clark in said County of Clark and has a full and personal knowledge of all the facts therein stated; that said newspaper is a legal newspaper and has a bona-fide circulation of at least two hundred copies weekly, and has been published within said County for fifty-two successive weeks next prior to the publication of the notice herein mentioned, and was and is printed wholly or in part in an office maintained at said place of publication; that the

Clark County

a printed copy of which taken from the paper in which same was published, is attached to this sheet, and is made a part of this Affidavit, was published in said newspaper at least once in each week for

Two

successive week(s), on the day of each week on which said newspaper was regularly published, to wit:

January 18, 2023
January 25, 2023

that the full amount of the fees for the publication of the annexed notice is $17.41

Karli Paulson

Subscribed and sworn to before me this

27th day of January, 2023

ALAN E. YEXLEY SEAL NOTARY PUBLIC SEAL SOUTH DAKOTA

Alan E. Yexley

Notary Public
Clark County, South Dakota

My Commission expires: 10-22-2024

Clark County
Pre-disaster Mitigation Plan Kickoff Meeting
1:00 p.m. January 31st, 2023
Clark Legion Hall
103 N. Commercial St, Clark, South Dakota

Agenda

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

PDM Initial Meeting 31-Jan-23

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Terry Schlagel	" "	605-881-4054	Schlagelth@gmail.com
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Lisa Linneman	Clark UHN	605-537-3168	lisa.linneman@state.sd.us
Randy Argersmeier	Clark Co Ambulance	605-233-1248	Clarkems@itctel.com
Ted Heaton	Clark Co Sheriff	605-520-6100	clarkcosheriff@itctel.com
Lindsay Stiefel	Clark Co Deputy	609-233-1512	stiefellindsay@gmail.com
Terry Kaufman	CRWS Manager	605-881-4364	[illegible]CRWS@itctel.com

Clark County
Pre-disaster Mitigation Planning Team Kickoff Meeting
1:00 p.m. January 31st, 2023
Clark Legion Hall
103 N. Commercial St, Clark, South Dakota

Minutes

13 individuals were in attendance:

Last	First	Organization
Ahrens	Travis	Clark School Superintendent
Andersen	Luke	Interstate Telecommunications
Angermeier	Randy	Clark County Ambulance
Burke	Chance	City of Willow Lake
Carda	Payton	First District
Gjerde	Sara	Clark County Commissioner
Heaton	Tad	Clark County Sheriff
Kaufman	Terry	Clark Rural Water
Lewis	David	EM Clark County
Linneman	Liza	Clark Health Clinic Nurse
Schlagel	Terry	Clark County Commissioner
Stiefel	Lindsay	Clark County Deputy
Terhark	Jared	Codington-Clark Electric

Clark County Emergency Manager, David Lewis, welcomed those in attendance and introduced Payton Carda of First District Association of Local Governments. Carda gave a brief welcome and had the Team Members introduce themselves and the entity they represent.

Carda 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 and scope of project were reviewed.

Meeting adjourned at 2:00 p.m. Date and time for the next meeting to be scheduled later in fall of 2023.

Minutes recorded by Payton Carda.

Clark County Pre-disaster Mitigation Plan
Mitigation Planning Team Meeting
7:00 p.m. Thursday, June 13, 2019
Clark County Courthouse Annex

Agenda

- PDM Jurisdiction Risk Assessment Review
  - Hazard Identification
  - Hazard Profile
  - Vulnerability Assessment

- Mitigation Strategy
  - Review of Goals and Objectives
  - Mitigation Strategies
  - Project Identification

- Review of PDM Preliminary Draft

- Set date of final review

Minutes
Clark County Pre-Disaster Mitigation Team
June 13, 2019
Clark County Courthouse Annex
7:00 p.m.

Four people were in attendance:

- Jim Pearson, Clark County Emergency Manager
- Joann Settje, Corona
- Jim Settje, Corona
- Greg Maag, First District Association of Local Governments

Greg Maag of the First District provided a review of research and background activities conducted since the last Team meeting October of 2018.

Maag also provided an overview of the risk assessment conducted with the communities in Clark 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, Maag provided an overview of historical hazard events in Clark County since 2014.

The Team also reviewed goals and objectives of the previous 2014 PDM Plan. It was determined the 2014 goals and objectives were still appropriate for the update PDM plan. Discussed potential mitigation projects throughout the county.

Maag provided a summary and review of the draft Clark County Pre-Disaster Mitigation Plan. Discussion and questions occurred during the summary process.

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 8:30 p.m., with a date of the final meeting to be in July 2019.

Minutes recorded by Greg Maag

Clark County Pre-disaster Mitigation Plan
Mitigation Planning Team Meeting
1:00 p.m. July , 2019
Clark County Courthouse Annex

Agenda

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

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 Clark County Pre-Disaster Mitigation Plan. Meetings were held at the regular monthly meetings for the following Towns:

Town	Date
Bradley	April 10, 2024
Clark	March 6, 2023
Garden City	June 5, 2023
Naples	June 5, 2023
Raymond	January 8, 2024
Vienna	July 13, 2023
Willow Lake	January 8, 2024

At all of the previously described meetings, each group in attendance was asked to identify the probability of each specific hazard's occurrence. Following discussion on each individual hazard, Board members categorized these hazards as high probability to occur, low probability to occur, or unlikely to occur. The result was recorded on a master sheet for each town. Next, each group 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. Finally, the Town Board was 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 4.17.

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.

Township maps are included in Appendix E.

Town of Bradley Agenda

Agenda: Meeting of the Bradley Town Board, 10 April 2024
Amy Arnold

Minutes of the March Meeting

Financial Report

Old Business:

Roof repairs, Sign for garbage (Amy), Big dumpster for town clean-up, Jeanette Warkenthien resigned, Royal Rosheim installed as finance officer, Amy Hopkins installed to fill Royal's unexpired term, Equalization Board was held where problems noted and identified and will be corrected before next Equalization meeting

New Business:

First District representative ~~Luke Miller~~ Amy Arnold, Weed and Pest control, Post Office Lease, SAM registration,, Mowing Bid. Safe Deposit Box, SD DOR taxes due for 3Q2020

Claims for April

Clark Rural Water Buildings	$45.00
Clark Rural Water Ball Park	$40.00
Northwest Energy	$810.21
ITC	$96.25
Cooks Wastepaper (Town Garbage)	$476.52
Cooks Wastepaper (Dumpster)	$101.26
Cooks Wastepaper (Extra fee)	$22.53
Hard Corner LLC P.O. lease	$1140.00
Clark County Courier	$39.84
The Body Shop (snow Removal	$1440.00
Office Peeps	$98.41
Royal Rosheim (Office Supplies)	$52.15
KMI (Keller's)	$11.95
Cashway Lumber (Roof Materials)	$3708.98
Becky Caulfield Re-imbursement)	$1343.35
Royal Rosheim	$584,15
Becky Caulfield	$184.70
Chad Altfillisch	$184.70
Amy Hopkins	$184.70
Dacotah Insurance	$137.00
Webster Ace	$203.47
Quick Books	$1146.96

The next regular meeting is scheduled May 8, 2024

CLARK COUNTY PRE-DISASTER MITIGATION PLANNING MEETING

TOWN OF Bradley

April 10th, 2024

Name	Organization	Email*
Amy Arnold	First District	
Beckie Caulfield	Town Board	beckjm@itctel.com
Amy Hopkins	Amy Hopkins	hopkins103114@gmail.com
Rupal Rostem	Finance office	TOWNOFBRADLEY@ITCTEL.COM
Cloud Hatfield	Town Board	hunts2925@Gmail.com

TOWN OF BRADLEY BOARD MINUTES

The Town Board of Bradley met in regular session on April 10, 2024 at 6:00 p.m. Present were Beckie Caulfield, Chad Altfillisch, Amy Hopkins, Royal Rosheim and First District representative Amy Arnold.

Minutes of the March meeting were read and approved on a motion by Beckie Caulfield with a second by Chad Altfillisch.

Financial reports were reviewed where it was noted that the financials were complete and up to date. The financial report was approved on a motion by Beckie Caulfield with a second by Amy Hopkins.

First District Representative along with the Town Board reviewed and updated Town of Bradley's pre-disaster mitigation plans and risk assessment status.

Claims for March were read and approved by on a motion by Chad Altfillisch with a second by Amy Hopkins.

Claims for April

Royal Rosheirn, $584.15; Becky Caulfield, $184.70; Chad Altfillisch, $184.70; Arny Hopkins, $184.70; Clark Rural Water, buildings $45.00; Clark Rural Water, Ball Park $40.00; Northwest Energy, $810.21; ITC, $96.25; Clark County Courier, $39.84; The Body Shop, $1,440.00; Office Peeps, $98.41;

Cook's Wastepaper, town garbage, $476.52; Cook's Wastepaper, dumpster, $101.26; Cook's Wastepaper, extra fee, $22.53; Royal Rosheim, misc. office supplies, $52.15; KMI, Keller's, $11.95; Cashway Lumber, roof materials, $3,708.98; Beckie Caulfield, reimbursement, $1,343.35; Webster Ace, revised invoice, $110.85; Dacotah Insurance, $137.00; Intuit/Quickbooks, $1,146.00; Beau Lehna, labor and materials, $8,100.00.

The next regular meeting is scheduled for May 8, 2024.

Meeting adjourned.

Royal Rosheim,
Finance Officer

Published once at the approximate cost of $20.09 and can be viewed free of charge at www.sdpublicnotices.com
4-17-24

Outline
Pre-Disaster Mitigation Plan
Town of Bradley, SD

Introduction

Personal introduction:

Introduce the plan:

Why update the PDM?

Why is your community doing it individually/Why not just county?

What is a PDM?

Hazard review

Hazard Identification

After discussion, the board decided to leave the hazard identification lists the same as they were in the previous plan.

Hazard Vulnerability

After discussion, the board did not see a need to move any of the current hazard vulnerabilities.

Community Capabilities and Plans review

No changes

Community facilities

Identify/review critical facilities

- New Fire Hall – address is 226 Main Street
- US Post Office new address is 218 Main Street
- Address for City Hall is now 210 Main Street
- Legion/Community Center new point - 220 Main Street
- Old Fire Hall is 224 Main Street
- Address for the Christian School changed to 228 3rd St
- Add Ball Field (1 Ball Park Rd) and Park (Ash Ave & 3rd St)

Project review

Review past projects

- *Sill in need of a back-up generator and emergency supplies for the community center.*
- *The town board discussed that they have recently purchased some equipment upgrades for the fire department. They still see a need for some new firefighting tools to better serve the area and some necessary maintenance of equipment.*

Ask about other projects (not all require FEMA funding)

- *They would like to see Northwestern Energy do some line burial to reduce the number of power outages due to blizzards/strong winds.*

Ask about Policies/activities that already help mitigate Disaster

Conclusion

Arnold informed the Town Board of upcoming Survey site, Pre-disaster Mitigation Team Meetings and the Plan Adoption process.

City of Clark Agenda
March 6th, 2023
7:00 pm

1. Call to order
2. Adopt agenda
3. Pledge of Allegiance
4. 1st District – PDM Update
5. Public Input*
6. Department Updates
7. Kyle Gaikowski – Tractor for Street Dept.
8. Field Sponsorship -Craig Spieker
9. Football Team Fundraising Request
10. Prom – Jr Class Request
11. Authorization for Mayor to sign Fuel Site Use Agreement
12. Election Updates
13. Pool Help
14. Summer Rec Fees and Coaches
15. Dump Fees
16. Approve Special Event Liquor Licenses – Pro Pheasants 3/24 & 2nd Chance Prom 4/1
17. Approve February Meeting Minutes
18. Approve Financial Statements
19. Approve Claims
20. April Meeting Date
21. Special March Meeting (Board of Equalization - March 20th for assessment role)
22. Adjourn

Next Meeting: March 20th, 2023

*A time for members of the public to discuss or express concerns to the Council on any issue not on the agenda. Comments are limited to 3 minutes. Action will not be taken at the meeting on any issue not on the agenda.

City of Clark Minutes and Attendance

City of Clark Council Meeting
March 6th, 2023 at 7:00 PM

Call to order: The Clark City Council met in session on March 6th, 2023 at 7:00pm in the City Hall Council Room.

Council Members Present: Derrick Dohmann, Shane Hagstrom, Brandon Kottke, Melissa Nesheim, and Andrew Zemlicka. Not present was Nick Dalton.

Others Present: Mayor Kerry Kline, Finance Officer Alaina Wellnitz, Darin Altfillisch, Emily Yexley, Kyle Gaikowski, Craig Spieker, and Tammy Rusher.

Mayor Kline called the meeting to order at 7:00pm.

Motion # 022-2023 **Adopt Agenda**
Motion by Dohmann and seconded by Zemlicka to adopt the agenda. All members voting yes. Motion carried.

All stood and recited the Pledge of Allegiance.

There was no public input.

Mayor & Department Updates
Mayor Kline started off with an election update. Hagstrom, Nesheim, Dalton, and Mayor Kline all ran unopposed and will remain on the council for 3 more years. Kyle Gaikowski presented different options for a new tractor for the street department and the golf course. Altfillisch spoke about the snow piles in town. Currently, contractors that are hired to move snow for private businesses are dumping snow onto the city's piles at no charge from the city. Altfillisch would like to stop this practice or start billing contractors for the removal of snow. The topic was tabled until next month. Finance Officer Wellnitz told the council the skating rink is closed for the season and the new floors in the Ullyot Building are almost complete. Golf Course Manager Tammy Rusher said the clubhouse will be opening in mid-April with spring hours. The new golf carts are in, and new scorecards are being ordered.

Motion # 023-203 **Approve Department Updates**
Motion by Nesheim seconded by Hagstrom to approve the department updates. All members voting yes. Motion carried.

Field Sponsorship
Craig Spieker spoke to the council about Dakota Style Field. Dakota Style reduced their donation to the field to $2,000 and The Rotary wanted the City's blessing to keep the field named after Dakota Style. The council had no issues with that.

1st District – PDM Updates
Payton Carda from 1st Districts appeared via phone to go over disaster funding updates, a FEMA requirement that allows the city to be eligible for disaster relief funding.

Football Team Fundraising Request
FO Wellnitz spoke on behalf of CWL football coach Dave Severson. Severson volunteered his team to pick up branches on the golf course and the city parks. Severson asked that in return, the city monetarily donate to the football team. The council agreed to donate a minimum of $500 but the final amount will be determined after the clean-up is completed.

Motion # 024-2023 **Authorization for Mayor to sign Fuel Site Use Agreement**

Motion by Kottke and seconded by Melissa to authorize Mayor Kline to sign the Fuel Site Use Agreement. This agreement allows the city to use state fuel sites for gasoline in city equipment. All members voting yes. Motion carried.

Motion # 025-2023 **2023 Dump Fees**
Motion by Zemlicka and seconded by Dohmann to approve the updated dump fees for 2023. All members voting yes. Motion carried.

Motion # 026-2023 **Pool Manager Pay**
Staffing and pay at the city pool was discussed. Motion by Dohmann and seconded by Zemlicka to increase the Pool Manager pay to $16.00 an hour. All members voting yes. Motion carried.

Motion # 027-2023 **Summer Recreation Fees and Coaches**
Motion by Nesheim and seconded by Dohmann to approve the 2023 pool fees, golf fees, and summer ball fees. All members voting yes. Motion carried.

Motion # 028-2023 **Pro Pheasants Liquor License**
Motion by Kottke and seconded by Dohmann to approve the special event liquor license for the Pro Pheasants on March 24th for the hours of 6:00pm and midnight. All members voting yes. Motion carried.

Motion # 029-2023 **2nd Chance Prom Liquor License**
Motion by Kottke and seconded by Hagstrom to approve the special event liquor license for the 2nd Chance Prom on April 1st for the hours of 5:00pm and midnight. All members voting yes. Motion carried.

Motion # 030-2023 **Approve February Meeting Minutes**
Motion by Nesheim and seconded by Kottke to approve the February meeting minutes. All members voting yes. Motion carried.

Motion # 031-2023 **Approve Financial Statements**
Motion by Hagstrom and seconded by Zemlicka to approve the monthly financial statements. All members voting yes. Motion carried.

Motion # 032-2023 **Approve Claims**
Motion by Dohmann and seconded by Kottke to approve the following claims. All members voting yes. Motion carried.

FEBRUARY CLAIMS

#	To	For	Amount
2232	US Bank Corporate Trust	SRF Loan 2	$ 25,016.47
30219	Clark Co. Historical Society	subsidy	$ 577.00
2826	SD Dept. of Revenue	sales tax	$ 17.72
2827	SD Dept. of Revenue	sales tax	$ 219.65
2828	City of Clark	utilities	$ 257.27
30220	Clark Ace Hardware	supplies	$ 556.77
2830	Amazon Capital Services	supplies	$ 132.30
30221	Clark Rural Water System	materials	$ 15,486.60
30222	Cooks Wastepaper	February garbage	$ 7,549.88
30223	Cooks Wastepaper	dumpsters	$ 255.25
30226	Northwestern Energy	utilities	$ 611.67
30227	Cardmember Services	credit card purchases	$ 850.36

30228	Northwestern Energy	utilities	$	8,685.28
2838	Amazon Capital Services	supplies	$	348.35
2839	Dacotah Bank	service charge	$	60.00
2840	FuturePOS	credit card fees	$	58.48
2/21/2023	**Payroll**			
	Mayor	payroll	$	226.92
	Finance Office	payroll	$	2,410.43
	Govt Bldg	payroll	$	104.78
	Police	payroll	$	4,064.42
	Streets	payroll	$	4,361.49
	Sewer	payroll	$	1,557.60
	Water	payroll	$	1,557.89
	Transit	payroll	$	358.78
	Clubhouse	payroll	$	69.75
	Parks	payroll	$	491.40
	Library	payroll	$	572.00
2832	EFTPS	Payroll Taxes	$	3,674.04
30225	Child Support Payment Center	Child Support	$	352.62
30224	SD Retirement Systems	Employee Retirement	$	3,801.90

MARCH CLAIMS

Wellmark BCBS	insurance	$	5,878.46
Forest Excavating	services	$	6,223.98
J & J Heating	new heater at City Shop	$	2,559.20
Dakota Butcher	concessions	$	77.46
Sign Pro	golf cart stickers	$	195.00
Pitney Bowes	postage	$	1,520.99
Principal Financial Group	insurance	$	42.91
A&B Business Solution	copier	$	75.84
Vision Service Plan	insurance	$	400.98
Delta Dental	insurance	$	1,235.85
SD Dept of Health	specimen	$	15.00
Intoximeters	supplies	$	325.00
Star Laundry	rags and rugs	$	341.83
Quill	supplies	$	60.57
Jeremy Wellnitz	deductible reimbursement	$	1,650.92
AT&T Mobility	utilities	$	68.45
Mack's Standard	gas	$	351.55
Core & Main	software	$	7,956.25
Clark County Courier	advertising	$	165.14
SD Federal Property Agency	supplies	$	44.00
Northwestern Energy	utilities	$	366.21
A-I Computer Solutions	software	$	250.00
Clark ACE Hardware	supplies	$	247.20
Kens Food Fair	concessions	$	13.88

SD Rural Development	Sewer 1 loan	$	787.00
SD Rural Development	Sewer 2 loan	$	1,307.00
SD Rural Development	Water loan	$	908.00
Clark Co. Historical Society	subsidy	$	577.00
Westside Implement	parts	$	28.44
U Drive Technology	text tool	$	50.20
South Dakota Sheriff's Association	conference fees	$	115.00
Interstate Telephone Co.	utilities	$	606.81
SD Assoc. of Code Enforcement	2023 dues	$	75.00
SD Governmental FO Assoc.	2023 dues	$	70.00
SD Human Resources Assoc.	2023 dues	$	50.00
Sturdevant's	parts	$	350.21

Payroll

Mayor	payroll	$	276.92
Finance Office	payroll	$	2,371.40
Govt Bldg	payroll	$	104.78
Police	payroll	$	4,821.17
Streets	payroll	$	5,269.61
Sewer	payroll	$	1,567.03
Water	payroll	$	1,567.34
Transit	payroll	$	311.16
Clubhouse	payroll	$	308.28
Library	payroll	$	588.25
EFTPS	Payroll Taxes	$	3,836.75

April Meeting Date

The April meeting date was set for Tuesday, April 4th at 7:00PM.

Special March Meeting

The next council meeting will be March 20th at 7:00PM so the Board of Equalization can meet to discuss 2023 assessment roles.

Motion # 033-2023 **Adjourn**

Motion by Zemlicka and seconded by Kottke to adjourn. All members voting yes. Motion carried.

Meeting adjourned at 9:09 pm.

This institution is an equal opportunity provider and employer.

_____
Mayor Kerry Kline

_____
Attest: Finance Officer Alaina Wellnitz
(seal)

Published once at the approximate cost of _____.

Outline
Pre-Disaster Mitigation Plan
Community Meetings
City of Clark
March 6, 2023

Introduction

Personal introduction:

All individuals in attendance introduced themselves

Introduce the plan: Payton Carda FDALG introduced the group to the PDM planning process and the community's role in the process, discussing the following:

Why update the PDM?
Why is your community doing it individually/Why not just county?
What is a PDM?

Hazard review

Hazard Identification

Summer/Thunderstorm
- Hail, Heavy Rain, Lightning, Tornado, Strong Winds

Winter Storm and Extreme Cold
- Freezing Rain, Sleet, Ice, Heavy Snow,

Drought and Extreme Heat

Flood
- Rapid Snow Melt, Ice jam, (heavy rain can go here too)

Fire
- Urban fire, wildfire (grass fire)

The Commission reviewed the previous PDM's Risk Assessment worksheet (Hazard Identification – Probability) and made no changes.

Hazard Vulnerability

Summer/Thunderstorm
- Hail, Heavy Rain, Lightning, Tornado, Strong Winds

Winter Storm and Extreme Cold
- Freezing Rain, Sleet, Ice, Heavy Snow,

Drought and Extreme Heat

Flood
- Rapid Snow Melt, Ice jam, (heavy rain can go here too)

Fire
- Urban fire, wildfire (grass fire)

The County reviewed the previous PDM's Risk Assessment worksheet (Hazard Identification – Vulnerability) and made no changes.

Community Capabilities and Plans review

The City identified the need to comply with FEMA requirements in updating flood maps. Community will also update the zoning ordinance in 2024.

