U.S. Department of Homeland Security
Region 8
Denver Federal Center, Building 710
P.O. Box 25267
Denver, CO 80225-0267

FEMA

R8-MT

August 14, 2024

Clay County Board of Commissioners
211 W. Main Street, Suite 200
Vermillion, South Dakota 57069

Dear Board of County Commissioners:

We are pleased to announce the approval of the Pre-Disaster Mitigation Plan for Clay County, South Dakota as meeting the requirements of the Stafford Act and Title 44 Code of Federal Regulations §201.6 for a local mitigation plan. The plan approval extends to Clay County, the Cities of Irene and Vermillion, and the Town of Wakonda.

The jurisdictions are hereby eligible for FEMA Hazard Mitigation Assistance grant programs. All requests for funding will be evaluated individually according to the specific eligibility and other requirements of the particular programs under which the application is submitted. Approved mitigation plans may be eligible for points under the National Flood Insurance Program Community Rating System.

This plan is approved through August 13, 2029. A local jurisdiction must revise its plan and resubmit it for approval within five years to continue to be eligible for mitigation project grant funding. We have provided recommendations for the next plan update on the enclosed Plan Review Tool.

We wish to thank the jurisdictions for participating in the planning process and commend your continued commitment to reducing future disaster losses. Please contact Jim Poppen, Mitigation Manager/State Hazard Mitigation Officer, South Dakota Office of Emergency Management, at jim.poppen@state.sd.us or (605) 773-3231 with any questions on the plan approval or mitigation grant programs.

Sincerely,

Nicole M. Aimone
Mitigation Division Director

Enclosure
cc: Jim Poppen, Mitigation Manager/State Hazard Mitigation Officer, South Dakota Office of Emergency Management

2024

Pre-Disaster Mitigation Plan for Clay County, South Dakota



Technical Assistance By:
South Eastern Council of Governments

Prepared By:
Clay County Emergency Management

August 15, 2024

Contents

List of Figures 4
List of Tables 5
List of Acronyms 7
List of Appendices 9
Executive Summary 10
Introduction 12
Section One: Planning Process 13
Participation and Involvement 13
Planning Meetings 17
Meeting 1 – Planning Process 17
Meeting 2 - Risk Assessment 18
Meeting 3 – Hazard Integration 19
Meeting 4 – Mitigation Strategy 19
Meeting 5 – Review of Updated Plan 20
Public Meetings 21
Section Two: Capability Assessment 22
Coordination With Other Plans 22
Planning and Regulatory Functions 25
Administrative and Technical Assistance 26
Financial Assistance 27
Education and Outreach 27
SWOT Analysis on the Capability Assessment 28
Section Three: Risk Assessment 33
Hazard Profiles 34
Methodology 34
Location 35
Extent 35
Probability 36
Identified Hazards 37

Agricultural Pests & Diseases 37
Geological Hazard – Earthquakes 39
Geological Hazard – Landslides 41
Tornadoes 42
Wildfires 43
Priority Hazards 45
Drought 46
Flooding 48
Severe Summer Storms 56
Severe Winter Storms 61
Future Conditions 65
Agricultural Pests and Disease 67
Drought/Extreme Heat 68
Earthquakes/Landslides 68
Floods 68
Severe Summer Storms 69
Severe Winter Storms 69
Tornadoes 70
Wildfires 70
Determining Community Vulnerability 71
Community Assets 71
Clay County 72
Irene 88
Vermillion 91
Wakonda 97
National Flood Insurance Program 100
Mapping 100
Insurance 101
Regulations 101

Community Participation in NFIP 102
Growth and Development 106
Summary of Growth and Development 106
Section Four: Mitigation Strategies 108
Problem Statements 112
Drought/Extreme Heat 112
Flooding 112
Severe Summer Storms 112
Severe Winter Storms/Extreme Cold 112
Section Five: Plan Update, Evaluation, and Implementation 119
Summary of Hazard Information Integration 121
Comprehensive Plans 122
Transportation Plans 122
Zoning Ordinances 122
Overlay Districts 122
Subdivision Regulations 123
Stormwater Master Plan 123
Resilience Plan 123
Emergency Action Plan 123
Integrated Watershed Management Plans 124
References 126

List of Figures

Figure 0.1 Clay County Courthouse 11
Figure 1.1 Emergency Recovery Process 13
Figure 1.2 Vermillion City Hall 21
Figure 2.1 Tommy the Turtle Visits the Yankton Library 22
Figure 2.2 Vermillion Wastewater Treatment Plant 31
Figure 3.1 Tree with an Emerald Ash Borer Infestation 38
Figure 3.2 Map of Historical Earthquakes in South Dakota 39
Figure 3.3 Clay County Drought Monitor 47
Figure 3.4 March 22, 2019, Flooding 49
Figure 3.5 Clay County Two-Day Precipitation Event 54
Figure 3.6 Heavy Rainfall Event on September 12, 2019 55
Figure 3.7 Derecho on May 12, 2022 60
Figure 3.8 Blizzard on April 10-12, 2019 64
Figure 3.9 Frequency of Weather Events from 2013-2022 66
Figure 3.10 Projected Temperature Change 67
Figure 3.11 State Climate Summary 67
Figure 3.12 Projected Change in Winter Precipitation 69
Figure 3.13 Clay County Social Vulnerability Index 73
Figure 3.14 Clay County Population Density 74
Figure 3.15 Farmland in Clay County 78
Figure 3.16 Physiographic Regions Map 84
Figure 3.17 Vermillion Exit of Interstate 29 94
Figure 3.18 Vermillion Fire & EMS Station 95
Figure 3.19 First Baptist Church of Vermillion 97
Figure 3.20 Clay County Flooded Road in March 2019 102
Figure 3.21 New Construction in Vermillion 107
Figure 4.1 Summary of Mitigation Strategies 109
Figure 5.1 Comprehensive Plan for the City of Vermillion 124

List of Tables

Table 1.1 Planning Team Members and Attendance 16
Table 2.1 Clay County Jurisdictions' Plans 23
Table 2.2 Building Codes 26
Table 2.3 Funding Opportunities for Hazard Mitigation Projects 27
Table 2.4 Clay County SWOT Analysis 32
Table 3.1 Presidentially Declared Disasters in Clay County 33
Table 3.2 Clay County Potential Hazards 37
Table 3.3 Tornado Events and Damage in Clay County 43
Table 3.4 Drought Events in Clay County 47
Table 3.5 Clay County Drought Summary Results 48
Table 3.6 Vermillion Annual Precipitation 50
Table 3.7 Dams Located in Clay County 51
Table 3.8 Flood Damage in Clay County Over a 10-Year Period 53
Table 3.9 Clay County Flooding Summary Results 56
Table 3.10 Severe Summer Storm Location Summary 57
Table 3.11 Severe Summer Storm Maximum Probable Extent Summary 59
Table 3.12 Severe Summer Storm Data 60
Table 3.13 Severe Summer Storms Probability of Future Events Summary 61
Table 3.14 Severe Winter Storm Location Summary 62
Table 3.15 Severe Winter Storm Maximum Probable Extent Summary 62
Table 3.16 Regional Snowfall Index 63
Table 3.17 Vermillion Annual Snowfall 63
Table 3.18 Severe Winter Storm Probability of Future Events Summary 65
Table 3.19 Clay County Population 72
Table 3.20 Clay County Percentage of Vulnerable Populations 72
Table 3.21 Summary of Vulnerable People 75
Table 3.22 Clay County Expected Annual Losses 77
Table 3.23 Summary of Economic Vulnerability 79
Table 3.24 Summary of Vulnerable Structures 82
Table 3.25 Clay County Land and Water Area 85
Table 3.26 Summary of Vulnerable Natural, Historic, and Cultural Resources 86
Table 3.27 Irene Population 88
Table 3.28 Irene Percentage of Vulnerable Populations 88
Table 3.29 Irene and Wakonda Expected Annual Losses 89
Table 3.30 Irene Land and Water Area 91
Table 3.31 Vermillion Population 91
Table 3.32 Vermillion Percentage of Vulnerable Populations 91

Table 3.33 Vermillion Expected Annual Losses 93
Table 3.34 Vermillion Land Area 96
Table 3.35 Wakonda Population 97
Table 3.36 Wakonda Percentage of Vulnerable Populations 98
Table 3.37 Wakonda and Irene Expected Annual Losses 99
Table 3.38 Wakonda Land and Water Area 100
Table 3.39 Clay County Communities Participating in the NFIP 101
Table 3.40 NFIP Information for Clay County 103
Table 3.41 FEMA NFIP Policy Statistics 105
Table 3.42 Clay County Repetitive Loss Properties 105
Table 3.43 Clay County Type of Repetitive Loss Properties 106
Table 4.1 Problem Statements 113
Table 4.2 2024 Pre-Disaster Mitigation Plan Goals & Objectives 114
Table 4.3 Clay County Mitigation Action Updates 115

List of Acronyms

ACS – American Community Survey
ALERT – Automated Local Evaluation in Real-Time
ALICE - Alert Lockdown Inform Counter Evacuate
ATSDA – Agency for Toxic Substances and Disease Registry
BNSF – Burlington Northern Santa Fe Railroad
BRIC – Building Resilient Infrastructure and Community
CDBG – Community Development Block Grant
CDC – Centers for Disease Control and Prevention
CEQ – Council on Environmental Quality's
CRS – Community Rating System
CST – Central Standard Time
DANR – Department of Agriculture and Natural Resources
EDA – Economic Development Administration
FEMA – Federal Emergency Management Agency
FHBM – Flood Hazard Boundary Map
FIRM – Flood Insurance Rate Map
FMA – Flood Mitigation Assistance
FMA – Floodplain Management Association
GOED – Governor's Office of Economic Development
HMA – Hazard Mitigation Assistance
HMGP – Hazard Mitigation Grant Program
IBC – International Building Code
LEOP – Local Emergency Operations Plan
MPO – Metropolitan Planning Organization
MSA – Metropolitan Statistical Area
NASA – National Aeronautics and Space Administration
NCDC – National Climate Data Center
NFIP – National Flood Insurance Program
NID – National Inventory of Dams
NIDIS – National Integrated Drought Information System
NOAA – National Oceanic and Atmospheric Administration
NSFHA – No Special Flood Hazard Area
NWS – National Weather Service
SDDOT – South Dakota Department of Transportation
SD OEM – South Dakota Office of Emergency Management
SECOG – South Eastern Council of Governments
SESDAC – Services & Support for People with Disabilities
SFHA – Special Flood Hazard Area

SWOT – Strengths, Weaknesses, Opportunities, and Threats
USACE – United States Army Corps of Engineers
USD – University of South Dakota
USDA – RD – United States Department of Agriculture – Rural Development
USGS – United States Geological Survey
WAPA – Western Area Power Administration

List of Appendices

Appendix A	Invite List, Designated Representatives, Sign-In Sheets, & Attendance List
Appendix B	Media Releases
Appendix C	Meeting #1 Documents
Appendix D	Meeting #2 Documents
Appendix E	Meeting #3 Documents
Appendix F	Meeting #4 Documents
Appendix G	Meeting #5 Documents
Appendix H	Capability Assessment Activity
Appendix I	Hazard Activity
Appendix J	Storm Weather Events
Appendix K	Critical Facilities & Flood Zone Maps
Appendix L	Identifying Vulnerable Assets Activity
Appendix M	NFIP Activity
Appendix N	Growth Assessment Activity
Appendix O	Problem Statement Activity
Appendix P	Mitigation Action Update Activity
Appendix Q	Future Mitigation Actions Activity
Appendix R	Hazard Integration Activities
Appendix S	Resolutions

Executive Summary

The *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*, is an update of the *Clay County Pre-Disaster Hazard Mitigation Plan Update 2019*. The purpose of this Plan update is to ensure that Clay County's strategies to reduce risks to people and property from hazard events are relevant and effective. In compliance with the Local Mitigation Planning Policy Guide, local governments, including special districts seeking Plan approval, are responsible for participating in the planning process which includes adopting the updated Plan. Active participants in developing and adopting this updated Plan, which includes Clay County, and the incorporated communities within Clay County, are eligible for Federal Emergency Management Agency (FEMA) hazard mitigation grant programs.

With the technical assistance of the South Eastern Council of Governments (SECOG), the Clay County Emergency Management Department has developed the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota.*

The introduction of this Plan outlines the purpose and scope of the planning process. The *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*, is a multi-jurisdictional plan that includes all unincorporated areas of the County as well as the cities of Irene and Vermillion and the Town of Wakonda. Figure 0.1 displays a picture of the Clay County Courthouse located in Vermillion, SD.

The Plan aims to assist Clay County in anticipating, withstanding, and recovering from hazards and, in turn, reducing the risks to life and property associated with hazardous events.

The scope of the planning process was three-fold: 1) to revise the 2019 Plan, 2) to create a user-friendly document that addresses the current needs of the participating jurisdictions, while at the same time, meeting the requirements of the Disaster Mitigation Act of 2000, and 3) incorporating the updated Local Mitigation Planning Policy Guide.

Section 1: The Planning Process discusses the outreach strategy to inform the public and stakeholders, and the process that was used to develop the Plan. Municipalities, townships, the County, and citizens participated in the development of the Plan's update through representation on the Hazard Mitigation Planning Team. All meetings throughout the planning process were open to the public.

Section 2: The Capability Assessment "identifies each communities' plans, policies, programs, and unique set of capabilities, to accomplish mitigation and reduce long-term vulnerability. By reviewing the existing capability in each jurisdiction, the Planning Team can identify capability that currently reduce disaster losses or could be used to reduce losses in the future" (Local Mitigation Planning Handbook, 2023, p. 4-1 Task 4).

Section 3: The Risk Assessment identifies and profiles the hazard events that threaten Clay County. This section provides a discussion of local assets and analyzes hazard events that have occurred since the 2019 Plan was adopted. This section also describes the County's progress toward

meeting the mitigation goals that were established in the 2019 Plan and assesses each individual community's vulnerabilities.

Section 4: Mitigation Strategies detail the mitigation goals, objectives, and action items that were developed through the Plan update process.

Section 5: Plan Update, Evaluation, and Implementation sets forth the Plan implementation process and establishes roles and responsibilities related to the update and maintenance of the Plan. This section also details how this Plan will integrate with other communities' plans.

Figure 0.1 Clay County Courthouse



Introduction

Clay County is vulnerable to natural and manmade disasters that have the potential to impact the County's infrastructure, the welfare of its residents, and the economy. Past disasters have inflicted costly damages upon Clay County. While these disasters cannot be eliminated, with mitigation planning, the response and recovery from these events can be improved and adverse impacts to individuals, businesses, and communities can be reduced. Hazard mitigation is the effort to make communities more resilient and better able to anticipate, withstand, and recover from hazard events.

In order to be eligible for FEMA's Hazard Mitigation Assistance (HMA) grant programs, the Disaster Mitigation Act of 2000 requires that local governments have a FEMA-approved mitigation plan in place. In these plans, local jurisdictions must demonstrate that proposed mitigation projects assess the unique risks and capability of each community. The Plan must be updated every five years to demonstrate that progress has been made toward meeting the communities' mitigation goals and to ensure that the Plan continues to be an effective mitigation tool.

The *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota,* is an update of the *Clay County Pre-Disaster Hazard Mitigation Plan Update 2019*. This document details the planning process that was used to update the Plan, considers changes in the built environment and population of the County and its communities since 2019, examines the communities' progress toward meeting the mitigation goals set in the previous Plan, re-evaluates hazard threats, and establishes new mitigation goals that will lead to more resilient communities.

The *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota,* is a multi-jurisdictional Plan that includes the unincorporated areas of Clay County and the cities of Irene and Vermillion, and the Town of Wakonda. The Plan provides goals, objectives, and mitigation activities developed by the Mitigation Planning Team that will guide the County's disaster mitigation efforts over the next five years.

Incorporated Communities in Clay County: City of Irene, City of Vermillion, and the Town of Wakonda

Unincorporated Communities in Clay County: Burbank and Meckling

Townships in Clay County: Bethel Township, Fairview Township, Garfield Township, Glenwood Township, Meckling Township, Norway Township, Pleasant Valley Township, Prairie Center Township, Riverside Township, Spirit Mound Township, Star Township, and Vermillion Township

Section One: Planning Process

Participation and Involvement

A1-a. A diverse group of emergency management professionals, local officials, and citizens participated in the hazard mitigation planning process. In July 2023, the Emergency Management Director of Clay County invited community members and local and regional agency representatives to be part of the Mitigation Planning Team. In addition, a request was made to each participating community to appoint a specific person to represent their jurisdiction on the Mitigation Planning Team.

Figure 1.1 Emergency Recovery Process



Figure 1.1 displays a diagram of the planning process. The planning process includes preparedness, response, recovery, and the mitigation of natural hazards. By updating the *Clay County Pre-Disaster Hazard Mitigation Plan Update 2019*, the Mitigation Planning Team seeks to reduce long-term vulnerability to natural hazards.

A1-b. Members of the Mitigation Planning Team were asked to participate in the planning meetings, provide information and documents used to update the Plan, propose mitigation actions, and review the draft as it was assembled. The goal was to include representation from a diverse section of hazard mitigation stakeholders. Individuals from the following groups were invited to participate on the Mitigation Planning Team:

Clay County

- Auditor
- County Commissioners
- Floodplain Administrator
- Planning & Zoning Staff
- Sheriff's Department

Community-Based Organizations

- Services & Support for People with Disabilities (SESDAC)
- Southeast Court Appointed Social Advocates (CASA) for Children
- Sunset Manor Avera
- Vermillion Public Transit
- Vermillion United Way

Economic Development Corporations

- Irene Community Development Corporation
- Vermillion Area Chamber and Development Company

Emergency Service Entities

- Irene Fire and Rescue Services
- Sanford Vermillion Medical Center
- Vermillion Fire and Emergency Medical Services

Engineering Firms

- Banner Associates
- DGR Engineering
- SPN & Associates

Municipalities within Clay County

- City of Irene, City of Vermillion, and the Town of Wakonda
    - City Council Members
    - City Engineers
    - Finance Officers
    - Mayors
    - Public Works Staff
    - Utility Managers

Neighboring Communities

- Yankton County Emergency Management
- Union County Emergency Management

Schools

- Irene-Wakonda School District
- University of South Dakota
- Vermillion School District

Townships

- Bethel Township
- Fairview Township
- Garfield Township
- Glenwood Township
- Meckling Township
- Norway Township
- Pleasant Valley Township
- Prairie Center Township
- Riverside Township
- Spirit Mound Township
- Star Township
- Vermillion Township

Utility Providers

- Clay Rural Water System
- Clay-Union Electric Co-op
- Vermillion Basin Water Development District
- Vermillion Light & Power

The outreach strategy included gathering contact information from as many organizations as possible. After the initial email invitations were dispersed, the meetings were also published in the local newspaper, the *Vermillion Plain Talk*, as well as on SECOG's Facebook page. Townships were mailed press releases before each meeting.

SECOG and Clay County Emergency Management made a concerted effort to invite representatives from community-based organizations that serve vulnerable populations. Some such community-based organizations that were invited to attend included nursing homes, care facilities that serve individuals with intellectual or developmental disabilities, public transit organizations, school districts, youth advocacy organizations, and volunteer organizations.

Lincoln County Emergency Management was also provided a copy of the draft Plan in order to provide feedback.

Table 1.1 lists the Mitigation Planning Team members, including their attendance at the planning meetings.

Table 1.1 Planning Team Members and Attendance

Planning Team Members and Attendance						
Name	**Organization**	**7/20/23**	**8/24/23**	**9/28/23**	**10/19/23**	**11/16/23**
Jami Morrison	Bechel Township		X			
Caitlin Collier	Citizen		X			
Aaron Armstrong	Clay County	X				
Drew Gunderson	Clay County	X	X	X		
Larry McPherson	Clay County	X	X			
Rodney Polley	Clay County	X	X			X
Layne Stewart	Clay County	X	X	X	X	
Carri Crum	Clay County	X		X		
Andy Howe	Clay County	X				X
Dick Hammond	Clay County	X		X		
Travis Mockler	Clay County	X				
David Thiesse	Clay County	X	X			
Mike Kruse	Clay-Union Electric		X			
Angela Jackson	Fairview Township	X				
Joseph Landeen	Glenwood Township	X				
Rick Bak	City of Irene					X
Roger Gilbertson	Pleasant Valley Township	X	X			
Ron Hout	Pleasant Valley Township	X	X	X		
Rick Wolfswint	Pleasant Valley Township					X
Richard Adamson	Riverside Township	X	X	X	X	X
Gary Andersen	Riverside Township	X				
Larry Erickson	Riverside Township	X				
Harley Ferguson	SECOG		X		X	
Danielle Franco	SECOG		X	X		X
Sophie Johnson	SECOG	X	X	X	X	X
Brian Anglin	SESDAC	X	X			
Curt Brodsky	Spirit Mound Township	X				
Jacob Sonne	SPN Engineering (Wakonda)				X	
Ronald Peterson	Star Township	X	X			

Robin Stockland	Sunset Manor Area (Irene-Wakonda)	X	X			
Jessie Fischer	Town of Wakonda					X
Chad Davison	University of South Dakota	X				
Kevin O'Kelley	University of South Dakota	X	X	X		
Scott Pottorff	University of South Dakota	X	X	X	X	X
Jonathan Walser	Vermillion School District	X	X		X	X
Matthew Callahan	Vermillion Fire & EMS	X	X			X
Tony Klunder	Vermillion Fire & EMS	X	X	X		
Barb Ballensky	Vermillion Public Transit		X	X		
Damon Alvey	Vermillion School District	X				
Jack Baustian	City of Vermillion	X				
Crystal Brady	City of Vermillion	X		X	X	X
Shane Griese	City of Vermillion	X	X	X	X	X
John Prescott	City of Vermillion	X	X	X	X	X
Troy Cowman	Yankton County EMS	X				
Eric Van Dusen	Yankton County EMS	X				

A2-a. SECOG staff gathered contact information for a list of stakeholders and invited them, via email, to participate in the planning process. The full list of those invited and the sign-in sheets from each meeting are included in Appendix A.

Planning Meetings

A3-a. Five monthly meetings were scheduled beginning in July 2023. The public was notified of the planning meetings through media releases published in the *Vermillion Plain Talk* newspaper and on SECOG's Facebook page. Copies of the media releases are included in Appendix B.



Meeting 1 – Planning Process

The initial Mitigation Planning Team meeting was held July 19, 2023, at the Vermillion Fire EMS Station. At this meeting, SECOG staff used a PowerPoint presentation to introduce the hazard mitigation planning process and provide an overview and purpose of the Plan update. Participants were provided an agenda packet that included the following items:

1. Agenda
2. Future Meeting Dates
3. Definition of Terms & Acronyms
4. Hazard Activity
5. Problem Statements Activity
6. Helpful Links

Copies of these documents and the meeting minutes are included in Appendix C.

SECOG explained the importance of community involvement in the planning process. The Mitigation Planning Team discussed the roles and responsibilities of the community representatives and how the representatives' input in the Plan update is essential. SECOG provided background on how the Plan is funded and how in-kind match relates to the participation of the communities' and citizens' time. SECOG also asked that if there were other entities or organizations that would benefit from attending the mitigation planning meetings, to provide their contact information, and SECOG would contact them.

In the initial Mitigation Planning Team meeting, the Team discussed the goals and objectives that were included in the *Clay County Pre-Disaster Hazard Mitigation Plan Update 2019*. The Team reviewed the goals and objectives and chose to adopt the 2019 goals and objectives for *2024 Pre-Disaster Mitigation Plan for Clay County*.

Next, the Team reviewed hazards that may occur in Clay County. The Team ranked these disasters based on four factors. These factors were Location (Geographic Area Affected), Maximum Probable Extent, Probability of Future Events, and Overall Significance. The Planning Team reviewed the critical facilities maps from the *Clay County Pre-Disaster Hazard Mitigation Plan Update 2019* and were asked to update the maps with any new, relocated, or removed critical facilities.

Meeting leaders reiterated the importance of involvement in the update process and stressed the desire to include a diverse representation of stakeholders from Clay County.

Meeting 2 - Risk Assessment

The second Mitigation Planning Team meeting was held August 24, 2023. At this meeting, participants received a packet of materials. The materials included the following documents:

1. Agenda
2. Identifying Vulnerable Assets Activity
3. Capability Assessment Activity
4. Mitigation Action Update Activity

Copies of these documents and the meeting minutes are included in Appendix D.

Discussions focused on the results of the Hazard Activity from the initial meeting. The four priority hazards that were identified for the updated Plan are drought, severe summer storms, severe winter storms, and floods. SECOG staff presented weather event statistics from the National Oceanic and Atmospheric Administration (NOAA) from the previous three years. Next, the Mitigation Planning Team reviewed the Problem Statement Activity. A suggestion was made by a participant to include a problem statement regarding drought/extreme heat and its potential to result in human injury or loss of life.

The Mitigation Planning Team completed an Identifying Vulnerable Assets Activity and a Capability Assessment Activity for their respective communities. The Identifying Vulnerable Assets Activity was used to determine vulnerable assets within each community in the categories of people, structures, economic assets, natural, historic, and/or cultural resources, and community events. The Capability Assessment Activity was used to determine what capability communities/organizations already have to assist in mitigating against natural disasters.

Meeting 3 – Hazard Integration

The third Mitigation Planning Team meeting was held September 28, 2023. The Planning Team was given an agenda packet with the following items:

1. Agenda
2. Fire Departments
3. Future Mitigation Action Activity
4. Hazard Information Integration Activity (Part 1)
5. CDC/ASTDR Social Vulnerability Handout

Copies of these documents and the meeting minutes are included in Appendix E.

SECOG staff discussed the results of the Identifying Vulnerable Assets and the Capability Assessment activities. The Planning Team used the Center for Disease and Control (CDC)/Agency for Toxic Substances and Disease Registry (ASTDR) Social Vulnerability handout to compare the results of the Identifying Vulnerable Assets Activity to identify communities that may need more support before, during, or after disasters. The Planning Team updated the list of all fire departments in Clay County. The Planning Team worked together to complete the first part of the Hazard Information Integration Activity. SECOG provided the Future Mitigation Action Activity for planning participants to complete and return at the fourth meeting.

Meeting 4 – Mitigation Strategy

The fourth meeting was held October 19, 2023. SECOG gave the Mitigation Planning Team an agenda packet with the following items:

1. Agenda
2. Planning Progress to Date
3. Funding Opportunities

4. National Flood Insurance Program Activity (NFIP)
5. Community Growth Activity
6. Hazard Information Integration Activity (Part 2)

Copies of these documents and the meeting minutes are included in Appendix F.

The Planning Team discussed progress to date and activities that the Team completed during the first three meetings. The Planning Team's discussion revolved around specific future mitigation actions, the different types of FEMA funding available, and other funding opportunities for mitigation actions. The Planning Team also discussed how to determine cost of projects, how to establish a timeframe for completion, resources available to assist in project completion, and project prioritization. Each Team member was encouraged to facilitate discussions with their respective boards and councils regarding mitigation actions to include in the Plan.

The Team also discussed information regarding the National Flood Insurance Program (NFIP). All communities within Clay County participate in the NFIP. FEMA recently updated its floodplain maps of Clay County.

The Mitigation Planning Team discussed the final and public meetings. The Planning Team also discussed the adoption process.

The final discussion involved the second part of the Hazard Information Integration Activity. Part two of the Hazard Information Integration Activity consisted of identifying actions to address conflicts and gaps between the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota,* and other plans within the County and municipalities.

Meeting 5 – Review of Updated Plan

The final Mitigation Planning Team meeting was held November 15, 2023. SECOG staff and the Planning Team reviewed the critical facilities map updates. SECOG staff presented a high-level overview of changes between the *Clay County Pre-Disaster Hazard Mitigation Plan Update 2019* and the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*.

In developing the new Plan, a greater effort was made to invite nonprofit and community-based organizations which serve vulnerable populations. In addition, meeting leaders placed emphasis on being engaged and actively participating in the planning meetings.

SECOG staff explained that the *Section Two: Capability Assessment* section was added into the Plan update to elaborate how organizations'/communities' internal plans, regulations, financials, and education/outreach efforts enable or prevent them from implementing their Future Mitigation Actions.

Discussion was also had on changes to *Section Three: Risk Assessment*. Most of the changes included updating the priority hazards and including more information on human-made and technological hazards. *Section Three* also included storm weather events that occurred between

2019-2022. This data was compared to the storm weather events that occurred between 2012-2018. Discussion ensued concerning future conditions, such as climate change.

SECOG staff detailed the changes to *Section Four: Mitigation Strategy* which included more specific problem statements, an updated Mitigation Strategy based on the SWOT analysis results, and new Future Mitigation Actions.

Finally, the Team discussed *Section Five: Plan Update, Evaluation, and Implementation*. The timeline for adoption and the annual review of the Plan was discussed. The Planning Team determined a date for the public meeting in which the Plan would be available for final public review and comment. A copy of the fifth meeting agenda and minutes are included in Appendix G.

Public Meetings

The public meeting was held February 1, 2024, in the Powell Room of Vermillion City Hall. Figure 1.2 below is a picture of Vermillion City Hall. No public comments were received.

Figure 1.2 Vermillion City Hall



Section Two: Capability Assessment

A4-a. Communities' capabilities serve as a blueprint for assessing each community's ability to accomplish mitigation actions and reduce long-term vulnerability. During the planning process, the Planning Team participated in a Capability Assessment Activity that evaluated the existing capability of each community. The Assessment was based on four primary categories: planning and regulations, administrative and technical support, financial resources, and education and outreach. In Figure 2.1 below, Tommy the Turtle visited the Yankton Public Library in 2020. This is an example of an education and outreach activity. A summary of the communities' Capability Assessments and a copy of each community's Capability Assessment Activity can be found in Appendix H.