Community facilities

Identify/review critical facilities

Are there new facilities/facilities to be removed
Have addresses changed/are they correct
Where are the populations to protect

Transient/campgrounds
Poor Populations/economically disadvantaged areas
Schools/children
Elderly
Protected classes (mentally handicapped)

Carda reviewed the previous plan's critical facilities/populations to protect. The City made no changes.

Project review

Review past projects

- *Are they completed/still necessary/ongoing*

Ask about other projects (not all require FEMA funding)
Ask about Policies/activities that already help mitigate Disaster

The County reviewed listed projects from the previous plan and proposed new projects.

Previous Plan projects completed included:

- Purchased a backup generator for the water/wastewater facilities.

Previous Plan Projects to be retained:

- Conduct additional training for emergency personnel.
- Assess readiness of current storm shelters.
- Construct a new water tower.
- Conduct a study to Identify potential areas for drainage improvements.
- Install storm water drainage system.
- Construct drainage ditches and retention ponds as needed.

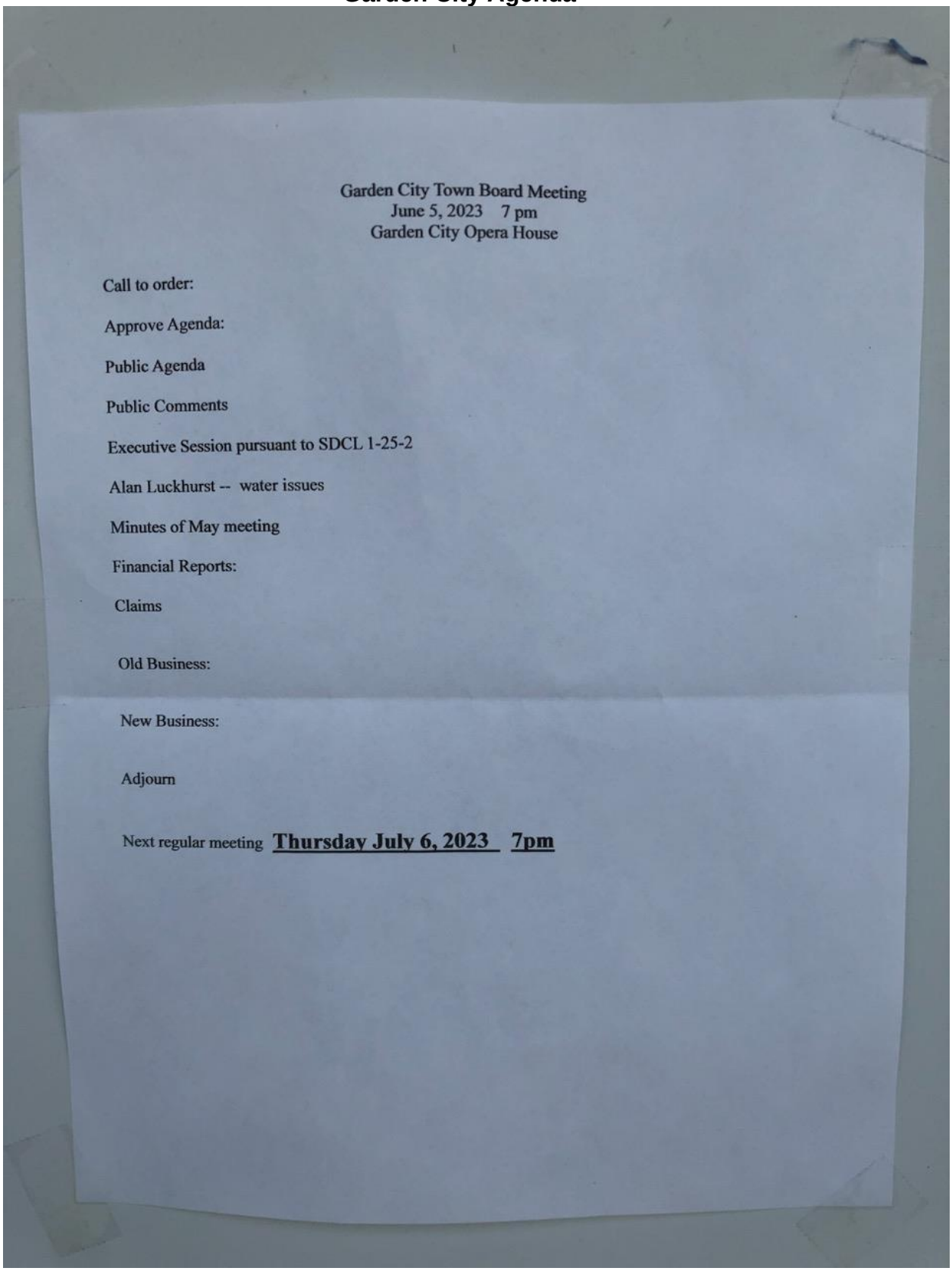
New Projects include:

- Purchase a backup generator for the lift station.
- Purchase fire prevention educational materials.

Conclusion

Carda informed the City of upcoming Pre-disaster Mitigation Team Meetings and the Plan Adoption process.

Garden City Agenda



Garden City Town Board Meeting
June 5, 2023 7 pm
Garden City Opera House

Call to order:

Approve Agenda:

Public Agenda

Public Comments

Executive Session pursuant to SDCL 1-25-2

Alan Luckhurst -- water issues

Minutes of May meeting

Financial Reports:

Claims

Old Business:

New Business:

Adjourn

Next regular meeting **Thursday July 6, 2023 7pm**

CLARK COUNTY PRE-DISASTER MITIGATION PLANNING MEETING

TOWN OF GARDEN CITY

June 5th, 2023

Name	Organization	Email*
Payton Carda	First District	payton@1stdistrict.org
Joyce Hansen	Garden City Town Board	bandit@itctel.com
Jake Leibke	Garden City Town Board	Skullwerx@Hotmail.com
MARILYN K FOSTER	Garden City Town Board	marilynkfoster MW.COM

Garden City Minutes

GARDEN CITY TOWN BOARD MAY MEETING MINUTES

The town board of Garden City met in regular session on June 5, 2023 at 7:00 p.m. at the Garden City Opera House. President Hansen brought the meeting to order with the following people present: Joyce Hansen, Marilyn Foster, Jake Leibke, Water/Sewer/Maintenance Technician Alan Luckhurst, Finance Officer Andrea Helkenn, Aaron Bjerke and Carda Payton from First District.

AGENDA Motion by Hansen to adopt agenda and a second by Foster, all voting aye, motion carried.

PUBLIC COMMENTS: Aaron Bjerke spoke of water concerns when lines are flushed. He would like to be notified when this is going to be done, so he can be prepared at the hunting lodge.

EXECUTIVE SESSION Pursuant to SDCL 1-25-2: Motion by Hansen and a second by Leibke to enter into executive session at 7:08 p.m. Motion by Hansen and a second by Foster to go back into regular meeting at 7:14 p.m.

Alan Luckhurst presented the board the drinking water report and explained what test results were found. The pump at fire house was discussed. The lagoon needs to have work done. Grass in necessary areas will be reseeded in the fall. The banks need to be fixed and clay put in. Luckhurst will contact contractors to give quotes on getting this done and will report back to the board.

Carda Payton with First District went through the 2019 predisaster mitigration plan with board and necessary changes, and updates were noted. She will present the new 2024 plan end of the year.

MINUTES of the May regular board meeting were read. Motion from Hansen and a second by Leibke to approve the minutes. All voting aye. Motion carried

FINANCIAL REPORTS were reviewed and approved on a motion by Hansen and a second by Leibke. All voting aye. Motion carried.

OLD BUSINESS:

Revisions to the letter regarding a dumpster for residents use was completed. Dates will be checked out and letter sent end of the week.

Damaged street signs were discussed. No action will be taken with the contractor.

NEW BUSINESS:

Leibke and Luckhurst discussed water and sewer line locations for the new fire hall. Luckhurst will check maps and make arrangements to meet with Leibke.

Discussion on property owners and town property cleanliness ordinance. Board will review and discuss at next meeting.

Hansen will contact blade operator and have Main Street and Railway Ave. S. done.

Hole by culvert on corner of 4th St. and Grover Ave. will be filled with gravel.

Hansen advised that both property owners of buildings on south side of Main St. will give property to the town. Hansen will pursue grants and bids to demolish these properties and report to the board in the future.

Claims for June

Motion by Foster; Second by Hansen to approve the following claims: all voting aye motion carried.

Andrea Helkenn $477.15; Alan Luckhurst $453.05; Joyce Hansen $8.13; NWPS $655.75; Courier $47.54; Public Health Lab $30.00; Sturdevant's $165.07; U.S. Post Office $60.00; Beckie Caulfield $650.00; Display Signs $200.50.

Motion by Hansen second by Leibke to adjourn.

Next regular meeting will be July 6, 2023 at 7:00 p.m.

Andrea Helkenn
Finance Officer

Published once at the approximate cost of $36.49 and can be viewed free of charge at www.sdpublicnotices.com
6-14-23

Outline
Pre-Disaster Mitigation Plan
Community Meetings
Garden City
June 5, 2023

Introduction

Personal introduction:

All individuals in attendance introduced themselves

Introduce the plan: Payton Carda FDALG introduced the group to the PDM planning process and the community's role in the process, discussing the following:

Why update the PDM?
Why is your community doing it individually/Why not just county?
What is a PDM?

Hazard review

Hazard Identification

Summer/Thunderstorm
- Hail, Heavy Rain, Lightning, Tornado, Strong Winds

Winter Storm and Extreme Cold
- Freezing Rain, Sleet, Ice, Heavy Snow,

Drought and Extreme Heat

Flood
- Rapid Snow Melt, Ice jam, (heavy rain can go here too)

Fire
- Urban fire, wildfire (grass fire)

The Commission reviewed the previous PDM's Risk Assessment worksheet (Hazard Identification – Probability) and made no changes.

Hazard Vulnerability

Summer/Thunderstorm
- Hail, Heavy Rain, Lightning, Tornado, Strong Winds

Winter Storm and Extreme Cold
- Freezing Rain, Sleet, Ice, Heavy Snow,

Drought and Extreme Heat

Flood
- Rapid Snow Melt, Ice jam, (heavy rain can go here too)

Fire
- Urban fire, wildfire (grass fire)

The County reviewed the previous PDM's Risk Assessment worksheet (Hazard Identification – Vulnerability) and made no changes.

Community Capabilities and Plans review

No Changes.

Community facilities

Identify/review critical facilities

Are there new facilities/facilities to be removed
Have addresses changed/are they correct
Where are the populations to protect

Transient/campgrounds
Poor Populations/economically disadvantaged areas
Schools/children
Elderly
Protected classes (mentally handicapped)

Carda reviewed the previous plan's critical facilities/populations to protect. The City made no changes.

Project review

Review past projects

- *Are they completed/still necessary/ongoing*

Ask about other projects (not all require FEMA funding)
Ask about Policies/activities that already help mitigate Disaster

The County reviewed listed projects from the previous plan and proposed new projects.

Previous Plan projects completed included:

- In discussions with CRWS to connect to the system.

Previous Plan Projects to be retained:

- Purchase and install a new storm warning siren.
- Connect to the CRWS.
- Install additional rip rap around the lagoon.
- Purchase equipment and training to increase firefighting capabilities.

New Projects include:

- No new projects.

Conclusion

Carda informed the Town Board of upcoming Pre-disaster Mitigation Team Meetings and the Plan Adoption process.

Town of Naples Agenda

Town of Naples
June 5, 2023
7:00 PM
Redinger Residence

Open Meeting

Last Month's Meeting Minutes

Treasurer Report

Monthly Bills

Public Comments

Payton Carda, First District, Discuss PDM Planning Process

Adjourn

CLARK COUNTY PRE-DISASTER MITIGATION PLANNING MEETING

TOWN OF NAPLES

June 5th, 2023

Name	Organization	Email*
Payton Carda	First District	payton@1stdistrict.org
Lee Rediger	Town of Naples	lee@itctel.com
Terrance Gardner	Terrance Gardner	gardnerterrance420@
Leon Rediger	Community Member	
Hana Rediger	Secretary/Treasurer	
Glenn Scott	Board member	

Naples Town Board

The Naples Town Board met in regular session at Hana Redinger residence on June 5, 2023 at 7:00 p.m. Board members present, Glenn Scott and Lee Redinger. Hana Redinger, Secretary/Treasurer was also present. Meeting was called to order by XXX. Minutes of May meeting were read and approved. Treasurer's report was read and approved.

Glenn moved to pay the following claims: Cooks Recycling - $107.41, NW Energy - $123.13, Clark County Courier - $27.44, Payroll for May - $205.

Public Comment: Dog situation has been resolved. Met with Peyton from First District about emergency planning.

Motion seconded and approved. Meeting was adjourned at 7:50 p.m.

Hana Redinger
Secretary/Treasurer
Town of Naples

Published once at the approximate cost of $10.71 and can be viewed free of charge at www.sdpublicnotices.com
6-7-23

Outline
Pre-Disaster Mitigation Plan
Community Meetings
Town of Naples
June 5, 2023

Introduction

Personal introduction:

All individuals in attendance introduced themselves

Introduce the plan: Payton Carda FDALG introduced the group to the PDM planning process and the community's role in the process, discussing the following:

Why update the PDM?
Why is your community doing it individually/Why not just county?
What is a PDM?

Hazard review

Hazard Identification

Summer/Thunderstorm
- Hail, Heavy Rain, Lightning, Tornado, Strong Winds

Winter Storm and Extreme Cold
- Freezing Rain, Sleet, Ice, Heavy Snow,

Drought and Extreme Heat
Flood
- Rapid Snow Melt, Ice jam, (heavy rain can go here too)

Fire
- Urban fire, wildfire (grass fire)

The Commission reviewed the previous PDM's Risk Assessment worksheet (Hazard Identification – Probability) and made no changes.

Hazard Vulnerability

Summer/Thunderstorm
- Hail, Heavy Rain, Lightning, Tornado, Strong Winds

Winter Storm and Extreme Cold
- Freezing Rain, Sleet, Ice, Heavy Snow,

Drought and Extreme Heat
Flood
- Rapid Snow Melt, Ice jam, (heavy rain can go here too)

Fire
- Urban fire, wildfire (grass fire)

The County reviewed the previous PDM's Risk Assessment worksheet (Hazard Identification – Vulnerability) and changed flood and freezing rain/sleet/ice to not a hazard to the jurisdiction.

Community Capabilities and Plans review

No Changes.

Community facilities

Identify/review critical facilities

Are there new facilities/facilities to be removed
Have addresses changed/are they correct
Where are the populations to protect

Transient/campgrounds
Poor Populations/economically disadvantaged areas
Schools/children
Elderly
Protected classes (mentally handicapped)

Carda reviewed the previous plan's critical facilities/populations to protect. The City made no changes.

Project review

Review past projects

- *Are they completed/still necessary/ongoing*

Ask about other projects (not all require FEMA funding)
Ask about Policies/activities that already help mitigate Disaster

The County reviewed listed projects from the previous plan and proposed new projects.

Previous Plan projects completed included:

- No projects.

Previous Plan Projects to be retained:

- Road repairs and culvert replacements.
- Construction of a storm shelter.
- Purchase a backup generator.
- Purchase emergency supplies.

New Projects include:

- No new projects.

Conclusion

Carda informed the Town Board of upcoming Pre-disaster Mitigation Team Meetings and the Plan Adoption process.

Town of Raymond Agenda

Town of Raymond Meeting Agenda

Date: January 8th 2024

5:00 p.m.

1. Call to Order
2. Roll Call: Present _____ , including Darrin & Carrie
3. Order of Business for Emergencies (can add to agenda for emergency situations)
4. Approve Agenda
5. Public Concerns-Can discuss but not take action or vote unless on agenda
6. Reading of the Minutes
7. Presenting of Claims: Motion to pay _____ 2nd _____
8. Notices & Communications:
9. Committee Reports if Applicable-
10. Unfinished/Old Business:
11. New Business:
    - Luke Muller First District of Local Governments: Pre Disaster Mitigation Plan Review
    - Clark County Courier: Official Newspaper
    - Inventory as of Jan 1 2024 on file
    - Fire Dept Roster 1-1-24 on file
    - List Salaries
    - Scott Drexler- 3 year term up
    - Delinquent WSG accounts: Property Cleanup Letters:
    -
12. Adjournment: Motion _____ 2nd _____
13. Next regular meeting February 5th , 2024 @ 7:00 p.m.

THIS AGENDA IS SUBJECT TO CHANGE UP TO 24 HOURS PRIOR TO THE MEETING

RAYMOND

TOWN BOARD MEETING

CLARK COUNTY PRE-DISASTER MITIGATION PLAN

January 8, 2024

Name	Organization	Email*
Luke Miller		
Kelli Henricks	1st District	
Amy Arnold	1st District	
Gale Filipek	Raymond Town	
Carrie Reis	Raymond Town	rareis@itctel.com
Scott Drexler	Raymond Town	
Larry Brannan	Raymond Town	lgbrannan2@itctel
Darrin Leetch	Raymond Town	

** It is intended to send "draft" documents via email if possible.*

Town of Raymond Minutes

Town of Raymond
PO Box 116
Raymond SD 57258

Ph. 605-233-0138 (Larry Brannan, Board President)
Ph. 605-237-1454 (Carrie Reis, Finance Officer)

Board Members: Larry Brannan, Gale Filipek, Scott Drexler

January 8 2024

The Raymond Town Board met in a regular meeting January 8th, 2024 at 7:00 p.m. with all members present including Larry Brannan, Gale Filipek, and Scott Drexler. Also present Luke Muller, Amy Arnold, Kelli Henricks from 1st District, w/s Darrin Leetch and f/o Carrie Reis.

Brannan called the meeting to order. The minutes and financial reports were read and approved with a motion by Filipek and seconded by Drexler. The following claims were paid: NW Energy 589.36, utilities, CRW 201.80, water, Cook's Waste 410.88, garbage pickup, Darrin Leetch 464.84, w/s maintenance, Carrie Reis 464.84, finance officer, Clark Courier 18.08, publications, SD Public Health Lab 15.00, water sample, IRS 753.42, withholding, SD Dept of Revenue 103.54, garbage tax, ITC 36.54 utilities, Elan Financial Service 498.25, supplies.

Luke Muller along with Amy Arnold and Kelli Henricks from 1st District of Local Governments was present to review the Pre Disaster Mitigation Plan for the Town of Raymond, which is reviewed every five years and approved by FEMA in order to maintain eligibility for federal funding/programs.

The first meeting of the new year the board is required to designate the official newspaper. Filipek made a motion with Brannan seconding that states the Clark County Courier is our official newspaper. The board also discussed salaries, annual fire dept roster, and list of inventories. The salaries will stay the same, Board members $110/meeting, W/S Maintenance operator $525/month, Finance Officer $525/month with a motion by Brannan and seconded by Drexler. The fire dept roster and inventory list are on file with the finance officer.

W/S Maintenance operator Darrin Leetch notified the board that he will be attending continuing education classes in Sioux Falls.

There being no further business, the meeting was adjourned with a motion by Drexler and seconded by Brannan.
The next regular meeting will be February 5th, 2024 at 7:00 p.m.

Carrie Reis
Finance Officer

Town of Raymond
Pre-Disaster Mitigation Plan
Community Meeting
January 8, 2024

Introduction

Personal introduction:

This meeting is being attended by 12% of all individuals (5 of the 43) over 18 (according to 2020 census) in Raymond.

Introduce the plan:

Why update the PDM?

Why is your community doing it individually/Why not just county?

What is a PDM?

Hazard review

Hazard Identification

Summer/Thunderstorm

- Hail, Heavy Rain, Lightning, Tornado, Strong Winds

Winter Storm and Extreme Cold

- Freezing Rain, Sleet, Ice, Heavy Snow,

Drought and Extreme Heat

Flood

- Rapid Snow Melt, Ice jam, (heavy rain can go here too)

Fire

- Urban fire, wildfire (grass fire)

Board discussed hazards and determined perceived probability had not changed from previous plan.

Hazard Vulnerability

Summer/Thunderstorm

- Hail, Heavy Rain, Lightning, Tornado, Strong Winds (no change to perceived vulnerability)

Winter Storm and Extreme Cold

- Freezing Rain, Sleet, Ice, Heavy Snow,
- Improvements to back-up power generation and electrical supply coming to town have diminished vulnerability to Extreme Cold.

Drought and Extreme Heat (no change to perceived vulnerability)

- Community's vulnerability to drought is economic and increased fire risk. It is unlikely that water supplies would diminish due to drought. County's policies on enacting burn bans limit the likelihood that drought

would substantially increase fire risk within city limits. All that said, the community still perceives a vulnerability to drought.

Flood

- Rapid Snow Melt, Ice jam, (heavy rain can go here too) (no change to perceived vulnerability)

Fire

- Urban fire, wildfire (grass fire) (no change to perceived vulnerability)

Community Capabilities and Plans review

Raymond has adopted Floodplain regulations with updated flood maps. The Finance Officer is now the Floodplain Administrator.

Planning documents utilized by Raymond are county-wide plans.