Figure 2.1 Tommy the Turtle Visits the Yankton Library



Coordination With Other Plans

During the Plan update process, existing planning documents were reviewed to ensure that the new Plan's goals and objectives align with other established plans and processes within Clay County. Each jurisdiction's Comprehensive Plan was reviewed and evaluated to ensure the Comprehensive Plans' goals and objectives are compatible with the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*. The current State of South Dakota Hazard Mitigation Plan provided a foundation to assess hazard vulnerability in Clay County.

A4-a. The incorporation of other plans, studies, reports, and technical information in the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota,* is detailed below in Table 2.1.

Table 2.1 Clay County Jurisdictions' Plans

Clay County Jurisdictions' Plans		
Jurisdiction	**Planning Mechanism**	**Explanation**
Clay County	Clay County Comprehensive Plan 2001-2021 Local Emergency Operations Plan (LEOP) Master Transportation Plan	The Environmental Constraints section of the County's Comprehensive Plan was incorporated into the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*, to assess the community's capability of enforcing floodplain ordinances. The *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*, uses Clay County's LEOP as a reference when updating previous mitigation actions and setting future mitigation actions. The Clay County LEOP is a closed document containing sensitive information regarding public safety. The Plans are similar in that they share a goal to "better coordinate efforts to mitigate, prepare, manage, and respond to all hazard events across jurisdictions in Clay County." This Plan incorporated information from the Clay County Master Transportation Plan by reviewing mapped roadways and other transportation assets listed in the Clay County Master Transportation Plan. This information was incorporated in the transportation and utility infrastructure section of the Plan. The Clay County Master Transportation Plan provides information about the built roadways and flood conditions in Clay County.
City of Irene	Irene 2035 Comprehensive Plan Facility Plans	The Environmental Constraints section of the municipality's Comprehensive Plan was incorporated into the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*, to assess the community's capability of enforcing floodplain ordinances. A Facility Plan is published by the City's contracted engineer and is an overview of the municipality's water and wastewater systems to strategically plan for improving the systems. Facility Plans are incorporated into this Plan as a basis for needs of the municipality's water, sewer, and stormwater drainage systems and are used to make

		decisions on future mitigation actions. This aligns with the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota's* goal to reduce long-term vulnerability.
City of Vermillion	Vermillion 2035 Comprehensive Plan Facility Plans	The Environmental Constraints section of the municipality's Comprehensive Plan was incorporated into the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*, to assess the community's capability of enforcing floodplain ordinances. A Facility Plan is published by the City's contracted engineer and is an overview of the municipality's water and wastewater systems to strategically plan for improving the systems. Facility Plans are incorporated into this Plan as a basis for needs of the municipality's water, sewer, and stormwater drainage systems and are used to make decisions on future mitigation actions. This aligns with the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota's* goal to reduce long-term vulnerability.
Town of Wakonda	Wakonda 2003-2025 Comprehensive Plan Facility Plans	The Environmental Constraints section of the municipality's Comprehensive Plan was incorporated into the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*, to assess the community's capability of enforcing floodplain ordinances. A Facility Plan is published by the City's contracted engineer and is an overview of the municipality's water and wastewater systems to strategically plan for improving the systems. Facility Plans are incorporated into this Plan as a basis for needs of the municipality's water, sewer, and stormwater drainage systems and are used to make decisions on future mitigation actions. This aligns with the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota's* goal to reduce long-term vulnerability.

Planning and Regulatory Functions

Each community within Clay County has existing planning and regulatory tools such as comprehensive plans, municipal codes, zoning ordinances, building codes, and design standards. In most comprehensive plans, there is an Environmental Constraints section which examines the presence of environmental restrictions within a community. This section informs government leaders when making decisions regarding future development. The Environmental Constraints section also typically includes wetlands, as identified by the U.S. Fish & Wildlife Service's National Wetlands Inventory, and floodplains, as identified by FEMA's Flood Map Service Center.

In addition, Clay County has a Local Emergency Operations Plan (LEOP) in place. LEOPs aim to assist county governments in responding to emergencies/disasters when they exceed the municipal government's capability to respond. During emergency operations, LEOPs prioritize the preservation of life, the preservation of property, and maintain communication between the State, county, and local authorities (Clay County LEOP, 2021).

Representatives from the University of South Dakota (USD) participated in the Capability Assessment Activity and, based on the categories that were applicable to the University, demonstrated that the University is capable of mitigating long-term vulnerability based on possessing the following plans to mitigate against natural and human-made hazards:

- ALICE Response Plan (Active Shooter Plan)
- Bomb Threat Plan
- Capital Improvement Plan
- Continuity of Operations Plan
- Economic Development Plan
- Emergency Operations Plan
- Fire Safety Plan
- Master Plan
- Tornado Plan

Some of the documents above are private documents, not for public use. The LEOP, Active Shooter Plan, Bomb Threat Plan, Fire Safety Plan, and Tornado Plan provide a general overview of the USD's goals and objectives, with the primary goal being the safety of the students. On USD's website, there are several evacuation and severe storm plans in the event of natural disasters. Although these plans are largely preparedness in nature and do not mitigate natural hazards directly, these plans demonstrate the University's ability to prevent the loss of life.

During the Plan update process, existing planning documents were reviewed to ensure that new Plan goals aligned with existing plans and operations within the County. In addition to each jurisdiction's Comprehensive Plan, other plans were reviewed and evaluated to ensure the goals and objectives mirrored the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*. Table 2.1 above illustrates the similarities between the comprehensive plans, facilities plans, and

other community-related plans with the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*. Not only is planning one of the most critical aspects of implementing mitigation actions, but it is also imperative to have the administrative and technical support to manage the action plans going forward.

Administrative and Technical Assistance

In South Dakota, technical assistance is provided to local governments through regional planning districts. Most communities within Clay County utilize SECOG to provide technical assistance to update and revise their Comprehensive Plans, municipal codes, and zoning ordinances. SECOG's land use planners assist communities with zoning regulations which can be used to restrict development in floodplains and wetlands. Other technical assistance comes from contracted engineers to create water and wastewater facilities plans and master transportation plans.

Table 2.2 Building Codes

Building Codes	
Community	**Building Code**
Clay County	No Building Code Data
Irene	No Building Code Data
Vermillion	2018 IBC & IRC
Wakonda	No Building Code Data

According to the National Building Code Adoption Tracking Portal (BCAT), "South Dakota has no mandatory statewide building or residential code. Building codes are governed at the local jurisdiction level. Where no local building code has been adopted, the 2021 International Building Code (IBC) applies to new non-residential construction. When adopting a new local building code or residential code, jurisdictions must use the 2021 IBC or 2021 International Residential Code, respectively, but may modify the codes as they choose" (BCAT, 2023). Table 2.2 displays the current building codes in Clay County and the communities within Clay County.

One of the weaknesses that the Planning Team identified during its review of the Capability Assessment Activity is that some communities in Clay County only have part-time municipal staff. The City of Irene and the Town of Wakonda do not have full-time employees. This is considered a weakness as smaller communities, with few or part-time municipal staff, may not have the capacity to administer FEMA mitigation projects in addition to the other duties that are expected of them.

SECOG assists counties and municipalities with loan and grant administration of funding awarded by state and federal agencies. The State of South Dakota provides funding sources for local governments to improve community infrastructure. For example, the South Dakota Department of Agriculture and Natural Resources (DANR) is a funding source to improve community infrastructure through a revolving loan fund. Municipalities within Clay County also have the benefit of Clay County's Office of Emergency Management for added administrative and technical support in mitigating natural hazards as well as the support of the South Dakota Office of Emergency Management (SD OEM).

Financial Assistance

SD OEM addresses financial assistance for hazard mitigation activities by implementing its goal to "support and assist local mitigation capability and efforts" and encouraging local governments to participate in risk reduction measures (State of SD Hazard Mitigation Plan, 2019, p. 1-4). Oftentimes these measures must be met with financial assistance in order to implement eligible mitigation projects.

Table 2.3 below provides a list of a state and federal agencies that offer funding opportunities for hazard mitigation projects.

Table 2.3 Funding Opportunities for Hazard Mitigation Projects

Funding Opportunities for Hazard Mitigation Projects	
Agency	**Funding Opportunity**
U.S. Economic Development Administration (EDA)	Competitive Grant
	Supplemental Disaster Funding
SD Governor's Office of Economic Development (GOED)	Community Development Block Grant (CDBG)
	Community Projects Funding
	Imminent Threat Funding
SD Department of Transportation (SD DOT)	Agri-Business Grant (AG)
	Community Access Grant (CAG)
	Emergency Relief Program
	Industrial Park Grant (IP)
	Transportation Alternatives Program (TAP)
SD Office of Emergency Management (SD OEM)	Building Resilient Infrastructure and Communities (BRIC)
	Flood Mitigation Assistance (FMA)
	Hazard Mitigation Grant Program (HMGP)
U.S. Department of Agriculture – Rural Development (USDA)	Emergency Community Water Assistance
	Water and Wastewater

According to the results of the Capability Assessment Activity, all jurisdictions within Clay County affirmed that they have previously received funding for mitigation projects through state and federal programs. Communities in Clay County also use general funds, sanitary/storm sewer, water fees, and/or DANR's State Revolving Fund to finance capital improvement projects.

Education and Outreach

SD OEM provides education and outreach programs in conjunction with FEMA Region VIII. The National Weather Service (NWS) has three offices in South Dakota: Aberdeen, Rapid City, and Sioux Falls. The NWS offers Severe Weather Alertness training to teach citizens how to recognize and protect themselves from severe storms. Another program provided by the NWS is the StormReady Program. The StormReady Program is a nationwide program that helps communities better protect citizens during severe weather by encouraging them to improve local hazardous weather operations proactively. SD OEM also works with emergency managers to improve

dangerous weather operations. Clay County, Vermillion, and Wakonda are StormReady Certified, making this a strength of Clay County.

The organizations that serve vulnerable populations in Clay County also illustrated their capability to mitigate natural hazards via the Capability Assessment Activity. Services & Support for People with Disabilities (SESDAC), Vermillion Public Transit, and Heritage Manor Nursing Home, checked "yes" to all categories on the Capability Assessment Activity that applied to them. Most organizations had master plans, capital improvement plans, emergency operations plans, and transportation plans.

Clay County, and the communities within the County, each possess unique capability to mitigate natural hazards and reduce long-term vulnerability to natural hazards. Clay County's capabilities have been evaluated in this section. The County's capabilities will continue to change over the next five years in anticipation of reducing risk and increasing abilities to mitigate natural hazards through planning and regulatory functions, administrative and technical support, financial assistance, and education and outreach programs.

SWOT Analysis on the Capability Assessment

Based on the results of the Capability Assessment Activity, the Planning Team noticed several variations in communities' capabilities. The variation in capability results from many factors, including where the community is located, regional economics impacting the local tax base, political support, full-time or part-time personnel, regular maintenance of and adherence to community and operational plans, and the strength of regulation and enforcement. Because of this variation, it was difficult to compare communities' capabilities based on a quantitative scale; therefore, a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis was used.

A SWOT analysis is a framework to help assess and understand the internal and external forces that may create opportunities or risks for an organization or community. Strengths are internal capabilities in which a community or organization excels. Weaknesses are areas that need improvements and are also based on the internal environment. Opportunities and Threats are external factors. Opportunities are external factors that can give an organization a favorable advantage. Threats are external factors that can cause harm to communities or organizations.

The Planning Team used the Capability Assessment Activity to review participants' existing authorities, policies, programs, and resources, to identify areas in which communities can expand on and improve their existing policies and programs.

Strengths. When assessing the Strengths of Clay County, and the communities within Clay County, it was evident that there is a strong capability to include and work with a broad range of existing and emerging plans. The Capability Assessment Activity revealed that all jurisdictions within Clay County have either a Comprehensive Plan or some sort of master plan. In addition, communities that have recently made improvements to their water and wastewater systems have facility plans. Clay County incorporates cities and towns within its LEOP and master transportation

plan. Some communities, such as Vermillion, have a special Emergency Response Plan. Cities such as Irene and Vermillion have Stormwater Management Plans.

The Capability Assessment Activity also revealed that communities have strong administrative and technical assistance available to them through their local planning district, SECOG, but also through the expertise of contracted engineers.

Furthermore, by actively participating in the planning meetings, participants displayed a devotion to help mitigate natural hazards and also demonstrated a high level of commitment to stakeholders, including residents, community-based organizations, and other individuals and organizations that would benefit from mitigation planning and actions.

According to the National Risk Index, Clay County ranks high in Community Resilience. According to FEMA, Community Resilience means that the County has "the ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions." Clay County scores an 81.9 out of 100 in Community Resilience.

Through the Capability Assessment Activity, the Planning Team discovered that Clay County has strong emergency services collaboration. The Clay County Emergency Manager works closely with the Clay County Sheriff's Office, Clay Area Emergency Services Communications Center, the Vermillion Police Department, Vermillion Fire EMS Department, and the University of South Dakota Police Department. According to the Clay County LEOP, the County will step in to assist municipalities with emergencies that are beyond the community's capacity. In addition to the strong collaboration, the Emergency Management Department hosts trainings for municipal staff and volunteers and assists local jurisdictions with their training programs. The Vermillion Fire EMS Department provides emergency services for the City of Vermillion and Clay County including mutual aid for nearby communities. Emergency service departments within Clay County provide updated information and status reports on their social media outlets such as Facebook to keep the community informed.

Clay County, the University of South Dakota, Vermillion, and Wakonda are StormReady Certified. This is a strength of the area as this program helps communities develop plans to handle all types of extreme weather events. The program also helps arm communities with the communication and safety skills needed to save lives and property before, during, and after weather events.

Weaknesses. The Capability Assessment Activity also demonstrated areas in which Clay County, and the communities within Clay County, could improve. Weaknesses revealed by the Capability Assessment Activity include competition amongst one another for funding and knowledge of funding programs, the lack of human capital at the local level and turnover of critical positions, and the time and resources needed for local government staff to participate in trainings and educational programs. SD OEM, in partnership with FEMA, has created online webinars, making trainings and educational resources more accessible. Attending virtual trainings is an opportunity for city officials to improve on this weakness.

Another weakness of Clay County is that Clay County qualifies as a Persistent Poverty County. While definitions on Persistent Poverty Counties may vary, geographies are typically considered to be in persistent poverty if they maintained poverty rates of 20 percent or more for 30 years. While being a Persistent Poverty County is a weakness of the County, it also creates an opportunity. Oftentimes, federal and state agencies will give greater preference to Persistent Poverty Counties in grant selection.

Opportunities. Opportunities identified via the Capability Assessment Activity include collaboration with various entities, including those that serve vulnerable populations, developing special plans based on local needs, seeking more funding opportunities through state and federal programs, improving the built environment, diversifying the economy, and collaborating with townships on road projects.

After reviewing the Capability Assessment Activity, the Planning Team discussed ways to collaborate with various entities. For example, communities in Clay County can collaborate with other organizations to help them apply for funding assistance through FEMA. The Planning Team also discussed Severe Weather Awareness training available to the public. On a county-wide basis, notifications of awareness trainings and educational courses can be circulated by the Emergency Management Director.

Clay County maintains and facilitates several plans and studies that require collaboration with other communities such as master transportation plans, comprehensive plans, and LEOPs. There is an opportunity for special plans to be developed based on local needs such as an emergency shelter plan.

As mentioned previously, Clay County qualifies as a Persistent Poverty County. Although this was previously stated as a weakness, it can also be viewed as an opportunity. State and federal programs often grant priority status to Persistent Poverty Counties when awarding funding.

Another opportunity that was identified is the opportunity to diversify the economy in Clay County. Currently, the County relies heavily on the agricultural industry. While this is an important industry, in the event of a natural disaster in which there is a great deal of crop damage, the local economy suffers. Diversifying Clay County, and the communities within Clay County economies', will assist in recovery efforts in the event of a natural disaster which destroys a large number of crops.

There is also opportunity for the County to collaborate with townships on road projects to alleviate flooding. During the Planning Team meetings, several townships participated in the Capability Assessment Activity and other activities of the planning process. Most of the townships had capital improvement plans for road and culvert repairs. Although townships cannot apply for FEMA hazard mitigation funding on their own, the County can apply on the townships' behalf. Several township representatives expressed that erosion and flooding were major issues for them as they are responsible for road maintenance.

Finally, opportunity exists for Clay County, and the communities within the County, to improve the built environment by continuing to seek state and federal funding opportunities. Local governments should also maintain and update local plans and regulations, as needed. Such plans and regulations could include comprehensive plans, zoning ordinances, municipal codes, design standards, and regulation of the floodplain. Updating plans and regulations are mitigation strategies that are typically of little or no-cost to the community.

Threats. Threats were identified through the Capability Assessment Activity. One threat identified is aging infrastructure within the built environment, such as water and sewer infrastructure. Figure 2.2 displays a photo of the Vermillion Wastewater Treatment Plant. The City of Vermillion recently obtained funding to improve the Vermillion Wastewater Treatment Plant. Another threat discovered through the Capability Assessment Activity is the fact that mitigation funding is frequently short-term or limited, oftentimes only available after a Presidential Disaster is declared. When a community receives mitigation funding, the funding is guided by a complex set of rules and regulations and the administrative burden of the state and federal program requirements are rigorous. The length of the time needed to execute mitigation projects is also a threat. Even if a community is awarded mitigation funding, the time it takes to implement the project is a risk as natural hazards continue to occur during project implementation. Finally, large portions of Clay County rely heavily on agriculture which makes the County especially vulnerable to natural hazards such as hail, floods, and drought. Table 2.4 below depicts a summary of the Clay County SWOT Analysis.

Figure 2.2 Vermillion Wastewater Treatment Plant



Table 2.4 Clay County SWOT Analysis

Clay County SWOT Analysis	
Strengths	**Weaknesses**
1. Strong capability to include and work with a broad range of existing and emerging plans 2. Community Resilience 3. Strong emergency service collaboration 4. StormReady Certified communities	1. Competition for funding and knowledge 2. Part-time staffing and turnover on a local government level 3. Lack of funding resources and time for staff to participate in trainings and educational programs 4. Persistent Poverty County
Opportunities	**Threats**
1. Collaborate with various entities, including those that serve vulnerable populations 2. Develop special plans based on local needs 3. Seek more funding opportunities through state and federal programs 4. Improve the built environment 5. Diversify the economy 6. Collaborate with townships on road projects 7. Persistent Poverty County	1. Aging infrastructure within the built environment 2. Short-term or limited funding for mitigation activities 3. Complexity and administrative burden of federal and state program requirements 4. Length of the time needed to execute mitigation projects 5. Large portions of Clay County rely heavily on agriculture which makes the County particularly vulnerable to natural hazards such as hail, floods, and drought

Section Three: Risk Assessment

In *Section Two*, the Capability Assessment Activity was reviewed, which determined whether Clay County, and the communities within Clay County, are capable of mitigating natural hazards as they occur. The Planning Team performed four other activities, the Hazard Activity, the Problem Statements Activity, Identifying Vulnerable Assets Activity, and the Growth Assessment Activity, to evaluate risk and identify areas in which future natural disasters could be mitigated.



First, the Planning Team completed the Hazard Activity. The Hazard Activity consisted of reviewing a list of hazards naturally occurring in South Dakota and ranking those hazards based on the hazards' impact on their respective communities. The Planning Team narrowed the list of natural hazards to focus on those hazards with the most significant impact on the area and where pre-disaster mitigation activities would result in the most substantial benefit. The cumulative results and participants' individual responses to the Hazard Activity are included in Appendix I.

The Planning Team triangulated the results of the Hazard Activity with data compiled from various sources in order to make appropriate updates to the Plan. The Planning Team utilized data from the Center of Disease Control and Prevention (CDC)'s Social Vulnerability Report, the United States Census, the Council on Environmental Quality's (CEQ) Climate and Economic Justice Screening Tool, the Climate Mapping for Resilience and Adaptation tool, and FEMA's National Risk Index and database of Declared Disasters, and compared the collected data with the Planning Team. Table 3.1 below lists the Presidentially Declared Disasters in Clay County from 2019-2022.

Table 3.1 Presidentially Declared Disasters in Clay County

Presidentially Declared Disasters in Clay County			
Declaration Date	**Title**	**Incident Period**	**County**
June 24, 2019	South Dakota Severe Winter Storm, Snowstorm, and Flooding (DR-4440-SD)	March 13, 2019 – April 26, 2019	Clay County (Public Assistance)
April 5, 2020	South Dakota COVID-19 Pandemic (DR-4527-SD & EM-3475-SD)	January 20, 2020 – May 11, 2023	Clay County (Public Assistance & Individual Assistance)
June 29, 2022	South Dakota Severe Storm, Straight-Line Winds, Tornadoes, and Flooding (DR-4656-SD)	May 12, 2022	Clay County (Public Assistance)

Numerous resources were used to complete the risk assessment for Clay County. The State of South Dakota Hazard Mitigation Plan was a major source of information on potential risks. In addition, the Planning Team collected weather event data from the National Climate Data Center (NCDC), the NWS, the United States Department of Agriculture (USDA), and the United States

Geological Survey (USGS) from January 1, 2019, to December 31, 2022. The Planning Team was instrumental in identifying assets and risks posed by locally prevalent hazards.

Finally, the Mitigation Planning Team assessed the community assets in the categories of people, structures, economic assets, natural, historic, and cultural resources, and community activities that are most vulnerable to natural hazards. The Identifying Vulnerable Assets Activity provided first-person data in which jurisdictions provided information about community assets that are vulnerable to the hazards identified in this Plan.

Hazard Profiles

B1-a. The *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*, establishes a framework for identifying mitigation goals and prioritizing actions to help make Clay County and its communities more disaster resilient and safe. The Planning Team reviewed a variety of potential hazards and assessed their potential impacts on the area. Various hazard activities were done as part of this assessment, and research and data were compiled to help illustrate the risk assessment. SECOG produced updated critical facilities and floodplain maps to help analyze the potential impacts of various hazards.

While the Planning Team understands the importance of mitigating human-made threats, such as terrorism or active shooters, and does not dismiss the probability of future events, the Planning Team concluded that human-made and technological threats have a lower probability of occurrence than natural hazards. Though the Planning Team recognizes human-made and technological hazards as a threat, the focus of this Plan is to develop goals and strategies that mitigate natural hazards.

The Planning Team participated in a Hazard Activity to rank hazards that impact their communities the most. The ranking was based off four classifications which included Location (Geographic Area Affected), Maximum Probable Extent, Probability of Future Events, and Overall Significance. Each classification will be further discussed in each hazard profile.

Each of the hazards selected by the Planning Team for the Plan's focus is described in terms of the hazard's *location* within Clay County, the *extent* of the hazard, the *history* of the hazard's occurrence in the County, and the *probability* of future events.

Methodology

Participants of the Hazard Activity were provided a definition of each of the four classifications (Location, Maximum Probable Extent, Probability of Future Events, and Overall Significance). The definitions of classifications were derived from FEMA's Local Mitigation Planning Handbook. Each classification, excluding Overall Significance, could be ranked 0-3. There were 31 individuals that participated in the Hazard Activity. The highest score a hazard could receive was 93 points, or a 3 in each classification. The classification of Overall Significance could receive a score of 1-3. Each score is discussed in further detail below. The data was then compared to other scientific scales

of extent and reoccurrence of storm events based off the Storm Events Database and FEMA's National Risk Index.

Location is the geographic area within Clay County that is affected by the hazard. All four of the priority hazards occur in all areas of the County with similar degrees of frequency. In the case of flooding, some areas are more susceptible than others. The Planning Team could score a future disasters' potential effect on location as follows:

Location (Geographic Affected Area)	Score
Negligible	0
Limited	1
Significant	2
Extensive	3

Negligible	0-22
Limited	23-45
Significant	46-68
Extensive	69-93

Negligible: Less than 10 percent of the planning area or isolated single-point occurrences
Limited: 10 to 25 percent of the planning area or limited single-point occurrences
Significant: 25 to 75 percent of planning area or frequent single-point occurrences
Extensive: 75 to 100 percent of planning area or consistent single-point occurrences

Extent is the strength or magnitude of the hazard. Extent is measured in different ways. For example, tornado strength is measured on the Fujita Scale, wind is measured by speed, and flooding is measured by duration. The Planning Team could score a future disasters' potential extent as follows:

Maximum Probable Extent	Score
Weak	0
Moderate	1
Severe	2
Extreme	3

Weak	0-22
Moderate	23-45
Severe	46-68
Extreme	69-93

Weak: Limited classification on scientific scale, slow speed of onset or short duration of event, resulting in little to no damage
Moderate: Moderate classification on scientific scale, moderate speed of onset or moderate duration of event, resulting in some damage and loss of services for days
Severe: Severe classification on scientific scale, fast speed of onset or long duration of event, resulting in devastating damage and loss of services for weeks or months
Extreme: Extreme classification on scientific scale, immediate onset, or extended duration of event, resulting in catastrophic damage and uninhabitable conditions

Probability of occurrence is the likelihood that a disaster event will take place within a defined period. The Planning Team could score a future disasters' probability of future events as follows:

Probability of Future Events	Score
Unlikely	0
Occasional	1
Likely	2
Highly Likely	3

Unlikely	0-22
Occasional	23-45
Likely	46-68
Highly Likely	69-93

Unlikely: Less than 1 percent probability of occurrence in the next year or a recurrence interval of greater than every 100 years
Occasional: 1 to 10 percent probability of occurrence in the next year or a recurrence interval of 11 to 100 years
Likely: 10 to 90 percent probability of occurrence in the next year or a recurrence interval of 1 to 10 years
Highly Likely: 90 to 100 percent probability of occurrence in the next year or a recurrence interval of less than year

Based on the ranking of the three factors above, Location (Geographic Affected Area), Maximum Probable Extent, and Probability of Future Events, the Planning Team determined the Overall Significance of future hazards. The Overall Significance of a future disasters was determined as follows:

Overall Significance	Score
Low	1
Medium	2
High	3

Low: Two or more criteria fell in lower classifications, or the event has a minimal impact on the planning area. This rating is sometimes used for hazards with a minimal or unknown record of occurrences or for hazards with minimal mitigation potential.

Low	0-32
Medium	33-61
High	62-93

Medium: The criteria fell mostly in the middle ranges of classifications and the event's impacts on the planning area are noticeable but not devastating. This rating is sometimes used for hazards with a high extent rating but very low probability rating.
High: The criteria consistently fall in the high classifications and the event is likely/highly likely to occur with severe strength over a significant to extensive portion of the planning area.

The ***History*** of each hazard's occurrence in Clay County is provided, including major events that proved impactful on the region. History was also taken into consideration while ranking future disasters.

Table 3.2 provides a list of hazards that were ranked by the Planning Team for the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota.*

Table 3.2 Clay County Potential Hazards

Clay County Potential Hazards	
Agricultural Pests and Diseases	Hail [§]
Drought[*]	Tornado[§]
Erosion	Severe Summer Storm [§]
Flood[†]	Severe Winter Storm [#]
Geological Hazards[‡]	Wildfire

[*]Drought – includes extreme heat
[†] Flood – includes flash, long rain, snowmelt, dam failure or levee failure
[‡] Geological Hazards – includes landslides, mudflows, expansive soils, subsidence, and earthquakes
[§] Severe Summer Storm – includes hail, high winds, lightning, tornadic activity
[#] Severe Winter Storm – includes extreme cold

Identified Hazards

Agricultural Pests & Diseases



According to the State of South Dakota's Hazard Mitigation Plan, agricultural pests and diseases have a moderate risk of damaging the agricultural industry in South Dakota. According to the United States Department of Agriculture, in South Dakota, the agricultural industry is a leading economic resource that employs over 80,000 people and generates $21 billion each year.

Location. In South Dakota, there are approximately 43.2 million acres of farm operated land. Of the 43.2 million acres of farmland, approximately 238,940 acres, or 0.5 percent, of farmland is located in Clay County, which is primarily used for corn, hay, wheat, and soybean production. Although Clay County only makes up 0.5 percent of farmland in South Dakota, based on the Hazard Activity results, the Planning Team ranked agricultural pests and disease 48 out of 93 possible points in the Location (Geographic Affected Area) classification. A score of 48 is significant, meaning that the Planning Team believes that 25 to 75 percent of planning area would be affected if there was an outbreak of agricultural pests or diseases.



Extent. Agricultural pests and diseases are common in South Dakota but only raise a concern when the levels of controlling the pests/diseases become unmanageable. Compared to other natural disasters, drought and severe summer storms cause more damage to crops than pests and diseases. Based on the Hazard Activity results, the Planning Team ranked agricultural pests and disease 33 out of 93 possible points in the Maximum Probable Extent classification. A score of 33 is moderate, meaning that the Planning Team believes that agricultural pests and diseases have a limited classification on a scientific scale, slow speed of onset or short duration of event, resulting in little to no damage.

History. According to the State of South Dakota's Hazard Mitigation Plan, the last major pest infestation occurred in the 1930s from grasshoppers. This infestation occurred on the west side of the State. However, there have been on-going reports of the emerald ash borer, an invasive

insect, infecting the area over the past several years. No agricultural pests and disease events in South Dakota have been subject to a Presidential Disaster Declaration. Figure 3.1 below shows a tree with an emerald ash borer infestation.

Figure 3.1 Tree with an Emerald Ash Borer Infestation



Probability. Based on the Hazard Activity results, the Planning Team ranked agricultural pests and diseases 37 out of 93 possible points. This means that the Planning Team believes that there is a 1 to 10 percent probability of occurrence in the next year or a recurrence interval of 11 to 100 years.

Cumulating the Planning Team's results in the classifications of Location (Geographic Area Affected), Maximum Probable Extent, and Probability of Future Events, agricultural pests and diseases received an Overall Significance rating of medium, as criteria fell mostly in the middle ranges of the classifications. An Overall Significance ranking of medium indicates that the Planning Team believes that agricultural pests and diseases' impact on the planning area is noticeable but not devastating.