Community facilities

Identify/review critical facilities

Are there new facilities/facilities to be removed

- Post office was suggested to be listed at 205 Flower Street. (not previously listed)

Have addresses changed/are they are correct

Where are the populations to protect

Transient/campgrounds

Poor Populations/economically disadvantaged areas

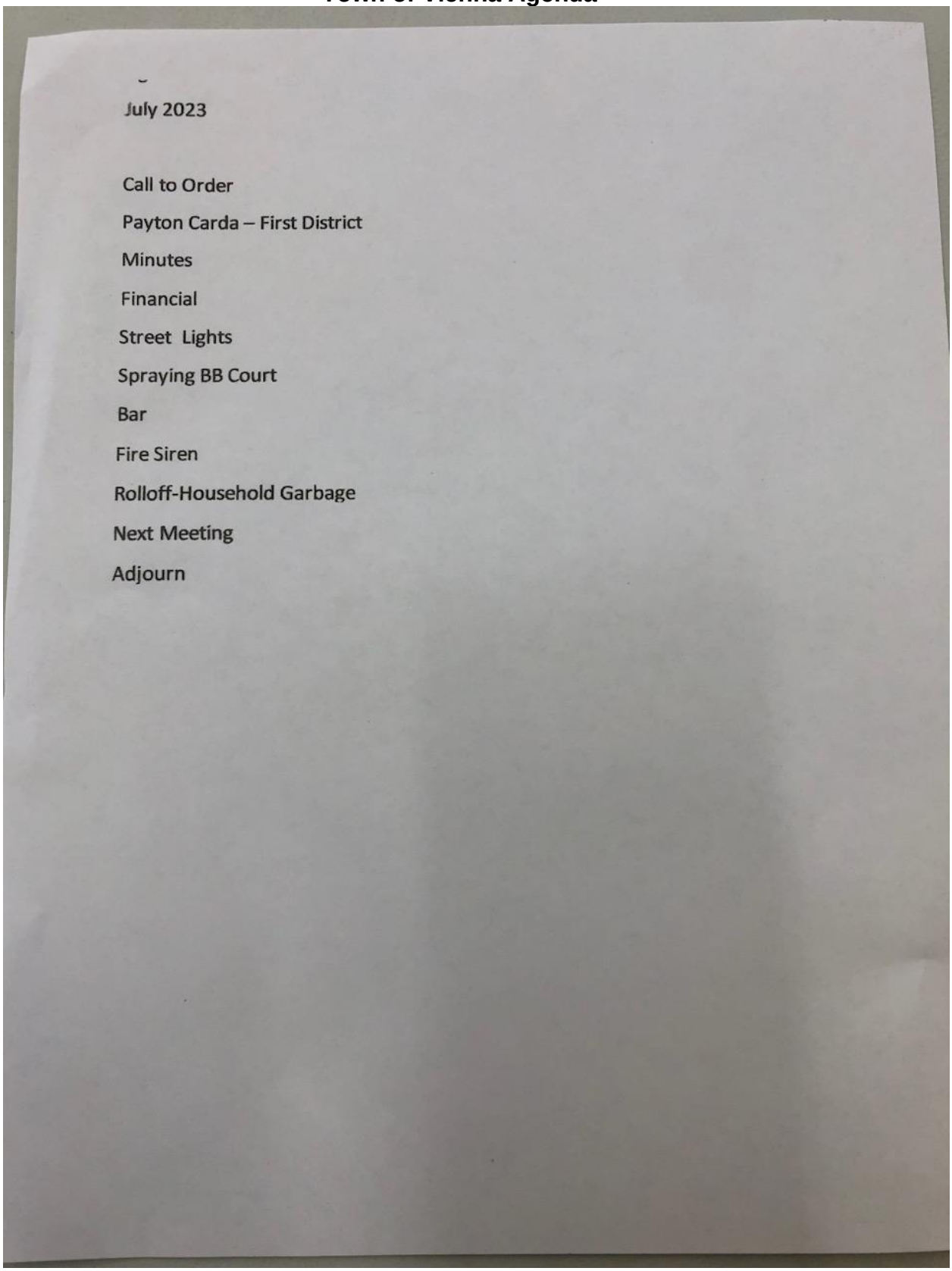
Schools/children

Elderly

Protected classes (mentally handicapped)

- Raymond primarily consists of owner occupied single family residences with no apartments, no day cares, no assisted/elderly care facilities, no schools, no campgrounds and no portion of Raymond is more economically/socially distressed than another portion.

Town of Vienna Agenda



July 2023

Call to Order

Payton Carda – First District

Minutes

Financial

Street Lights

Spraying BB Court

Bar

Fire Siren

Rolloff-Household Garbage

Next Meeting

Adjourn

CLARK COUNTY PRE-DISASTER MITIGATION PLANNING MEETING

TOWN OF VIENNA

July 13th, 2023

Name	Organization	Email*
Payton Cerda	First District	paytonschaf@outlook.com
Joelle Regnier	Vienna Town Board	
Richard Clark	Vienna Town Board	RClark@watertown.GOV
Mark Nolt	Vienna Town Board	
Nancy Roberts	" " "	nancyroberts.town@gma

Town of Vienna Minutes

VIENNA TOWN BOARD

The Vienna Board met on July 13, 2023, at 7:00 p.m. at the Vienna Town Hall.

President Kirk Roberts called the meeting to order. Members present were Kirk Roberts, Lue Regnier, Richard Clark and Nancy Roberts, Finance Officer.

Payton Carda with First District in Watertown, S.D. met with the board to discuss options for the Town regarding emergency problems and also possible grants to do some road work in the city. Some drainage problems were discussed. Carda will take the problems to the proper agencies.

Old minutes and financial were given. Motion by Regnier and seconded by Clark to approve. Bills paid: NW Energy, Town Hall, $40.09; NW Energy, Fire Dept., $82.11; NW Energy, street lights, $441.88; Clark County Courier, $13.39; Sioux Rural Water, $63.20; Cenex, $480.73; Witt Rolloff, $379.13; Clark County Weed and Pest, $106.22; Nancy Roberts, salary and mowing, $759.05.

NW Energy will be notified of street lights that are not working. A motion was made by Regnier to spray the weeds around the fence on the basketball court and the older play set. Fabric and rock will be placed there. Seconded by Clark.

A motion was made by Roberts to contact the Fire Dept. to have a monthly siren test. Seconded by Clark. Roberts will contact the Fire Dept.

A motion by Regnier to have a roll-off placed for household garbage. This will be for household garbage only. This will be one time only. Seconded by Clark.

The next meeting of the Vienna Town Board will be August 10, 2023 at 7:00 p.m. at the Town Hall. Roberts made a motion to adjourn. Seconded by Regnier.

Nancy Roberts
Finance Officer

Published once at the approximate cost of $19.75 and can be viewed free of charge at www.sdpublicnotices.com
7-19-23

Outline
Pre-Disaster Mitigation Plan
Community Meetings
Town of Vienna
July 13, 2023

Introduction

Personal introduction:

All individuals in attendance introduced themselves

Introduce the plan: Payton Carda FDALG introduced the group to the PDM planning process and the community's role in the process, discussing the following:

Why update the PDM?
Why is your community doing it individually/Why not just county?
What is a PDM?

Hazard review

Hazard Identification

Summer/Thunderstorm
- Hail, Heavy Rain, Lightning, Tornado, Strong Winds

Winter Storm and Extreme Cold
- Freezing Rain, Sleet, Ice, Heavy Snow,

Drought and Extreme Heat

Flood
- Rapid Snow Melt, Ice jam, (heavy rain can go here too)

Fire
- Urban fire, wildfire (grass fire)

The Commission reviewed the previous PDM's Risk Assessment worksheet (Hazard Identification – Probability) and made no changes.

Hazard Vulnerability

Summer/Thunderstorm
- Hail, Heavy Rain, Lightning, Tornado, Strong Winds

Winter Storm and Extreme Cold
- Freezing Rain, Sleet, Ice, Heavy Snow,

Drought and Extreme Heat

Flood
- Rapid Snow Melt, Ice jam, (heavy rain can go here too)

Fire
- Urban fire, wildfire (grass fire)

The County reviewed the previous PDM's Risk Assessment worksheet (Hazard Identification – Vulnerability) and made no changes.

Community Capabilities and Plans review

No changes.

Community facilities

Identify/review critical facilities

Are there new facilities/facilities to be removed
Have addresses changed/are they correct
Where are the populations to protect

Transient/campgrounds
Poor Populations/economically disadvantaged areas
Schools/children
Elderly
Protected classes (mentally handicapped)

Carda reviewed the previous plan's critical facilities/populations to protect. The City made no changes.

Project review

Review past projects

- *Are they completed/still necessary/ongoing*

Ask about other projects (not all require FEMA funding)
Ask about Policies/activities that already help mitigate Disaster

The County reviewed listed projects from the previous plan and proposed new projects.

Previous Plan projects completed included:

- No projects completed.

Previous Plan Projects to be retained:

- Road repairs/culvert replacements/storm sewer installation.
- Purchase a new backup generator.
- Purchase emergency supplies.

New Projects include:

- No new projects.

Conclusion

Carda informed the Town Board of upcoming Pre-disaster Mitigation Team Meetings and the Plan Adoption process.

City of Willow Lake Agenda

PROPOSED AGENDA

PLANNING COMMISSION &
REGULAR CITY COUNCIL MEETING
Monday, January 8, 2024 AT 6:30 P.M. CST AT
THE COMMUNITY CENTER
213 Garfield Ave, Willow Lake, SD 57278

1. Call meeting regular meeting to order:
   Mayor Bratland

2. Flag Pledge

3. Roll Call ✓ Matt Kadinger ✓ Steven Johnson
   ✓ Scott Borg ✓ Leland Harding III

4. Adopt agenda

5. Approve the published minutes of 12/11/2023 regular meeting

6. Approve Financial Report, Balance Sheet, and Reconciliation of Cash Assets ending December 31, 2023

7. Review December warrants and claims paid since 12/11/2023

8. City Maintenance report: Chance Burke

9. Mayor calls Planning Commission and City Council meeting to order for purpose of public hearing on Zoning Ordinance Amendments #244

   9a. Planning Commission Recommendation

   9b. Joint Public Hearing (Planning Commission/ City Council)

   9c. First Reading (City Council)

   9d. Set date for 2nd reading. January 16, 2024

10. County/City Pre-Disaster Mitigation Plan Review: Luke Muller, First District

11. 4-H shooting sports in the museum-Vicki Nelson

12. Land exchange, lots

13. City maintenance shop, Finance Office building

14. Relocating Finance Office

15. Council vacancies

16. Establish election date-2nd Tues in April (9)

17. Designate official depository, newspaper, and City Attorney

18. Employee reviews-Adopt Resolution #88

19. Public Comment. *** ***This section offers the opportunity for anyone not listed on the Agenda to speak to Council members concerning important topics. The time will be limited to 3 minutes in length. No action will be taken on items not on the agenda.***

20. Review past due accounts. Disconnect date is scheduled for 1/11//2024.

21. Executive Session, according to SDCL-1-25-2 (1) (2) (3) (4) (5) if needed

22. Set next meeting date. February 5, 2024 @ _____ p.m. Special meeting January 16, 2024 @ _____ p.m.

23. Adjournment

AGENDA SUBJECT TO CHANGE UP TO TWENTY FOUR (24) HOURS PRIOR MEETING TIME.

Information regarding accessibility for the disabled may be obtained by calling the Willow Lake City Finance Officer at 605-625-3631. Individuals needing special accommodations are asked to call the City Finance Officer at 625-3631 at least 48 hours prior to the meeting. This institution is an equal opportunity provider, and employer.

WILLOW LAKE

CITY COUNCIL MEETING

CLARK COUNTY PRE-DISASTER MITIGATION PLAN

January 8, 2024

Name	Organization	Email*
Matt Kadinger	Willow Lake City Council	
DELWIN BRATLAND	" "	
Steven Johnson	" "	
Leland Harding III	" "	
[illegible]	" "	
Amy Arnold	1st District	
Luke Muller		
Kelli Henricks	1st District	
Vicki Nelson	Pleasant 4-H Club	
[illegible]	" "	
[illegible]	Finance officer	

** It is intended to send "draft" documents via email if possible.*

City of Willow Lake Minutes

REGULAR CITY COUNCIL MEETING

January 8, 2024

The City Council for the City of Willow Lake, SD met in regular session on Monday, January 8, 2024 at 6:30 p.m. in the Community Center.

Mayor Del Bratland called the meeting to order.

Pledge to the Flag was recited followed by roll call. Present at roll call were Matt Kadinger, Steve Johnson, Scott Borg, and Leland Harding III. Finance Officer Heidi Madsen was also present.

Also in attendance were Luke Muller, Kelli Henricks, Amy Arnold, Vicki Nelson, and Jay Waldow.

Kadinger moved, seconded by Borg to adopt the agenda with one addition, 12a.old bar building. All voted aye.

Borg moved, seconded by Johnson to approve the published minutes from the December 11, 2023 regular meeting. All voted aye.

Kadinger moved, seconded by Harding to approve all financial reports ending December 31, 2023. All voted aye.

Johnson moved, seconded by Borg to approve payment of the warrants and claims paid since December 11, 2023. All voted aye.

Claims Paid – Payroll: Finance Office $2,815.27, Street Dept $1,019.14, Sewer Dept $1,019.15, Water Dept $1,019.15, Police Dept $53.90, Custodial $83.12 EFTPS $1,488.17 (payroll taxes), SDRS $835.80 (retirement) SDRS Supplemental Retirement $100.00 (supplemental retirement), AT&T Mobility $171.75 (cell phones), Clark Ace Hardware $21.54 (keys for museum),Clark County Courier $71.05 (proceedings), Cooks Wastepaper & Recycling $1,373.44 (garbage), Clark Rural Water $3,816.90 (bulk water), Dacotah Bank $20.00 (safe deposit box rental), Dacotah Bank $290.60 (attachments for skid steer), DANR $50.00 (dues), Department of Health $15.00 (water samples), Jared Forest's Company $1,860.00 (spray foam pumphouse), Forest's Excavating $34,987.73 (street repair), ITC $178.34 (phone, internet), Lake Grocery $22.76 (supplies), MARC Inc. $882.75 (chemical), Northwestern Energy $1,773.07 (utilities), Office Peeps $160.50 (supplies), Petty Cash $5.55 (postage), SD Dept of Revenue & Regulation $88.33 (sales tax), SD Assn Rural Water Systems $410.00 (dues), SD Assn of Code Enforcement $75.00 (dues), SD Govt Finance Officer Assn $40.00 (dues), SD Human Resource Assn $25.00 (dues), SD Municipal League $508.66 (dues), SDML Workers Compensation Fund $3,394.00 (work comp insurance), SD Municipal Street Maint Assn $35.00 (dues), SD One Call $6.30 (locates), SD Unemployment Insurance Div $6.78 (reemployment fee), Sturdevant's Auto Parts $57.96 (supplies),

USDA Rural Dev $602.00 (USDA water loan), Witt Construction and Roll off $125.00 (rubble site roll off).

City Maintenance Superintendent Chance Burke gave the maintenance report. Kadinger moved, seconded by Borg to approve his report. All voted aye.

Mayor called Planning Commission meeting to order for purpose of joint public hearing on Zoning Amendments #244.

Johnson moved, seconded by Harding to recommend the approval of the ordinance to the City Council. All voted aye.

Public hearing was open. No one present.

Public hearing was closed.

All Planning Commission members voted aye to recommend approval of amendment to Zoning Ordinance.

First reading of amendment to Zoning Ordinance was read.

Second reading will be held January 16, 2024.

Planning Commission adjourned at 6:45 p.m.

City Council reconvened at 6:45 p.m.

Luke Muller, Amy Arnold, and Kelli Henricks from First District Association of Local Governments reviewed and updated the Pre-Disaster Mitigation Plan for City of Willow Lake.

Vicki Nelson and Jay Waldow discussed the possibility of using the basement of the museum for 4-H shooting sports practice. Kadinger moved, seconded by Johnson to approve the request to use the basement at no charge. All voted aye.

Kadinger moved, seconded by Johnson to publish the notice for land exchange for Lot 1 Jackson Ave Addition and Lot 17 & W 120' of Lot 16 & a strip 10" wide on N side of W 120' Lot 15 Block 16 Original Willow Lake. All voted aye.

Greenhouse was discussed.

City Maintenance Shop and Finance Office buildings were discussed.

Kadinger moved, seconded by Harding to relocate the Finance Office to the temporary location in the Community Center due to structural concerns in existing building. All voted aye.

Election Date is established for Tuesday, April 9, 2024. Motion made by Johnson, seconded by Borg. All voted aye.

Those with terms ending are Council persons, Scott Borg (one-year term-Ward I), Matt Kadinger (two-year term-Ward I), Steve Johnson (two-year term-Ward II), and Mayor Delwin Bratland (two-year term).

Johnson moved to designate the official depository as Dacotah Bank, newspaper as Clark County Courier and city attorney as Vince Foley. Seconded by Borg. All voted aye.

Borg moved, seconded by Kadinger to go into executive session at 8:38 p.m. pursuant to SDCL 1-25-2 (1). All voted aye.

Mayor Bratland declared out at 8:48 p.m.

Motion by Johnson, seconded by Borg to set the wages as listed in Resolution #93. All voted aye.

RESOLUTION #93

BE IT RESOLVED by the governing board of the City of Willow Lake, South Dakota:

WHEREAS, it is necessary to establish compensation for regular employees and persons serving on the City Council of the City of Willow Lake, South Dakota.

Now, therefore, BE IT RESOLVED by the City of Willow Lake, South Dakota the salaries for employees and persons serving on the City Council of the City of Willow Lake, South Dakota remain as follows for January 1, 2024 through December 31, 2024:

NAME	POSITION	2024 SALARY
Chance Burke	Maintenance Superintendent	$23.10/Base Hr plus health insurance and SDRS benefits as per Exhibit A of employee letter. 1 hour of O.T./regular meeting
	Certified Water Operator as needed	$18.00/Hr.
Heidi Madsen	Finance Officer, Zoning Administrative Official	$37,485 annual salary plus $300/mo. insurance reimbursement and benefits as per Exhibit A of employee letter. $100/regular meeting

		$100/special meeting
	Janitor	$ 15/Hr.
Michael Gravning	Police Officer	$20/Hr.
	Mayor	$1500 annual salary plus $100/regular meeting and $100/special meeting
	Council Members	$100/regular meeting $100/special meeting
	Other Summer & Part-time employees Temporary Council Member Worker	To be set by Rec Board $20/hr
	Temporary Mayor Worker	$20/hr

Adopted this 8th day of January, 2024.

CITY OF WILLOW LAKE

_____
Delwin Bratland, Mayor

ATTEST:

_____
Heidi Madsen, Finance Officer

No one present for public comment.

The past due accounts were reviewed. Disconnect date is scheduled for January 11, 2024. Kadinger moved, seconded by Borg. All voted aye.

Next regular council meeting is scheduled for Monday, February 5, 2024 at 6:30 p.m., in the Community Center. Special meeting scheduled for Tuesday, January 16, 2024 at 6:30 p.m.

Kadinger moved, seconded by Harding to adjourn the meeting at 8:52 p.m. All voted aye.

_____
Delwin Bratland, Mayor

ATTEST:

_____
Heidi Madsen, Finance Officer
Published once at an estimate cost of $

City of Willow Lake
Pre-Disaster Mitigation Plan
Community Meeting
January 8, 2024

Introduction

Personal introduction:

Introduce the plan:

Why update the PDM?

Why is your community doing it individually/Why not just county?

What is a PDM?

Hazard review

Hazard Identification

Summer/Thunderstorm

- Hail, Heavy Rain, Lightning, Tornado, Strong Winds

Winter Storm and Extreme Cold

- Freezing Rain, Sleet, Ice, Heavy Snow,

Drought and Extreme Heat

Flood

- Rapid Snow Melt, Ice jam, (heavy rain can go here too)

Fire

- Urban fire, wildfire (grass fire)

Board discussed hazards and determined perceived probability had not changed from previous plan for all except wildfire. Wildfire was moved to low probability. Last time this PDM was updated, the town had just experienced a fire (in the preceding year) which burned down a prominent business.

Hazard Vulnerability

Summer/Thunderstorm

- Hail, Heavy Rain, Lightning, Tornado, Strong Winds (no change to perceived vulnerability)
- High winds result in loose siding and shingles. Very little way to mitigate keeping siding and shingles on houses in windy situations.
- Trees need to be trimmed near power lines (will help in freezing rain as well) to avoid losing power within town in these storms.

Winter Storm and Extreme Cold

- Freezing Rain, Sleet, Ice, Heavy Snow,
- Power lines leading into town from the south have been reinforced, leading to less risk for outages.

Drought and Extreme Heat (no change to perceived vulnerability)

- Community's vulnerability to drought is economic and increased fire risk. It is unlikely that water supplies would diminish due to drought. All that said, the community still perceives a vulnerability to drought.

Flood

- Rapid Snow Melt, Ice jam, (heavy rain can go here too) (no change to perceived vulnerability)

Fire

- Urban fire, wildfire (grass fire) (no change to perceived vulnerability) Town has 2-3 lightning strikes per year in which the fire department watches for a few hours to make sure fire does not spark up.

Community Capabilities and Plans review

Willow Lake adopted Floodplain regulations with updated flood maps at this meeting (immediately before this discussion). The Finance Officer is now the Floodplain Administrator.

Willow Lake updated its zoning ordinance last year and comprehensive land use plan this year. Prior to adopting the updated floodplain map, the city used preliminary maps in identifying areas appropriate for future development of varying types.

Community facilities

Identify/review critical facilities

Are there new facilities/facilities to be removed

- The sanitary sewer/lift station is at the SW Corner of the Football Field
- Campground east of the gas station was not previously listed as a population to protect. It houses travelers and seasonal labor.
- A pre-school is located at the intersection of 4th and Lincoln.

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:

Entity	Date
Bradley	April 10, 2024
Clark	March 6, 2023
Garden City	June 5, 2023
Naples	June 5, 2023
Raymond	January 8, 2024
Vienna	July 13, 2023
Willow Lake	January 8, 2024
Clark County	April 16, 2024

Master worksheets for Hazard Identification and Vulnerability as generated by the participating jurisdictions (communities and Clark County Commission) are found below.

Town of Bradley

Clark County PDM
Worksheet #1 (Town of Bradley)
Risk Assessment Worksheet – Hazard Identification

What is the probability of occurrence of the following hazards?

Hazard	**High Probability to Occur** (At least once in a year)	**Low Probability to Occur** (Hazards that may have occurred in the past or could occur in the future but do not occur on a yearly basis)	**Unlikely to Occur** (Hazards or disasters that have never occurred in the area before and are unlikely to occur)
Dam Failure			**X**
Drought	**X**		
Earthquake		**X**	
Extreme Cold	**X**		
Extreme Heat	**X**		
Flood		**X**	
Freezing Rain/Sleet/Ice	**X**		
Hail	**X**		
Heavy Rain	**X**		
Heavy Snow	**X**		
Ice Jam			**X**
Landslide			**X**
Lightning	**X**		
Rapid Snow Melt		**X**	
Strong Winds	**X**		
Subsidence		**X**	
Thunderstorm	**X**		
Tornado	**X**		
Urban Fire		**X**	
Wildfire		**X**	

Clark County PDM
Worksheet #2 (Town of Bradley)
Risk Assessment Worksheet – Hazard Vulnerability

How vulnerable is the community from the following hazard? In other words, if the hazard occurs is there a potential to impact the community? If so, what would be impacted?