Therefore, the Planning Team did not consider agricultural pests and diseases as a priority hazard for this Plan. It is important to note that while agricultural pests and diseases have the potential to significantly impact the agricultural and local economies reliant on farming, the Planning Team decided that occurrence data in Clay County did not warrant the inclusion of agricultural pests and diseases as a priority hazard.

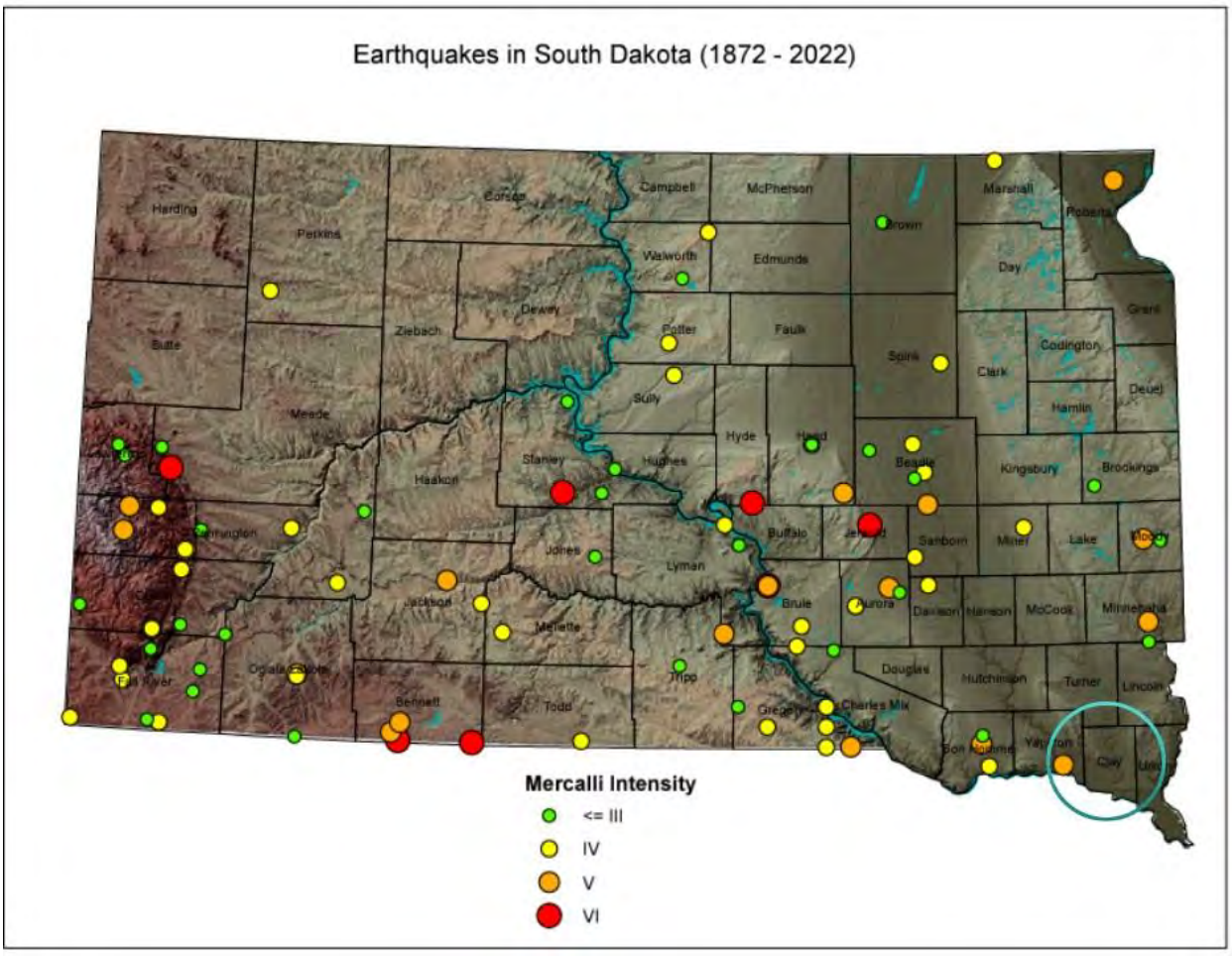
Hazard Activity results can be found in Appendix I for reference.

Geological Hazard – Earthquakes

Earthquakes were also excluded as a priority hazard for the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*, based on the classifications below.

Location. Since the first recorded earthquake in 1872, there have been almost 100 documented earthquakes in South Dakota, primarily occurring in western and central South Dakota. Prior to December 9, 2023, there have been no earthquakes ever reported in Clay County, SD. On December 9, 2023, a 3.0 magnitude earthquake was detected southeast of Wakonda, SD. The earthquake occurred at 4:10 p.m. There were no reports of injuries or damage to property. Figure 3.2 below is a map which depicts all earthquakes in South Dakota from 1872 through 2022.

Figure 3.2 Map of Historical Earthquakes in South Dakota



Based on the Hazard Activity results, the Planning Team ranked earthquakes 4 out of 93 possible points in the Location (Geographic Affected Area) classification. A score of 4 is negligible, meaning that the Planning Team believes that that less than 10 percent of the planning area would be affected by an earthquake.

Extent. According to the USGS, earthquakes are recorded by seismographic network. Each seismic station in the network measures the movement of the ground at the site. Earthquakes are measured in magnitude and intensity. Magnitude is a measure of the size of the earthquake. Intensity is a measure of the shaking and damage caused by the earthquake. This value changes from location to location. According to USGS, a total of two earthquakes with a magnitude of four or above have struck within 186 mi (300 km) of South Dakota within the past 10 years. These earthquakes occurred in the Denver, CO area. The strongest magnitude earthquake in South Dakota was a 4.1 magnitude earthquake in Alpena, SD, in 1911. An earthquake has never exceeded a 5.1 magnitude in the state. On the Richter Scale, an earthquake with a magnitude of 1.0 to 2.9 or 3.0 to 3.9 is categorized as a Micro or Minor event, respectively. An earthquake of a 4.0 to 4.9 or 5.0 to 5.9 magnitude is considered a Light or Moderate event, respectively.

Based on the Hazard Activity results, the Planning Team ranked earthquakes a 5 out of 93 possible points in the Maximum Probable Extent classification. A score of 5 is weak, meaning that the Planning Team believes that earthquakes have limited classification on scientific scale, slow speed of onset or short duration of event, resulting in little to no damage.

History. Small earthquakes occasionally occur in South Dakota but are not large enough to be considered a threat to life or property. One recorded 3.0 magnitude earthquake occurred southeast of Wakonda, SD, December 9, 2023.

Probability. Based on the Hazard Activity, the Planning Team ranked earthquakes 5 out of 93 possible points. This means that the Planning Team believes that the probability of an earthquake is unlikely and that there is a 1 to 10 percent probability of occurrence in the next year or a recurrence interval of 11 to 100 years.

USGS estimates only a ten-percent chance of an earthquake exceeding a 5.1 magnitude in any 50-year period in South Dakota. The chances of an earthquake of that magnitude occurring in Clay County is even less considering there has only been one earthquake ever recorded in Clay County.

Cumulating the Planning Team's results in the classifications of Location (Geographic Area Affected), Maximum Probable Extent, and Probability of Future Events, earthquakes received an Overall Significance rating of low as criteria fell mostly in the low ranges of the classifications. An Overall Significance rating of low indicates that the Planning Team believes that earthquakes impact on the planning area is minimal. This rating is sometimes used for hazards with minimal or unknown record of occurrences of hazards with minimal mitigation potential.

Therefore, the Planning Team did not consider earthquakes as a priority hazard for this Plan. It is important to note that while earthquakes have the potential to significantly impact the planning area, the Planning Team decided that occurrence data in Clay County did not warrant the inclusion of earthquakes as a priority hazard.

Hazard Activity results can be found in Appendix I for reference.

Geological Hazard – Landslides

The Planning Team considered other types of geological hazards, including landslides. However, after further consideration, the Planning Team identified landslides as having a low probability of occurrence and a low vulnerability factor. While landslides and land subsidence are discussed in the State of South Dakota's Hazard Mitigation Plan, Clay County has level topography, and the USGS Landslide Inventory Map states that the area's vulnerability to landslides is low. As a result of these assessments, landslides are not a priority hazard for this update.

Location. According to the USGS, there have been four landslides in the State of South Dakota. These landslides occurred in central and western South Dakota. Based on the Hazard Activity results, the Planning Team ranked landslides 0 out of 93 possible points in the Location (Geographic Affected Area) classification. A score of 0 is negligible, meaning that the Planning Team believes that less than 10 percent of planning area would be affected by a landslide.



Extent. Landslides are monitored using a ground-based sensor called an extensometer. An extensometer is an instrument that can detect movement of the ground surface between stable ground and sliding ground. Landslides are classified as flows, slides, or rockfalls and topples. The major difference between them is the amount of water. Flows usually have the most water and rockfalls usually have the least amount of water. Flows are generally a slurry mixture of water, soil, rock and/or debris that move rapidly downslope.

Based on the Hazard Activity results, the Planning Team ranked landslides 3 out of 93 possible points in the Maximum Probable Extent classification. A score of 3 is weak, meaning that the Planning Team believes that landslides have limited classification on the scientific scale, slow speed of onset or short duration of event, resulting in little to no damage.

History. There is no history of landslides in eastern South Dakota. Historically, there has only ever been four landslides ever recorded in the State of South Dakota. Of the four historical landslides, one took place near Pierre, SD, but no additional information was provided by the USGS Landslide Inventory Map. Another landslide took place in Spearfish Canyon in April 2016. This landslide was caused by heavy rainfall which triggered large boulders to crash into the roadway. The third landslide took place near Lead, SD, in June 2013. This landslide was classified as a mudslide due to heavy rain. The fourth landslide happened in May 2017 also in Lead, SD, due to heavy rain which caused a retaining wall to collapse on a construction site.

Probability. According to the FEMA National Risk Index, Clay County has a relatively low risk index rating for landslides. Based on the Hazard Activity, the Planning Team ranked landslides 5 out of 93 possible points. This means that the Planning Team believes that the probability of a landslide is unlikely and that there is a 1 to 10 percent probability of occurrence in the next year or a recurrence interval of 11 to 100 years.

Cumulating the Planning Team's results in the classifications of Location (Geographic Affected Area), Maximum Probable Extent, and Probability of Future Events, landslides received an Overall Significance rating of low, as criteria fell mostly in the low ranges of the classifications. An Overall Significance rating of low indicates that the Planning Team believes that landslides' impact on the planning area is minimal. This rating is sometimes used for hazards with minimal or unknown record of occurrences of hazards with minimal mitigation potential. Therefore, the Planning Team did not consider landslides as a priority hazard for this Plan. The Planning Team decided that occurrence data in Clay County did not warrant the inclusion of landslides as a priority hazard.

Hazard Activity results can be found in Appendix I for reference.

Tornadoes



According to NOAA's National Severe Storms Laboratory, a tornado is a "rotating column of air that extends from a thunderstorm to the ground." A funnel cloud is a rotating column of air that does not reach the ground. However, the funnel cloud's violently rotating column of air may get to the ground quickly, becoming a tornado. A tornado may happen any time of year, although they tend to occur in conjunction with severe summer storms. The *Clay County Pre-Disaster Hazard Mitigation Plan Update 2019* identified tornadoes as a priority hazard that had the potential to impact the region significantly. While tornadoes continue to have the potential to impact the region significantly, the 2024 Planning Team did not identify tornadoes as a priority hazard. Although tornadoes occur less frequently than other hazards, such as floods or severe summer storms, Clay County, and the municipalities within Clay County, are vulnerable to tornadoes and the Planning Team does not dismiss the fact that tornadoes may occur in the future.

Location. Similarly, to severe summer and winter storms, tornadoes are geographically unpredictable and associated with erratic weather patterns. As a result, all areas within the region are equally susceptible to tornadoes. Based on the Hazard Activity results, the Planning Team ranked tornadoes 57 out of 93 possible points in the Location (Geographic Area Affected) classification. A score of 57 is significant, meaning that 25 to 75 percent of the planning area would be affected in the event of a tornado.

Extent. The most common way to determine the strength of a tornado is to look at the damage it causes. An Enhanced Fujita (EF) Scale was implemented by the NWS in 2007 to rate tornadoes more consistently and accurately. When assigning a wind speed rating to a tornado, the EF Scale considers more variables than the original Fujita Scale. These variables include 28 damage indicators, such as building type, structures, and trees. Each damage indicator has eight degrees of damage ranging from the beginning of visible damage to the destruction of the damage indicator. Weak = F0, Moderate = F1, Significant = F2, Severe = F3, Extreme = F4, Catastrophic = F5.

Based on the Hazard Activity results, the Planning Team ranked tornadoes 50 out of 93 possible points in the Maximum Probable Extent classification. A score of 50 is severe, meaning that the Planning Team believes that tornadoes are severe on the scientific scale, have a fast speed of onset or long duration of event, and can result in devastating damage and loss of services for weeks or months. On the EF Scale, a severe (F3) tornado, can have wind gusts of 136-165 mph.

History. Appendix J lists historical records of tornadoes and funnel clouds that occurred from January 1, 2019, through December 31, 2022, in Clay County. There was only one tornado to note in Table 3.3 below.

Table 3.3 Tornado Events and Damage in Clay County

Tornado Events and Damage in Clay County				
Location	**Date of Event**	**Type of Hazard**	**Magnitude**	**Property Damage**
Wakonda	05/15/2021	Tornado	EFU	$0

Probability. Based on the Hazard Activity results, the Planning Team ranked tornadoes 46 out of 93 possible points. This means that tornadoes are likely to occur and that there is a 10 to 90 percent probability of occurrence in the next year or reoccurrence of 1 to 10 years.

Cumulating the Planning Team's results in the classifications of Location (Geographic Affected Area), Maximum Probable Extent, and Probability of Future Events, tornadoes received an Overall Significance rating of high, as criteria fell mostly in the high ranges of the classifications. An Overall Significance rating of high indicates that the Planning Team believes that tornadoes impact on the planning area is significant. This rating is sometimes used for hazards with likely or highly likely of occurrences of hazards. Although, the Planning Team recognizes that the impact of a tornado could be significant, the Planning Team decided that the occurrence data did not warrant the inclusion of tornadoes as a priority hazard.

Hazard Activity results can be found in Appendix I for reference.

Wildfires

Wildfires are a natural hazard that can cause extensive damage to the natural environment, but also pose a risk to life and personal property. In South Dakota, areas that are prone to wildfires are zones with drier climates. According to the State of South Dakota's Hazard Mitigation Plan, wildfires frequently occur on the west side of the state and around the Black Hills National Forest area.



Location. According to NOAA, there have been 49 wildfires in South Dakota; however, they have all occurred in the western part of the state in the Black Hills National Forest. Historically, there have been no wildfires in Clay County. Based on the Hazard Activity results, the Planning Team ranked wildfires 21 out of 93 possible points in the Location (Geographic Affected Area)

classification. A score of 21 is negligible, meaning that the Planning Team believes that less than 10 percent of planning area would be affected in the event of a wildfire.

Extent. Wildfire extent can be measured in one of three ways: fire intensity, burn severity, and size. Fire intensity is the rate of energy or heat release per unit time per unit length of fire front. The concept of fire intensity was introduced by G. M. Byram in 1959. According to Alexander and Cruz (2019), "Fireline intensity is the rate of energy or heat release per unit time per unit length of fire front (kW/m). Numerically, it is equal to the product of the fuel low heat of combustion (kJ/kg), quantity of fuel consumed in the flaming front (kg/m^2), and the linear rate of fire spread (m/s)" (p. 1). However, the "rate of heat released from a linear segment at any point or portion (i.e., head, flank, back or rear) of the fire perimeter cannot be measured on the ground; rather it must be computed by an equation" (Alexander & Cruz, 2019, p. 1). Furthermore, the rate of heat released cannot be physically measured, only estimated.

Burn severity is the effect of fire on the environment. It is a way to measure changes in vegetation and soils after a fire. Wildfires are classified into three categories of burn severity depending on how damaging the wildfire is to the soil and vegetation in the area. These three categories include:

- Low Severity: A fire that predominantly damages the understory of the environment, <25% of trees or vegetation is damaged, and soil damage is minimal
- Moderate Severity: A fire that damages between 25% and 75% of vegetation, moderate levels of soil and mineral damage
- High Severity: A fire that damages >75% of vegetation, extending into the canopy level, soil and mineral levels suffer heavy damage

For vegetation, burn severity can be measured in terms of tree mortality, canopy loss, or bole and crown scorch. These measures of burn severity are often interpreted as surrogate measures of fire intensity. The main drawback of burn severity, however, is that measures used in forests are not generally relevant to shrublands, where all aboveground biomass is killed in crown fires. In such crown fires, ecosystem indicators of fire severity that may be useful measures of ecosystem impact are resprouting success and seed bank survivorship. However, the linkage between fire intensity, fire severity measures, and ecosystem impact are complex and largely unexplored.

Lastly, and most commonly, wildfire extent can be measured in size. This measurement is the most often used because it is the simplest of the three measurements. The size of wildfires may be measured in square acres, miles, or kilometers. Due to advances in technology, wildfires can be measured with satellite imagery and drones. The wildfire classification system depends on the area burned:

- Class A: Less than one-fourth acre
- Class B: More than one-fourth acre, but less than 10 acres
- Class C: 10 acres or more, but less than 100 acres

- Class D: 100 acres or more, but less than 300 acres
- Class E: 300 acres or more, but less than 1,000 acres
- Class F: 1,000 acres or more, but less than 5,000 acres
- Class G: 5,000 acres or more

According to the National Risk Index, the risk of a wildfire occurring in Clay County is very low. Based on the Hazard Activity results, the Planning Team ranked wildfires 19 out of 93 possible points in the Maximum Probable Extent classification. A score of 19 is weak, meaning that the Planning Team believes that wildfires have limited classification on the scientific scale, slow speed of onset or short duration of event, resulting in little to no damage.

History. Historically, there have been 49 wildfires in South Dakota. All wildfires have taken place in western South Dakota in the Black Hills National Forest.

Probability. When Clay County experiences periods of extensive drought, the risk of wildfire increases. However, based on the Hazard Activity, the Planning Team ranked wildfires 18 out of 93 possible points in the Probability of Future Events classification. This means that the Planning Team believes that the probability of wildfire is unlikely or that there is a 1 to 10 percent probability of occurrence in the next year or a recurrence interval of 11 to 100 years.

Cumulating the Planning Team's results in the classifications of Location (Geographic Affected Area), Maximum Probable Extent, and Probability of Future Events, wildfires received an Overall Significance rating of low, as criteria fell mostly in the low ranges of the classifications. An Overall Significance rating of low indicates that the Planning Team believes that wildfires' impact on the planning area is minimal. This rating is sometimes used for hazards with minimal or unknown record of occurrences of hazards with minimal mitigation potential. Therefore, the Planning Team did not consider wildfires as a priority hazard for this Plan. The Planning Team decided that occurrence data in Clay County did not warrant the inclusion of wildfires as a priority hazard.

Hazard Activity results can be found in Appendix I for reference.

Priority Hazards

In the *Clay County Pre-Disaster Hazard Mitigation Plan Update 2019* the priority hazards were severe summer storms, severe winter storms, tornadoes, and floods. For the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*, 31 members of the Planning Team participated in the Hazard Activity and ranked the top four priority hazards as follows:

- Drought
- Floods
- Severe Summer Storms
- Severe Winter Storms

After reviewing a broad list of hazards, the Planning Team eliminated some hazards due to the hazards' Location (Geographic Area Affected), Maximum Probable Extent, Probability of Future Events, and Overall Significance. The four hazards above rose to the top of the list.

Hazards such as hail, excessive precipitation, lightning, and high winds are, for the purposes of this Plan, incorporated under the broader heading of severe summer storms. Blizzards, ice storms, high winds, and extreme cold are, for the purposes of this Plan, incorporated under the broader heading of severe winter storms. Both hazard events will be discussed in further detail below.

Drought

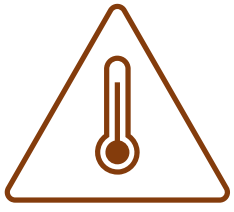
According to the National Aeronautics and Space Administration (NASA), a drought is a period of unusually persistent dry weather that continues long enough to cause serious problems such as crop damage and/or water supply shortages.

Drought was not considered a priority hazard for the *Clay County Pre-Disaster Hazard Mitigation Plan Update 2019*. However, based on recent drought events in Clay County, the results of the Planning Team's Hazard Activity, the empirical and forecasted impact on the agricultural industry, and the significant increase of drought events in the past ten years, the Planning Team decided to select drought as a priority hazard for its *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*.

Location. Based on the Hazard Activity results, the Planning Team ranked drought 71 out of 93 possible points in the Location (Geographic Area Affected) classification. A score of 71 is extensive, meaning that 75 to 100 percent of the planning area would be affected in the event of a drought.

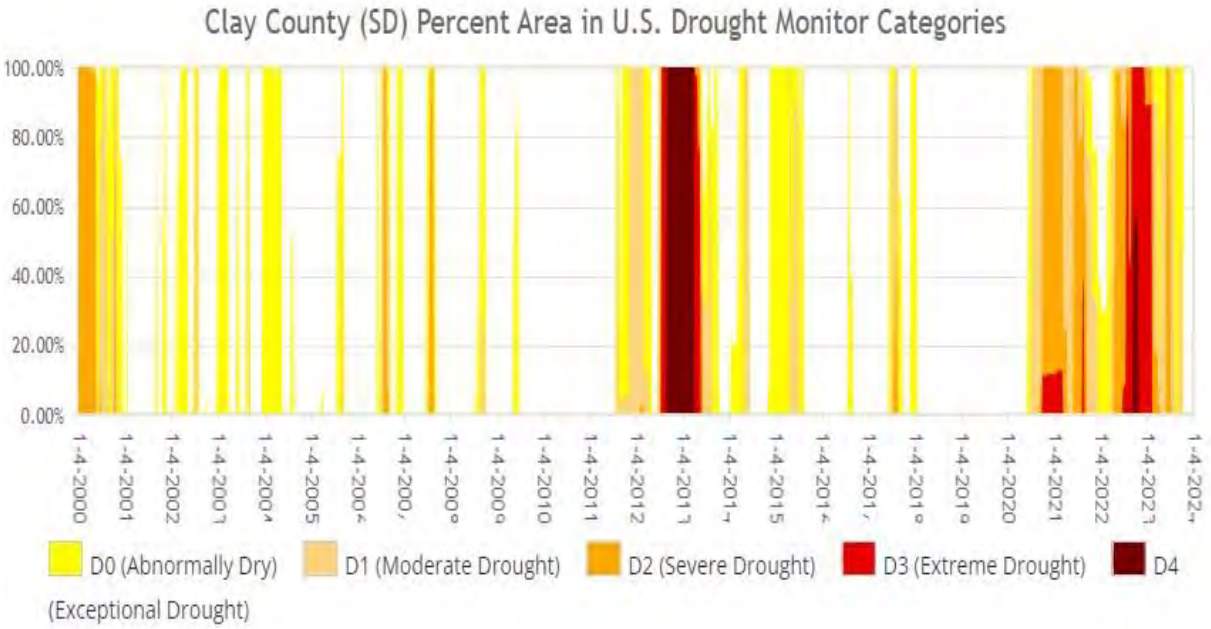
Extent. Based on the Hazard Activity results, the Planning Team ranked drought 54 out of 93 possible points in the Maximum Probable Extent classification. A score of 54 is severe, meaning that the Planning Team believes that drought has a severe classification on the scientific scale, fast speed of onset or long duration of the event, which can result in devastating damage and loss of services for weeks or months.

The National Drought Mitigation Center measures the severity of drought by a code-based system: D0, D1, D2, D3, and D4. D0 = Abnormally Dry, D1 = Moderate Drought, D2 = Severe Drought, D3 = Extreme Drought, D4 = Exceptional Drought.



Several droughts have been recorded in Clay County over the past several years; however, Clay County has not been subject to a Presidential Disaster Declaration related to drought. The most recent prolonged period of drought, according to the U.S. Drought Monitor, were the months between August 2012 and September 2013 as shown in Figure 3.3 below. These drought events were classified as D3 and D4, severe and extreme drought events, respectively. Beginning in 2021, there is a distinct increase in the number of D2 and D3 drought events.

Figure 3.3 Clay County Drought Monitor



NOAA's Storm Events Database establishes that there were 21 drought/excessive heat events reported in Clay County from January 2012 to December 2018 with no damage to crops reported. From January 1, 2019, to December 31, 2022, there were 24 reported drought/excessive heat events in Clay County. In that time, there was approximately $35.8 million of crop damage reported. Between 2012 and 2018, the average affected days of drought was 17.05 days. Between January 1, 2019, and December 31, 2022, the average affected days of drought was 23.75 days.

Table 3.4 below displays drought events between January 1, 2019, and December 31, 2022, in Clay County, SD, with reported damages.

Table 3.4 Drought Events in Clay County

Drought Events in Clay County				
Location	**Extent**	**Type of Event**	**Magnitude**	**Crop Damage**
Clay County	9/15/2020	Drought	D1	$450,000
Clay County	10/1/2020	Drought	D3	$10,000
Clay County	11/1/2020	Drought	D3	$20,000
Clay County	6/1/2021	Drought	D2	$495,000
Clay County	7/1/2021	Drought	D2	$1,230,000
Clay County	8/1/2021	Drought	D2	$686,000
Vermillion	9/1/2021	Drought	D2-D1	$191,000
Clay County	5/1/2022	Drought	D2	$162,000
Clay County	6/1/2022	Drought	D2-D3	$1,610,000
Clay County	7/1/2022	Drought	D3	$24,790,000
Clay County	8/1/2022	Drought	D3	$4,330,000

Clay County	9/1/2022	Drought	D3-D4	$1,870,000
			Total	**$35,844,000**

Cumulating the Planning Team's results in the classifications of Location (Geographic Area Affected), Maximum Probable Extent, and Probability of Future Events, drought received an Overall Significance rating of high, as the criteria consistently fell in the high classifications and the event is likely/highly likely to occur with severe strength over a significant to extensive portion of the planning area. Table 3.5 below provides a summary of the Hazard Activity that was conducted by the Planning Team to determine the overall significance of drought.

Table 3.5 Clay County Drought Summary Results

Clay County Drought Summary Results			
Classifications	**Score**	**Rank**	**Definition of Classifications**
Location (Geographic Area Affected)	71	Extensive	75 to 100 percent of the planning area or consistent single-point occurrences
Maximum Probable Extent	54	Severe	Severe classification on the scientific scale, fast speed of onset or long duration of event, resulting in devastating damage and loss of services for weeks or months
Probability of Future Events	54	Likely	10 to 90 percent probability of occurrence in the next year or a recurrence interval of 1 to 10 years
Overall Significance	70	High	The criteria consistently fell in the high classifications and the event is likely/highly likely to occur with severe strength over a significant to extensive portion of the planning area

Hazard Activity results can be found in Appendix I for reference.

Flooding

In South Dakota, flooding is typically a result of runoff from excess rainfall during the spring, summer, and fall seasons; or runoff from melting snow during the spring. Flooding can occur as a result of localized precipitation, due to excess precipitation occurring outside the region which results in elevated river levels flowing downstream from areas where the excess precipitation occurs.

Flooding and excess precipitation can negatively impact local communities, residents, and the economy if the communities do not adequately mitigate their long-term vulnerability. For example, according to FEMA, just one inch of floodwater can cause up to $25,000 in damage. However, flooding is more geographically predictable than the other hazards discussed in this Plan. While flooding, particularly flash flooding, can occur anywhere within Clay County during periods of excess precipitation, FEMA's predictive modeling determines areas that are most at risk for flooding. These areas are called Special Flood Hazard Areas (SFHAs).

Five types of flooding may affect the Clay County region: surface water runoff, flooding due to snowmelt/ice jams, flash flooding (heavy rain), riverine flooding/long-range river flooding, and dam or levee failure.

Figure 3.4 below shows a photo of a flooded Clay County road in March 2019.

Figure 3.4 March 22, 2019, Flooding



Surface Water Runoff. Surface water runoff occurs when rainfall intensity exceeds the soil's evaporation rate and infiltration capacity. Surface water runoff also occurs when heavy precipitation falls on impervious surfaces like roadways and other paved areas. Water that cannot infiltrate the soil runs off into low-lying areas and can enter homes and commercial facilities through windows and doors, resulting in devastating impacts for property owners. Excess moisture in the ground can seep into basements of homes and businesses, creating additional damage. If local drainage system conditions have reached capacity to accommodate heavy rainfall, the excess runoff may cause localized flooding problems. Surface water runoff is more commonly seen in urban areas but can also occur when the runoff spills into streams and rivers. Excess rainfall raises water levels of rivers and streams causing overbank flooding, which spills out onto adjacent low-lying areas, resulting in riverine flooding. Riverine flooding varies with the terrain. For flat areas affected by riverine flooding, the land will stay covered with shallow, slow-moving floodwater for days or weeks.

Flooding due to Snowmelt/Ice Jams. The southeastern portion of South Dakota frequently experiences heavy snow accumulation. In spring, when temperatures start to increase, the snowmelt has the potential to cause flooding depending on the accumulation of snow in the winter months. Rapid snowmelt or ice jams can also cause flash flooding. Snowpack increases runoff produced by melting snow. Heavy spring rains falling on melting snowpack can initiate flash flooding. Melting snowpacks may also contribute to floods from ice jams on creeks and rivers. Thick layers of ice often form on streams and rivers during the winter. Melting snow and warm rain running into the streams may lift and break this ice, allowing large chunks of ice to jam against bridges or other structures. Ice jams cause the water to rise rapidly behind the ice jam. If the water is suddenly released, severe flash flooding could occur downstream. Within the Clay County region, flash flooding has been primarily caused by heavy rain rather than by snowmelt.