Hazard	**High Vulnerability** Significant risk/major damage potential (for example, destructive, damage to more than 10% of the jurisdiction and/or regular occurrence)	**Medium Vulnerability** Moderate damage potential (causing partial damage to 5-10% of the jurisdiction, and irregular occurrence)	**Low Vulnerability** Little damage potential (minor damage to less than 5% of the jurisdiction)	**NA** Not a hazard to the jurisdiction
Dam Failure				**X**
Drought			**X**	
Earthquake			**X**	
Extreme Cold		**X**		
Extreme Heat		**X**		
Flood			**X**	
Freezing Rain/Sleet/Ice	**X**			
Hail		**X**		
Heavy Rain	**X**			
Heavy Snow	**X**			
Ice Jam				**X**
Landslide				**X**
Lightning			**X**	
Rapid Snow Melt		**X**		
Strong Winds	**X**			
Subsidence			**X**	
Thunderstorm			**X**	
Tornado		**X**		
Urban Fire			**X**	
Wildfire			**X**	

City of Clark

Clark County PDM
Worksheet #1 (City of Clark)
Risk Assessment Worksheet – Hazard Identification

What is the probability of occurrence of the following hazards?

Hazard	**High Probability to Occur** (At least once in a year)	**Low Probability to Occur** (Hazards that may have occurred in the past or could occur in the future but do not occur on a yearly basis)	**Unlikely to Occur** (Hazards or disasters that have never occurred in the area before and are unlikely to occur)
Dam Failure			**X**
Drought		**X**	
Earthquake			**X**
Extreme Cold	**X**		
Extreme Heat	**X**		
Flood	**X**		
Freezing Rain/Sleet/Ice	**X**		
Hail	**X**		
Heavy Rain	**X**		
Heavy Snow	**X**		
Ice Jam			**X**
Landslide			**X**
Lightning	**X**		
Rapid Snow Melt	**X**		
Strong Winds	**X**		
Subsidence		**X**	
Thunderstorm	**X**		
Tornado	**X**		
Urban Fire		**X**	
Wildfire		**X**	

Clark County PDM
Worksheet #2 (City of Clark)
Risk Assessment Worksheet – Hazard Vulnerability

How vulnerable is the community from the following hazard? In other words, if the hazard occurs is there a potential to impact the community? If so, what would be impacted?

Hazard	**High Vulnerability** Significant risk/major damage potential (for example, destructive, damage to more than 10% of the jurisdiction and/or regular occurrence)	**Medium Vulnerability** Moderate damage potential (causing partial damage to 5-10% of the jurisdiction, and irregular occurrence)	**Low Vulnerability** Little damage potential (minor damage to less than 5% of the jurisdiction)	**NA** Not a hazard to the jurisdiction
Dam Failure				**X**
Drought			**X**	
Earthquake				**X**
Extreme Cold	**X**			
Extreme Heat	**X**			
Flood		**X**		
Freezing Rain/Sleet/Ice	**X**			
Hail	**X**			
Heavy Rain	**X**			
Heavy Snow	**X**			
Ice Jam				**X**
Landslide				**X**
Lightning	**X**			
Rapid Snow Melt	**X**			
Strong Winds	**X**			
Subsidence			**X**	
Thunderstorm	**X**			
Tornado	**X**			
Urban Fire	**X**			
Wildfire	**X**			

Garden City
Roberts County PDM
Worksheet #1 (Town of Garden City)
Risk Assessment Worksheet – Hazard Identification

What is the probability of occurrence of the following hazards?

Hazard	**High Probability to Occur** (At least once in a year)	**Low Probability to Occur** (Hazards that may have occurred in the past or could occur in the future but do not occur on a yearly basis)	**Unlikely to Occur** (Hazards or disasters that have never occurred in the area before and are unlikely to occur)
Dam Failure			**X**
Drought		**X**	
Earthquake			**X**
Extreme Cold	**X**		
Extreme Heat	**X**		
Flood	**X**		
Freezing Rain/Sleet/Ice	**X**		
Hail	**X**		
Heavy Rain	**X**		
Heavy Snow	**X**		
Ice Jam	**X**		
Landslide			**X**
Lightning	**X**		
Rapid Snow Melt		**X**	
Strong Winds	**X**		
Subsidence			**X**
Thunderstorm	**X**		
Tornado	**X**		
Urban Fire		**X**	
Wildfire	**X**		

Roberts County PDM
Worksheet #2 (Town of Garden City)
Risk Assessment Worksheet – Hazard Vulnerability

How vulnerable is the community from the following hazard? In other words, if the hazard occurs is there a potential to impact the community? If so, what would be impacted?

Hazard	**High Vulnerability** Significant risk/major damage potential (for example, destructive, damage to more than 10% of the jurisdiction and/or regular occurrence)	**Medium Vulnerability** Moderate damage potential (causing partial damage to 5-10% of the jurisdiction, and irregular occurrence)	**Low Vulnerability** Little damage potential (minor damage to less than 5% of the jurisdiction)	**NA** Not a hazard to the jurisdiction
Dam Failure				**X**
Drought				**X**
Earthquake				**X**
Extreme Cold		**X**		
Extreme Heat		**X**		
Flood			**X**	
Freezing Rain/Sleet/Ice	**X**			
Hail	**X**			
Heavy Rain			**X**	
Heavy Snow		**X**		
Ice Jam			**X**	
Landslide				**X**
Lightning			**X**	
Rapid Snow Melt			**X**	
Strong Winds	**X**			
Subsidence				**X**
Thunderstorm			**X**	
Tornado	**X**			
Urban Fire			**X**	
Wildfire			**X**	

Town of Naples
Roberts County PDM
Worksheet #1 (Town of Naples)
Risk Assessment Worksheet – Hazard Identification

What is the probability of occurrence of the following hazards?

Hazard	**High Probability to Occur** (At least once in a year)	**Low Probability to Occur** (Hazards that may have occurred in the past or could occur in the future but do not occur on a yearly basis)	**Unlikely to Occur** (Hazards or disasters that have never occurred in the area before and are unlikely to occur)
Dam Failure			**X**
Drought			**X**
Earthquake			**X**
Extreme Cold	**X**		
Extreme Heat	**X**		
Flood	**X**		
Freezing Rain/Sleet/Ice	**X**		
Hail	**X**		
Heavy Rain	**X**		
Heavy Snow	**X**		
Ice Jam			**X**
Landslide			**X**
Lightning	**X**		
Rapid Snow Melt		**X**	
Strong Winds	**X**		
Subsidence			**X**
Thunderstorm	**X**		
Tornado		**X**	
Urban Fire			**X**
Wildfire		**X**	

Roberts County PDM
Worksheet #2 (Town of Naples)
Risk Assessment Worksheet – Hazard Vulnerability

How vulnerable is the community from the following hazard? In other words, if the hazard occurs is there a potential to impact the community? If so, what would be impacted?

Hazard	**High Vulnerability** Significant risk/major damage potential (for example, destructive, damage to more than 10% of the jurisdiction and/or regular occurrence)	**Medium Vulnerability** Moderate damage potential (causing partial damage to 5-10% of the jurisdiction, and irregular occurrence)	**Low Vulnerability** Little damage potential (minor damage to less than 5% of the jurisdiction)	**NA** Not a hazard to the jurisdiction
Dam Failure				**X**
Drought			**X**	
Earthquake				**X**
Extreme Cold	**X**			
Extreme Heat	**X**			
Flood			**X**	
Freezing Rain/Sleet/Ice		**X**		
Hail	**X**			
Heavy Rain	**X**			
Heavy Snow	**X**			
Ice Jam			**X**	
Landslide				**X**
Lightning		**X**		
Rapid Snow Melt	**X**			
Strong Winds	**X**			
Subsidence				**X**
Thunderstorm		**X**		
Tornado	**X**			
Urban Fire		**X**		
Wildfire		**X**		

Town of Raymond
Roberts County PDM
Worksheet #1 (Town of Raymond)
Risk Assessment Worksheet – Hazard Identification

What is the probability of occurrence of the following hazards?

Hazard	**High Probability to Occur** (At least once in a year)	**Low Probability to Occur** (Hazards that may have occurred in the past or could occur in the future but do not occur on a yearly basis)	**Unlikely to Occur** (Hazards or disasters that have never occurred in the area before and are unlikely to occur)
Dam Failure			**X**
Drought	**X**		
Earthquake			**X**
Extreme Cold	**X**		
Extreme Heat	**X**		
Flood		**X**	
Freezing Rain/Sleet/Ice	**X**		
Hail	**X**		
Heavy Rain	**X**		
Heavy Snow	**X**		
Ice Jam		**X**	
Landslide			**X**
Lightning	**X**		
Rapid Snow Melt		**X**	
Strong Winds	**X**		
Subsidence			**X**
Thunderstorm	**X**		
Tornado	**X**		
Urban Fire		**X**	
Wildfire	**X**		

Roberts County PDM
Worksheet #2 (Town of Raymond)
Risk Assessment Worksheet – Hazard Vulnerability

How vulnerable is the community from the following hazard? In other words, if the hazard occurs is there a potential to impact the community? If so, what would be impacted?

Hazard	**High Vulnerability** Significant risk/major damage potential (for example, destructive, damage to more than 10% of the jurisdiction and/or regular occurrence)	**Medium Vulnerability** Moderate damage potential (causing partial damage to 5-10% of the jurisdiction, and irregular occurrence)	**Low Vulnerability** Little damage potential (minor damage to less than 5% of the jurisdiction)	**NA** Not a hazard to the jurisdiction
Dam Failure				**X**
Drought			**X**	
Earthquake				**X**
Extreme Cold	**X**			
Extreme Heat			**X**	
Flood		**X**		
Freezing Rain/Sleet/Ice		**X**		
Hail			**X**	
Heavy Rain		**X**		
Heavy Snow			**X**	
Ice Jam			**X**	
Landslide				**X**
Lightning			**X**	
Rapid Snow Melt			**X**	
Strong Winds		**X**		
Subsidence				**X**
Thunderstorm			**X**	
Tornado		**X**		
Urban Fire			**X**	
Wildfire			**X**	

Town of Vienna
Clark County PDM
Worksheet #1 (Town of Vienna)
Risk Assessment Worksheet – Hazard Identification

What is the probability of occurrence of the following hazards?

Hazard	**High Probability to Occur** (At least once in a year)	**Low Probability to Occur** (Hazards that may have occurred in the past or could occur in the future but do not occur on a yearly basis)	**Unlikely to Occur** (Hazards or disasters that have never occurred in the area before and are unlikely to occur)
Dam Failure			**X**
Drought		**X**	
Earthquake			**X**
Extreme Cold	**X**		
Extreme Heat	**X**		
Flood	**X**		
Freezing Rain/Sleet/Ice	**X**		
Hail	**X**		
Heavy Rain		**X**	
Heavy Snow	**X**		
Ice Jam			**X**
Landslide			**X**
Lightning	**X**		
Rapid Snow Melt	**X**		
Strong Winds	**X**		
Subsidence			**X**
Thunderstorm	**X**		
Tornado		**X**	
Urban Fire		**X**	
Wildfire		**X**	

Clark County PDM
Worksheet #2 (Town of Vienna)
Risk Assessment Worksheet – Hazard Vulnerability

How vulnerable is the community from the following hazard? In other words, if the hazard occurs is there a potential to impact the community? If so, what would be impacted?

Hazard	**High Vulnerability** Significant risk/major damage potential (for example, destructive, damage to more than 10% of the jurisdiction and/or regular occurrence)	**Medium Vulnerability** Moderate damage potential (causing partial damage to 5-10% of the jurisdiction, and irregular occurrence)	**Low Vulnerability** Little damage potential (minor damage to less than 5% of the jurisdiction)	**NA** Not a hazard to the jurisdiction
Dam Failure				**X**
Drought			**X**	
Earthquake				**X**
Extreme Cold	**X**			
Extreme Heat	**X**			
Flood		**X**		
Freezing Rain/Sleet/Ice	**X**			
Hail	**X**			
Heavy Rain	**X**			
Heavy Snow	**X**			
Ice Jam				**X**
Landslide				**X**
Lightning		**X**		
Rapid Snow Melt	**X**			
Strong Winds	**X**			
Subsidence				**X**
Thunderstorm		**X**		
Tornado	**X**			
Urban Fire		**X**		
Wildfire			**X**	

City of Willow Lake
Clark County PDM
Worksheet #1 (City of Willow Lake)
Risk Assessment Worksheet – Hazard Identification

What is the probability of occurrence of the following hazards?

Hazard	**High Probability to Occur** (At least once in a year)	**Low Probability to Occur** (Hazards that may have occurred in the past or could occur in the future but do not occur on a yearly basis)	**Unlikely to Occur** (Hazards or disasters that have never occurred in the area before and are unlikely to occur)
Dam Failure			**X**
Drought	**X**		
Earthquake			**X**
Extreme Cold	**X**		
Extreme Heat	**X**		
Flood		**X**	
Freezing Rain/Sleet/Ice	**X**		
Hail	**X**		
Heavy Rain	**X**		
Heavy Snow	**X**		
Ice Jam		**X**	
Landslide			**X**
Lightning	**X**		
Rapid Snow Melt	**X**		
Strong Winds	**X**		
Subsidence			**X**
Thunderstorm	**X**		
Tornado	**X**		
Urban Fire	**X**		
Wildfire		**X**	

Clark County PDM
Worksheet #2 (City of Willow Lake)
Risk Assessment Worksheet – Hazard Vulnerability

How vulnerable is the community from the following hazard? In other words, if the hazard occurs is there a potential to impact the community? If so, what would be impacted?

Hazard	**High Vulnerability** Significant risk/major damage potential (for example, destructive, damage to more than 10% of the jurisdiction and/or regular occurrence)	**Medium Vulnerability** Moderate damage potential (causing partial damage to 5-10% of the jurisdiction, and irregular occurrence)	**Low Vulnerability** Little damage potential (minor damage to less than 5% of the jurisdiction)	**NA** Not a hazard to the jurisdiction
Dam Failure				**X**
Drought	**X**			
Earthquake			**X**	
Extreme Cold		**X**		
Extreme Heat		**X**		
Flood			**X**	
Freezing Rain/Sleet/Ice	**X**			
Hail	**X**			
Heavy Rain		**X**		
Heavy Snow	**X**			
Ice Jam			**X**	
Landslide				**X**
Lightning			**X**	
Rapid Snow Melt		**X**		
Strong Winds	**X**			
Subsidence				**X**
Thunderstorm	**X**			
Tornado	**X**			
Urban Fire			**X**	
Wildfire			**X**	

Clark County Commission
Clark County PDM
Worksheet #1 (Commissioners)
Risk Assessment Worksheet – Hazard Identification

What is the probability of occurrence of the following hazards?

Hazard	**High Probability to Occur** (At least once in a year)	**Low Probability to Occur** (May have occurred in the past but do not occur on a yearly basis)	**Unlikely to Occur** (Never occurred in the area before or are unlikely to occur)
Dam Failure			**X**
Drought		**X**	
Earthquake			**X**
Extreme Cold	**X**		
Extreme Heat		**X**	
Flood	**X**		
Freezing Rain/Sleet/Ice	**X**		
Hail	**X**		
Heavy Rain	**X**		
Heavy Snow	**X**		
Ice Jam		**X**	
Landslide			**X**
Lightning	**X**		
Rapid Snow Melt	**X**		
Strong Winds	**X**		
Subsidence			**X**
Thunderstorm	**X**		
Tornado		**X**	
Urban Fire		**X**	
Wildfire	**X**		

Clark County PDM
Worksheet #2 (Commissioners)
Risk Assessment Worksheet – Hazard Vulnerability

How vulnerable is the community from the following hazard? In other words, if the hazard occurs is there a potential to impact the community? If so, what would be impacted?

Hazard	**High Vulnerability** Significant risk/major damage potential (more than 10% of the jurisdiction and/or regular occurrence)	**Medium Vulnerability** Moderate damage potential (5-10% of the jurisdiction and/or irregular occurrence)	**Low Vulnerability** Little damage potential (less than 5% of the jurisdiction)	**NA** Not a hazard to the jurisdiction
Dam Failure				**X**
Drought	**X**			
Earthquake				**X**
Extreme Cold	**X**			
Extreme Heat	**X**			
Flood	**X**			
Freezing Rain/Sleet/Ice		**X**		
Hail		**X**		
Heavy Rain		**X**		
Heavy Snow		**X**		
Ice Jam				**X**
Landslide				**X**
Lightning			**X**	
Rapid Snow Melt		**X**		
Strong Winds		**X**		
Subsidence				**X**
Thunderstorm		**X**		
Tornado		**X**		
Urban Fire			**X**	
Wildfire			**X**	

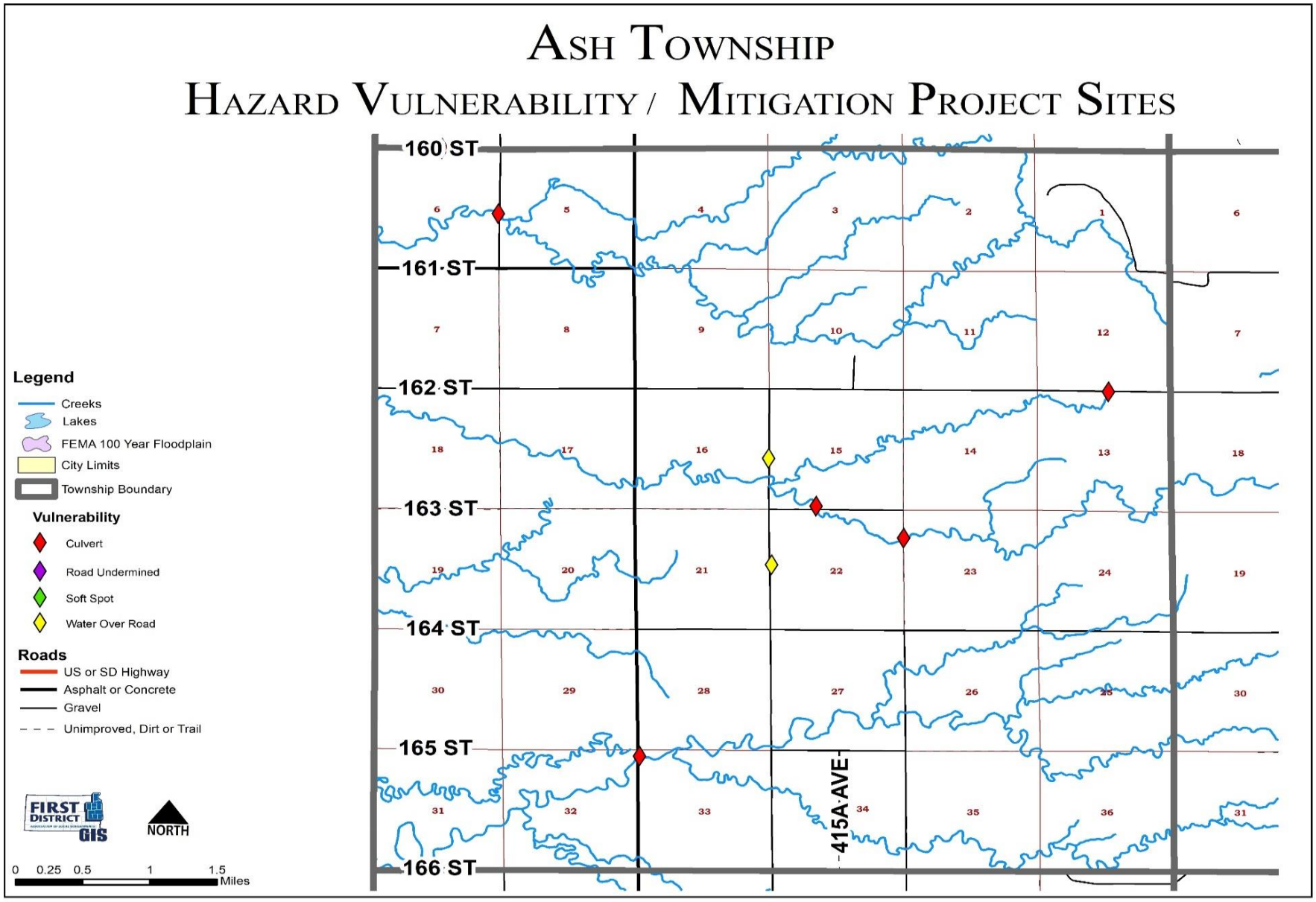
Appendix E
Township Vulnerable and Potential Mitigation Project Site Maps

In July of 2023, First District mailed a request to the Township Clerk or Road Supervisor of every township in Clark 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. Of the 27 requests sent, 10 were returned with vulnerable areas identified (see table below).