Flash Flooding. Flash flooding can occur as a result of several factors, such as heavy rain, ice or debris jams, and levee or dam failure, but the most common factor is when thunderstorms produce copious amounts of rain. According to the NWS, “Sudden downpours can rapidly change the water levels in a stream or creek and turn small waterways into violent, raging rivers. Urban

areas are especially prone to flash floods due to the large amounts of concrete and asphalt surfaces that do not allow water to penetrate into the soil easily." The NWS also states that flash floods generally develop within 6 hours of the immediate cause.



Heavy Rainfall. Heavy rainfall is a prevalent natural hazard that occurs in Clay County. While heavy rainfall is typically categorized under severe summer storms, it can also cause flash flooding. Although rain is good for the agricultural industry and the natural environment, heavy rainfall can cause damage to crops and infrastructure.

According to the NWS, the highest recorded annual precipitation in Vermillion was in 1951 with an accumulation of 38.07 inches of rainfall. Between 2013 to 2018, the average annual precipitation was 25.42 inches, and between 2019 to 2023, the average annual rainfall was 24.72 inches. Table 3.6 below shows the annual precipitation totals for the City of Vermillion from 2013 to 2024.

Table 3.6 Vermillion Annual Precipitation

Vermillion Annual Precipitation			
Year	**Amount (Inches)**	**Year**	**Amount (Inches)**
2013	20.82	2019	34.06
2014	28.60	2020	16.70
2015	27.83	2021	23.28
2016	34.70	2022	20.86
2017	M	2023	28.72
2018	40.56	2024	M
2013-2018 = 25.42 inches (On average over a 5-year period)		**2019-2023 = 24.72 inches (On average over a 5-year period)**	

M = Missing Data

Riverine Flooding/Long-Range River Flooding. According to the NWS, "Riverine flooding occurs when river levels rise and overflow their banks or the edges of their main channel and inundate areas that are normally dry. Riverine flooding can be caused by heavy rainfall, dam failures, rapid snowmelt, and ice jams." Long-range riverine flooding is the result of the watershed upstream overflowing and causing flooding to occur downstream, and in some cases, long-range downstream flooding will also occur.

Dam or Levee Failure. Dam or levee failure could result in flooding and economic loss if physical damage were to occur to the structure. According to the National Inventory of Dams, there are four dams within Clay County. Table 3.7 below lists the dams located in Clay County.

Table 3.7 Dams Located in Clay County

Dams Located in Clay County					
NID ID No.	**Location**	**Dam Name**	**Owner Type**	**Incident Reported 2018-2022**	**Hazard Potential Classification**
SD00261	Clay County	Stewart Dam	Private	No recorded Incident(s)	Low
SD00260	Clay County	Klostergaard Dam	Private	No recorded Incident(s)	Significant
SD02212	Clay County	Huot Dam	Private	No recorded Incident(s)	Low
SD02214	Clay County	Isreal Dam	Private	No recorded Incident(s)	Low

Out of a rating system of low, significant, or high, three out of four dams within Clay County have a hazard potential classification of low. The Klostergaard Dam has a hazard potential classification of significant. A hazard potential classification rating of significant indicates that a significant impact on the loss of human life, the environment, and the economy is anticipated if the dam were to fail. According to the Association of State Dam Safety Officials, no dam failure incidents within Clay County have been recorded.

Before dam safety laws were implemented, several dam failures occurred in the 1970s. One historical dam failure event occurred in South Dakota in 1972 when the Canyon Lake Dam failed in Rapid City, South Dakota. According to the Association of Dam Safety Officials, the dam failure caused $60 million in damage and resulted in an estimated 238 deaths. This is the only historical incident of dam failure in the State of South Dakota that resulted in the loss of life.

Location. The Vermillion River basin is located in parts of Clay County, and according to the Vermillion River Basin Strategic Plan, "The Vermillion River drains approximately 1.43 million acres in fourteen counties in southeastern South Dakota. The river begins as two separate streams, the East Fork, and the West Fork of the Vermillion River. The headwaters of the East Fork begin just southwest of Oldham, while the West Fork begins approximately twelve miles south of De Smet. The East Fork and West Fork drain approximately 292,579 acres and 256,440 acres, respectively, and converge as the Vermillion River near the City of Parker. The river continues south toward Centerville, emptying into the Missouri River near the City of Vermillion. The river basin is approximately 150 miles in length and varies in width from 12 miles in the north to 36 miles in the south, near Vermillion" (p. 6) It is important to understand where rivers, creeks, and streams flow in case of flooding, as large accumulations of water have the potential to flood residential areas or agricultural lands if located within close proximity.

Although there are several SFHAs in Clay County, there are very few SFHAs in the municipalities within Clay County. The Town of Wakonda has no SFHAs. Based on the critical facilities maps included in Appendix K, there is an area within the city limits of Irene, SD, that is designated a

SFHA. This means that there is a 1-percent chance that in any given year the City of Irene may flood in that area. However, based on the updated critical facilities maps, there are no critical facilities within the SFHA in Irene. Although the City of Vermillion is bounded to the west and south by SFHAs, there are no critical facilities in the City of Vermillion located within a SFHAs except for the Wastewater Treatment Plant. The Vermillion Wastewater Treatment Plant is in Zone X which means that it located in a 0.2 percent annual chance flood hazard area, there is 1 percent annual chance flood with average depth less than one foot, or has drainage areas of less than one square mile.

Based on the Hazard Activity results, the Planning Team ranked flooding 54 out of 93 possible points in the Location (Geographic Area Affected) classification. A score of 54 is significant, meaning that the Planning Team believes that 25 to 75 percent of the planning area would be affected in the event of flooding.

Extent. The extent of a flooding event can be measured several ways. Flooding can be measured by the amount of damage the flood caused, which includes crop damage, property damage, or a combination thereof, it can be measured by the duration of the flood, or how long the flooding persisted, and it can be measured via stream gauge.

The NWS is, by law, responsible for issuing forecasts and warnings throughout the United States with the intention to save lives and reduce potential flood damages. Their River and Flood program relies most heavily on the accuracy of stream gauges placed strategically across the country to determine an area's flood risk in real time. At the same time, the USGS is responsible for operating those gauges and sending data to the NWS. Stream gauges are placed in bodies of water to monitor and test water level elevation. These gauges collect all the necessary data and send it to a data logging facility via phone telemetry or satellite. USGS operates more than 7,500 stream gages nationwide. One type of stream gauge, known as the Automated Local Evaluation in Real-Time (ALERT), was designed specifically to monitor the risk of flooding in a given area and emit warnings if a flood is imminent. When the water level reaches a predetermined level or changes rapidly, the ALERT gauge will issue a warning through satellite.

The Planning Team pulled data from the NOAA's Storm Events Database to determine the extent of flooding in Clay County. The data suggests that the area has experienced an increase in heavy rain activity in the last few years. From 2013 to 2018, ten flooding events were reported in Clay County and all flooding events were due to heavy rain. One event resulted in nearly $50,000 in property damage. From 2019 to 2022, 18 flooding events were reported in Clay County. Thirteen flooding events reported in Clay County were due to heavy rain and five events were due to snowmelt. Five events resulted in approximately $470,000 in property damage and $26,452,000 in crop damage. Table 3.8 compares damaged caused by flooding events in Clay County between 2013-2018 and 2019-2022.

Table 3.8 Flood Damage in Clay County Over a 10-Year Period

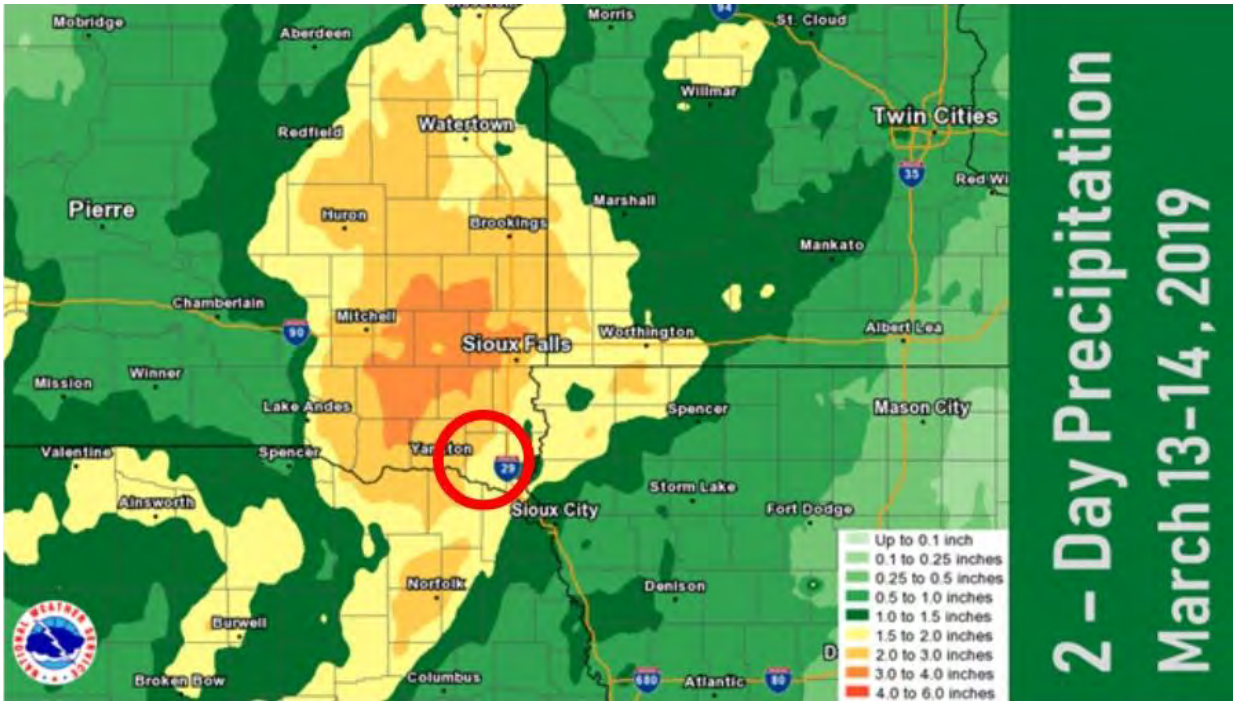
Flood Damage in Clay County Over A 10-Year Period							
2013-2018				2019-2022			
Location	**Date**	**Property Damage**	**Crop Damage**	**Location**	**Date**	**Property Damage**	**Crop Damage**
Irene	06/16/14	$50,000	$0	Burbank	3/13/19	$440,000	$0
				Burbank	6/01/19	$0	$26,430,000
				Burbank	9/12/19	$0	$22,000
				Wakonda	9/13/19	$20,000	$0
				Westerville	9/18/19	$10,000	$0
	Total	**$50,000**	**$0**		**Total**	**$470,000**	**$26,452,000**

According to the Hazard Activity results, the Planning Team ranked flooding 53 out of 93 possible points in the Maximum Probable Extent classification. A score of 53 is severe, meaning that the Planning Team believes that flooding has a severe classification on the scientific scale, fast speed of onset or long duration of event, which can result in devastating damage and loss of services for weeks or months.

History. Between 2019 and 2022, there were 18 reported flooding events. There are a few occurrences to note:

A historic storm system moved across central United States March 13-14, 2019. This storm system produced blizzard conditions, heavy rainfall, and severe storms. The rapid northward movement of warm air with this system led to extended fog and fast snow melt in the region. Snow melt and heavy rains led to historic flooding in many parts of South Dakota, Iowa, and Nebraska. In addition to heavy rain and snow melt, this storm system brought the region solid and prolonged high winds. Sustained winds between 25 and 40 mph were common, with gusts between 50 and 60 mph. A few gusts between 60 and 70 mph were also reported. Figure 3.5 below shows the amount of precipitation Clay County received during the 2-day heavy rainfall event.

Figure 3.5 Clay County Two-Day Precipitation Event



In the late evening hours of Wednesday, September 11, 2019, into the early morning hours of Thursday, September 12, 2019, slow-moving, repeat thunderstorms produced widespread heavy rainfall across portions of southeast South Dakota into southwest Minnesota. As reported by the NWS, rainfall amounts across a large area ranged from 3 to 8 inches. This rainfall resulted in significant flash flooding, requiring evacuations in some communities and many water rescues. New-record flooding events occurred at numerous locations as the water moved into the river system. Many structures were inundated with water. In addition, damage to area roads was significant and widespread. Of note, Hwy 42 over the Vermillion West Fork River was closed for an extended period due to flooding.

On September 12, 2019, Clay County received between 1 to 3 inches of precipitation. Figure 3.6 below shows heavy rainfall coming up through the southeast into Clay County around 3 a.m. on September 12, 2019.

Probability. When predicting flooding, oftentimes the term "100-year flood" is used. However, this term can be misleading as it seems to indicate a flood happens once every 100 years. Instead, the term "100-year recurrence interval" should be used. A recurrence interval is based on the probability that a given event will equal or exceed any given year. In other words, a flood of that magnitude has a one percent chance of happening in any given year.

Figure 3.6 Heavy Rainfall Event on September 12, 2019



In the 1960s, the United States government decided to use the 1-percent Annual Exceedance Probability (AEP) flood as the basis for the NFIP Program. The USGS and other agencies often refer to the percent chance of occurrence as an AEP. An AEP is always a fraction of one. A 0.2 AEP flood has a 20 percent chance of occurring in any given year, and this corresponds to a 5-year recurrence-interval flood.

According to FEMA's National Risk Index, Clay County's Risk Index for Riverine Flooding is relatively moderate. Clay County received a score of 83.5 out of 100 in this category. The National Risk Index indicates that Clay County's Expected Annual Loss due to Riverine Flooding is valued at $1,943,534.

Cumulating the Planning Team's results in the classifications of Location (Geographic Area Affected), Maximum Probable Extent, and Probability of Future Events, flooding received an Overall Significance rating of high, as the criteria consistently fell in the high classifications and the event is likely to occur with severe strength over a significant to extensive portion of the planning area. Table 3.9 below provides a summary of the Hazard Activity that was conducted by the Planning Team to determine the overall significance of flooding.

Table 3.9 Clay County Flooding Summary Results

Clay County Flooding Summary Results			
Classifications	**Score**	**Rank**	**Definition of Classifications**
Location (Geographic Area Affected)	53	Significant	25 to 75 percent of planning area or frequent single-point occurrences
Maximum Probable Extent	53	Severe	Severe classification on the scientific scale, fast onset or long duration of event, resulting in devastating damage and loss of services for weeks or months
Probability of Future Events	55	Likely	10 to 90 percent probability of occurrence in the next year or a recurrence interval of 1 to 10 years
Overall Significance	70	High	The criteria consistently fell in the high classifications and the event is likely/highly likely to occur with severe strength over a significant to extensive portion of the planning area.

Severe Summer Storms

According to NOAA's National Severe Storms Laboratory, a thunderstorm is severe if there is hail one inch or greater in diameter, winds gusting more than 57.5 miles per hour, or a tornado. For the purposes of this Plan, severe summer storms include all storms that occur during spring, summer, and fall with damages that result from high winds, rain, thunder, lightning, and hail.



Location. Severe summer storms are typically associated with unstable weather conditions and are not geographically predictable. Severe summer storms can be scattered or impact a large, widespread area. All portions of Clay County are equally susceptible to severe summer storms, although the type of storm and amount of damage will vary depending on the location. For example, hail can result in significant agricultural damage in the rural parts of the County. In contrast, hail may result in property damage to cars and buildings in urban areas. Table 3.10 summarizes the Planning Team's ranking of hail, lightning, and severe wind to determine Location (Geographic Area Affected) of severe summer storm events.

Table 3.10 Severe Summer Storm Location Summary

Severe Summer Storm Location Summary			
Hazard	**Score**	**Rank**	**Definition of Classification**
Hail	51	Significant	25 to 75 percent of planning area or frequent single-point occurrences
Lightning	47	Significant	25 to 75 percent of planning area or frequent single-point occurrences
Severe Wind	56	Significant	25 to 75 percent of planning area or frequent single-point occurrences

Extent. According to NOAA's National Severe Storms Laboratory, a storm is considered "severe" when it contains one or more of the following: hail one inch or greater in diameter, winds gusting more than 57.5 miles per hour, or a tornado. The extent and magnitude of certain storms can be classified on different scales.

For example, hail is measured in magnitude by size. The average-sized hail that was reported between 2019-2022 in Clay County was 1.1 inches in diameter, which is equivalent to a quarter up to a half dollar size hail. In some instances, there has been reports of hail anywhere from walnut to softball size.

Based on the Hazard Activity results, the Planning Team ranked hail 34 out of 93 possible points in the Maximum Probable Extent classification. A score of 34 is moderate, meaning that the Planning Team believes that hail has a moderate classification on the scientific scale, moderate speed of onset or moderate duration of event, resulting in some damage and loss for services for days.

Lightning is difficult to measure. Lightning can be measured via temperature to estimate the energy of lightning. The energy of lightning can be measured by measuring the length of a lightning strike and multiplying it by the energy per length required to heat up the air to tens of thousands of degrees. Alternatively, lightning energy can be measured by considering the voltage of a strike. A volt is a measurement of the amount of energy released as each pack of electrons flows from one side of an object to another. When lightning strikes, the voltage can be determined by the voltage it induces on nearby powerlines; measurements range from hundreds of thousands to millions of volts. These methods have a large range of errors: not calculating the length of the lightning strike correctly or getting the amount of gas heated per length wrong, or the temperature, or voltage, or number of electrons.

According to *The Conversation*, another interesting way to measure lightning is by studying fulgurites. A fulgurite is a hollow tube formed as lightning travels through sand, vaporizing it and melting its outer edges. When the sand cools down, which happens quickly, the hollow tube is frozen in glass, recording the path the lightning traveled. By definition, a fulgurite is a metamorphic rock, changed by heat and pressure, from sand to something new. It takes a specific amount of energy to vaporize sand into gas. First, the sand must be heated to around 1700°C,

about the temperature of molten lava. At this temperature, sand melts. The molten sand then must heat to just shy of 3000°C, when it vaporizes. It takes about 15 megajoules of energy to heat and vaporize a kilogram of sand. The stronger the lightning strike, the bigger the fulgurite fossil it leaves behind in sand. Based on the size of these hollow glassy tubes, researchers calculate the energy in an average strike to be in the tens of gigawatts

Ultimately, this information is useful in measuring lightning strikes as measuring the energy in lightning is a way of measuring potential damage. Measurements show that the biggest lightning strikes are multiples of the average lightning strikes. The peak energy calculated from measuring fulgurite fossils may give an idea as to the maximum damage to be expected and may eventually allow for better preparation against the worst-case scenario.

Based on the Hazard Activity results, the Planning Team ranked lightning 27 out of 93 possible points in the Maximum Probable Extent classification. A score of 27 is moderate, meaning that the Planning Team believes that lightning has a moderate classification on the scientific scale, moderate speed of onset or moderate duration of event, resulting in some damage and loss for services for days.

The Beaufort Wind Scale is a scale that was developed by Sir Francis Beaufort of the United Kingdom Royal Navy in 1805. According to the NWS, "The scale was first developed to assist sailors in estimating the winds via observations. The scale starts with 0 and goes to a force of 12. The Beaufort scale is still used today to estimate wind strengths." Using the Beaufort Wind Scale a thunderstorm wind, 57.5 miles per hour or greater equals 49.97 knots, or a force of 10 on the Beaufort Wind Scale.

According to the historical records pulled from the Storm Events Database, 18 thunderstorm/strong wind events from years 2019-2022 occurred in Clay County and averaged wind gusts of 58.6 mph (50.9 knots) or a force of 10 on the Beaufort Wind Scale. A 10 on the Beaufort Wind Scale indicates a storm that causes considerable structural damage and uproots trees.

Based on the Hazard Activity results, the Planning Team ranked severe wind 44 out of 93 possible points in the Maximum Probable Extent classification. A score of 44 is moderate, meaning that the Planning Team believes that severe wind has a moderate classification on the scientific scale, moderate speed of onset or moderate duration of event, resulting in some damage and loss for services for days. Table 3.11 summarizes the Planning Team's ranking of hail, lightning, and severe wind to determine Maximum Probable Extent of severe summer storm events.

Table 3.11 Severe Summer Storm Maximum Probable Extent Summary

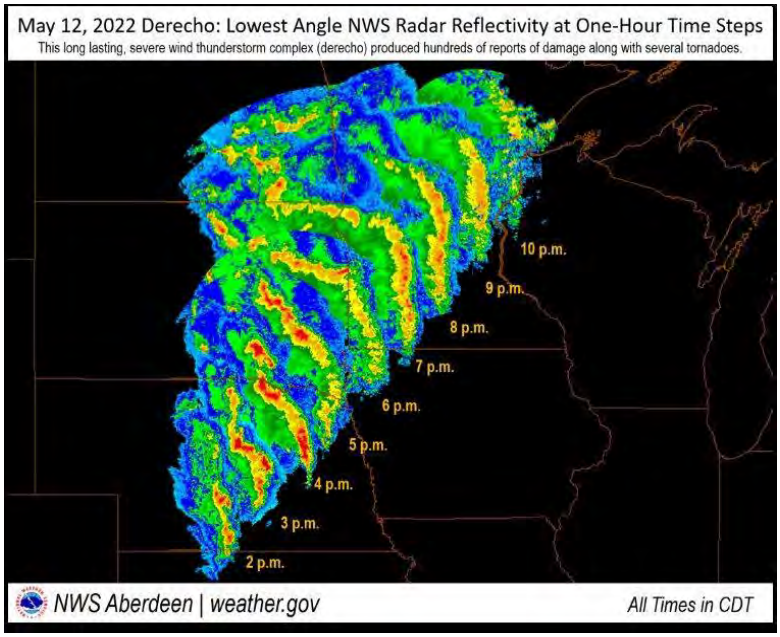
Severe Summer Storm Maximum Probable Extent Summary			
Hazard	**Score**	**Rank**	**Definition of Classification**
Hail	34	Moderate	Moderate classification on the scientific scale, moderate speed of onset or moderate duration of event, resulting in some damage and loss of services for days
Lightning	27	Moderate	Moderate classification on the scientific scale, moderate speed of onset or moderate duration of event, resulting in some damage and loss of services for days
Severe Wind	44	Moderate	Moderate classification on the scientific scale, moderate speed of onset or moderate duration of event, resulting in some damage and loss of services for days

History. Appendix J lists historical records of severe summer storms from January 1, 2019, through December 31, 2022. There are several occurrences to note:

On July 17, 2019, a number of complex thunderstorms developed during the evening across western South Dakota, moving east and becoming more organized as the low-level jet increased focus into south central and southeast South Dakota. Thunderstorm winds reached 35 to 45 knots. Several funnels developed along the line and produced swaths of enhanced wind damage. Winds reached from 80 to 90 mph, and as high as 115 mph. Three people were injured as the strong winds went through a campground, tearing up trees and tents, and rolling campers. A rare, but short-lived, late-night tornado was reported. Areas of high rainfall rates resulted in scattered urban flash flooding. A farm outbuilding was destroyed northwest of Wakonda.

On July 6, 2020, 13 miles northwest of Vermillion, SD, around Meckling, SD, a thunderstorm rolled in from southern North Dakota producing 30 to 40 knots of wind. In small clusters thunderstorms with large hail having a magnitude of 1.25 inches and damaging winds spread into southeast, South Dakota near Meckling, SD. Repeated storms accompanied by heavy rain resulted in scattered flash flooding. NOAA reported $32,000 in crop damage.

Figure 3.7 Derecho on May 12, 2022



On May 12, 2022, a strong line of thunderstorms developed across southern Nebraska, heading northeast into southeastern South Dakota. Wind gusts between 50 to 70 mph and 80 to 100 mph were reported. This storm affected large portions of Clay County, including Dalesburg, Meckling, and Vermillion, SD. This storm produced hail between .75 to 1 inch. Sadly, two fatalities occurred as a result of this weather event. On June 29, 2022, President Joe Biden declared the event a Major Disaster. Figure 3.7 illustrates the large geographic impact severe summer storms can have and how quickly the storms can move.

Table 3.12 below illustrates the impact severe summer storms had in Clay County between 2019 to 2022. Table 3.11 is not all inclusive. More severe summer storm weather events can be found in Appendix J.

Table 3.12 Severe Summer Storm Data

Severe Summer Storm Data					
Location	**Date**	**Type of Hazard**	**Magnitude**	**Property Damage**	**Crop Damage**
Burbank	9/16/21	Thunderstorm Wind	62 mph	$0	$2,000
Dalesburg	7/08/21	Hail	1 inch	$0	85,000
Dalesburg	5/12/22	Thunderstorm Wind	71 mph	$0	80,000
Meckling	7/06/20	Hail	1.25 inch	$0	$32,000
Meckling	5/11/22	Hail	1 inch	$0	$6,000
Vermillion	7/28/20	Thunderstorm Wind	54 mph	$3,000	$0
			Total	**$3,000**	**$205,000**

Probability. The probability of severe summer storms occurring in any given year in Clay County is likely. Table 3.13 below summarizes the Planning Team's ranking of hail, lightning, and severe wind to determine the Probability of Future Events of severe summer storms.

Table 3.13 Severe Summer Storms Probability of Future Events Summary

Severe Summer Storms Probability of Future Events Summary			
Hazard	**Score**	**Rank**	**Definition of Classification**
Hail	51	Likely	10 to 90 percent probability of occurrence in the next year or a recurrence interval of 1 to 10 years
Lightning	49	Likely	10 to 90 percent probability of occurrence in the next year or a recurrence interval of 1 to 10 years
Severe Wind	49	Likely	10 to 90 percent probability of occurrence in the next year or a recurrence interval of 1 to 10 years

According to the National Risk Index, Clay County's Risk Index for hail is relatively low. Clay County received a score of 77.80 out of 100 in this category. The National Risk Index indicates that Clay County's Expected Annual Loss due to hail is valued at $393,409.

According to the National Risk Index, Clay County's Risk Index for lightning is relatively low. Clay County received a score of 36.30 out of 100 in this category. The National Risk Index indicates that Clay County's Expected Annual Loss due to lightning is valued at $54,237.

According to the National Risk Index, Clay County's Risk Index for strong wind is relatively moderate. Clay County received a score of 77.80 out of 100 in this category. The National Risk Index indicates that Clay County's Expected Annual Loss due to strong wind is valued at $753,641.

Cumulating the Planning Team's results in the classifications of Location (Geographic Area Affected), Maximum Probable Extent, and Probability of Future Events, severe summer storms received an overall significance rating of high, as the criteria consistently fell in the high classifications and the event is likely/highly likely to occur with severe strength over a significant to extensive portion of the planning area.

Hazard Activity results can be found in Appendix I for reference.

Severe Winter Storms



Blizzards are "severe winter storms that are a combination of blowing snow and wind that results in low visibility" (National Severe Storms Laboratory, Types of Winter Weather). The combination of snow and wind can cause drifting on roadways. These storms tend to occur in the late fall, winter, and early spring seasons. According to NOAA's National Severe Storms Laboratory, "An ice storm is a winter storm that results in the accumulation of at least .25" of ice on exposed surfaces. Ice storms create hazardous driving and walking conditions. In addition, tree branches and powerlines can easily snap under the weight of the ice and snow."

NOAA is now producing the Regional Snowfall Index (RSI) for significant snowstorms. The RSI ranks snowstorm impacts on a scale of 1-5. For the purposes of this Plan, severe winter storms include blizzards, ice storms, and/or a category of 3 or higher on the RSI.

Location. Similar to severe summer storms, severe winter storms are typically associated with unstable weather conditions and are not geographically predictable. All areas within Clay County are equally susceptible to the impacts of these events, including hazardous driving conditions, loss of life or injury for individuals without proper shelter, and damage to property.

Table 3.14 below summarizes the Planning Team's ranking of winter weather and extreme cold to determine Location (Geographic Area Affected) of severe winter storm events.

Table 3.14 Severe Winter Storm Location Summary

Severe Winter Storm Location Summary			
Hazard	**Score**	**Rank**	**Definition of Classification**
Winter Weather	70	Extensive	75 to 100 percent of planning are or frequent single-point occurrences
Extreme Cold	70	Extensive	75 to 100 percent of planning are or frequent single-point occurrences

Extent. Compared with other hazards discussed in this Plan, severe winter storms are more likely to result in the loss of life or injuries. Since one of the primary impacts of winter storms is hazardous driving conditions, most of the deaths and injuries resulting from winter storms are a result of traffic accidents on icy, snow-covered roadways, or poor driving conditions resulting from blowing snow.

Table 3.15 below summarizes the Planning Team's ranking of winter weather and extreme cold to determine Maximum Probable Extent of severe winter storm events.

Table 3.15 Severe Winter Storm Maximum Probable Extent Summary

Severe Winter Storm Maximum Probable Extent Summary			
Hazard	**Score**	**Rank**	**Definition of Classification**
Winter Weather	53	Severe	Severe classification on the scientific scale, fast speed of onset or long duration of event, resulting in devastating damage and loss of services for weeks or months
Extreme Cold	53	Severe	Severe classification on the scientific scale, fast speed of onset or long duration of event, resulting in devastating damage and loss of services for weeks or months

The RSI ranks snowstorm impacts on a scale of 1 to 5. The RSI is based on the spatial extent of the storm, the amount of snowfall, and the juxtaposition of these elements with population. Including population information ties the index to societal impacts. Currently, the index uses population based on the 2000 Census. The RSI value for each category is included in Table 3.16 below.

Table 3.16 Regional Snowfall Index

Regional Snowfall Index		
Category	**RSI Value**	**Description**
1	1-3”	Notable
2	3-6”	Significant
3	6-10”	Major
4	10-18”	Crippling
5	18.0”+	Extreme

NOAA has analyzed and assigned RSI values to over 500 storms going as far back as 1900. New storms are added operationally. As such, the RSI puts the regional impacts of snowstorms into a century-scale historical perspective. Between 2019 and 2022, there have been three severe winter storms that were ranked as a Category 4, or Crippling, in the Upper Midwest region.

More specific to this region, Table 3.17 below displays annual snowfall totals in Vermillion from the years 2013-2022.

Table 3.17 Vermillion Annual Snowfall

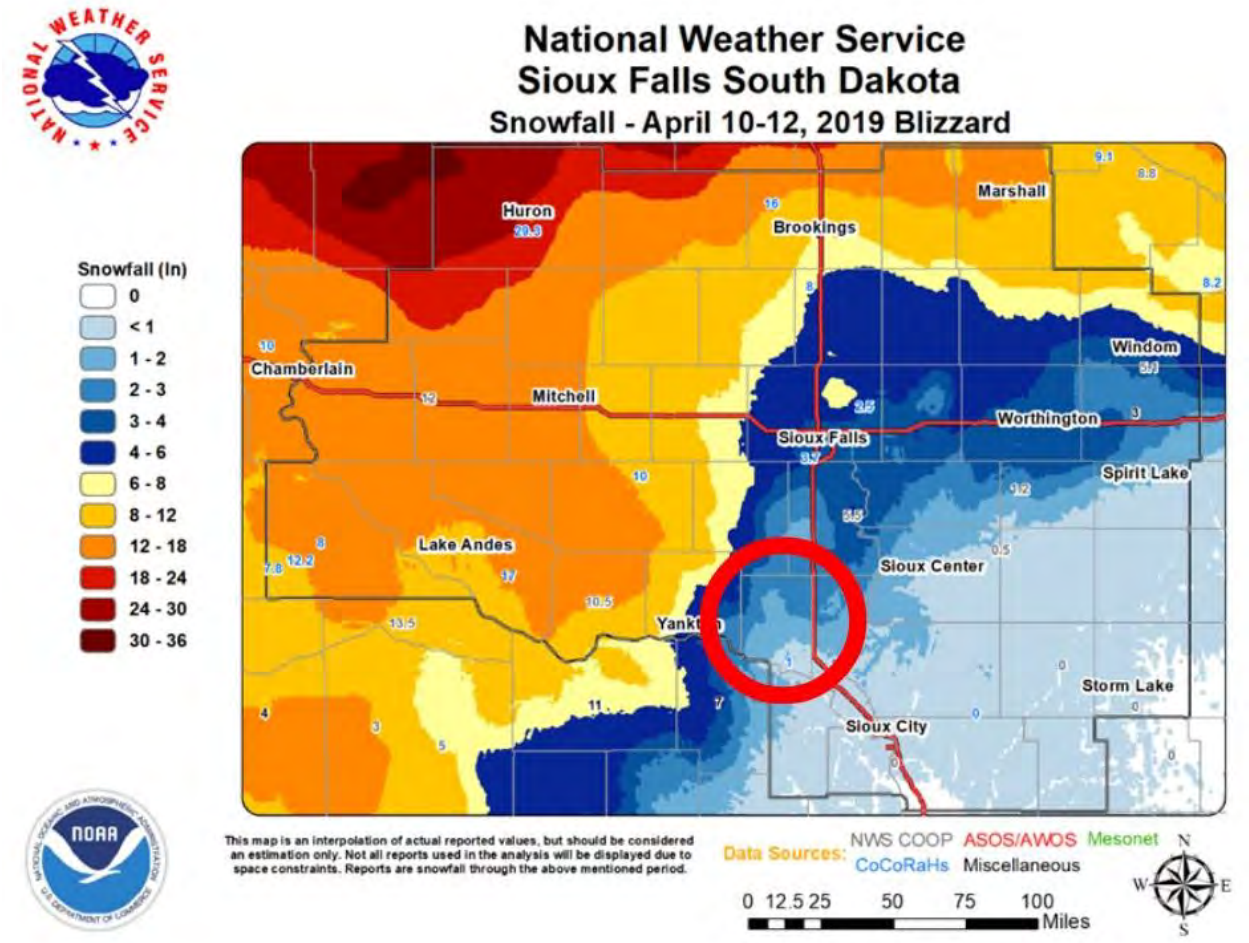
Vermillion Annual Snowfall			
Year	**Amount (Inches)**	**Year**	**Amount (Inches)**
2013	20.82	2019	34.06
2014	28.60	2020	16.70
2015	27.83	2021	23.28
2016	34.70	2022	20.86
2017	M	2023	M
2018	40.56	2024	M
2013-2018 = 30.50 inches (On average over a 5-year period)		**2018-2022 = 23.73 inches (On average over a 4-year period)**	

M = Missing data

History. Appendix J lists historical records of severe winter storms from January 1, 2019, through December 31, 2022. There are several occurrences to note:

On April 10-12, 2019, historic ice accumulation and near-blizzard conditions led to government offices and schools shutting down. In addition, travel was not recommended due to the highly hazardous conditions with a period of freezing rain, sleet, and snow starting the afternoon of April 10, 2019, through early April 11, 2019, resulting in ice accumulation of a quarter to half inch across the northern portions of Clay County. Irene reported a half inch of ice accumulation, and as winds increased during the overnight and early day on April 11, scattered power outages resulted as stress from ice accumulation took down power lines. Snowfall toward the end of the storm produced accumulations of 1.0 to 4.0 inches, with 1.0 inch in Vermillion. Wind gusts peaked at 40 to 60 mph. Figure 3.8 below shows the accumulation of snowfall in Clay County, SD, during this event.

Figure 3.8 Blizzard on April 10-12, 2019



In 2020, there was 11 notable winter storms that occurred in the southeastern corner of South Dakota. Two blizzards were recorded on January 17, 2020, and December 23, 2020. Both blizzards are described as having high winds, with limited visibility, and a total of 2.5 to 3.6 inches of snow around the Vermillion area. Travel was not advised for all of southeastern South Dakota.

On March 14, 2021, snowfall was heavy between 21:00 CST on March 14, 2021, and 05:00 CST on March 15, 2021, resulting in very hazardous travel conditions. A total of 2.3 inches of snowfall was recorded in Vermillion.

On December 15-16, 2022, 2.5 inches of snow and increased wind resulted in visibility as low as approximately 1 mile near Vermillion.

Probability. The probability of severe winter storms occurring in any given year likely. South Dakota's northern location, flat landscape, and proximity to the typical U.S. winter storm track make it highly susceptible to heavy snows, high winds, and low wind chill temperatures.

Table 3.18 below summarizes the Planning Team's ranking of winter weather and extreme cold to determine Probability of Future Events of severe winter storms.

Table 3.18 Severe Winter Storm Probability of Future Events Summary

Severe Winter Storm Probability of Future Events			
Hazard	**Score**	**Rank**	**Definition of Classification**
Winter Weather	64	Likely	10 to 90 percent probability of occurrence in the next year or a recurrence interval of 1 to 10 years
Extreme Cold	61	Likely	10 to 90 percent probability of occurrence in the next year or a recurrence interval of 1 to 10 years

According to the National Risk Index, Clay County's Risk Index for cold wave, ice storm, and winter weather ranges from relatively low to relatively moderate. Clay County received a 57.50 out of 100 for cold wave, a 62.20 out of 100 for ice storm, and a 59.70 for winter weather. The National Risk Index indicates that Clay County's Expected Annual Loss due to cold wave, ice storm, and winter weather all together is valued at $251,074.

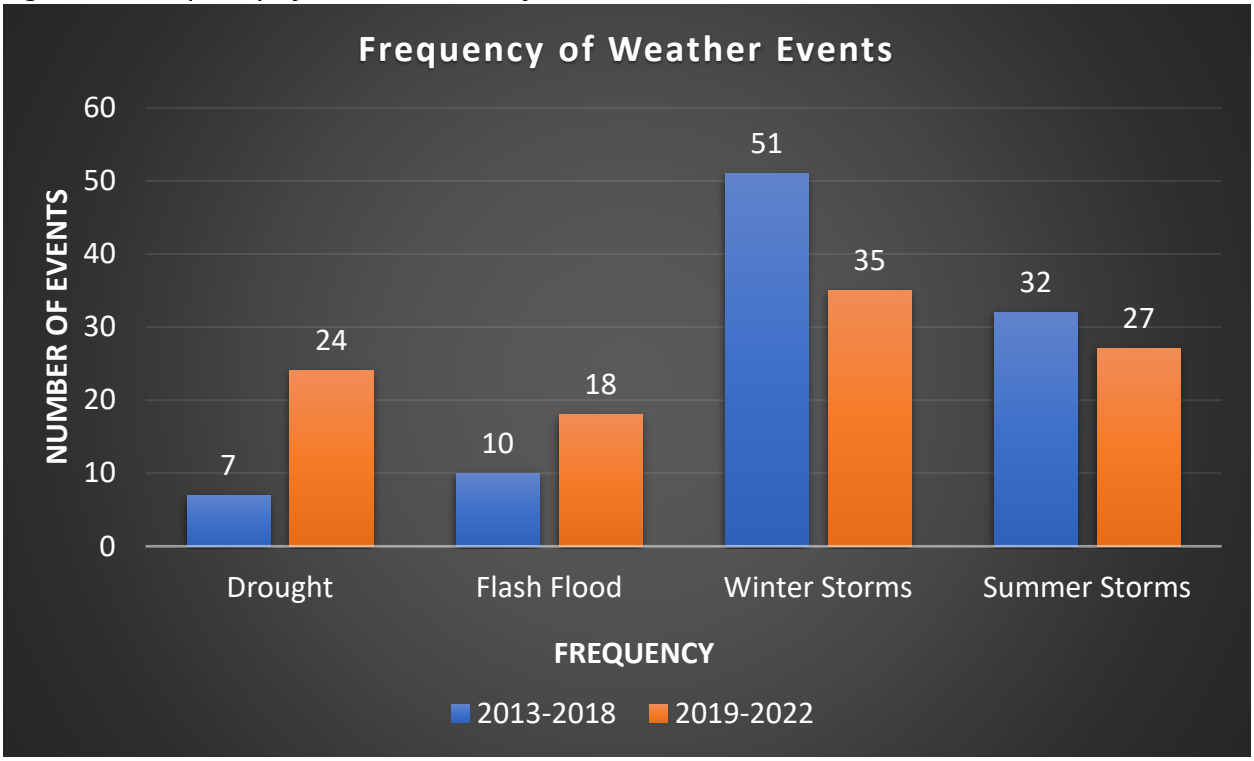
Cumulating the Planning Team's results in the classifications of Location (Geographic Area Affected), Maximum Probable Extent, and Probability of Future Events, severe winter storms received an overall significance rating of high, as the criteria consistently fell in the high classifications and the event is likely/highly likely to occur with severe strength over a significant to extensive portion of the planning area.

Hazard Activity results can be found in Appendix I for reference.

Future Conditions

B1-e. As shown in Figure 3.9, weather events in Clay County are occurring more frequently and with increased severity. According to FEMA, "Climate change increases the frequency, duration, and intensity of natural hazards, such as wildfires, extreme heat, drought, storms, heavy precipitation and sea level rise" (Local Mitigation Planning Policy Guide, 2022, p. 6). As such, climate change may be one of the factors impacting the increased frequency and severity of weather events in Clay County.

Figure 3.9 Frequency of Weather Events from 2013-2022



South Dakota is a land-locked state with few wooded areas in the southeastern region. While Clay County may not experience the most common impacts of climate change, such as sea-level rise and wildfires, Clay County is susceptible to other impacts of climate change such as flooding, extreme temperature, drought, and more frequent and extreme summer and winter storms. Depending on the increased rate of occurrence and severity, these weather events could have a devastating effect on Clay County's economy. Clay County depends heavily on the agricultural industry and the region provides many natural resources and food commodities nationally and internationally. Although temperature patterns in the County may not be a direct result of climate change, it is clear that higher temperatures have a negative impact on community assets such as crops.

Figure 3.10 Projected Temperature Change

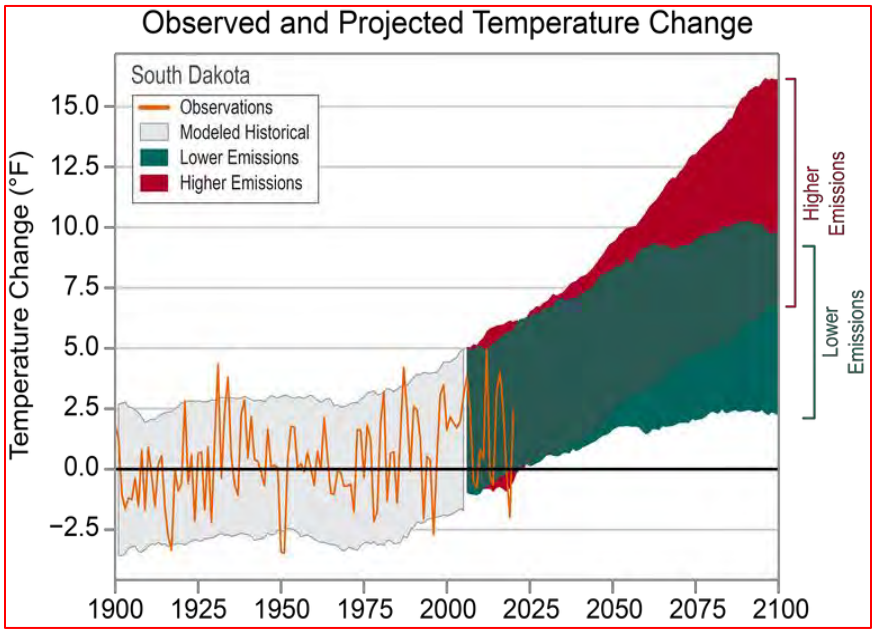
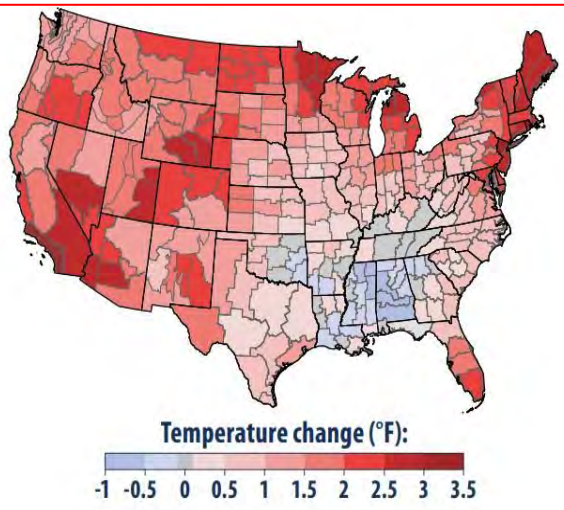


Figure 3.10 shows observed and projected temperature changes in South Dakota. As displayed in Figure 3.10, temperatures are expected to rise gradually each decade. According to NOAA, temperature patterns in South Dakota have climbed over 2°F since the beginning of the 20th century.

Figure 3.11 illustrates the rising temperature changes within the last century. In South Dakota, the average temperature has increased between 0.5°F to 2.5°F. There has been about a 1.0 degree increase in temperate every 10 years over the last century.

Figure 3.11 State Climate Summary



Rising temperatures in the last century. The warming in South Dakota has been more than the average warming nationwide. Source: EPA, Climate Change Indicators in the United States.

Agricultural Pests and Disease

With agriculture as South Dakota's primary industry, climate change has the potential to have a direct impact on the economy. UC Davis published research on the effects climate change has on agricultural pests, crop diseases, and weed species. The State of South Dakota Hazard Mitigation Plan indicates that climate change can alter and increase the range or "damage niche" of many weed species. With these geographic range shifts, new weed species can enter communities further north than in the past. The effects of climate change vary by region and crop type, so it is important to understand the different environmental factors and the underlying physiological mechanisms' responses. Local increases in precipitation also have the potential to aid in the dispersal of plant and crop disease. Various frost-sensitive insects have been shown to increase in population with the rise of milder winters. Warmer winters may foster an environment that allow for pests and invasive weeds to survive through the cold season. Increasing annual average temperatures also aid in the growth and reproduction in certain

insects. Studies on aphids and moths have shown that increasing temperatures can allow insects to reach their minimum flight temperature sooner, aiding in increased dispersal capability. Multiple studies have shown the northward expansion or shift of insect ranges, such as Edith's checkerspot butterfly or the mountain pine beetle, to be correlated with increasing temperatures.

Drought/Extreme Heat

In addition to the potential increase for agricultural pests and disease, NOAA's 2022 State Climate Summaries states that, "The intensity of droughts is projected to increase. Droughts are a natural part of the climate system, and because the projected precipitation increases are expected to occur during the cooler months, South Dakota will remain vulnerable to periodic drought. Increases in evaporation rates due to rising temperatures may increase the rate of soil moisture loss and the intensity of naturally occurring droughts" (para. 10).

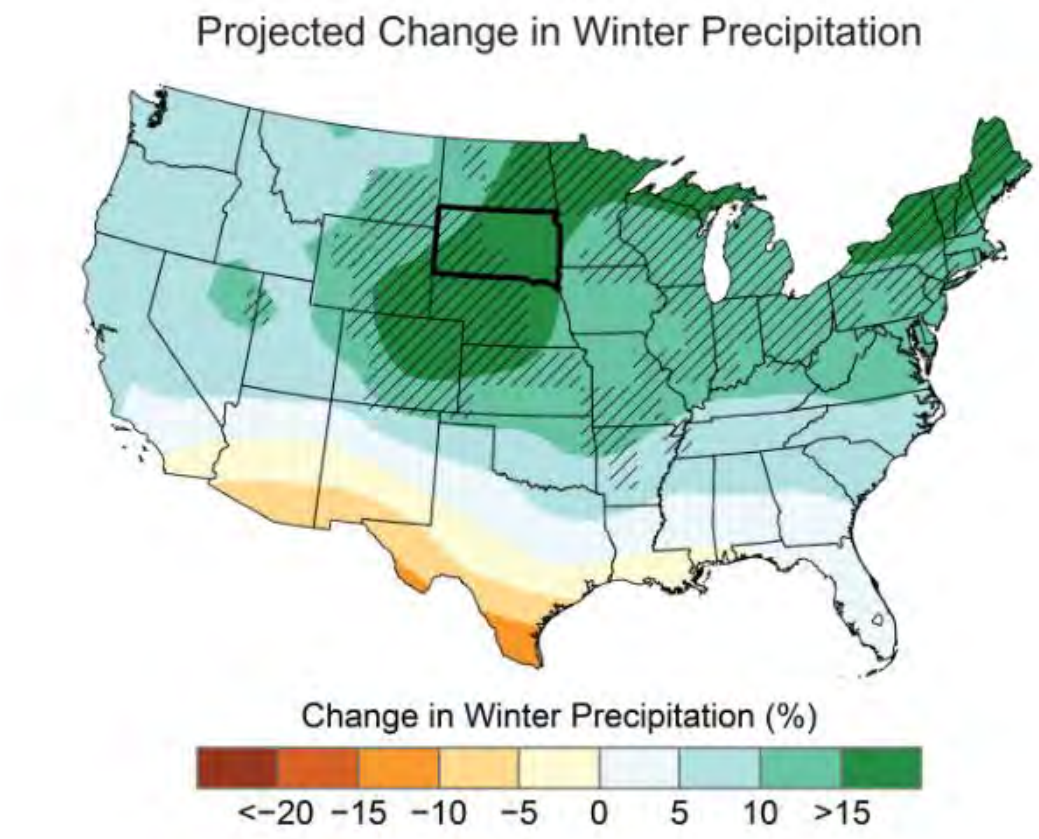
Earthquakes/Landslides

Climate change is also anticipated to impact the frequency of extreme precipitation events in the State of South Dakota. "Since 1990, South Dakota has averaged 22% more 2-inch rain events compared to the long-term average" (NOAA's 2022 State Climate Summaries, 2022, para. 7). Some historic rain and flooding events have also occurred in recent years. Although it is not anticipated that earthquakes will increase significantly as a result of climate change, landslides may become more frequent and severe. Increased participation may encourage flows which contain the most water of all landslide types.

Floods

According to the NOAA's 2022 State Climate Summaries, "Annual precipitation is projected to increase, with the largest increases occurring during spring and winter. Increased winter and spring precipitation can impact South Dakota's agricultural economy both positively (increased soil moisture) and negatively (loss of soil nutrients, planting delays, and yield losses). Increases in the frequency and intensity of extreme precipitation events are also projected, potentially leading to increased runoff and flooding, which can reduce water quality and erode soils. Increased winter snowfall, rapid spring warming, and intense rainfall can combine to produce devastating floods. Figure 3.12 below displays the projected changes in total winter (December-February) precipitation as a percentage for the middle of the 21st century compared to the late 20th century under a higher emission pathway. Hatching represents areas where the majority of climate models indicate a statistically significant change.

Figure 3.12 Projected Change in Winter Precipitation



Severe Summer Storms

According to the State of South Dakota Hazard Mitigation Plan, there is projected to be an increase in potential days for severe thunderstorms in the mid- to late-21st century. The largest increases, however, are in neighboring regions of the Midwest and Southern Plains. Storm intensity is also projected to increase. According to NOAA's 2022 State Climate Summary, "Summer precipitation has generally been above average since 2008. Most of the state's precipitation falls between April and September when thunderstorm activity is highest. The most severe thunderstorms can produce hail, high winds, and tornadoes. A hailstone from a severe thunderstorm that fell on July 23, 2010, in Vivian holds the national record for hail weight (1.938 pounds) and diameter (8.00 inches)" (para. 3).

Severe Winter Storms

The State of South Dakota Hazard Mitigation Plan also states that the northern U.S. has experienced an increase in the frequency of large snowfall events, where other places in the country have been decreasing. Some analyses have shown an increase in winter storm frequency and intensity, with storm tracks moving northward since 1950. 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.

Tornadoes

The State of South Dakota Hazard Mitigation Plan cautions future growth in the State as it increases communities' vulnerability of tornadoes. The Plan states, "Future growth in any county may alter the increased future vulnerability to tornado events, as density increases (which increases the potential for catastrophic damages) or as more population becomes exposed" (2019, p. 214). The State of South Dakota Hazard Mitigation Plan states that future growth should be carefully monitored in in the southeast corner of the state as that is where there is rapid growth" (2019, p. 214).

Wildfires

Wildfire conditions across South Dakota and the western United States in general are likely to worsen in the future due to climate change. This is due to increasing temperatures, an increase in annual precipitation, and drought as a regular occurrence. The increase in temperatures can dry out fuels more rapidly. The increase in moisture can provide favorable conditions for fuel (vegetation) growth. The trend towards larger precipitation events with drought as a common occurrence provides multiple windows of opportunity for the fuels to dry out and burn, particularly fine fuels like grasses.

The U.S. Forest Service released a study titled "Wildland Fire and Climate Change" detailing the effect climate change will likely have on atmospheric patterns that affect fire weather. These changes could result in fire patterns that will in turn impact carbon cycling, forest structure, and species composition. The study explains that with a doubled CO2 environment, there is potential for an increase in lightning activity, a higher frequency of surface pressure and associated circulation patterns conducive to surface drying, and fire-weather conditions in general. These findings suggest that these factors and higher summer temperatures will likely increase the annual window of high fire risk by 10-30%. Predictions past 2040 are largely speculative given the current rate of increase in fossil fuel emissions, but there will certainly be in increase in the potential for drought and the number of days in a year with flammable fuels. The above variables will extend fire seasons and area burned in ecoregions where fire extent is linked to fuel conditions. More intense wildfires can produce highly erodible soils that can lead to increased sediment loading in reservoirs and streams, damaging water infrastructure and degrading water quality. This can also result in increased flood and debris flow risk in affected watersheds for many years following a destructive fire.

Although wildfires in Clay County are uncommon, it is possible that climate change may encourage more wildfires within the region.

Determining Community Vulnerability

B2-a. In order to determine the vulnerability of community assets, the Planning Team completed the Identifying Vulnerable Assets Activity. The Planning Team also used data tools such as the CDC/ATSDR Social Vulnerability Index, National Risk Index, and social justice tools to determine vulnerability. Vulnerability will be discussed in further detail in the Community Assets subsection below.

Community Assets



Community assets used in the Identifying Vulnerable Assets Activity included people, structures, economic assets, natural, historic, and cultural resources, and community activities. Each of the natural hazards identified in this section have the potential to impact community assets within Clay County. Impact to community assets depends upon location, the extent or duration, and the probability of future hazardous events.

During the third planning meeting, the Planning Team reviewed the people that are most vulnerable during natural hazard events. Participants in the Identifying Vulnerable Assets Activity indicated that the following people are vulnerable to natural hazards:

- City/Rural Residents
- Commuters
- Farmers
- Homebound Individuals
- Homeless Population
- Low-Income Families
- People with Disabilities
- Residents in the Floodplain
- Seniors
- Students

Clay County

Clay County is located in the southeast corner of South Dakota, bordering Turner, Union, and Yankton counties. According to the American Community Survey (ACS) 5-Year Estimates the estimated population of Clay County in 2022 was 15,280, making Clay County the 14th most populous county of South Dakota's 66 counties.

People. The people within Clay County are one of, if not the most, valuable assets in the County. The Planning Team worked together to assess the risks potential hazards could have on the residents within Clay County. Each community, the public, townships, nonprofits, and staff from USD, participated in an Identifying Vulnerable Assets Activity.

According to Census QuickFacts, in 2010, the population density per square mile in Clay County was 33.6 persons. In 2020, the population density per square mile increased to 36.3 persons. Table 3.19 below shows the change in population for Clay County from 2010 to 2020.

Table 3.19 Clay County Population

Clay County Population		
2010 Population	**2020 Population**	**Percentage Change**
13,864	14,967	+7.96%

Source: U.S. Census Data – 2020 Redistricting Data

In 2010, there were 4,936 housing units in Clay County. In 2022, the number of housing units increased to 5,416 housing units. This trend indicates that there is a demand in Clay County for housing.

In 2022, the median age in Clay County was 25 according to the ACS 5-Year Estimates. The relatively young median age can be attributed to the USD's student population.

Vulnerable populations have special needs during times of disaster. In the context of emergencies, vulnerable groups may include individuals with disabilities, very young children, and the elderly. One measure of strength of a community's response and recovery system is its attentiveness to its most vulnerable citizens – children, the elderly, the disabled, and the impoverished and disenfranchised. Table 3.20 provides insight into the populations that may face difficulty with evacuations, understanding emergency communications, or may need access to specialized medical equipment and medications.

Table 3.20 Clay County Percentage of Vulnerable Populations

Clay County Percentage of Vulnerable Populations			
Location	**Percent with a Disability**	**Percent Under 5 Years Old**	**Percent 65 and over**
South Dakota	8.0%	6.4%	18.0%
Clay County	12.7%	4.6%	11.9%

Source: 2022 ACS 5-Year Estimates

The South Dakota Department of Social Services lists eight state registered childcare providers in Clay County, seven within the City of Vermillion and one in the Town of Wakonda. The City of Irene has four, unregistered in-home daycare providers. The City of Vermillion requires daycare registration, thus providing emergency responders the location of this vulnerable population. Nursing homes, assisted living facilities, and housing reserved for senior citizens are easily identified during disaster response. SESDAC, a nonprofit facility providing support for persons with disabilities, is located in Vermillion. Whether residing in a SESDAC facility or receiving services through home visits, this vulnerable sector of the population is easily identified to emergency responders in the event of a disaster. Seniors, and persons with a disability, may be more vulnerable to hazards.

According to the CDC/ATSDR's Social Vulnerability Index, "Social vulnerability refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. Sixteen census-derived factors grouped into four themes, summarize the extent to which the area is socially vulnerable to disaster. The themes are socioeconomic status, household characteristics, racial and ethnic minority status, and housing type/transportation."

Census tracts can range from lowest, relatively low, relatively high, and highest (top 4th) percentiles. Different Census tracts in Clay County ranged from relatively low to highest in socioeconomic vulnerability status. Household characteristics amongst Census tracts hit two percentiles, lowest and highest. Census tracts in Clay County ranked in two percentiles in racial and ethnic minority status, lowest and relatively high. Housing type/transportation ranked relatively high and highest.