Township Name	Response
Ash Township	Identified vulnerabilities
Blaine Township	Not returned/ No vulnerabilities
Collins Township	Identified vulnerabilities
Cottonwood Township	Identified vulnerabilities
Darlington Township	Not returned/ No vulnerabilities
Day Township	Not returned/ No vulnerabilities
Eden Township	Identified vulnerabilities
Elrod Township	Not returned/ No vulnerabilities
Fordham Township	Not returned/ No vulnerabilities
Foxton Township	Not returned/ No vulnerabilities
Garfield Township	Identified vulnerabilities
Hague Township	Identified vulnerabilities
Lake Township	Not returned/ No vulnerabilities
Lincoln Township	Identified vulnerabilities
Logan Township	Not returned/ No vulnerabilities
Maydell Township	Not returned/ No vulnerabilities
Merton Township	Not returned/ No vulnerabilities
Mount Pleasant Township	Identified vulnerabilities
Pleasant Township	Identified vulnerabilities
Raymond Township	Not returned/ No vulnerabilities
Richland Township	Not returned/ No vulnerabilities
Rosedale Township	Not returned/ No vulnerabilities
Spring Valley Township	Not returned/ No vulnerabilities
Thorp Township	Not returned/ No vulnerabilities
Warren Township	Identified vulnerabilities
Washington Township	Not returned/ No vulnerabilities
Woodland Township	Not returned/ No vulnerabilities

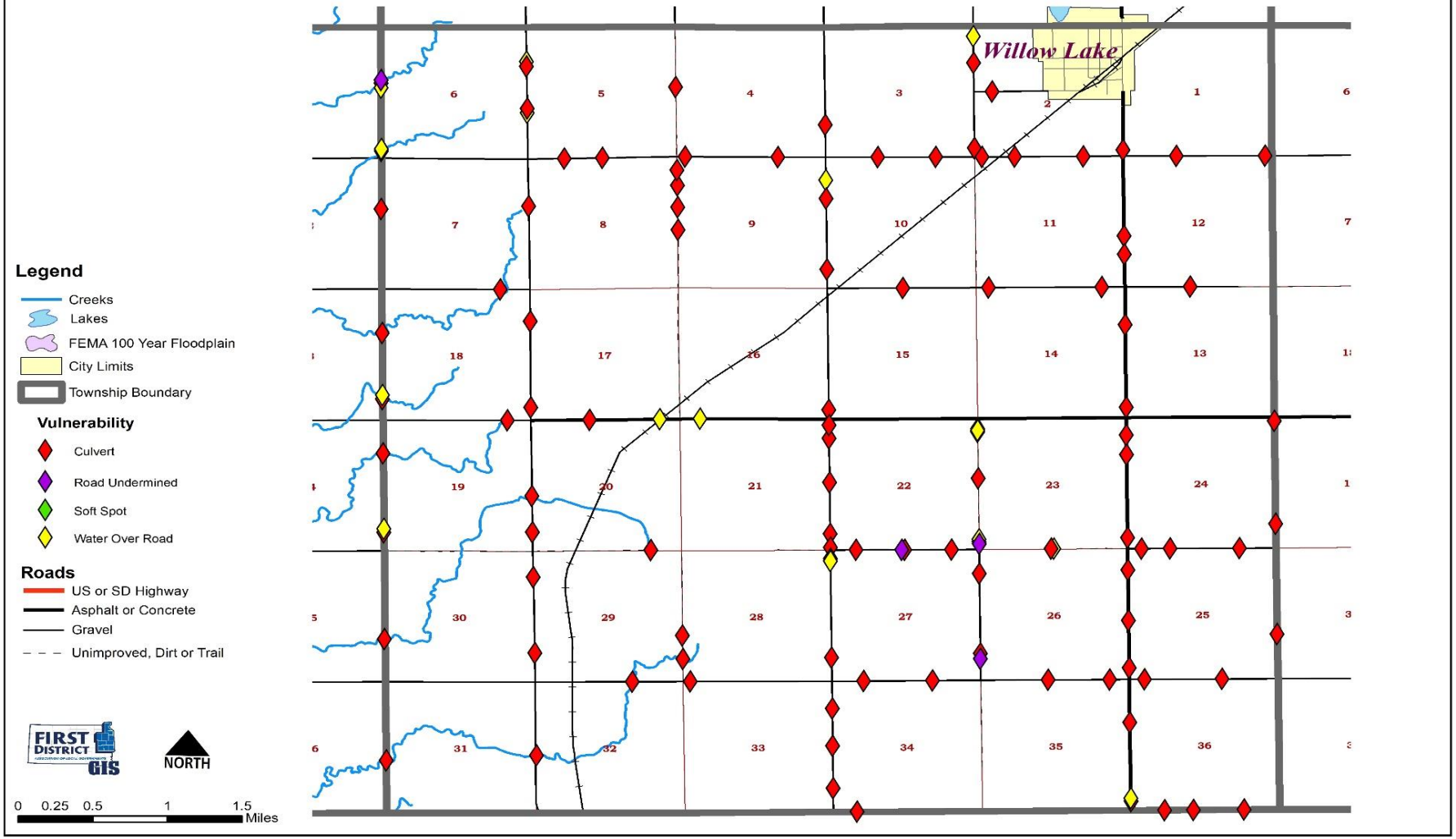
Maps identifying vulnerable areas for those townships which identified such areas are shown below.

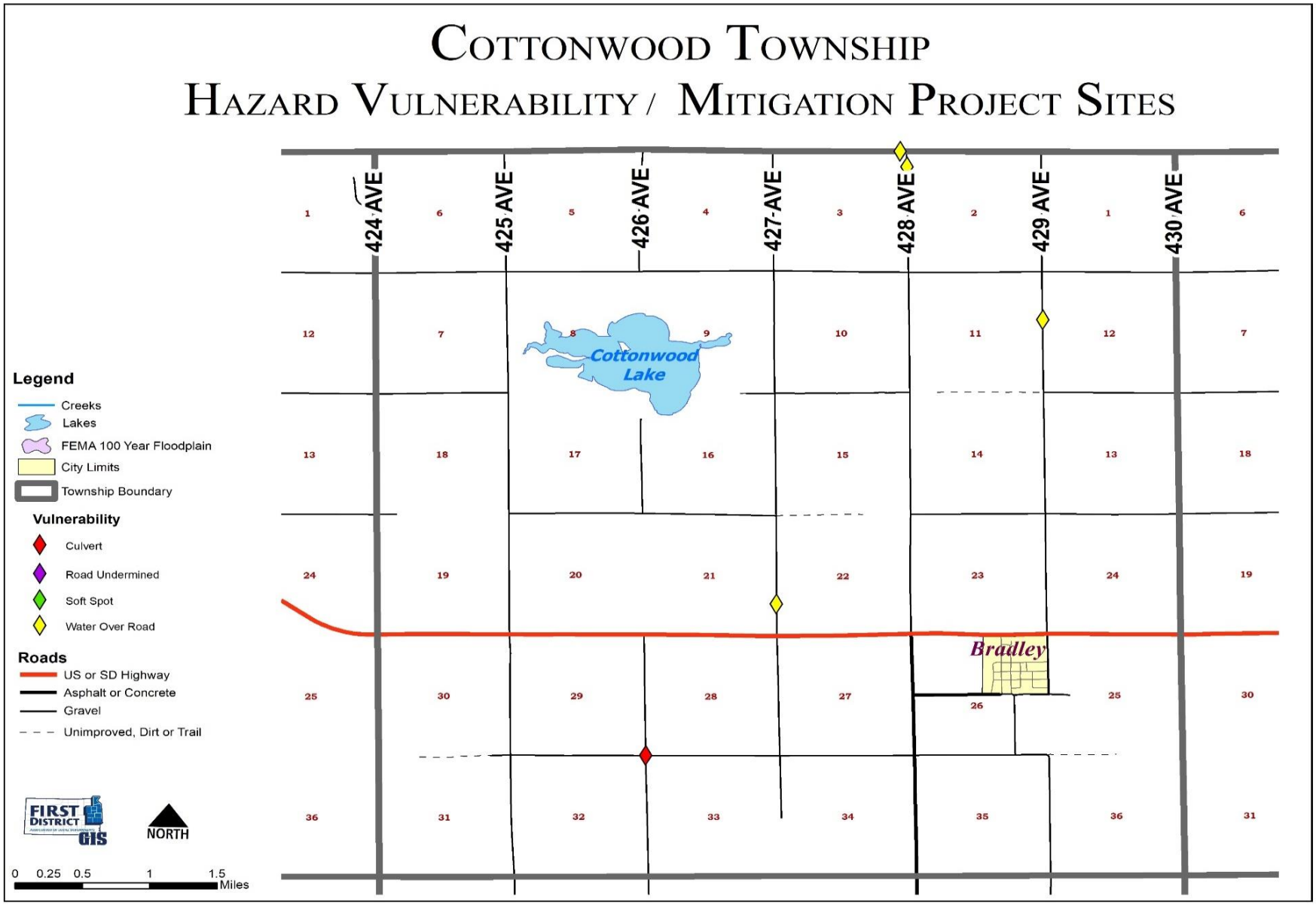
Ash Township
Hazard Vulnerability / Mitigation Project Sites



Collins Township

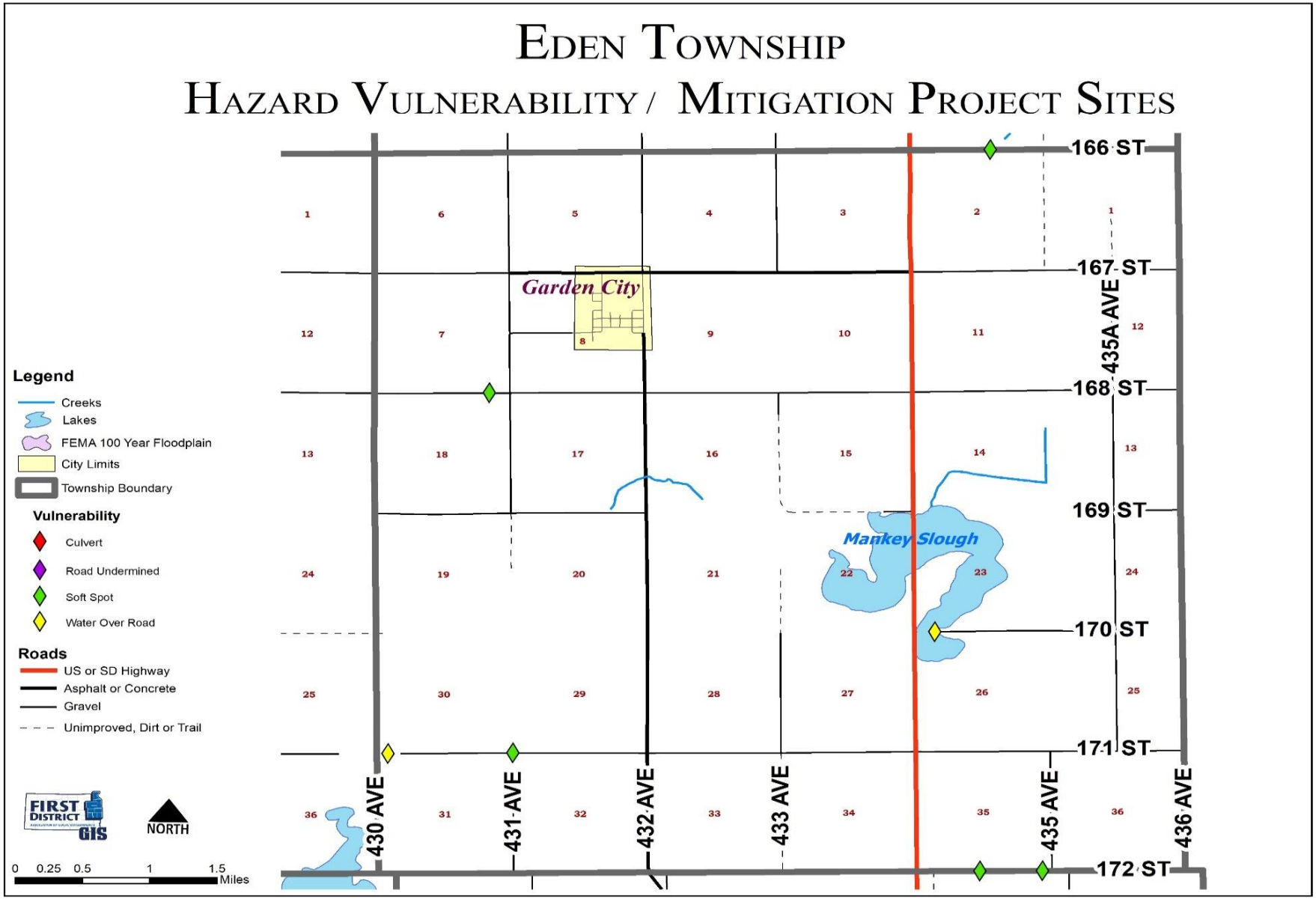
Hazard Vulnerability / Mitigation Project Sites



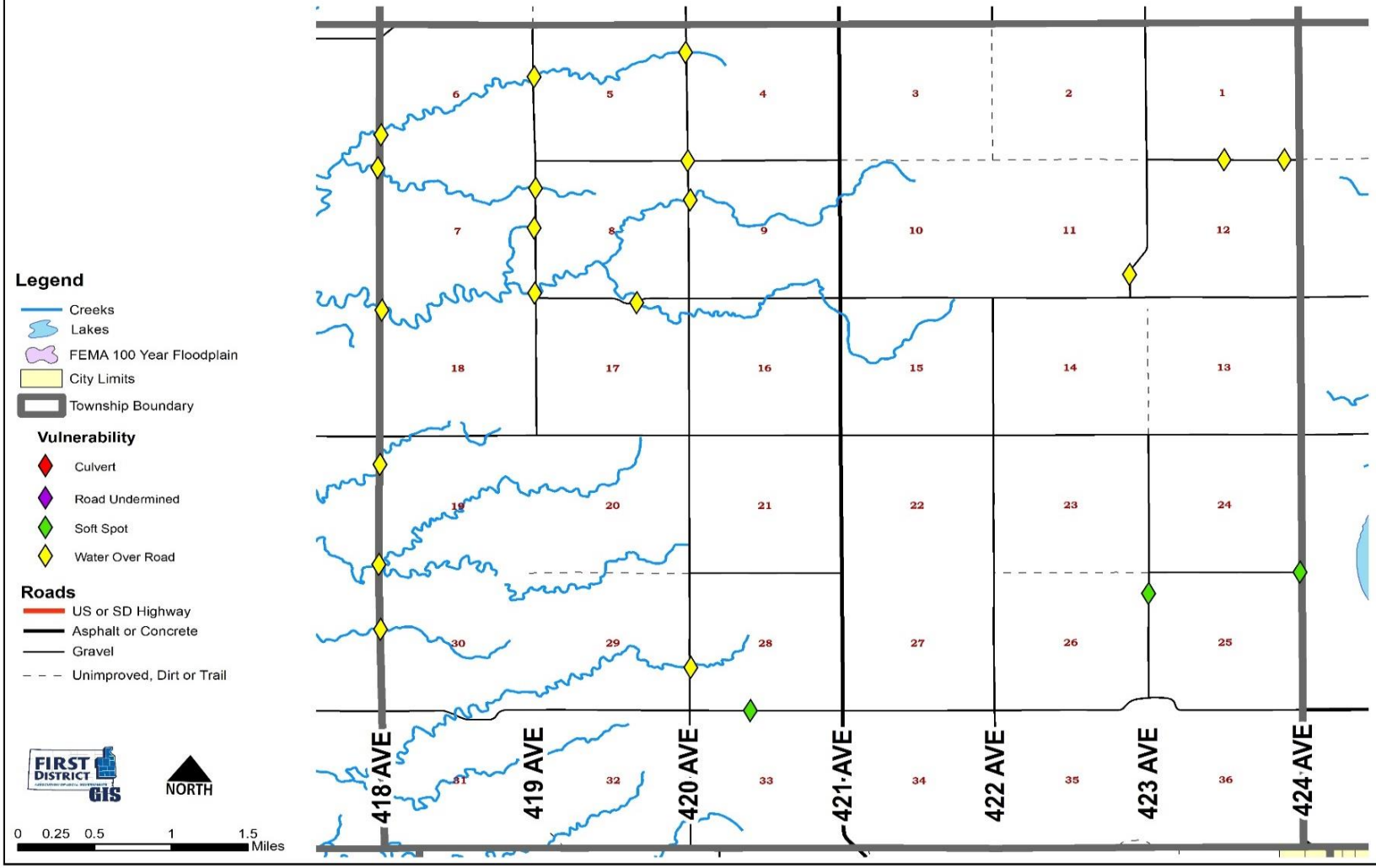

COTTONWOOD TOWNSHIP
HAZARD VULNERABILITY / MITIGATION PROJECT SITES
424 AVE
425 AVE
426 AVE
427 AVE
428 AVE
429 AVE
430 AVE
Cottonwood Lake
Bradley
Legend
Creeks
Lakes
FEMA 100 Year Floodplain
City Limits
Township Boundary
Vulnerability
Culvert
Road Undermined
Soft Spot
Water Over Road
Roads
US or SD Highway
Asphalt or Concrete
Gravel
Unimproved, Dirt or Trail
FIRST DISTRICT GIS
NORTH
0 0.25 0.5 1 1.5 Miles