Figure 3.13 Clay County Social Vulnerability Index

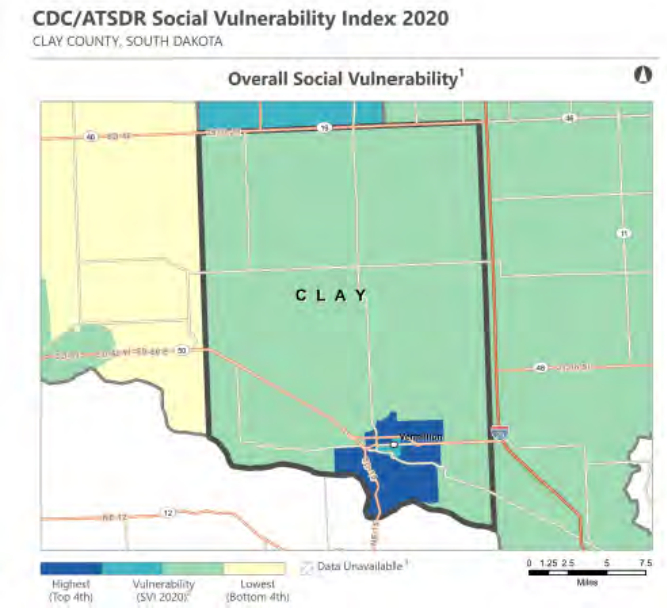
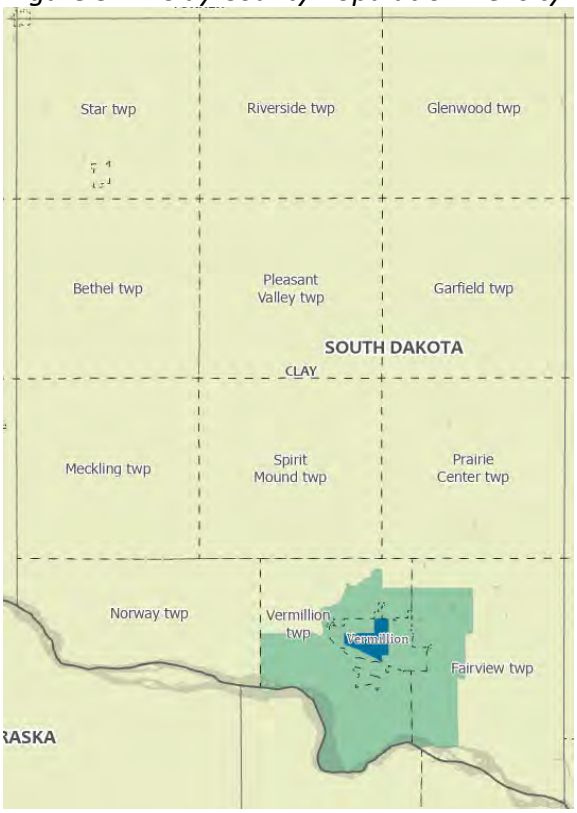


Figure 3.13 is a picture of the CDC/ASTDR's Social Vulnerability Index 2020 and depicts the overall social vulnerability in Clay County. Based on the research from the CDC/ATSDR's Social Vulnerability Index, there is a correlation between population density and the impact of natural hazards. The larger the population density is per square mile of land area, the higher the socially vulnerable impact. For example, if a natural hazard, such as a tornado, were to impact the City of Vermillion, there would be a large number of people that would be affected in the area. Whereas in smaller communities, like Wakonda, fewer people would be affected. It appears that the most vulnerable Census tracts in Clay County are also the most densely populated. Population centers include Vermillion

and the immediately surrounding area. Figure 3.14 displays the population density of Clay County by Census tract.

Figure 3.14 Clay County Population Density



Based on Figure 3.14, the City of Vermillion and the surrounding areas range from 500 to 5,000 person per square mile, and the remainder of the County has 50 persons per square mile (including the City of Irene, Town of Wakonda, and townships). This data indicates that the more populated an area, the more vulnerable the area is to natural hazards, due to the amount of people that would be affected by the natural hazard.

In addition to the CDC/ASTDR's Social Vulnerability Index, the Planning Team also reviewed the National Risk Index for Clay County Census tracts. According to the National Risk Index, the Census tracts in Clay County ranged from relatively moderate to relatively high in regard to the overall Risk Index rating for natural hazards; however, in regard to the CDC/ASTDR's Social Vulnerability Index, Clay County census tracts ranged from relatively low to very high.

It is also important to note that despite Clay County ranking relatively high in risks and social vulnerability, the County still ranks relatively high in Community Resilience. As discussed in *Section Two*, Community Resilience is a strength of Clay County, and the communities within the County, as they are able to endure natural hazards and quickly recover from them.

In terms of determining community vulnerability, factors such as socioeconomic status, minority status, household characteristics, transportation, and education characteristics must be taken into consideration. For instance, if a community ranks in the highest percentile of socioeconomic status, low-income persons and families may be particularly vulnerable in the event of a natural disaster as they may not have the means to evacuate or recover.

If a community ranks in the highest percentile of household characteristics, this could be because there is a high percentage of persons over 65 years old in the community. The elderly population may need special assistance during a natural hazard event.

Based on the Identifying Vulnerable Assets Activity and database research tools, a summary of vulnerable people in Clay County, and jurisdictions within the County, are included in Table 3.21 below.

Table 3.21 Summary of Vulnerable People

Summary of Vulnerable People			
Communities	**Hazard**	**Specific Asset**	**What makes this group/asset vulnerable during this hazard?**
Clay County	Agricultural Pests and Disease	Farmers	In the event of an agricultural pest and disease outbreak, farmers in the County may experience profit loss that can negatively impact the economy. Loss of crops can negatively impact the food supply chain for both the general population and livestock.
Irene			
Vermillion			
Wakonda			
Clay County	Drought	Low-Income Households	Low-income households may be especially vulnerable to excessive heat/drought events due to lack of affordability of working home cooling systems.
Irene			
Vermillion			
Wakonda			
Clay County	Earthquakes	Seniors/Elderly	In the event of an earthquake, seniors/the elderly may be vulnerable as an earthquake could cause damage to seniors' well-being and health by causing falls and trauma.
Irene			
Vermillion			
Wakonda			
Clay County	Flood	Residents/Commuters	Residents that live in flood prone areas are vulnerable during flooding events as they may need assistance evacuating from flooded homes, cars, etc. Although less likely in communities without SFHAs, such as the Town of Wakonda, commuters of Wakonda are particularly vulnerable to flooded roadways.
Irene			
Vermillion			
Wakonda			

Clay County Irene Vermillion Wakonda	Landslides	Resident in Proximity of Steep Slopes	Residents who live near steep slopes may be vulnerable to landslides especially in heavy precipitation events.
Clay County Irene Vermillion Wakonda	Severe Summer Storms	Tourists/Visitors, Campers, Workforce, Commuters	In the event of severe summer storms with hail, tourists/ visitors are vulnerable as they may not have the knowledge of where to seek shelter. This is problem is also applicable to campers in municipal and county park areas. In the event of a severe summer storm, the workforce that commutes long distances is vulnerable while traveling. Commuters may become stranded on highways and forced to seek shelter.
Clay County Irene Vermillion Wakonda	Tornadoes	Mobile Home Residents	In the event of a tornado, mobile home residents are especially vulnerable if there is not a basement or another approved storm shelter nearby.
Clay County Irene Vermillion Wakonda	Wildfires	Emergency Service Providers	In the event of a wildfire, although firefighters are trained professionals, because they respond to fires, they are vulnerable to wildfires by being within proximity.
Clay County Irene Vermillion Wakonda	Severe Winter Storms	General Population	In the event of a severe winter storm, roads may be closed making the general population able to attend work, school, and receive health care services.

Economy. Farming and agriculture-related businesses are the economic driver in Clay County. As of 2017, 93 percent of Clay County land is used for agriculture. According to the 2017 Census of Agriculture, there are 472 farms in Clay County. The average farm size is 506 acres, which is a 10 percent decrease since 2012. The average farm has a market value of crop and livestock sales of $210,037.

According to Census QuickFacts, the median household income in Clay County in 2022 is $55,963 trending lower than the $69,457 median household income for the State of South Dakota. The 2022 ACS 5-Year Survey Estimates estimate 20 percent of Clay County individuals live below the poverty level. The poverty rate in Clay County is 20 percent which is higher than the State of South Dakota's poverty rate of 12.5 percent.

When natural disasters occur, it can negatively impact the County's and municipalities' budgets, especially with there is limited funding available. One way that the County and jurisdictions within the County can integrate this Plan into their budgeting processes, would be to analyze the Expected Annual Losses and allocate for natural hazard events accordingly. Examples of funds that may be needed in the wake of a natural hazard events include increased use of emergency services, time and manpower to clear snow off roadways, repair of damaged roads, repair of damaged or obstructed culverts, and repairs to damaged community buildings.

Table 3.22 below details the Expected Annual Losses for the priority hazards in Clay County according to FEMA's National Risk Index.

Table 3.22 Clay County Expected Annual Losses

Clay County Expected Annual Losses			
Hazard Type	**Expected Annual Loss**	**Social Vulnerability**	**Risk Index Score**
Drought	$20,564	Very Low	49.90
Hail	$393,409	Relatively Low	79.10
Ice Storm	$96,540	Relatively Moderate	62.2
Riverine Flooding	$1,943,534	Relatively Moderate	83.50
Strong Wind	$753, 641	Relatively Moderate	77.10
Tornado	$2,489,842	Relatively Moderate	75.3
Winter Storms	$69,182	Relatively Moderate	59.7

According to the National Risk Index, Clay County can expect to have annual losses of as little as $20,564, if one hazard were to occur, and as much as $5,766,712, if all hazards were to occur in one year.

A downside of FEMA's National Risk Index is that it does not take into consideration future conditions. As Clay County continues to grow, especially around population centers, such as the City of Vermillion, the County should take into account how increased population and population density may be impacted by natural hazards. For example, increased population may necessitate the County to consider constructing storm shelters to prevent loss of life and injury in the event

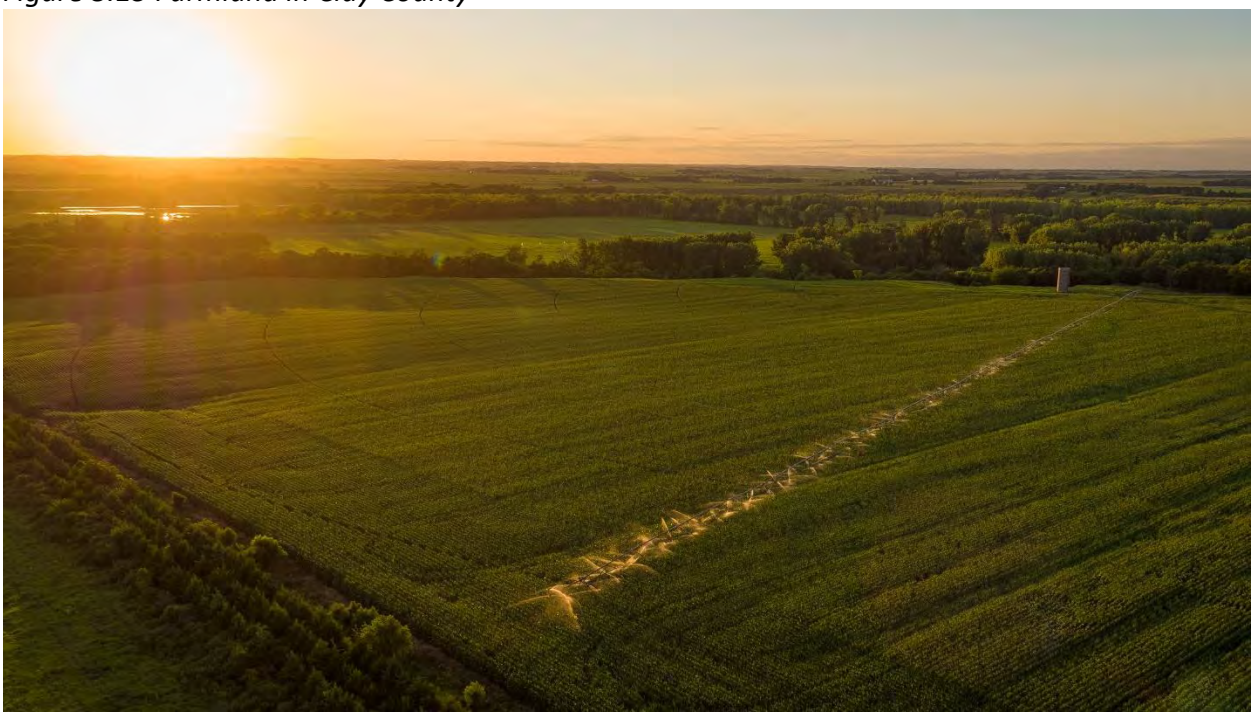
of a tornado or strong winds. An increase in population may mean more people utilize Clay County Park. This would be a logical location for a storm shelter in the event of a natural disaster.

As Clay County is also a largely agricultural-based community outside of population hubs, the County may want to consider how future conditions, such as increased occurrences of drought, may affect the County's economy. Clay County should work with rural water system providers to ensure peak usage is sufficient for both agricultural and rural residential needs.

As discussed previously in the Future Conditions section of this document, increased temperatures can alter and increase the range or "damage niche" of many weed species. With these geographic range shifts, new weed species can enter communities further north than in the past. New weed and insect species can result in a higher demand for water if producers determine increased herbicides and pesticides are necessary to keep agricultural pests and disease at bay.

Lastly, future conditions, such as climate change, may make the County more vulnerable to fires. Although southeastern South Dakota does not historically suffer from wildfires, as there as significantly less forested areas than in places such as western South Dakota and the Black Hills National Forest, brush fires, or fire in vegetation less than 6 feet tall, including grasses, grains, brush, and saplings, may become more frequent occurrences. Figure 3.15 is a photograph of farmland located in Clay County, SD.

Figure 3.15 Farmland in Clay County



Based on the Identifying Vulnerable Assets Activity and database research tools, a summary of vulnerable economic assets in Clay County, and jurisdictions within the County, are included in Table 3.23 below.

Table 3.23 Summary of Economic Vulnerability

Summary of Economic Vulnerability			
Communities	**Hazard**	**Specific Asset**	**What makes this group/asset vulnerable during this hazard?**
Clay County Irene Vermillion Wakonda	Agricultural Pests and Disease	Agriculture	In the event of an agricultural pest or disease outbreak, crops, produce, and other vegetation are vulnerable. Agricultural pests and disease can also create food supply shortages.
Clay County Irene Vermillion Wakonda	Drought	Water	Water is an important economic asset to residents, farmers, manufacturers, etc. as it is a means to eating, bathing, growing crops, raising livestock, and manufacturing, as well as a variety of other activities. In the event of excessive heat and/or prolonged drought, the water supply is vulnerable to shortage which can negatively impact supply and demand.
Clay County Irene Vermillion Wakonda	Floods	Major Employers	During a flood, people may be unable to get to work and businesses may have to temporarily close. This makes major employers and employees vulnerable to financial loss and may generate an overall negative impact on the economy.
Clay County Irene Vermillion Wakonda	Earthquakes	Major Employers	In the aftermath of an earthquake, people may be unable to get to work and businesses may have to temporarily close. This makes major employers and employees vulnerable to financial loss and may generate an overall negative impact on the economy.
Clay County Irene Vermillion Wakonda	Landslides	Houses	Houses close to steep slopes are vulnerable to damage as a result of a landslide.

Clay County Irene Vermillion Wakonda	Severe Summer Storms	Agriculture, Transportation Providers	Hail may devastate crops resulting in financial loss for farmers and food supply shortages. In the event of severe thunderstorm winds, truck drivers that haul large trailers are vulnerable. Truck drivers may not drive in severe thunderstorm winds due to safety reasons, resulting in financial loss and delays that may cause supply chain issues.
Clay County Irene Vermillion Wakonda	Tornado	Houses	In the event of a tornado, houses may be vulnerable. Tornadoes may damage houses which can negatively impact residents in costly home repairs.
Clay County Irene Vermillion Wakonda	Severe Winter Storms	Transportation	In the event of severe winter storms, truck drivers are vulnerable. Truck drivers may not drive in severe winter storms due to safety reasons, resulting in financial loss and supply chain issues.
Clay County Irene Vermillion Wakonda	Wildfire	Hunting/Tourism	If wildfire damages natural habitat, hunting tourism as a result of loss of habitat.

Built Environment. According to the Clay County Master Transportation Plan, Clay County is served by three state highways: SD 19, SD 46, and SD 50. The County is responsible for maintenance of approximately 241 miles of road (186 miles paved, 55 miles unpaved), and 75 bridges. There are 75 bridges over 20 feet long and 155 small structures under 20 feet long. The County Road system complements the three state highways that pass-through Clay County. South Dakota Highway 19 is an 87-mile stretch of highway that travels north and south and passes through the City of Vermillion. South Dakota Highway 46 is an east-west highway that travels along the northern border of the County. South Dakota Highway 50 is also an east-west highway that bisects the County. There are no interstates or other federal transportation routes within Clay County.

In addition to highways and roads, there is also the Burlington Northern Santa Fe (BNSF) rail line that runs east to west, through Vermillion, on the southern edge of the County.

Clay Rural Water System has several assets in rural Clay County. The System has a primary water treatment plant located outside Wakonda, SD, and several water towers and booster stations located throughout the County. Clay Rural Water System is the only rural water system serving rural Clay County. Service is provided to Wakonda as well as the unincorporated communities of Burbank and Meckling. The City of Vermillion also has two water towers and several interconnects with Clay Rural Water System. In one situation, the City is Clay Rural Water Systems' source of water.

Lewis & Clark Regional Water System's treatment plant and well fields are also located in Clay County.

The City of Vermillion and Clay-Union Electric Corp. receive power from the Western Area Power Administration (WAPA). WAPA lines pass-through Clay County and both Clay and Union Counties have overhead distribution lines. This is worth noting as these facilities are at risk during storm events.

Based on the Identifying Vulnerable Assets Activity, a summary of vulnerable structures in Clay County, and jurisdictions within the County, are included in Table 3.24 below.

Table 3.24 Summary of Vulnerable Structures

Summary of Vulnerable Structures			
Community	**Hazard**	**Specific Asset**	**What makes this group/asset vulnerable during this hazard?**
Clay County	Agricultural Pests and Disease	Not Applicable	Not Applicable
Irene			
Vermillion			
Wakonda			
Clay County	Drought	Utility Infrastructure	During drought events/excessive heat, utility infrastructure may become vulnerable as water systems have a limited amount of water. During drought events/excessive heats, demands may be placed on utility infrastructure that exceeds capacity.
Irene			
Vermillion			
Wakonda			
Clay County	Earthquakes	Assisted Living/Nursing Homes	During the event of an earthquake, assisted living or nursing homes, with large groups of senior citizens, may be impacted by the earthquake, and the buildings could become unstable and unsafe to house seniors until the building is repaired.
Irene			
Vermillion			
Wakonda			
Clay County	Flood	Utility Infrastructure	Based off an analysis of the critical facilities maps located in Appendix K, the only critical facility that is within proximity or located in a floodplain is the Vermillion Wastewater Treatment Plant and Pump Stations, as well as other pump stations owned by rural water systems. Pump Stations, water and wastewater treatment plants can become damaged by overflow of capacity during flooding. Flooding can become hard on equipment.
Irene			
Vermillion			
Wakonda			
Clay County	Landslides	Structures built near steep slopes	Structures that are built near steep slopes are vulnerable to landslides.
Irene			
Vermillion			
Wakonda			

Clay County	Severe Summer Storms	Utility Buildings, Electrical Powerlines, SESDAC, Dakota Dome, Fire Station	Utility buildings are vulnerable to hail as hail may damage city maintenance buildings and equipment. Telecommunication towers, telephone poles, water towers, and other electrical poles are vulnerable to severe thunderstorm winds as they may become damaged or downed by high winds which can result in power outages. The SESDAC building has bad roof leaks from heavy rainstorms. This problem will continue until the roof can be fixed. The USD Dakota Dome in Vermillion, SD, is the largest building in the County that could be used as shelter in the event of a disaster. If the building were damaged, there would be limited options for shelter. The Vermillion Fire EMS Station is where all emergency medical supplies are located and also serves as a temporary storm shelter. In the event this building was damaged, it would create issues for medical staff to get supplies and result in the loss of a temporary shelter.
Irene			
Vermillion			
Wakonda			
Clay County	Tornadoes	Mobile Homes	During the event of a tornado, mobile homes are especially vulnerable due to not being built on a foundation/basement.
Irene			
Vermillion			
Wakonda			
Clay County	Wildfires	Houses	In the event of a wildfire, houses become vulnerable if they are in the wildfire's path.
Irene			
Vermillion			
Wakonda			
Clay County	Winter Storms	Municipal Buildings	In the event of severe winter storms, the heavy snow due may cause damage to flat roofed buildings.
Irene			
Vermillion			
Wakonda			

Figure 3.16 Physiographic Regions Map

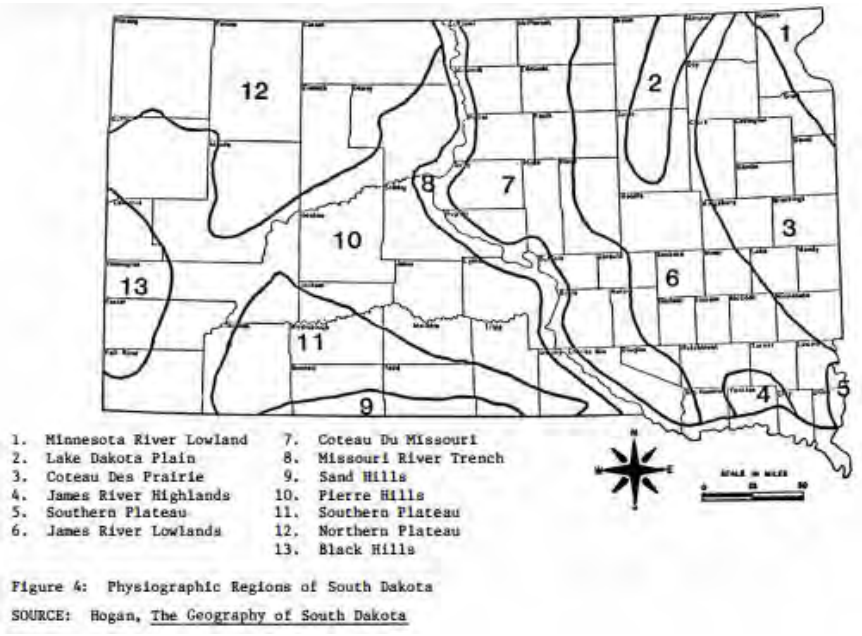


Figure 4: Physiographic Regions of South Dakota

SOURCE: Hogan, The Geography of South Dakota

Natural Environment. Clay County is made up of three physiographic regions. These regions are the James River Lowland, James River Highland, and the Missouri River Trench division of the Great Plains province. About one-third of Clay County is in the James River Highland, about one-third is in the Missouri River Trench, and about one-third is in the James River Lowland. Figure 3.16 is a map of physiographic regions in South Dakota.

The James River Highland is described as a teardrop shaped terrain, bordered by three ridges, James Ridge, Turkey Ridge, and Yankton Ridge. Turkey Ridge, being the largest of the three, is approximately 40 miles long by 10 miles wide, with an elevation some 300 feet higher than the surrounding landscapes (Welch, 1982). The nearly-level and gently undulating areas are characterized by many small drainageways and depressions. In these areas, the drainage area is poorly defined where small drainageways terminate in the depressions and basins and is well defined along the larger drainageways. The steeper, more rolling areas are in the extreme northwest corner of the County.

James River Lowlands is a gently undulating plain lying considerably lower than the Coteau Des Prairies on the east and the Cocteau Du Missouri on the west. Today, the James River drains that area from the north to south and occupies a rather narrow, steep sided valley. In the geologic past, ancient streams in this region flowed northward. Most of the topographic features of this area are the result of the effects of glaciers. Elevations range from 1,300 to 1,400 feet above sea level.

The Missouri River Trench contains the Missouri River and its reservoirs. The valley averages a little over a mile 1.6 km in width with the valley floor 300 to 600 feet below the tops of the steep, explored bluffs. The river flows south-southwest with a gradient of about one foot per mile. Erosion and deposition are believed to be in equilibrium in the trench.

The major rivers that flow through Clay County are the Missouri River and the Vermillion River. Creeks that flow through Clay County are Ash Creek, Baptist Creek, Blind Creek, Clay Creek, Frog Creek, Spring Creek, and Spirit Mound Creek.

Table 3.25 below shows total square miles of Clay County, water area in square miles, and land area in square miles.

Table 3.25 Clay County Land and Water Area

Clay County Land and Water Area	
Area in Square Miles	417
Water Area in Square Miles	5
Land Area in Square Miles	412
Population Density per Square Mile of Land Area	36.3

Natural, Historic, and Cultural Resources. Clay County is home to the Spirit Mound Historic Prairie, located approximately five miles north of Vermillion. The 320-acre site is an effort to return the acreage to its natural prairie state. There is a comfort station and approximately one mile of trails on the state owned and managed grounds.

Clay County has one park, Clay County Park, located along the Missouri River. Clay County Park is a 34-acre vacation paradise, located 4 miles southwest (15-minute drive) outside of Vermillion with beautiful scenery. The Park has several amenities for the public to enjoy during the spring, summer, and fall seasons. These seasons are prime summer storm season. This means that the park has the potential to be affected by severe summer storms, and with the amount of people attracted to the area, makes the area high for potential risk.

Based on the Identifying Vulnerable Assets Activity, a summary of vulnerable natural, historic, and cultural resources in Clay County, and jurisdictions within the County, are included in Table 3.26 below.

Table 3.26 Summary of Vulnerable Natural, Historic, and Cultural Resources

Summary of Vulnerable Natural, Historic, and Cultural Resources			
Community	**Hazard**	**Specific Asset**	**What makes this group/asset vulnerable during this hazard?**
Clay County	Agricultural Pests and Disease	Areas of Conservation and, Historical Buildings, Clay County Park, Municipal Parks	In the event of agricultural pests and diseases, the natural environment may become infected by specific pests which could have a negative impact area of conservation, historical buildings, and parks. For example, historic buildings, such as a museum, may become infested with termites which could cause historic structures to be damaged.
Irene			
Vermillion			
Wakonda			
Clay County	Drought	Missouri and Vermillion Rivers, Vegetation	Rivers, creeks, and bodies of water may begin to evaporate due to prolonged drought events. This impacts the communities and the County by creating a shortage in water supply. Drought can also negatively affect grasses and native plants causing disruptions within the ecosystem.
Irene			
Vermillion			
Wakonda			
Clay County	Floods	Parks and Areas of Conversation	Parks and other areas of conservation that are used to attract tourists may be vulnerable to flooding, especially if along rivers. During flood events, rivers can overflow into parks, camps, and other areas. Clay County Park may deal with bank stabilization issues when the Vermillion River floods.
Irene			
Vermillion			
Wakonda			
Clay County	Earthquakes	Spirit Mound	Earthquakes shift the Earth which can cause weak areas and breakage in the ground. Spirit Mound may be vulnerable to an earthquake if it dismantled the structure.
Irene			
Vermillion			
Wakonda			
Clay County			

Irene Vermillion Wakonda	Landslides	Rivers, Creeks, and Bodies of Water	Landslides may erode the Earth near rivers degrading water quality.
Clay County Irene Vermillion Wakonda	Severe Summer Storms	Trees, Historic Buildings	Trees are vulnerable to severe thunderstorm winds which can uproot trees and break branches. Historic buildings are vulnerable to hailstorms as its often hard to repair these unique structures.
Clay County Irene Vermillion Wakonda	Tornado	Trees	Trees are vulnerable to tornadoes which can uproot trees and break branches. Downed trees hit electrical powerline creating power outages.
Clay County Irene Vermillion Wakonda	Severe Winter Storms	Historic Buildings	Historic buildings are vulnerable to severe winter storms. Heavy snow can damage rooftops and it is often hard to repair these unique structures.
Clay County Irene Vermillion Wakonda	Wildfire	Areas of Conservation, Parks	Wildfires can negatively impact areas of conservation, parks, etc. by damaging the natural vegetation.

Irene

Irene is located in the northwest corner of the County and is physically located in three counties – Clay, Turner, and Yankton Counties.

People. According to the 2020 Census, Irene's population is 422. This is an increase from the 420 residents counted during the 2010 Census. In 2022, there were 213 housing units in Irene. In 2010, the population density per square mile in Irene was 1,610 people. In 2020, persons per square mile increased to 1,654. Table 3.27 below shows Irene's change in population from 2010 to 2020.

Table 3.27 Irene Population

Irene Population		
2010 Population	**2020 Population**	**Percentage Change**
420	422	+0.48%

Source: U.S. Census – 2020 Redistricting Data

Table 3.28 provides insight into the populations in Irene that may face difficulty with evacuations, understanding emergency communications, or may need access to specialized medical equipment and medications during a natural hazard event.

Table 3.28 Irene Percentage of Vulnerable Populations

Irene Percentage of Vulnerable Populations			
Community	**Percent with a Disability**	**Percent Under 5 Years Old**	**Percent 65 Years and Older**
Irene	12.2%	5.5%	1.9%

Source: 2022 ACS 5-Year Estimates

A representative of Sunset Manor Avera, a skilled nursing facility located in Irene, stated in the Planning Team meetings that the biggest challenges during severe weather events is the delay of emergency response, getting medical supplies from one place to another, the inability of staff to get to work, and the inability of staff to get medical care to home patients.

There are four in-home daycare facilities in the City of Irene, and although none are located within the floodplain, the daycare facilities are still vulnerable to other natural disasters such as severe summer storms and winter storms. Irene should continue to post severe weather event alerts on the City Facebook page as well as expand outreach strategies for storm alert events.

Economy. The greatest economic driver in the City of Irene is health care. Sunset Manor Avera is a 50-bed skilled nursing facility. Sunset Manor is a nonprofit owned facility that provides skilled nursing and therapy services, assisted living, and specialty units for traumatic brain injury clients and challenging behaviors. With 52 employees, Sunset Manor is Irene's largest employer.

According to the 2022 ACS 5-Year Estimates, the median household income in Irene is $50,625. The median household income in Irene is slightly lower than the $55,963 median household

income of Clay County. An estimated 15.5 percent of residents in the City of Irene live in poverty, which is a 5.8 percent increase from the 2017 estimate of 9.7 percent.

The Irene-Wakonda School District is the City's second largest employer with 20 staff and faculty. The City of Irene has several agricultural-related enterprises, from agronomy services to trucking. The local economy also has a mix of small businesses such as car repair, insurance, and small retail establishments.

During the planning meetings, the Planning Team participated in the Identifying Vulnerable Assets Activity to identify assets that would be affected by natural hazards. One of the frequently identified assets was major employers. The City of Irene has 47 businesses that contribute to the City's economy. Future storm events may damage businesses and cause economic stress and financial loss.