Eden Township

Hazard Vulnerability / Mitigation Project Sites

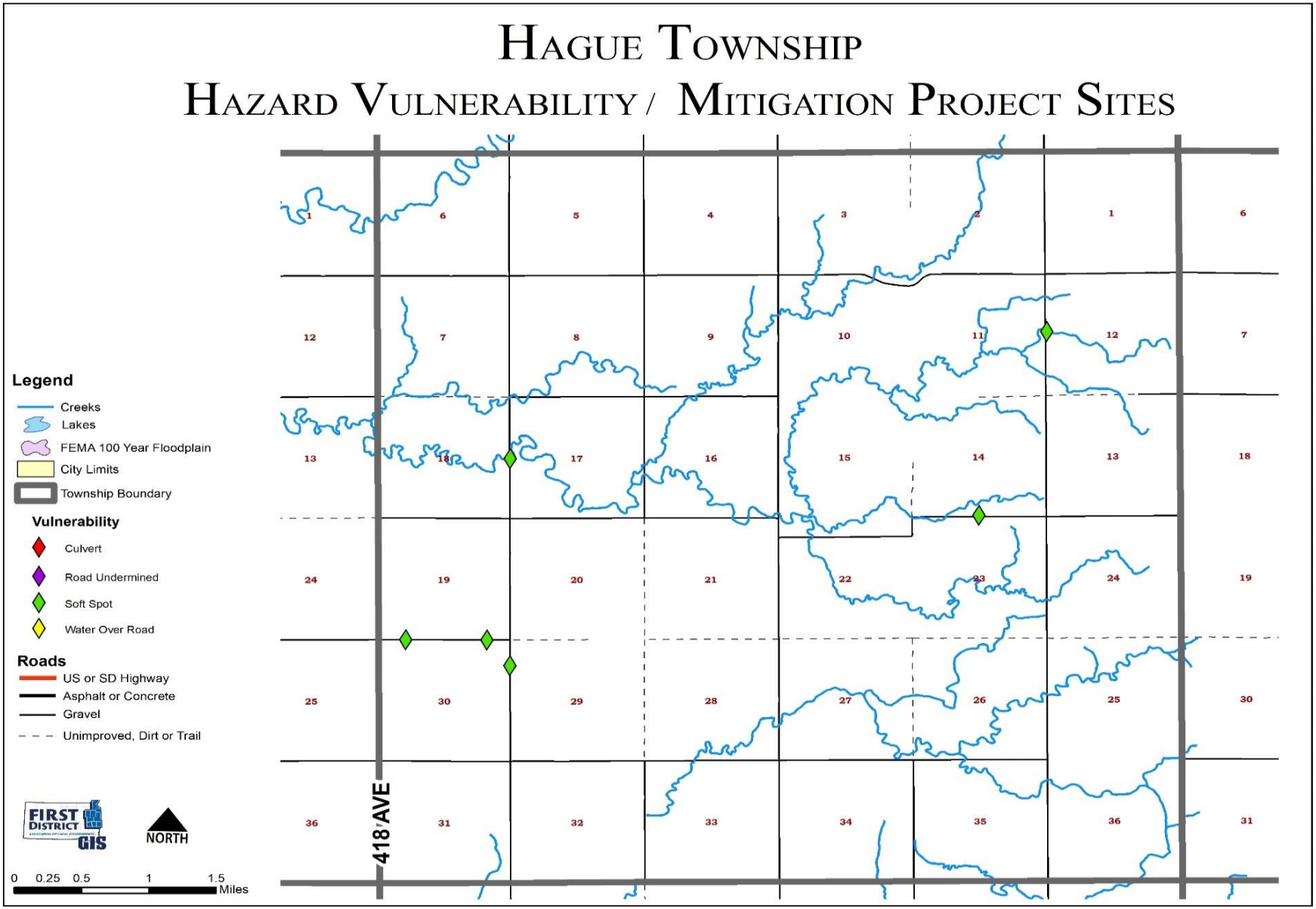


Garfield Township
Hazard Vulnerability / Mitigation Project Sites

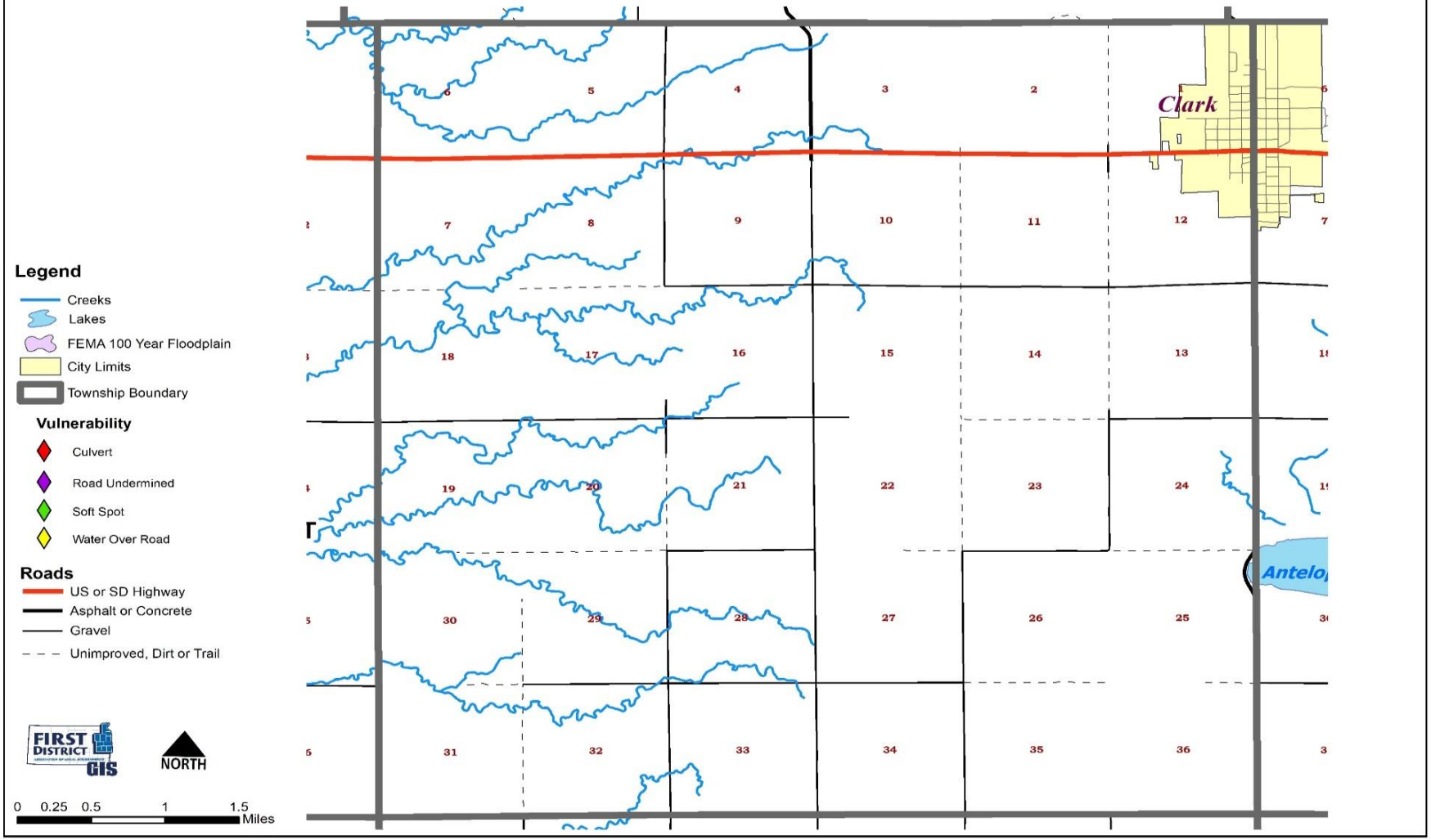


Hague Township

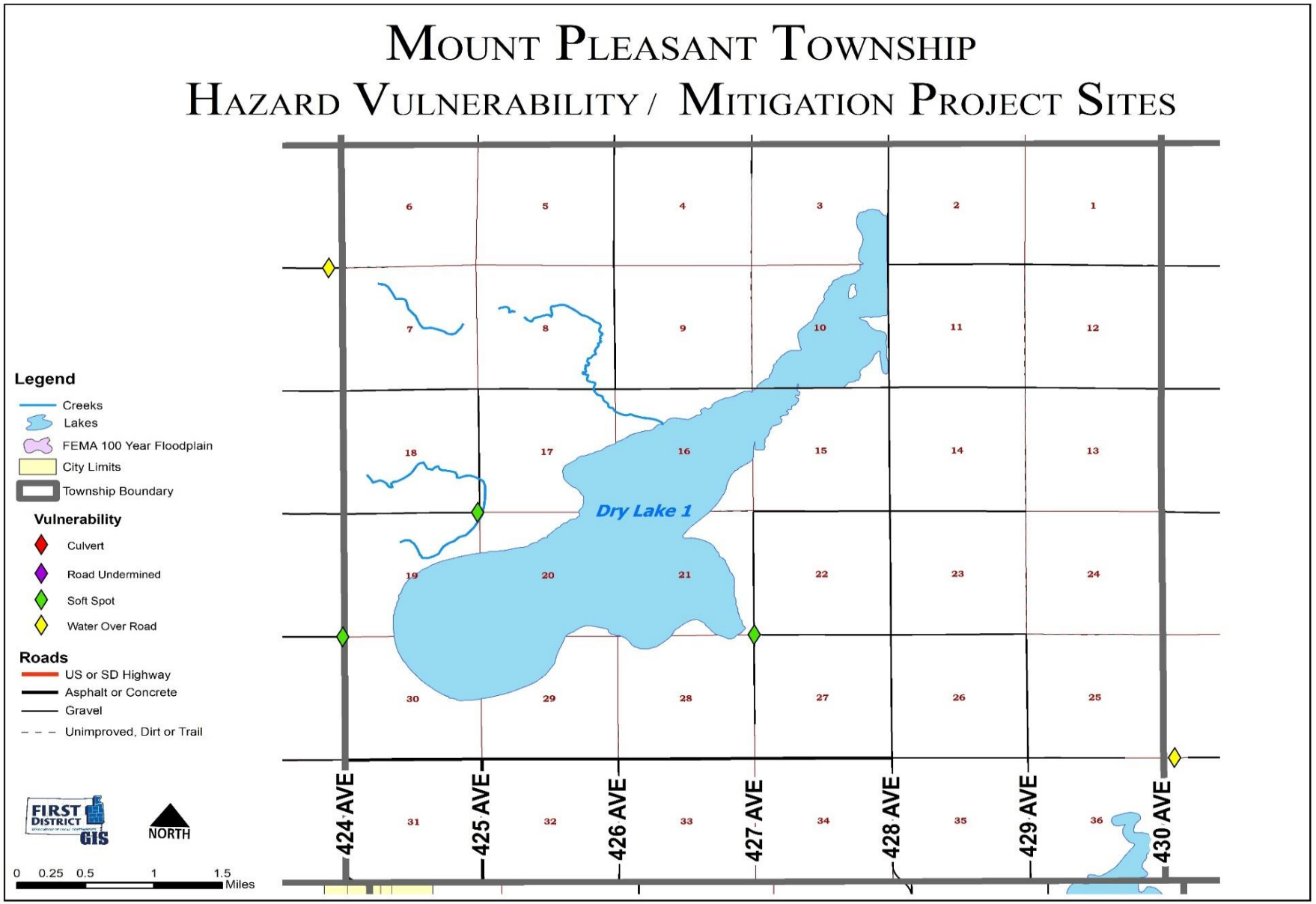
Hazard Vulnerability / Mitigation Project Sites



Lincoln Township
Hazard Vulnerability / Mitigation Project Sites

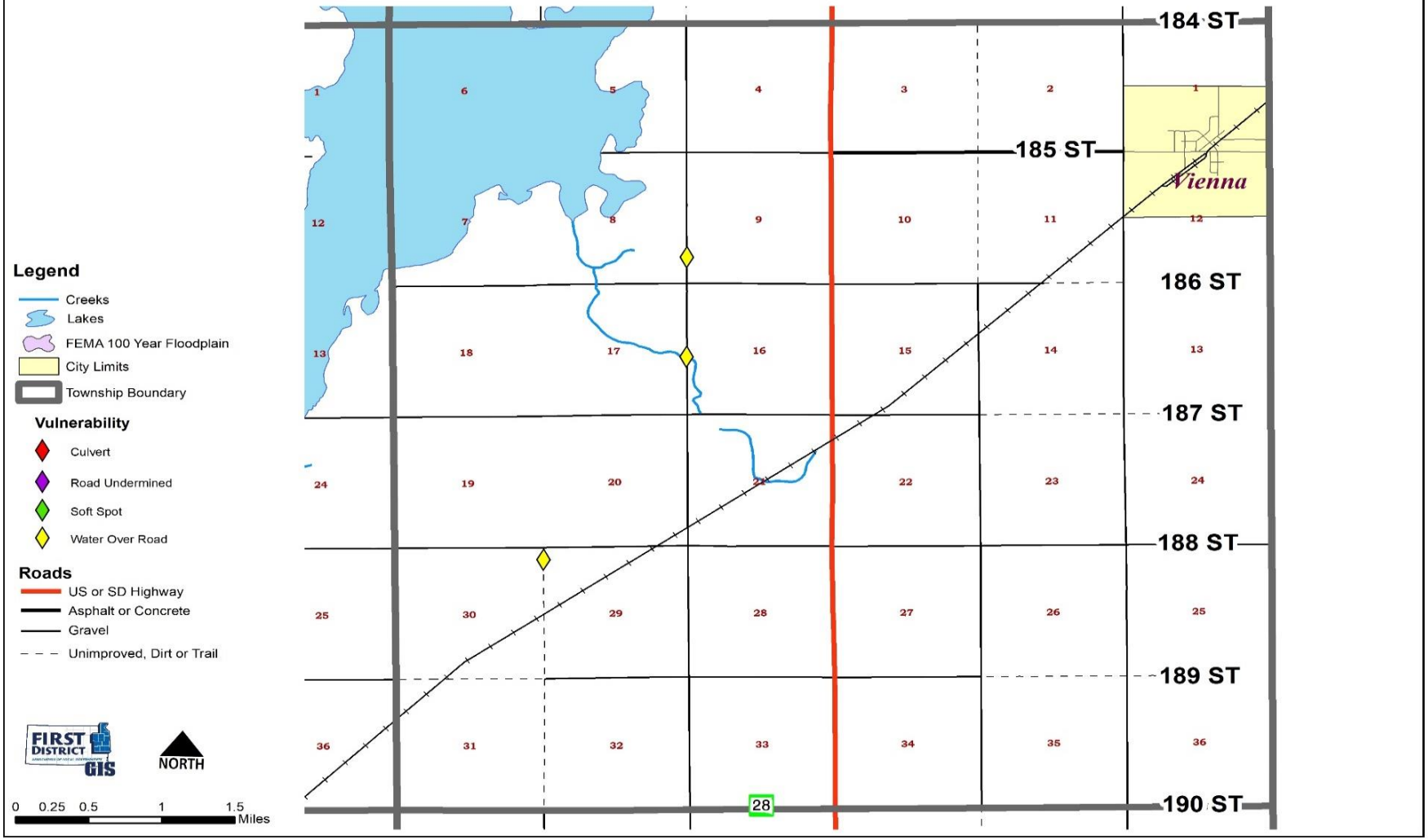


Mount Pleasant Township
Hazard Vulnerability / Mitigation Project Sites

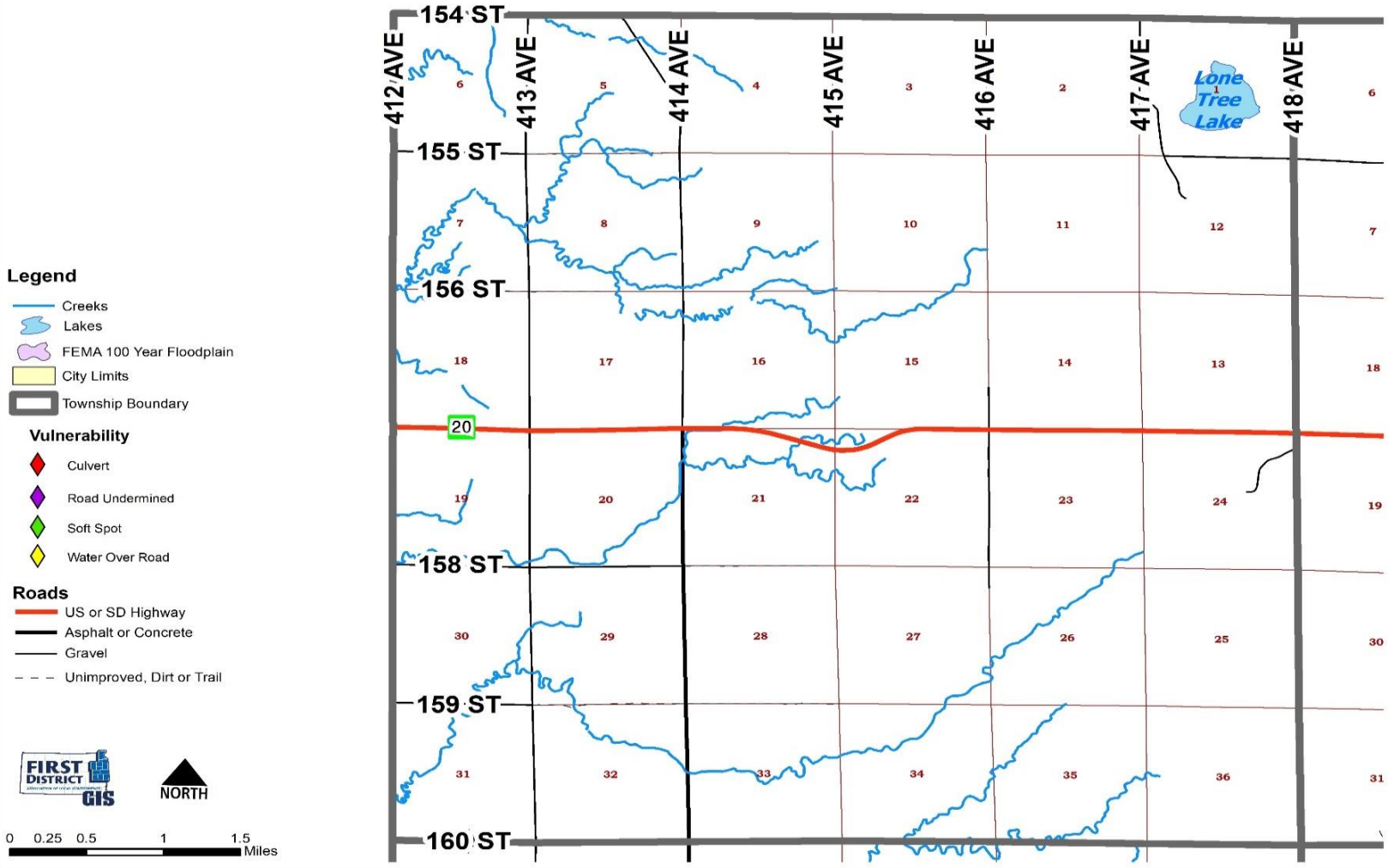


Pleasant Township

Hazard Vulnerability / Mitigation Project Sites

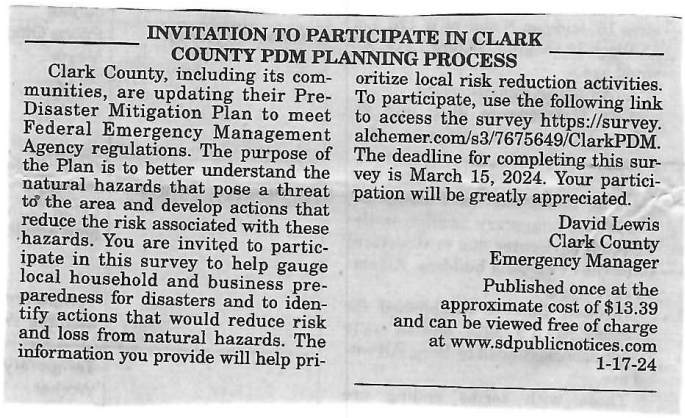


Warren Township
Hazard Vulnerability / Mitigation Project Sites



Appendix F – Online Survey Information

Affidavit of Publication for Online Survey Notice



INVITATION TO PARTICIPATE IN CLARK COUNTY PDM PLANNING PROCESS

Clark County, including its communities, are updating their Pre-Disaster Mitigation Plan to meet Federal Emergency Management Agency regulations. The purpose of the Plan is to better understand the natural hazards that pose a threat to the area and develop actions that reduce the risk associated with these hazards. You are invited to participate in this survey to help gauge local household and business preparedness for disasters and to identify actions that would reduce risk and loss from natural hazards. The information you provide will help prioritize local risk reduction activities. To participate, use the following link to access the survey https://survey.alchemer.com/s3/7675649/ClarkPDM. The deadline for completing this survey is March 15, 2024. Your participation will be greatly appreciated.

David Lewis
Clark County
Emergency Manager

Published once at the approximate cost of $13.39 and can be viewed free of charge at www.sdpublicnotices.com
1-17-24

Affidavit of Publication

State of South Dakota
§
County of Clark

Karli J. Paulson of said county, being first duly sworn, on oath says that she is the publisher of the ***Clark County Courier***, a weekly newspaper printed and published in Clark in said County of Clark and has a full and personal knowledge of all the facts therein stated; that said newspaper is a legal newspaper and has a bona-fide circulation of at least two hundred copies weekly, and has been published within said County for fifty-two successive weeks next prior to the publication of the notice herein mentioned, and was and is printed wholly or in part in an office maintained at said place of publication; that the

Clark County

a printed copy of which taken from the paper in which same was published, is attached to this sheet, and is made a part of this Affidavit, was published in said newspaper at least once in each week for

One

successive week(s), on the day of each week on which said newspaper was regularly published, to wit:

January 17, 2024

that the full amount of the fees for the publication of the annexed notice is **$13.39**

Karli Paulson

Subscribed and sworn to before me this

31st day of January, 2024

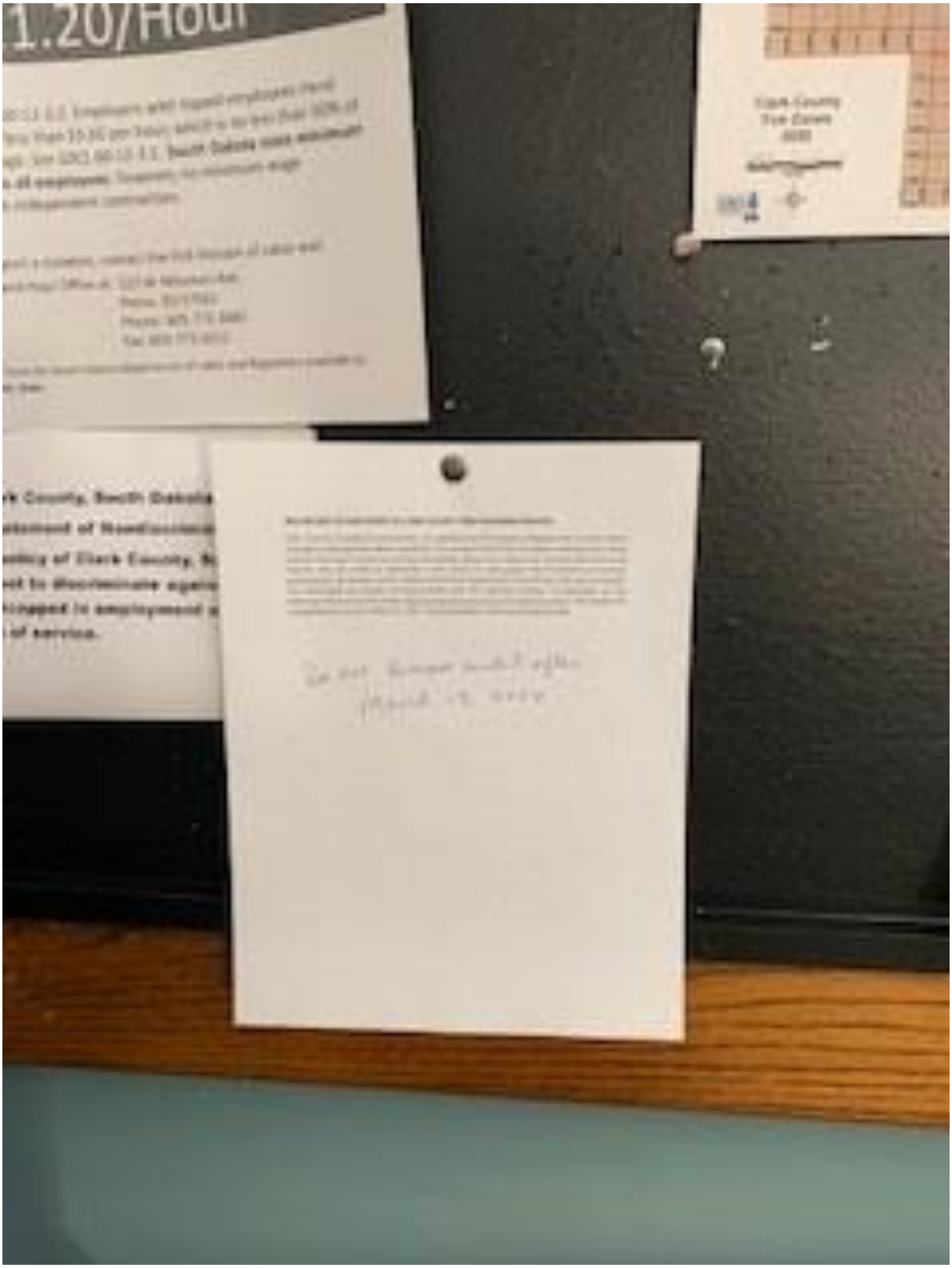
Kimberly Paulson

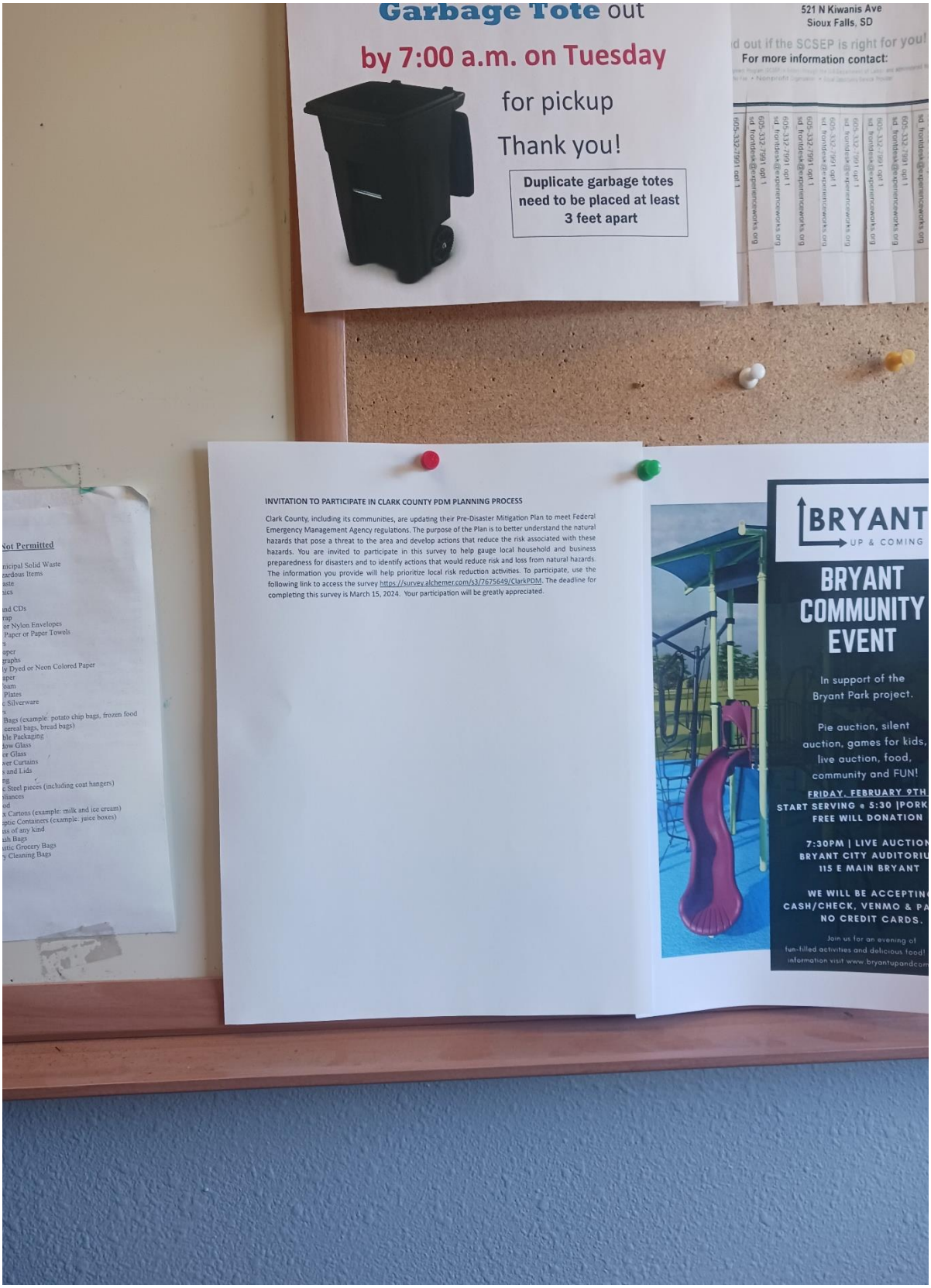
KIMBERLY PAULSON
SEAL NOTARY PUBLIC SEAL
SOUTH DAKOTA