During the Identifying Vulnerable Assets Activity, the Planning Team identified economic assets that may be affected by natural hazards. Table 3.29 below details the Expected Annual Losses for Census tract 800, which includes Irene and Wakonda (Clay County).

Table 3.29 Irene and Wakonda Expected Annual Losses

Irene and Wakonda Expected Annual Losses			
Hazard Type	**Expected Annual Loss**	**Social Vulnerability**	**Risk Index Score**
Drought	$19,485	Relatively Low	93.90
Hail	$289,137	Relatively Low	98.20
Lightning	$10,393	Relatively Low	66.50
Riverine Flooding	$1,763,530	Relatively Low	99.20
Strong Wind	$225,980	Relatively Low	98.50
Tornado	$757,968	Relatively Low	98.60
Winter Weather	$55,672	Relatively Low	87.67

According to FEMA's National Risk Index for Census Tract 800, Clay County can expect to have annual losses of $10,393, if only one hazard were to occur, and $3,122,165 if all hazards were to occur in a single year.

A downside of FEMA's National Risk Index is that it does not take into consideration future conditions. In the past ten years, Irene has experienced slight growth at 0.48 percent. While limited growth maintains a small-town feel, Irene residents may need to travel greater distances for basics needs such as health care, groceries, and other essential purchases. More frequent and severe summer storms including hail, lightning, strong winds, or tornadoes, puts traveling Irene residents at greater risk. More frequent and severe winter storms could prolong Irene residents from obtaining critical services, such as health care, if facilities are located in other municipalities farther away.

Built Environment. Irene's Main Street is also South Dakota State Highway 46. South Dakota Highway 46 is a 107-mile stretch of roadway that passes through Irene as it spans the area

between Pickstown, SD, east to the Iowa state border. Clay County Road 373 bisects the western edge of Irene as it travels north and south.

The City's water provider is B-Y Water District based in Tabor, SD. Irene does not maintain wells or treatment.

Irene has a city-owned and operated wastewater system. There are wastewater lagoons approximately one mile southwest of the city which are accessed by Clay County Highway 373.

Fire protection and rescue services are provided by the Irene Volunteer Fire Department. The fire department is comprised of over 20 volunteer fire fighters.

Sunset Manor Avera is a medical facility that focuses on assisted living and long-term care. The facility also provides specialized treatment for individuals who have sustained a brain injury.

Irene-Wakonda High School is located north of Main Street. There are over 100 students enrolled in grades 9-12. The elementary school is located in Wakonda, SD.

Natural Environment. Irene covers slightly less than one square mile of land and has no water area. An unnamed tributary to Turkey Creek borders the western edge of the City. The topography of Irene includes rapid changes in elevation consistent with the rolling hills of the area influenced by the James River highland. Ground elevations are higher in the northeastern and eastern portions of the City with elevations over 1,400 feet. The western portion of Irene abuts the alluvial plains of the unnamed creek at elevations near 1,360 feet. The topsoil is generally considered to be well-draining. Deeper soil formations vary from glacial till on the higher eastern portions of the City, to silty-sand alluvial material in the western lower portions of the City.

Some small wetlands as well as a small floodplain area zoned A to the west of the City are found in Irene's growth area. Wetlands and water bodies are designated from base maps developed through the National Wetlands Inventory and other data sources. These natural resources provide a number of functions that are important to the health and welfare of the community. They provide storage of storm water, help to control flooding, provide wildlife habitat, improve water quality, and provide recreational opportunities. The critical facilities map for the City of Irene provides an overlay of the City's SFHAs. The map can be found in Appendix K.

Population density in urban areas have an impact on housing, a community's infrastructure, access to resources, and public safety. By assessing the risks, the City can make decisions about mitigation actions to reduce the risk of long-term vulnerability. Population density may also have an effect on the impact of hazard mitigation activities and the cost-benefit relationship of mitigation activities. Table 3.30 below shows the land, water, and population density in square miles.

Table 3.30 Irene Land and Water Area

Irene Land and Water Area	
Area in Square Miles	0.09
Water Area in Square Miles	0.00
Land Area in Square Miles	0.09
Population Density per Square Mile of Land Area	1,610

Natural, Historic, and Cultural Resources. The are no buildings or structures listed on the National Register of Historic Places in Irene, SD.

Vermillion

Vermillion, the Clay County seat, is located at the southern edge of Clay County.

People. According to the 2020 Census, Vermillion's population is 11,695. This is a 10.63 percent increase from the 10,571 residents counted during the 2010 Census. Table 3.31 below shows the change in Vermillion's population from 2010 to 2020.

Table 3.31 Vermillion Population

Vermillion Population		
2010 Population	**2020 Population**	**Percentage Change**
10,571	11,695	10.63%

Source: U.S. Census – 2020 Redistricting Data

Much of the population in Vermillion is between the ages of 15 to 19 years old and 20 to 24 years old, 17 percent and 27 percent, respectively. The younger population in Vermillion can be attributed to USD. During the planning meetings, the Planning Team participated in an Identifying Vulnerable Assets Activity. Since one the greatest assets in a community is its people, one of the biggest challenges that the City of Vermillion and USD may face during a natural disaster is housing students in alternative living spaces if the dormitories were to be impacted or damaged.

Table 3.32 below provides insight into the populations in Vermillion that may face difficulty with evacuations, understanding emergency communications, or may need access to specialized medical equipment and medications.

Table 3.32 Vermillion Percentage of Vulnerable Populations

Vermillion Percentage of Vulnerable Population			
Community	**Percent with a Disability**	**Percent Under 5 Years Old**	**Percent 65 Years and Over**
Vermillion	11.5%	4.5%	2.9%

Source: 2022 ACS 5-Year Estimates

When community activities or events occur, there may be many visitors in an area at one time. Some community activities that may be interrupted due to natural hazards are Dakota Days, school athletic events, church, the 4-H Fair, and the Dakota Farm Show. When these events are

cancelled or moved due to natural hazards, it can create a negative effect on the local economy. Visitors may not have shelter if a severe weather event were to occur.

Economy. Atypical for rural South Dakota cities, Vermillion's economic driver is not agriculturally based. Vermillion is home to USD. USD is the City's largest employer with over 1,300 staff and an enrollment of 9,464 students in the fall of 2021. USD spans a 274-acre campus near the Missouri River in southeast South Dakota. Since USD was established in 1862, USD and the City of Vermillion have both grown in population. With over 200 undergraduate programs, 84 graduate programs, and the reputation of being a great University, every year there are more and more undergraduates and graduates interested in participating in the high-quality programs that are offered by USD. Eighty-four percent of new freshman students live on campus as well as thirty-four percent of all undergraduates. This means that approximately 5,800 students live on campus. In the context of natural disasters, at least 5,800 students would need alternative living accommodations if a natural disaster was to impact the dormitories.

According to the 2022 ACS 5-Year Estimates, median household income in Vermillion is $47,813. The median household income in Vermillion is lower than the median household income of Clay County which is $55,963. The 2017 ACS 5-Year Estimates estimated 32 percent of Vermillion residents lived in poverty. The 2022 ACS 5-Year Estimates estimated that the poverty rate was 26.2 percent, which is a 5.8 percent decrease in the poverty rate.

Vermillion's second largest employer is the Sanford Vermillion Medical Center with over 30 specialties and nearly 250 employees. The Sanford Health Vermillion Care Center is a 66-bed hospital, with inpatient and outpatient care, a full rehabilitation department, a clinic, long-term care facility, assisted living facility, local and outreach specialty services, and home medical equipment. The Sanford Vermillion Medical Center is also a partner of USD offering medical services to students at the University.

Vermillion also has a vibrant and diverse retail base. The City hosts a Wal-Mart Supercenter, Hy-Vee, and small retail specialty shops in the downtown district.

The Vermillion School District employs approximately 96 faculty members and 71 staff members. Current enrollment includes 385 high school students, 319 middle school students, and 582 elementary school students. Enrollment is spread out over one high school, one middle school, and two elementary schools.

Manufacturing makes up 7.9 percent of Vermillion's economy. Polaris Industries employs over 150 people. Masaba Inc. employs 155 people at its Vermillion facility. A substantial labor pool and enticing tax rates contribute to the vibrant manufacturing climate in Vermillion.

According to the National Risk Index, the City of Vermillion can expect to have annual losses of as low as $1,080, if only drought were to occur, and as high as $1,462,556 if all natural hazards listed were to occur in one year. The City of Vermillion has a range of Expected Annual Loss and Risk Index Score because the City spans two Census tracts, tract 700 and tract 900. It is important

to note that although the City does not have as much Expected Annual Loss, the CDC/ATSDR Social Vulnerability Index is still very high. This is likely due to the denser population than other areas in the County. Table 3.33 below details the Expected Annual Losses of Census tracts 700 and 900, which includes the City of Vermillion (Clay County).

Table 3.33 Vermillion Expected Annual Losses

Vermillion Expected Annual Losses			
Hazard Type	**Expected Annual Loss**	**Social Vulnerability**	**Risk Index Score**
Drought	$0 – $1,080	Very High	85.38
Hail	$51,034 – $53,238	Very High	89.56 – 90.98
Lightning	$21,052 – $22,793	Very High	66.51 – 88.35
Riverine Flooding	$0 – $180,004	Very High	93.09
Strong Wind	$252,696 – $274,965	Very High	98.48 – 99.37
Tornado	$827,476 – $904,399	Very High	98.64 – 99.57
Winter Weather	$25,682 – $26,077	Very High	92.09 – 95.96

A downside of FEMA's National Risk Index is that it does not take into consideration future conditions. In the past ten years, the City of Vermillion has grown significantly at 10.6 percent. While the City of Vermillion welcomes the growth, providing more housing has become a crucial issue. As stated previously in the Future Conditions section of this document, according to the NOAA's 2022 State Climate Summaries, annual precipitation is projected to increase, with the largest increases occurring during spring and winter. Increases in the frequency and intensity of extreme precipitation events are also projected, potentially leading to increased runoff and flooding. Increased winter snowfall, rapid spring warming, and intense rainfall can combine to produce devastating floods. Despite the need for housing, Vermillion should continue to prevent residential development in SFHAs, particularly to the City's eastern and southern city limits.

In addition, as housing has become scarcer, residents, specifically low-income residents, such as the USD students, may occupy more mobile homes. According to the State of South Dakota Hazard Mitigation Plan, there is projected to be an increase in potential days for severe thunderstorms in the mid- to late-21st century. Storm intensity is also projected to increase. Although mobile homes are an affordable housing option, mobile homes residents are vulnerable to tornado, hail, and strong wind events.

Built Environment. The City of Vermillion is located approximately seven miles west of Interstate 29. Figure 3.17 below depicts the Vermillion exit off Interstate 29. The City may be accessed by South Dakota Highway 19, a route that runs north and south, and South Dakota Highway 50, a route that runs east and west through the City. BNSF Company provides rail service to the City. The City of Vermillion operates Harold Davidson Field, which provides general aviation services.

Figure 3.17 Vermillion Exit of Interstate 29



Vermillion Public Transit serves the community of Vermillion and the surrounding area. The system has 7 buses providing nearly 5,000 rides per month. Vermillion Public Transit also provides door-to-door service.

The City sources its water from the Lower Missouri River Out-Wash Aquifer. The water is pumped to the Melvin D. Stiegelmeyer Water Treatment Plant. There are 445 fire hydrants and nearly 50 miles of watermain in the City. Three water storage facilities store over 2.5 million gallons of water.

The City of Vermillion, in conjunction with WAPA, provides electrical power supply to the City of Vermillion and Missouri River Energy Services. The Vermillion Light and Power staff are responsible for the maintenance, repairs, and upgrades of the City electrical infrastructure. Staff install and maintain electrical equipment for multiple City facilities. Vermillion Light and Power owns and operates a directional boring machine, multiple bucket trucks, and a derrick truck that is utilized for many different tasks throughout the City. Vermillion Light and Power staff, and their equipment, are helpful for many departments within the City. The City has two substations, 25 miles of looped transmission line, over 700 transformers, and over 5,000 meters of electrical lines. Almost 100 percent of the distribution system is underground which reduces the impact of ice and windstorms.

The City of Vermillion Wastewater Treatment Plant is a secondary activated sludge facility and is designed to accommodate flows of two million gallons per day, with peak flows of up to four million gallons a day. Wastewater is pumped to the treatment facility from the City by two pumping stations.

The Vermillion Fire EMS Department responds to fires, accidents, rescues, medical emergencies, mutual aid calls, and other threats to public safety and property. The Vermillion Fire EMS Department has three engine companies, one ladder company, one heavy rescue company, and three ambulances in service. The Department operates out of two stations consisting of 36 volunteer firefighters, 3 full-time EMT/Paramedics, 25 part-time EMT/Paramedics, 1 full-time Fire Marshall, 1 part-time administrative assistant, and 1 Career Chief Officer. Figure 3.18 below shows a Vermillion fire truck in front of the Vermillion Fire & EMS Station.

Figure 3.18 Vermillion Fire & EMS Station



Public protection is provided by the Vermillion Police Department. The Department operates out of the Clay County Public Safety building that also houses the Clay County Jail, Clay County Sheriff's Department, and the Clay County Emergency Management Office. The Vermillion Police Department is comprised of 20 sworn-in and 3 non-sworn in personnel.

The City of Vermillion's health care services are all-encompassing. The Sanford Vermillion Medical Center offers complete facilities for medical, surgical, obstetric, and pediatric care, as well as 24-hour emergency care. Sanford also offers an immediate care nursing home, assisted living, and a congregate senior housing center. The Vermillion Medical Clinic shares resources with the Yankton Medical Clinic allowing the Vermillion facility to offer a wide range of medical services and comprehensive care.

Natural Environment. Vermillion covers approximately 4.66 square miles of land and has no water area. Vermillion is on generally level ground, with a rapid decrease in elevations to the south and west (the "Bluffs") next to the Vermillion River. The Missouri River is a main water source that flows on the south border of Clay County. Vermillion is approximately one and a half

miles from the Missouri River and the Nebraska State border. Table 3.34 below shows the water, land, and population density per square mile of land area in Vermillion.

Table 3.34 Vermillion Land Area

Vermillion Land & Water Area	
Area in Square Miles	4.66
Water Area in Square Miles	0.00
Land Area in Square Miles	4.66
Population Density per Square Mile of Land Area	2,509.12

A few areas within the City of Vermillion and the immediate vicinity are designated as floodplains by FEMA. Generally, the floodplain areas within and surrounding the City follow the path of the Vermillion River.

Vermillion has developed a parks and recreational system that includes quality recreational facilities and community parks and trails. Vermillion has nine parks of diverse sizes, amenities, and opportunities for recreation. Trails are a component of the City's park system. There are paved and natural trails throughout the City. The unpaved trails are typically found in parks where natural surface trails complement the natural resources. The City is also home to the Bluffs, an 18-hole championship golf course.

Population density in the urban areas has an impact on housing, a community's infrastructure, access to resources, and public safety. Population density may also influence the impact of hazard mitigation activities and the cost-benefit relationship of mitigation activities.

Natural, Historical, and Cultural Resources. The City of Vermillion is home to several historic buildings that have become part of the identity of the City. Historic downtown Vermillion is home to over 90 locations offering retail and specialty stores, restaurants, art, movie theatres, bars, and other services. Downtown Vermillion is host to the Clay County Courthouse, built in 1913, which is listed on the National Register of Historic Places. The City of Vermillion has five historic districts within the City. A handful of the City's historical buildings are listed below:

- Armory – 414 E. Clark St. (Built in the early 1900s)
- Austin-Whittemore House – 115 Austin Ave. (Built around 1875-1899)
- Bluff View Cemetery Chapel – Crawford Rd. and Pinehurst Dr. (Built in the early 1900s)
- Clay County Courthouse – 211 W. Main St. (Built in the early 1900s)
- Colton House – 402 S. University St. (Built around 1925-1949)
- Downtown Vermillion Historic District – Market and Dakota St. (Built around 1875)
- First Baptist Church of Vermillion – 101 E. Main St. (Built around 1875)

Figure 3.19 First Baptist Church of Vermillion



Historic buildings are vulnerable structures due to their old age. The building parts and materials can be hard to come by and can be expensive to fix and maintain. Historic buildings and cultural resources are vulnerable to natural hazards because when they are damaged, there is a loss of culture and tradition, a loss of identity and character, there is a potential for loss of visitors, and overall, creates a negative effect on the quality of life that has been built and invested in. Damage to the historic and cultural resources due to natural hazards can create a ripple effect and also negatively affect the economy. Figure 3.19 above, is a picture of the First Baptist Church of Vermillion which was built around 1875 and is considered a historic building.

Wakonda

The Town of Wakonda has made an effort to participate in the planning meetings. As Wakonda is a small town, they do not have full-time staff. Information was provided by the Town of Wakonda via email to include in the updated Plan. The Town of Wakonda is located in the northwest quadrant of Clay County. Wakonda is 27-minute drive from Vermillion, SD.

People. According to the 2020 Redistricting Data, there are 347 residents of Wakonda. This is an 8.10 percent increase from the 321 residents counted during the 2010 Census and a decrease from the 373 residents in 2000 Census. The largest population recorded in Wakonda was in the 1950s with 454 people. Over the past decades, the population has a pattern of increasing and then decreasing. Table 3.35 below shows population growth in Wakonda from 2010 to 2020.

Table 3.35 Wakonda Population

Wakonda Population		
2010 Population	**2020 Population**	**Percentage Change**
321	347	8.10%

Source: U.S. Census – 2020 Redistricting Data

Table 3.36 provides insight into the populations in Wakonda that may face difficulty with evacuations, understanding emergency communications, or may need access to specialized medical equipment and medications.

Table 3.36 Wakonda Percentage of Vulnerable Populations

Wakonda Percentage of Vulnerable Populations			
Community	**Percent with a Disability**	**Percent Under 5 Years Old**	**Percent 65 Years and over**
Wakonda	15.9%	7.0%	7.0%

Source: 2022 ACS 5-Year Estimates

The Town of Wakonda is located in the same Census tract as the City of Irene. Based on the population density map, the National Risk Index, and the CDC/ASTDR's Social Vulnerability Index, Wakonda is at risk of natural hazards. However, the CDC/ASTDR's Social Vulnerability Index map indicates that because areas of Wakonda are not population dense, the majority of the risk from natural hazards are to crops and property. That is not to say that the population in Wakonda is not vulnerable or susceptible to natural hazards, rather, when compared to the City of Vermillion, because the City of Vermillion is comparatively more population dense, that if a natural hazard was to occur in both communities, there is a larger percentage of population in Vermillion that would be affected. The City of Vermillion also has less agricultural land compared to the Town of Wakonda. Crops are especially vulnerable to drought and flood events, making Wakonda more vulnerable than the City of Vermillion in those instances. Therefore, Wakonda has a higher Expected Annual Loss for drought and flood.

Economy. Agriculture, education, and manufacturing are the primary economic drivers in Wakonda. Girard Auction and Land Brokers has an agriculture-centric focus and is the largest service and retail establishment in the community.

The Irene-Wakonda Elementary School employs approximately 15 educators, administrators, and staff at the Wakonda location. Wakonda Heritage Manor provides senior-based housing and nursing home services. According to the 2022 ACS 5-Year Estimates, the median household income in Wakonda is $54,219, compared to the County median household income of $55,963, and the state's median household income of $69,457.

According to the National Risk Index, Census tract 800 can expect to have annual losses of as little as $10,393, if only one hazard were to occur, or as high as to $3,083,571 if all natural hazards were to occur in one year. Table 3.37 below details the expected annual losses for Census tract 800, which includes Irene and Wakonda (Clay County).

Table 3.37 Wakonda and Irene Expected Annual Losses

Wakonda and Irene Expected Annual Losses			
Hazard Type	**Expected Annual Loss**	**Social Vulnerability**	**Risk Index Score**
Drought	$19,485	Relatively Moderate	94.30
Hail	$289,137	Very High	98.40
Lightning	$10,393	Relatively Moderate	68.70
Riverine Flooding	$1,763,530	Very High	99.40
Strong Wind	$225,980	Very High	98.80
Tornado	$757,968	Very High	99.20
Winter Weather	$17,078	Relatively High	93.10

A downside of FEMA's National Risk Index is that it does not take into consideration future conditions. The Town of Wakonda has a small SFHA just outside of its southern city limits. According to the NOAA's 2022 State Climate Summaries, annual precipitation in South Dakota is projected to increase. The frequency and intensity of extreme precipitation events are also projected, potentially leading to increased runoff and flooding. Increased winter snowfall, rapid spring warming, and intense rainfall can combine to produce devastating floods. Wakonda's water treatment facility is located adjacent to the SFHA south of Town. Depending on the extent and severity of future flooding, the Town may need to consider relocating its water treatment facility or making improvements to the facility so that it is more resilient to flooding events.

Built Environment. Wakonda is not directly accessed by a state or federal highway. South Dakota Highway 19/46 is approximately 6 miles to the north of the community and access to the town is strictly by County roads.

The Town's water provider is Clay Rural Water System. The Town of Wakonda has a 50,000-gallon elevated steel water tank. This elevated tank provides the community's water pressure and water storage. The Town continues to make improvements to its infrastructure.

Natural Environment. The Town of Wakonda is located within the physiographic region the James River Lowlands. Elevations range from 1,300 to 1,400 feet above sea level. Wakonda covers less than one-half square mile of land. Population density in the non-rural areas has an impact on housing, a community's infrastructure, access to resources, and public safety. Population density may also have an effect on the impact of hazard mitigation activities and the cost-benefit relationship of mitigation activities. Table 3.38 below shows the land area, water area, and population density in Wakonda in square miles.

Table 3.38 Wakonda Land and Water Area

Wakonda Land and Water Area	
Area in Square Miles	0.39
Water Area in Square Miles	0.00
Land Area in Square Miles	0.39
Population Density per Square Mile of Land Area	898.96

Natural, Historical, and Cultural Resources. The Town of Wakonda has a few historical buildings that have the potential to be vulnerable to natural hazards. A few buildings within the Town of Wakonda that are on the National Register of Historic Places are listed below:

- 125 Ohio St. (Built in the early 1900s)
- Bridge No. 14-060-032 Local Rd. over Spring Creek, Wakonda
- Bridge No. 14-090-042 Local Rd. over Vermillion River, Wakonda
- Bridge No. 14-120-222 Local Rd. over Ash Creek, Wakonda
- Wakonda Public Library located at 118 Ohio St. (Built in the early 1900s)

As stated previously, when there is damage to historic and cultural resources, there can be loss of culture and tradition, a loss of identity and character, a potential for loss of visitors, and overall, it creates a negative effect on the quality of life. Damage to the built environment due to natural hazards creates a negative ripple effect on the economy as well.

National Flood Insurance Program

The NFIP aims to reduce the impact of flooding on private and public structures. It does so by providing affordable insurance to property owners and by encouraging communities to adopt and enforce floodplain management regulations. These efforts help mitigate the effects of flooding on new and improved structures. Through the NFIP, flood insurance is made available to those communities that agree to regulate development in their mapped floodplains. If the community ensures that future floodplain development meets certain criteria, FEMA will provide flood insurance for properties in the community.

There are three components of the NFIP: mapping, insurance, and regulations.

Mapping

FEMA has prepared floodplain maps for most areas of the country. The maps are used for several purposes. Communities use them as the basis for construction management in flood prone areas, insurance agents use floodplain maps when rating flood insurance policies, and the maps are used by lenders to determine when flood insurance must be purchased by a borrower. Most communities have a Flood Insurance Rate Map (FIRM). FIRMs are based on a Flood Insurance Study and include information such as flood elevations to better protect new construction from flood damage.

Insurance

Buildings in a participating community may be covered by a flood insurance policy, even if a particular structure is not located in a mapped floodplain. Coverage includes lakes, rivers, streams, and other inland water overflows, and the unusual or rapid accumulation of runoff of surface waters as found in flash flooding.

Regulations

Communities have regulatory responsibilities to participate in the NFIP. These regulatory responsibilities include:

- Adopt and enforce a flood damage prevention ordinance.
- Require permits for all types of development in the floodplain.
- Assure that building sites are reasonably safe from flooding.
- Estimate flood elevations where they are not determined by FEMA.
- Require new or substantially improved homes or manufactured homes to be elevated above the Base Flood Elevation.
- Require non-residential buildings to be elevated or flood proofed.
- Determine if damaged buildings are substantially damaged.
- Conduct field inspections and city violations.
- Require Elevation Certificates to document compliance.
- Carefully consider requests for variances.
- Resolve non-compliance and violations.
- Advise FEMA when updates to flood maps are needed.

SD OEM administers the NFIP for South Dakota under a cooperative agreement with FEMA. Table 3.39 depicts Clay County community participation in the NFIP.

Table 3.39 Clay County Communities Participating in the NFIP

Clay County Communities Participating in the NFIP				
Community	**County**	**Initial FHBM Identified**	**Initial FIRM Identified**	**Current Effective Map Date**
Clay County	Clay	10/18/77	04/01/87	12/30/20
Irene	Clay, Turner, & Yankton	07/11/75	07/06/10	07/06/10 (M)
Vermillion	Clay	03/22/74	08/05/10	12/30/20 (M)
Wakonda	Clay	11/12/76	08/05/10	12/30/20 (M) NSFHA

FHBM = Flood Hazard Boundary Map
FIRM = Flood Insurance Rate Map
M = No Elevation Determined
NSFHA = No Special Flood Hazard Area

Community Participation in NFIP

C2-a. To participate in the NFIP, a community must submit an application to FEMA, which includes a resolution of intent passed by the city council or county commission stating that the community will act in good faith to regulate future floodplain development and adopt a floodplain management ordinance which meets the minimum federal standards. Community participation in the NFIP is divided into two phases, the Emergency Phase, and the Regular Phase. Figure 3.20 below is a photo of a flooded road in Clay County in March 2019.

Figure 3.20 Clay County Flooded Road in March 2019



Table 3.40 below provides specific information for each jurisdiction participating in the NFIP. It should be noted that if indicated in the affirmative, a community has passed a flood damage prevention ordinance and meets all the criteria noted in the regulations. In planning meeting four, the Planning Team participated in an NFIP Activity in order to provide a description of community, staff resources, and regulation capability in regard to the NFIP over the last five years. Copies of participants' NFIP Activity can be found in Appendix M.

Table 3.40 NFIP Information for Clay County

NFIP Information for Clay County					
Jurisdiction	**County**	**Title of Designee Implementing NFIP Requirements**	**Adoption and Enforcement of Floodplain Management Ordinance***	**Zone, SFHA, or NSFHA**	**Description of Community Assistance**
Clay County	Clay	Emergency Manager	Yes	Partial Zone AE, Partial Zone X, SFHA	Clay County has been a part of the NIFP program since 1977 and adopted a floodplain ordinance in 2010. The County continues to enforce the adopted ordinance and requires permitting for all types of development in the floodplain.
Irene	Clay, Turner, Yankton	Finance Officer	Yes	Partial Zone A, NSFHA, Majority of City is Zone X	Irene is exploring the possibility of restrictions that are necessary for non-compliance and violations. The City is also working on adopting the 2021 International Building Codes.
Vermillion	Clay	City Engineer	Yes	Partial Zone A, Majority of the City is Zone X	The City has participated in the program since 1974. The City received updated maps from FEMA in 2020.
Wakonda	Clay	Finance Officer	Yes	Zone X, NSFHA	The Town of Wakonda has been a part of the NFIP since 1976 and the Town continues to enforce development in floodplain areas.

NFIP Administration Services. The City of Vermillion reviews permits, has Geographic Information Systems capability to complete inspections on capital projects, and has engineering capability. Building permit review and issuance is handled in conjunction with the Code Enforcement Department. The City of Irene continues to review permits by reviewing plans, setbacks, and lot lines as well as conducting surveys. The City also restricts new development in the floodplain and requires new development to be built on higher ground.

Local community officials, such as the City Engineer or Finance Officer make the final substantial damage determinations. Communities are aware that they are the only jurisdiction able to make determinations – neither FEMA nor any State office can make the determinations.

Several staff within Clay County have completed state trainings to assist with substantial damage and substantial improvement determinations. SD OEM has conducted post-flood workshops, which cover the regulations (Substantial Damage Determinations), basic recovery resources (mitigation), and overview of FEMA's Substantial Damage Estimator 3.0.0. Local officials also have a post-flood guidebook to compliment the workshop material and help manage the post-flood process. The guidebook also provides surveyor and house-moving contact information within South Dakota.

The communities within Clay County, such as Irene and Wakonda, may not have capacity to complete substantial damage determinations on their own. However, these communities, may rely upon FEMA Disaster Recovery Reform Act Section 1206 monies to help aid with substantial damage determinations by outside resources. Fortunately, these two communities have not experienced major disaster events which have required outside resources.

The majority of communities in Clay County use a basic three-step substantial damage determination when viewing damaged properties. These steps include: (1) verifying the structure address, (2) estimating interior and exterior damage percentages on the structure, and (3) estimating the flood depth on the structure. Some larger communities may utilize FEMA's Substantial Damage Estimator application to aid in damage calculations, if time allows.

In the midst of urgent response after damage, communities understand it is important to follow regulations so as to not bar property owners from receiving valid and timely damage assessments, receiving insurance payments, and potentially securing Small Business Administration loans. A substantial damage determination is necessary to obtain certain funds, such as the NFIP Increased Cost of Compliance funds and some FEMA Hazard Mitigation Assistance program monies. Substantial improvement thresholds are often communicated through the building permit process and local ordinances, and substantial damages are communicated through official substantial damage letters sent to affected property owners following an event.

NFIP Barriers. The City of Vermillion stated in the NFIP Activity that the City does not experience barriers in NFIP administration; however, the additional financial requirement due to

the NIFP standards is a constraint on the community. The City of Irene and the Town of Wakonda experience difficulties in administering the NFIP due to the lack of staff time.