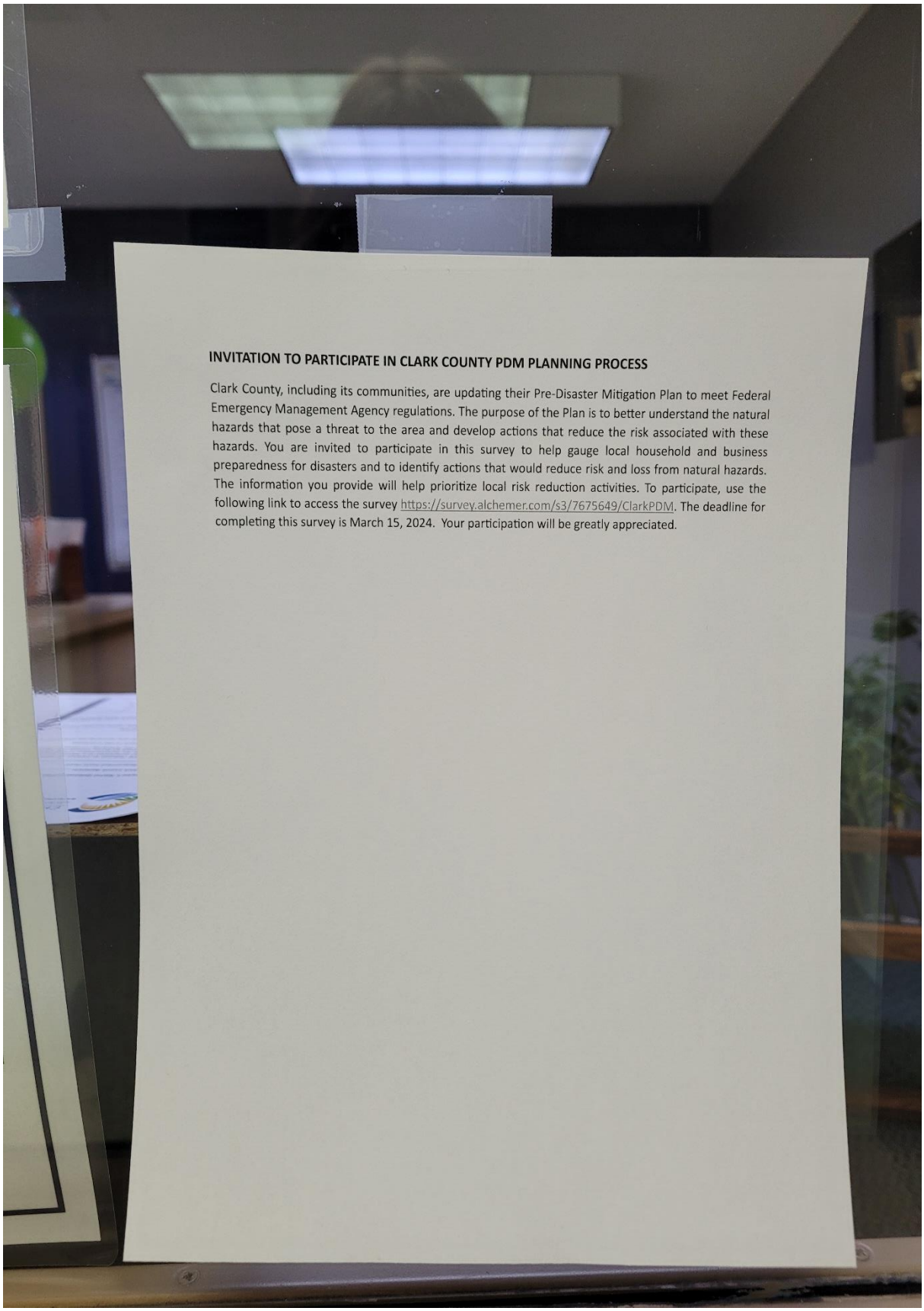
Notary Public
Clark County, South Dakota

My Commission expires: 04/27/2029

Sample Posted Online Survey Notices




Garbage Tote out
by 7:00 a.m. on Tuesday
for pickup
Thank you!
Duplicate garbage totes need to be placed at least 3 feet apart
521 N Kiwanis Ave
Sioux Falls, SD
For more information contact:
INVITATION TO PARTICIPATE IN CLARK COUNTY PDM PLANNING PROCESS
Clark County, including its communities, are updating their Pre-Disaster Mitigation Plan to meet Federal Emergency Management Agency regulations. The purpose of the Plan is to better understand the natural hazards that pose a threat to the area and develop actions that reduce the risk associated with these hazards. You are invited to participate in this survey to help gauge local household and business preparedness for disasters and to identify actions that would reduce risk and loss from natural hazards. The information you provide will help prioritize local risk reduction activities. To participate, use the following link to access the survey https://survey.alchemer.com/s3/7675649/ClarkPDM. The deadline for completing this survey is March 15, 2024. Your participation will be greatly appreciated.
BRYANT
UP & COMING
BRYANT COMMUNITY EVENT
In support of the Bryant Park project.
Pie auction, silent auction, games for kids, live auction, food, community and FUN!
FRIDAY, FEBRUARY 9TH
START SERVING @ 5:30 |PORK
FREE WILL DONATION
7:30PM | LIVE AUCTION
BRYANT CITY AUDITORIU
115 E MAIN BRYANT
WE WILL BE ACCEPTIN
CASH/CHECK, VENMO & PA
NO CREDIT CARDS.
Join us for an evening of fun-filled activities and delicious food!
information visit www.bryantupandcom



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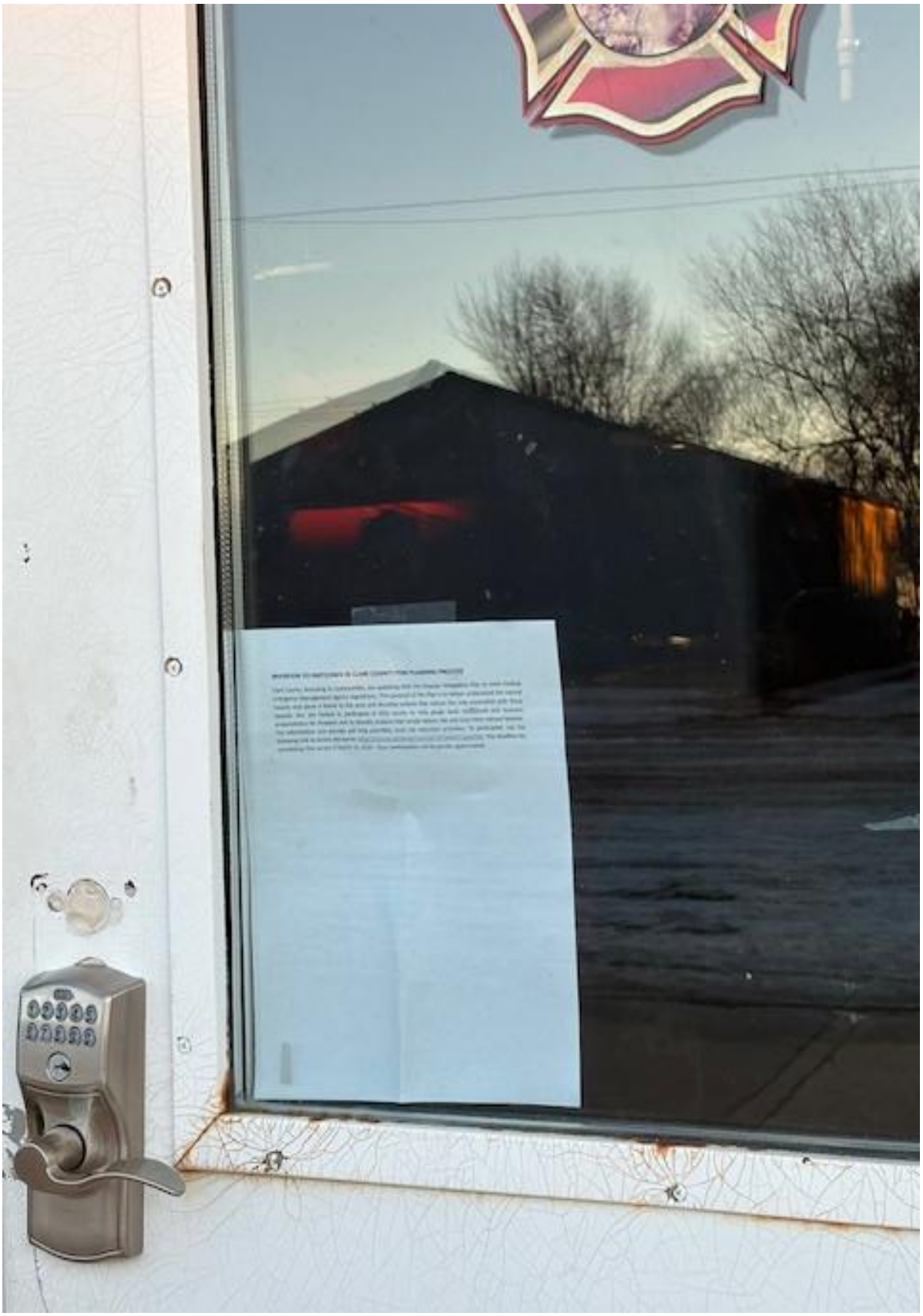
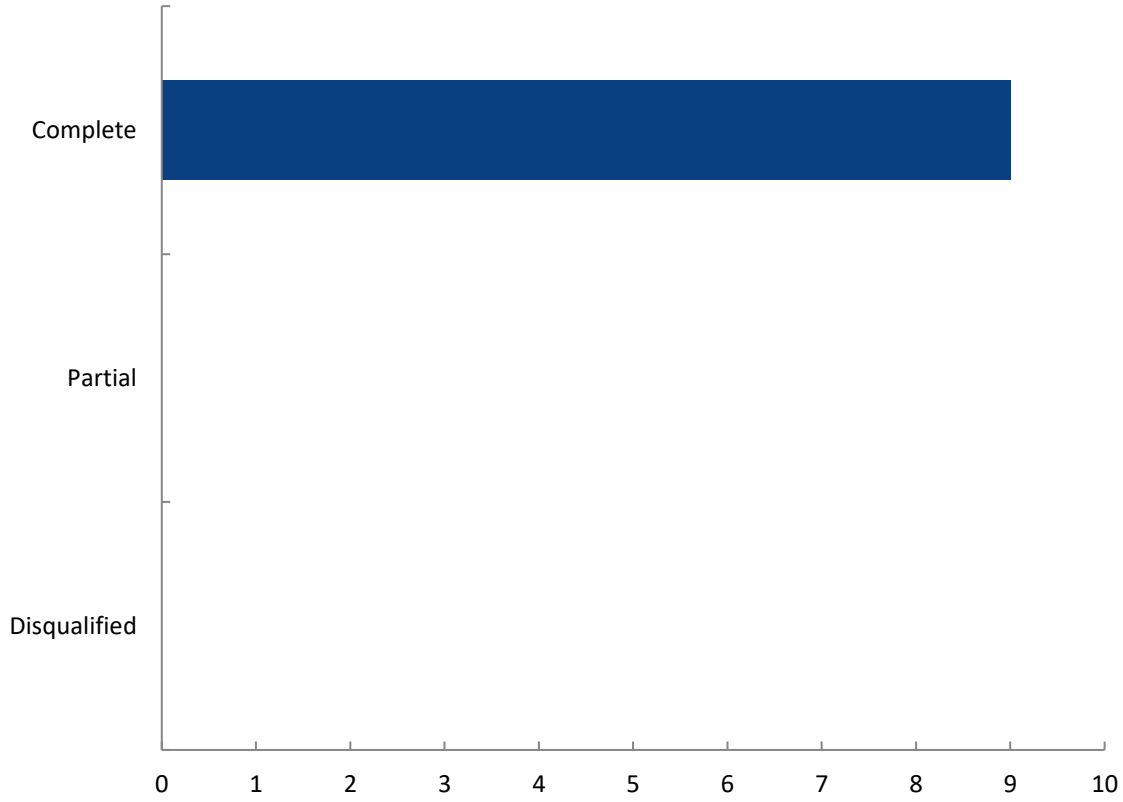


Report for Clark County PDM

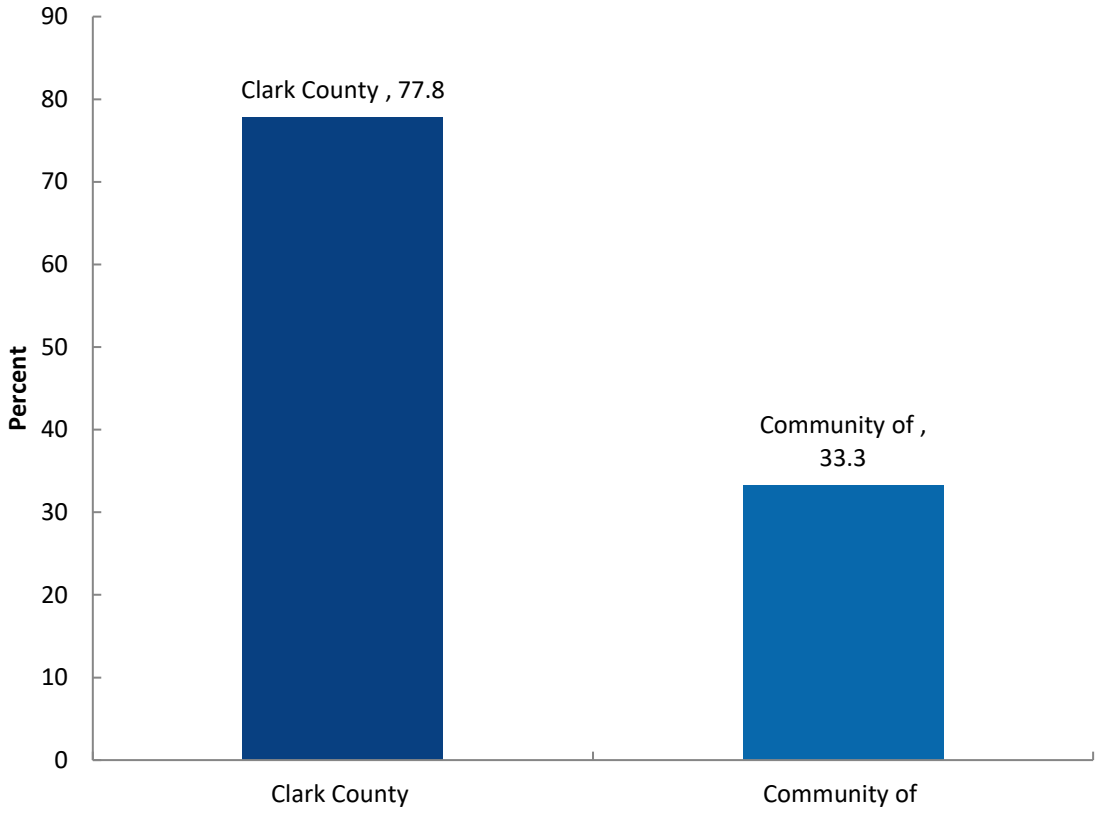
Clark County PDM

Response Statistics



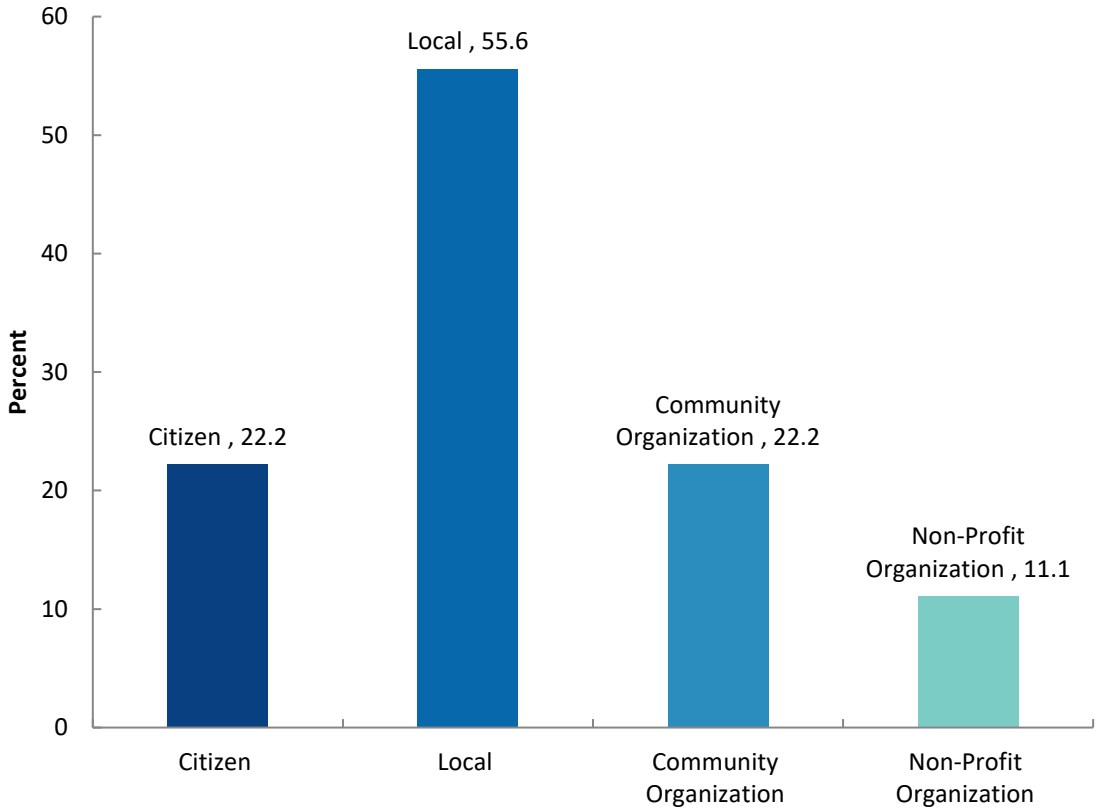
	Count	Percent
Complete	9	100
Partial	0	0
Disqualified	0	0
Totals	9	

1.Please indicate the municipality you reside in:



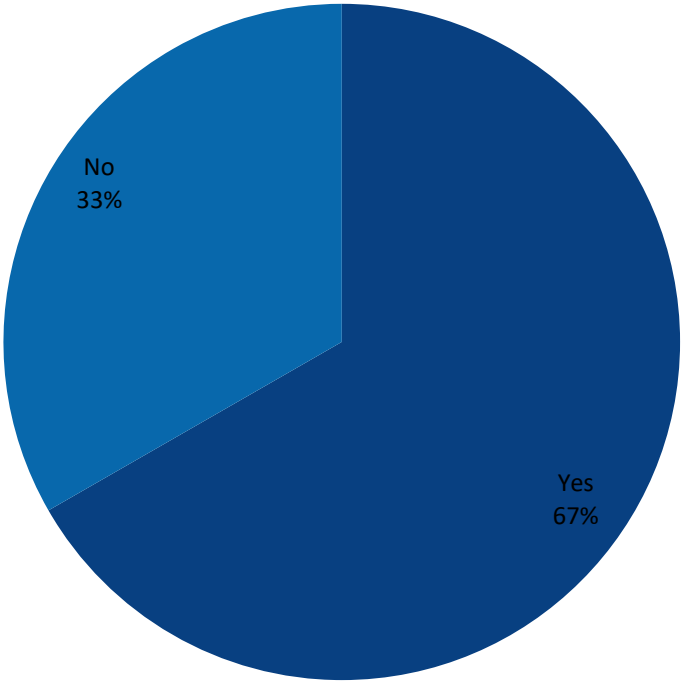
Value	Percent	Count
Clark County	77.8%	7
Community of	33.3%	3

2.Are you responding as:



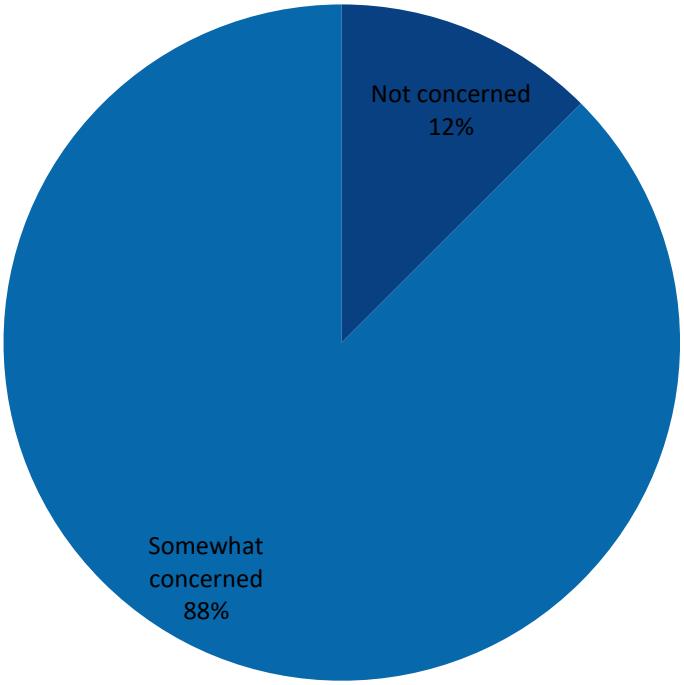
Value	Percent	Count
Citizen	22.2%	2
Local	55.6%	5
Community Organization	22.2%	2
Non-Profit Organization	11.1%	1

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



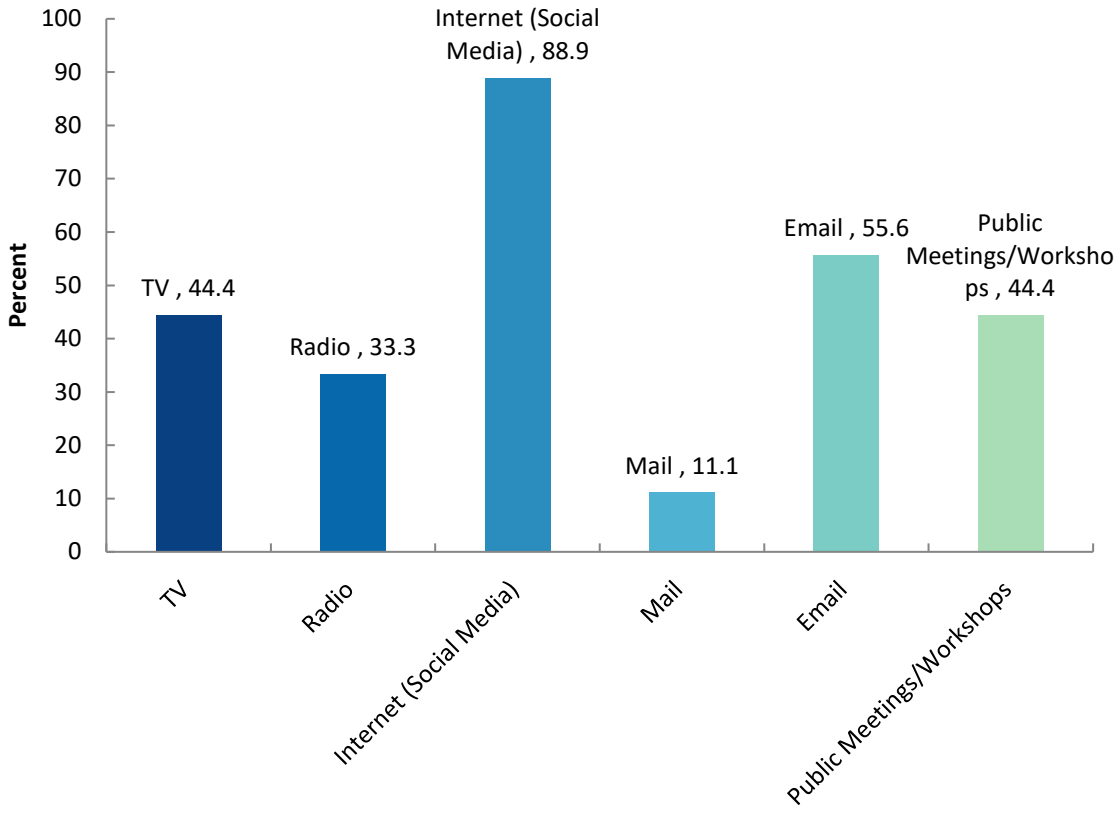
Value	Percent	Count
Yes	66.7%	6
No	33.3%	3
	Totals	9

4.How concerned are you about the possibility of your community being impacted by a natural disaster?



Value	Percent	Count
Not concerned	12.5%	1
Somewhat concerned	87.5%	7
	Totals	8

5.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.

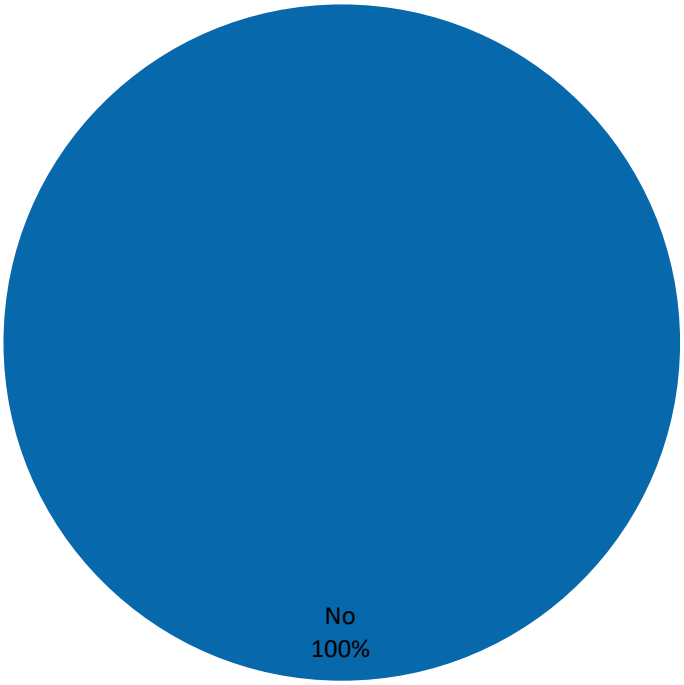


Value	Percent	Count
TV	44.4%	4
Radio	33.3%	3
Internet (Social Media)	88.9%	8
Mail	11.1%	1
Email	55.6%	5
Public Meetings/Workshops	44.4%	4

6.Please rank the following hazards according to the degree of threat faced by your community. One (1) represents the highest/greatest threat and twelve (12) represents the lowest/least threat. Use each number once.

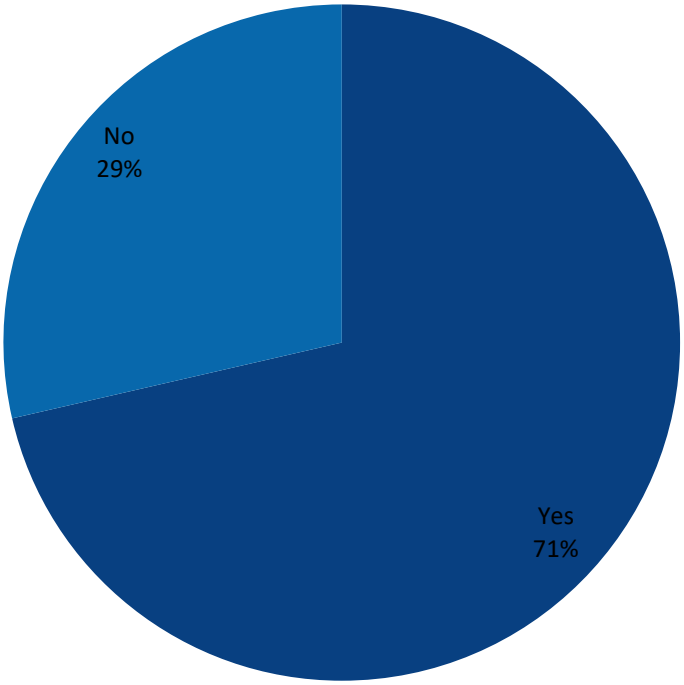
Item	Overall Rank	Score	Total Respondents
Tornado	1	79	9
Severe Winter Warning	2	79	8
Flood	3	77	8
High Wind	4	75	8
Thunderstorm (Including Lightning/Hail)	5	70	8
Drought	6	67	9
Extreme Temperatures	7	54	9
Wildfire	8	52	8
Urban Fire	9	45	7
Ice Jam	10	19	8
Dam Failure	11	16	7
Earthquake	12	9	7

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



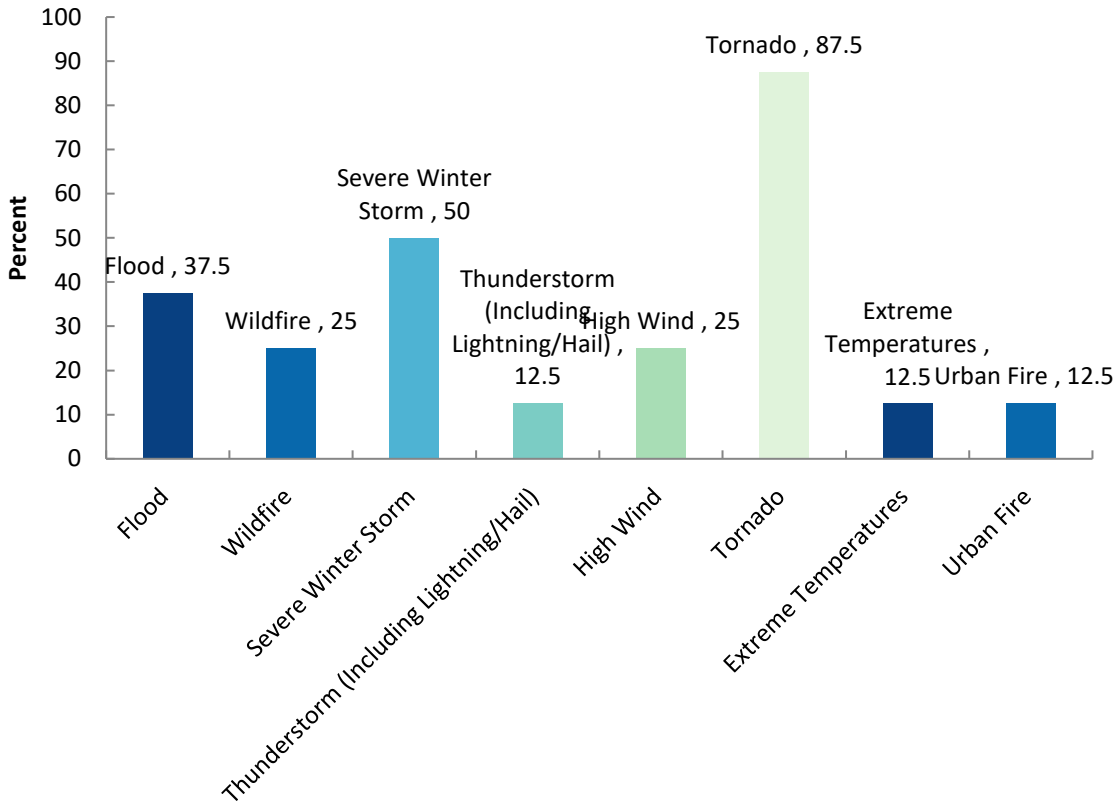
Value	Percent	Count
No	100.0%	9
	Totals	9

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



Value	Percent	Count
Yes	71.4%	5
No	28.6%	2
	Totals	7

9.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.



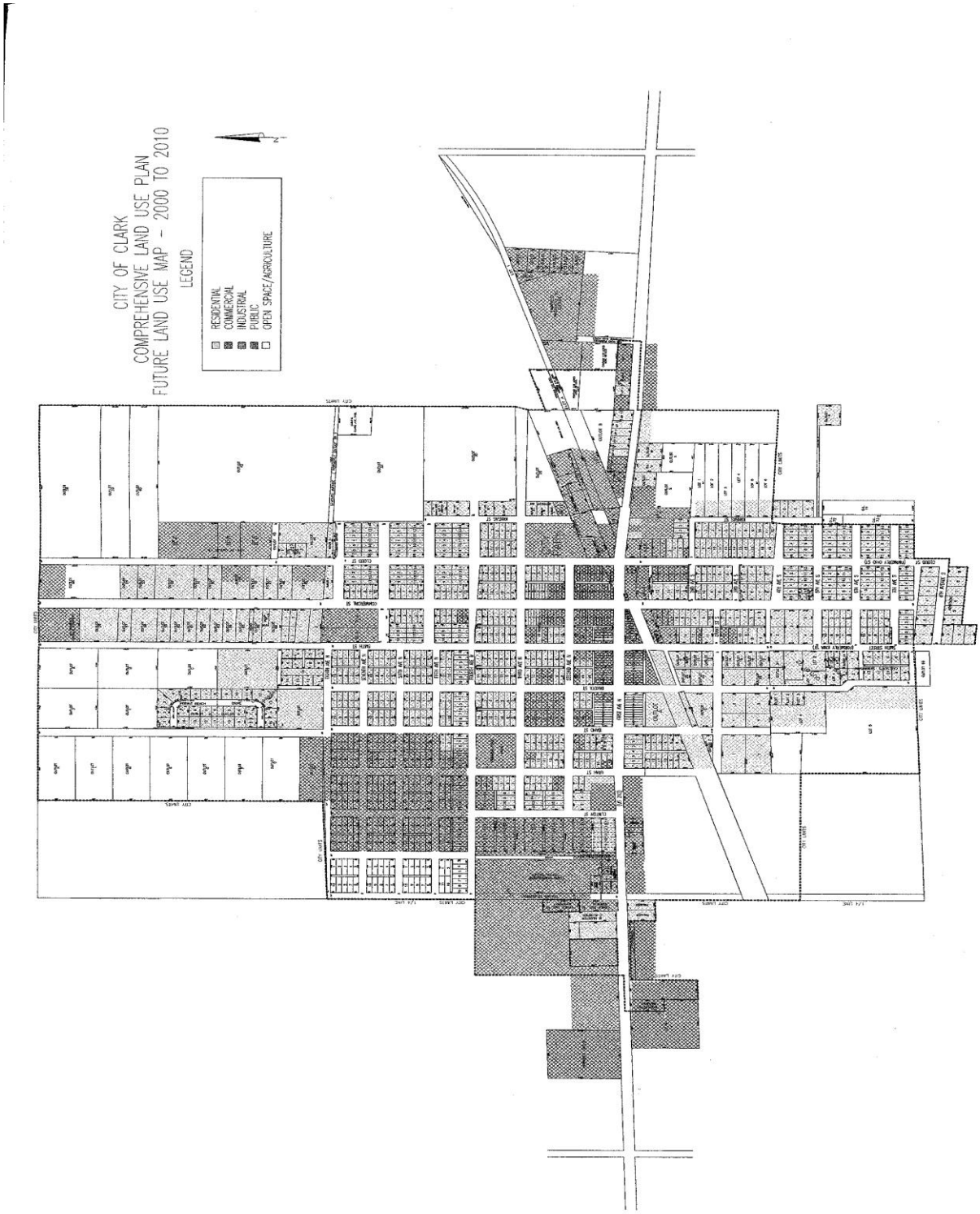
Value	Percent	Count
Flood	37.5%	3
Wildfire	25.0%	2
Severe Winter Storm	50.0%	4
Thunderstorm (Including Lightning/Hail)	12.5%	1
High Wind	25.0%	2

Tornado	87.5%	7
Extreme Temperatures	12.5%	1
Urban Fire	12.5%	1

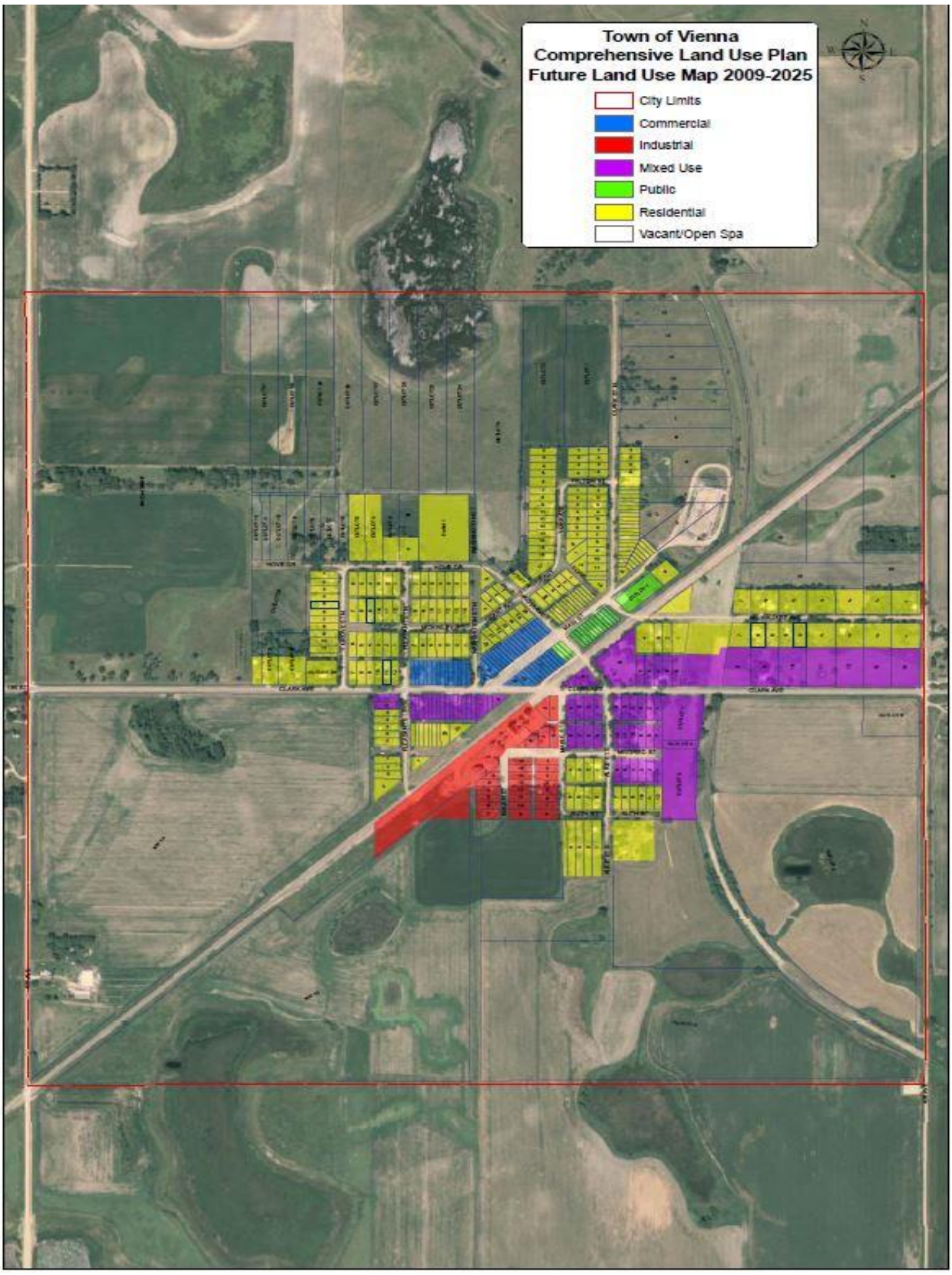
Appendix G – Comprehensive Land Use Maps

Clark County Future Land Use Map

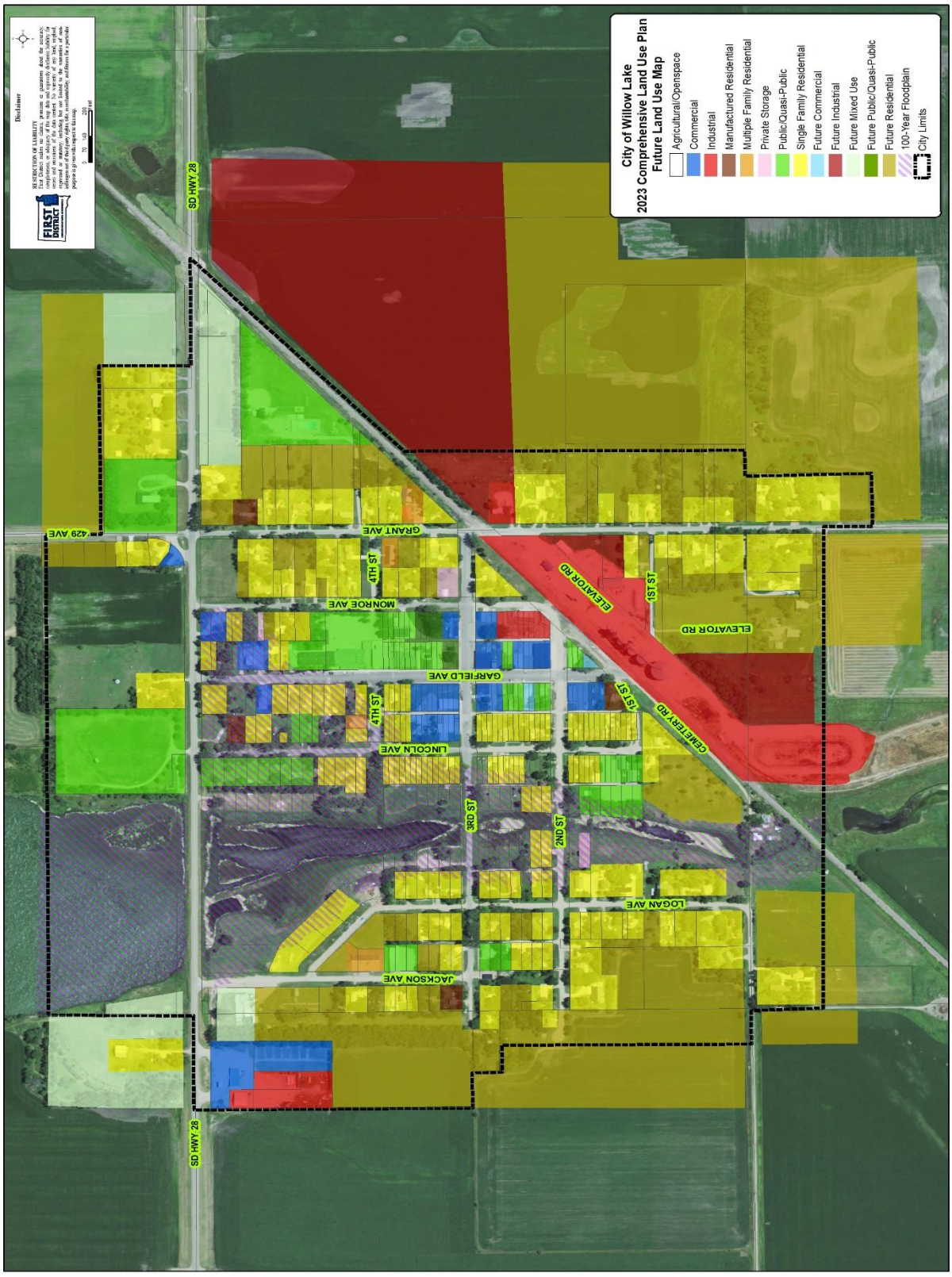
City of Clark Future Land Use Map



Town of Vienna Future Land Use Map



City of Willow Lake Future Land Use Map



Appendix H – Review of Previous PDM Mitigation Project Implementation

2019 PDM Plan Mitigation Project Implementation

COMMUNITY	POTENTIAL MITIGATION PROJECTS	HAZARD	INCLUDED IN 2025 PLAN?	STATUS
Clark County	Airport Improvements Project	Severe Weather	No	Completed
Clark County	Install drainage culverts, raise road grade and install riprap	Flooding	Yes	Ongoing
Clark County	Conducted Dry Lake #2 hydrology study	Flooding	Yes	Completed
Town of Bradley	Purchased some equipment for the fire department	Fire	Yes	Ongoing
City of Clark	Purchased a backup generator for water/wastewater facilities	Severe Weather/Power Outage	No	Completed
Town of Raymond	Water system and water tower improvements. Town connecting to CRWS	Severe Weather	No	In Progress
Town of Raymond	Purchase backup generator for well house	Fire	No	Completed
City of Willow Lake	Constructed water system improvements	Fire	No	Completed
City of Willow Lake	Installation of utilities into newly developed areas of town	All	No	Completed

Appendix I – References

City of Clark Comprehensive Land Use Plan, Zoning and Subdivision Ordinances – Ulteig, 2009

Comprehensive Land Use Plan for Clark County – First District Association of Local Governments, 2014

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

Clark County Multi-Hazard Mitigation Plan, 2018

Clark County Zoning Ordinance – First District Association of Local Governments, 2014

NFIP Flood Insurance Rate Maps and Community Status Book Report

State of South Dakota Hazard Mitigation Plan. South Dakota Office of Emergency Management. 2014.

City of Willow Lake Comprehensive Land Use Plan and Zoning Ordinance – First District Association of Local Governments, 2003

Town of Vienna Comprehensive Land Use Plan and Zoning Ordinance – First District Association of Local Governments, 2009