NFIP Misconceptions. During the planning process, the Planning Team discussed misconceptions about the NFIP. Some communities did not realize they participate in the NFIP as they do not have a SFHAs within their city limits. SECOG staff shared that all communities within Clay County participate in the NFIP.

NFIP Policies. B2-c. Periodic flooding affects numerous areas in both incorporated and unincorporated areas of Clay County. Property adjacent to the Missouri River, Vermillion River, and its tributaries are most prone to flooding. Residential development occurred in these areas long before the initial flood hazard boundaries were identified in 1974. As a result, numerous structures already existed at the time of adoption of the first map and continue to be lived in today. Many structures located within the area have experienced flooding or are required to be insured against flood due to their proximity to SFHAs. Table 3.41 below lists the number of NFIP policies in place in communities within Clay County.

Table 3.41 FEMA NFIP Policy Statistics

FEMA NFIP Policy Statistics		
Jurisdiction	**Policies in Force**	**Insurance in Force**
Clay County	9	$2,900,000
Vermillion	2	$316,000

One issue of primary concern is the number of times specific properties, and structures on those properties, have flooded and will likely continue to flood. Repetitive loss properties are those for which two or more losses of at least $1,000 each have been paid under the NFIP within any ten-year period. Table 3.42 below lists repetitive loss properties as of February 17, 2023, in Clay County.

Table 3.42 Clay County Repetitive Loss Properties

Clay County Repetitive Loss Properties						
Jurisdiction	**Building Payments**	**Contents Payments**	**Total Payments**	**Average Payment**	**Losses**	**Properties**
Clay County	$4,881	$0	$4,881	$2,441	2	1

Table 3.43 below displays the type of repetitive loss properties for the corresponding jurisdictions.

Table 3.43 Clay County Type of Repetitive Loss Properties

Clay County Type of Repetitive Loss Properties		
Jurisdiction	**Number of Properties**	**Type of Properties**
Clay County	1	Residential

Growth and Development

E1-a. Southeastern South Dakota has experienced significant growth over the past several years. With growth, comes added pressure on communities to provide services and infrastructure that is adequate to meet increased demand. Communities experiencing rapid growth may have drainage issues as there is less permeable ground or natural storm water drainage passages that may have been disturbed. In addition, rapidly growing communities may find there are more roads to plow in the winter months and there is an increased demand for electricity during the summer months. As noted earlier in the Plan, most communities have adopted a Floodplain Management Ordinance that regulates the type of development and where commercial or residential projects may be built.

Summary of Growth and Development

Planning Team participants completed a Growth Assessment Activity during the planning process. Copies of participants' Growth Assessment Activity can be found in Appendix N. Below are the population growth percentages for the communities within Clay County based on 2010 and 2020 Census data.

Clay County ***Population Growth: +7.96%***

Clay County is the 14th largest county in the State of South Dakota. Rural areas continue to see slow, steady growth. The County has seen tremendous growth around the Vermillion area. As communities within Clay County experience increased growth, the demand for infrastructure also increases. The County will continue to pay special attention to infrastructure, such as County-owned roads, just outside of population hubs, to ensure planning and maintenance is sufficient and to decrease residents' risk to natural hazards, such as severe winter storms. Clay County issued 285 building permits between 2019 to 2023.

City of Irene ***Population Growth: +0.48%***

Village Acres, a residential development in the City of Irene, has experienced incremental growth. There has also been some growth on the southeast side of town. The Irene Development Corporation is working on the 2nd phase of the development and has purchased additional land. Two permits were issued for residential construction in 2021. One was a prefabricated home, and the other was a built home. The City is aware of the SHFA that runs north-south through the west side of Town. The City of Irene's vulnerability to flooding remains the same despite growth, as the City restricts development in its SFHA.

City of Vermillion ***Population Growth: +10.6%***

The majority of new residential construction in the City of Vermillion has taken place on the west side of town. The City is cognizant of its SFHA that runs along the Vermillion River to the west, northwest, and south sides of the City. As a result, remaining developable land in the west portion of the City is limited. Because of the City's efforts in restricting development in SFHAs, residents' vulnerability to flooding remains the same as Vermillion looks to the north and east to expand. Vermillion has also experienced development on the east side of town and in-fill or new development on lots around all parts of the community. Figure 3.21 is a photo of a newly constructed home for sale in Vermillion, SD. Impediments to growth include landowners not having interest in selling and the cost of construction. Over the last year, the cost of building materials and financing have impacted growth. From 2019 to 2022, the City issued 15 commercial permits, 56 single-family detached building permits, 14 single-family attached building permits, and 21 multi-family building permits.

Figure 3.21 New Construction in Vermillion



Town of Wakonda ***Population Growth: +8.10%***

The Town of Wakonda has experienced steady population growth since 2010. According to the 2022 ACS 5-Year Estimate, the percentage of occupied housing units in Wakonda is 96.1 percent, meaning that only 3.9 percent of the housing units in Wakonda are unoccupied. If Wakonda continues to grow, the Town may want to consider constructing additional housing developments. There is a small area of SFHA Zone A south of Town. There are no housing developments within the SFHA. The Town of Wakonda's risk to flood remains the same so long as it continues to construct housing outside of SFHAs.

Section Four: Mitigation Strategies

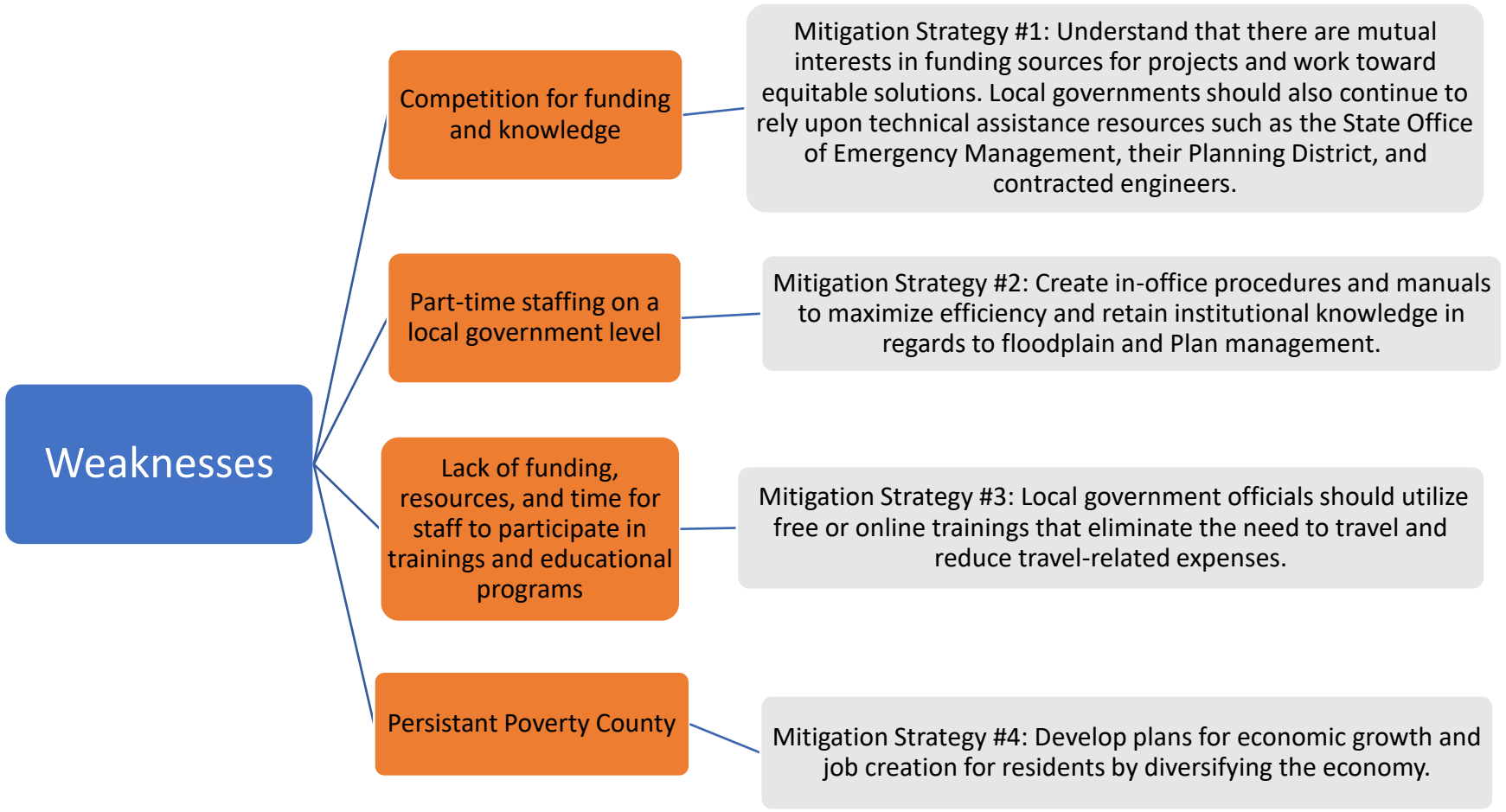
A step-by-step approach was utilized to identify the potential hazard risks for Clay County. Hazard risk is influenced by a community's assets – including population and development characteristics, public facilities and infrastructure, the natural environment, and the local economy – and how those assets relate to hazard threats. This section will describe the multi-jurisdictional assets and detail progress that has been made on previous mitigation goals.

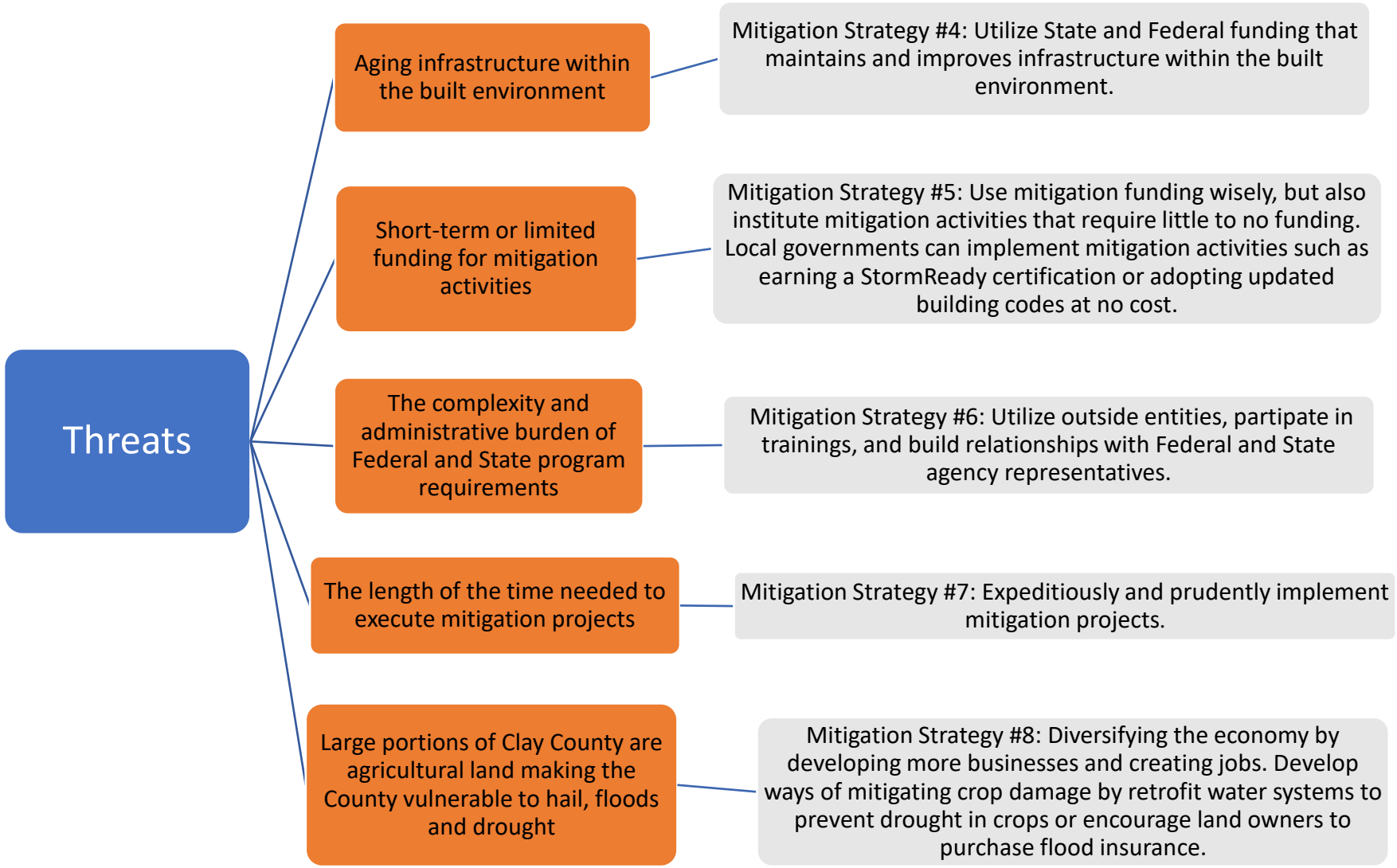
The Mitigation Strategy includes a summary of the Problem Statements for each priority natural hazard, the 2024 Plan goals and objectives, the 2019 Mitigation Actions, their updated status, the Future Mitigation Actions for each community, and the Hazard Information Integration of other plans. Copies of participants' Problem Statement Activity worksheets are included in Appendix O.

In *Section Two: Capability Assessment*, the Planning Team worked together to assess communities' capability in mitigating long-term vulnerability through a SWOT analysis. The Planning Team also evaluated communities' risk to natural hazards by compiling the activities completed at each meeting and collecting additional information including an update on the Mitigation Actions from the 2019 Plan. Copies of participants' Mitigation Action Update Activities are included in Appendix P. Once the Planning Team assessed the data, a Mitigation Strategy was developed.

C1-a. Based on the results of the weaknesses and threats identified by the Capability Assessment Activity discussed in *Section Two*, and the priority hazards identified in the Risk Assessment in *Section Three*, the Planning Team came up with a strategic Mitigation Plan to guide the implementation of their Future Mitigation Actions. A summary of the mitigation strategies is listed in Figure 4.1 below.

Figure 4.1 Summary of Mitigation Strategies




Threats
Aging infrastructure within the built environment
Mitigation Strategy #4: Utilize State and Federal funding that maintains and improves infrastructure within the built environment.
Short-term or limited funding for mitigation activities
Mitigation Strategy #5: Use mitigation funding wisely, but also institute mitigation activities that require little to no funding. Local governments can implement mitigation activities such as earning a StormReady certification or adopting updated building codes at no cost.
The complexity and administrative burden of Federal and State program requirements
Mitigation Strategy #6: Utilize outside entities, partipate in trainings, and build relationships with Federal and State agency representatives.
The length of the time needed to execute mitigation projects
Mitigation Strategy #7: Expeditiously and prudently implement mitigation projects.
Large portions of Clay County are agricultural land making the County vulnerable to hail, floods and drought
Mitigation Strategy #8: Diversifying the economy by developing more businesses and creating jobs. Develop ways of mitigating crop damage by retrofit water systems to prevent drought in crops or encourage land owners to purchase flood insurance.

C1-b. In Planning Team meeting four, the Team discussed the SWOT analysis and ways to expand on communities' capabilities. For example, one threat identified from the Capability Assessment Activity and corresponding SWOT analysis was aging infrastructure in the built environment. One of the ways communities can mitigate flooding is by expanding capacity of their stormwater drainage systems by implementing a stormwater drainage fee. Implementing stormwater fees would provide municipalities funding to improve upon their existing storm drainage systems that could in turn mitigate municipalities' long-term vulnerability to flooding.

Another way in which communities can expand their capability to mitigate natural hazards is through education and awareness. Using the SWOT analysis, an identified weakness within Clay County is the lack of resources and time for municipal and County staff to travel to and participate in trainings. However, FEMA, and other state and federal programs, have augmented their online trainings and webinar options, especially since COVID-19. Virtual trainings are typically less expensive than in-person trainings, and there is no need to travel to and from the training location. Virtual trainings and webinars are a great way for municipal and County staff in Clay County to enhance their education and awareness and strengthen their communities' abilities to mitigate against natural hazards.

An example of how Clay County, and the communities within Clay County, can provide more education and awareness to residents is by mailing out flyers on an annual basis. For instance, communities within Clay County could mail flyers concerning the preservation of water supply during drought season. Or, to save expense, communities could implement this strategy through social media, such as Facebook and Twitter, or by text message. These are examples of education and awareness mitigation strategies that create a more comprehensive range of mitigation actions rather than structure and infrastructure projects alone.

During Planning Team meeting four, participants had the opportunity to develop Future Mitigation Actions based on their current capability but also based on areas in which the community lacks the ability to mitigate natural hazards. Copies of each communities' Future Mitigation Actions can be found in Appendix Q.

Problem Statements sum up the impact of the hazard at the local level and help to identify goals and objectives. The Planning Team developed problem statements associated with the four priority hazards: drought, floods, severe summer storms, and severe winter storms. The problem statements were used to identify specific problems related to each hazard.

Problem Statements

Drought/Extreme Heat

1. Increased electrical and water consumption stresses systems resulting in power outages and a decrease in water supply.
2. Drought/extreme heat causes agricultural and livestock loss which negatively affect personal income and the economy.
3. Drought/extreme heat increases the likelihood of wildfire and the potential to injure or cause loss of life.
4. Drought/extreme heat can injure or cause loss of life in vulnerable populations.

Flooding

1. Flooding causes damage to the built environment such as roadways, culverts, and bridges which often takes significant time to repair.
2. Flooding causes road closures which disrupts emergency response and other essential services from assisting those in need in a timely manner.
3. Flooding causes damage to the natural environment which results in agricultural loss and negatively effects the area's economy.

Severe Summer Storms

1. Severe Summer Storms can result in injury or loss of life.
2. Severe Summer Storms can damage critical infrastructure which results in power outages.
3. Severe Summer Storms can result in the disruption of essential services which can negatively affect the local economy.
4. Severe Summer Storms affect the natural environment which can result in agricultural loss which negatively affects the local economy.

Severe Winter Storms/Extreme Cold

1. Severe winter storms limit road accessibility, preventing individuals from receiving emergency services.
2. Severe winter storms/extreme cold negatively affect the economy as schools, businesses, and government operations are forced to close, which increases financial burden on local governments.
3. Severe winter storms/extreme cold damages public infrastructure and causes power outages.
4. Severe winter storms/extreme cold threatens vulnerable populations.

Table 4.1 below lists specific problem statements that occurred as a result of natural hazards events in Clay County between 2018-2022.

Table 4.1 Problem Statements

Problem Statements	
Community	**Specific Problem Statements**
Clay County	Flooding events caused certain roads such as 300th, 302nd, and 306th streets to close due to washouts.
SESDAC	During severe winter weather, freezing temperatures caused City waterlines to break.
Sunset Manor Irene-Wakonda Heritage Manor	High winds or tornado disasters cause damage to trees and critical facilities which can cause power outages and injuries. As a nursing home facility, our residents depend on us to be safe during these events. They can cause facility damage and injuries to staff and residents.
City of Vermillion	During flooding events, the sewer basins overflow and the rising river can cause issues at the Wastewater Treatment Facility. The overflow of the river can corrode banks. Basins flood and cause overflows at the lift stations.
Vermillion Police Department	During severe winter weather, there are numerous people in Vermillion that cannot afford heat and the extreme cold is very dangerous.
Vermillion School District	A prolonged snow event could leave families in poverty without food. With poor conditions, residents may not be able to attend needed services or have access to medications. A severe event could impact city services, electrical output, and EMS's ability to respond.

C3-a. The Planning Team began the process of developing mitigation goals and objectives by reviewing the 2019 Plan's mitigation goals and objectives. The Planning Team wanted to ensure that the goals and objectives identified in the updated Plan would specifically complement the goals and objectives identified in the statewide plan, while also focusing on the impact of hazards locally. The Planning Team decided to adopt the goals and objectives of the State of South Dakota's Hazard Mitigation Plan with the exception of the sixth goal. The State of South Dakota's sixth goal is to "Increase partnerships with tribal nations" and the corresponding objective is to "Support cooperation with tribes on mitigation and recovery efforts" (SD Hazard Mitigation Plan, 2019, p. 5-2). There are no tribal nations within Clay County and thus, the Planning Team decided to remove the State of South Dakota's sixth Hazard Mitigation Plan goal. The 2024 Plan's goals and objectives are listed in Table 4.2 below.

Table 4.2 2024 Pre-Disaster Mitigation Plan Goals & Objectives

2024 Pre-Disaster Mitigation Plan Goals and Objectives	
Goal No. 1	**Reduce injuries and loss of life from hazards**
Objective 1.1	Reduce the number of injuries/fatalities due to all hazards
Objective 1.2	Maintain and improve public health and safety outreach activities/programs
Goal No. 2	**Reduce damage to existing and future structures within hazard areas**
Objective 2.1	Reduce the number of repetitive loss structures
Objective 2.2	Reduce the number of structures lost by wildfires
Objective 2.3	Reduce the number of structures within the Special Flood Hazard Area and other identified local flood risk areas
Objective 2.4	Reduce the number of structures/infrastructure at risk to geologic hazards
Goal No. 3	**Reduce the losses to critical facilities, utilities, and infrastructure from hazards**
Objective 3.1	Reduce the number of power outages
Objective 3.2	Reduce negative impacts to water supply and sewage treatment systems
Objective 3.3	Improve reliability of communications during/following hazard events
Goal No. 4	**Reduce impacts to the economy, the environment, and cultural resources from hazards**
Objective 4.1	Reduce loss to natural resources (i.e. forest and watershed health)
Objective 4.2	Reduce impacts to cultural resources (i.e. historical/tribal)
Objective 4.3	Reduce agricultural losses
Objective 4.4	Reduce economic losses to recreation and tourism
Goal No. 5	**Support and assist local/tribal mitigation capability and efforts**
Objective 5.1	Encourage locals to participate in risk reduction measures.

The goals and objective discussed in the table above provided the County and the communities a foundation in which to develop their problems statements. The Planning Team then began the process of identifying specific mitigation projects that reflect the goals, objectives, and problem statements identified in this chapter, and, if implemented, would mitigate the impact of future hazard events. In each of the Plan updates, participants' report on their mitigation action progress since the previous update. Since 2013, mitigation projects have been steadily progressing. The Planning Team evaluated progress made since the previous Plan update in 2019.

The *Clay County Pre-Disaster Hazard Mitigation Plan Update 2019* identified five broad goals:

1) Reduce injuries and loss of life from natural hazards;

2) Reduce damage to existing and future structures within hazard areas;

3) Reduce the losses to critical facilities, utilities, and infrastructure from natural hazards;

4) Reduce impacts to the economy, the environment, and cultural resources from hazards;

5) Support and assist local/tribal mitigation capability and efforts.

E2-b. The 2019 Plan also established related mitigation actions to help meet the identified goals. The Planning Team provided an update on the 2019 mitigation actions which are summarized in Table 4.3 below. The Mitigation Action Update Activity from Planning Team meeting two can be found in Appendix P.

Table 4.3 Clay County Mitigation Action Updates

Clay County Mitigation Action Updates		
Mitigation Action Update	**Hazard**	**Current Status**
Clay County		
Update floodplain management restrictions restricting or prohibiting development in the floodplain.	Flood	This mitigation action is complete.
Participate in National Flood Insurance Program.	Flood	This mitigation action is complete.
Promote site and building design standards to minimize damage.	Flood Severe Summer Storms Severe Winter Storms Drought Dam Failure	This mitigation action is not complete due to a lack of time and the action being a low priority. This action is no longer relevant.
Establish standards for regular upkeep and maintenance of utilities and infrastructure.	Flood Severe Summer Storms Severe Winter Storms Drought Dam Failure	This mitigation action is not complete due to the action being a broad goal, new buildings, and all utilities currently being updated. This action is no longer relevant and has been replaced with more specific actions.
Incentivize hazard mitigation	Multi-Hazard	This mitigation action is not complete. There was limited resources and lack of time to complete the mitigation action. This action is no longer relevant.
Provide shelter for displaced rural residents	Flood Severe Summer Storms Severe Winter Storms	This mitigation action is not complete. The County uses the church, legion, and nursing home to shelter displaced

		residents. There could potentially be a designated shelter, but there has been limited resources and a lack of time. This action is no longer relevant.
Irene		
Address storm water issues on north half of the City	Flood Severe Summer Storms Severe Winter Storms	This mitigation action is complete. The water and sewer lines have been fixed and storm water drainage was added in 2021.
Raise awareness among residents of shelter locations	Severe Summer Storm Severe Winter Storm	This mitigation action is complete. Regular awareness of shelter locations has been made via the City's Facebook page. The shelter is the community center/fire hall.
Vermillion		
Purchase a 6-inch trash pump	Severe Summer Storm	This project is not complete. There are a lot of small, 4-inch trash pumps. The City replaced 4-inch trash pumps instead. This action is no longer relevant.
Construct a tornado shelter for mobile home park residents or visitors without a place to shelter	Severe Summer Storm Severe Winter Storm	This project is not complete. The City is in the process of looking for a park as an option. Funding is needed through grant or other sources to complete the project. This action is included in the Future Mitigation Actions.
Implement improvements to the Hwy 50 drainage system as recommended in the drainage study	Flood Heavy rain Snowmelt	This project was completed in 2021.
Improve system of tracking people and assets utilized to respond to disasters	Multi-hazard	This project was completed in September 2023. The City is currently looking to change to a different program.
Complete upgrades to public safety radio system	Multi-Hazard	This project is nearly complete. Installation of the P25 radio

		system is in progress and has had some delay in state activation.
Acquire additional trash pumps to remove water after heavy rains	Flood Severe Summer Storms Severe Winter Storms	This project is complete. The City purchased new and replaced old, existing pumps.
Ensure generator at backup emergency communication center/main fire station is adequate	Multi-Hazard	This project is complete with the separate generators installed.
Explore an ordinance requiring safe rooms at new developments	Multi-Hazard	This project is complete. The current building code requires a storm shelter in schools and apartment buildings which is not currently in ordinance.

E2-c. As evident from the number of mitigation actions completed from the *2019 Clay County Pre-Disaster Hazard Mitigation Plan Update 2019*, Clay County jurisdictions executed several structure and infrastructure projects in the past five years. Clay County jurisdictions' integration of the *Clay County Pre-Disaster Hazard Mitigation Plan Update 2019* into their own planning mechanisms, however, was limited. While several local planning mechanisms are in alignment with this Plan, none explicitly mention the 2019 Plan.

C4-a. During the fourth planning meeting, the Planning Team reviewed commonly answered Future Mitigation Actions. Commonly answered Future Mitigation Actions included construction of a storm shelter, stormwater drainage projects, emergency back-up generators, culvert capacity, mitigation plan development, and the adoption of building codes. Next, the Planning Team discussed the specifics of FEMA funding, including selecting a mitigation activity, conducting project scoping, feasibility of the project, expected timeline, monitoring of the project, and the close-out process. Other funding to implement mitigation projects was also evaluated. The Team also discussed mitigation activities that did not involve funding such as local mitigation plan development, severe weather alertness training, and planning and regulatory tools, such as communities' comprehensive plans, zoning code and municipal ordinances, building codes, and design standards.

C5-a. Participants at the fourth planning meeting identified the following information in order to prioritize each Future Mitigation Action:

- Hazards (Which hazards does this action mitigate against?)
- Funding Sources (What funding sources are available?)
- Time Frame (Short Term = less than 3 years | Long Term = greater than 3 years)
- Ongoing Project (Yes or No)

- Priority (High, Medium, or Low)
    - High Priority – includes ongoing projects, projects in which funding has already been received, projects the community has had several discussions about, projects that correlate with high incidence storm data, projects with little- to no cost and/or funding opportunities are available, or a combination of these factors.
    - Medium Priority – includes projects that have not yet begun, projects in which there has been some discussion about, but there is no immediate need to work on the mitigation action, projects that do not have a current funding source and/or no funding opportunities available, projects that correlate with intermediate incidence storm data, or a combination of these factors.
    - Low Priority – includes projects that have not yet begun, projects in which there has been little to no discussion on the mitigation action, projects with no funding sources and/or no funding opportunities available, projects that correlate with infrequent incidence storm data, or a combination of these factors.
- Will this action protect lives and prevent injuries? (Yes or No)
- Will this action eliminate or reduce damage to structures and infrastructure? (Yes or No)
- Does the community or public support this action? (Yes or No)

A table listing the Future Mitigation Actions for Clay County, and the communities within the county, can be found in Appendix Q. Each community, organization, or county identified mitigation projects and selected the appropriate response to the questions listed above.

Hazard mitigation projects that are submitted to the State will be reviewed for their cost effectiveness and must have a benefit cost analysis ratio of 1.0 or greater to be considered for submission. SECOG will work with Clay County and the communities within the County, to help them determine whether a project is cost-effective.

Section Five: Plan Update, Evaluation, and Implementation

After the Plan is reviewed and accepted by the Team and the local governing bodies, the Clay County Emergency Management Director, with the assistance of SECOG, is responsible for submitting the updated Plan to the State of South Dakota Hazard Mitigation Management Officer at the South Dakota Department of Public Safety. The State Hazard Mitigation Officer will then submit the plan to FEMA for review. Upon acceptance by FEMA, Clay County, and the communities therein, will formally adopt the Plan by passing a resolution and will be eligible for Hazard Mitigation Grant Programs and other federal mitigation grants.

D2-b. In order to be an effective hazard mitigation tool, the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota,* must be updated on an annual basis or after the occurrence of a hazard event. It must also be flexible enough so that it can be used with existing planning and emergency management documents at both the city and county level. Local officials within Clay County and their communities intend to ensure the following:

- The Plan's goals and objectives address current and expected conditions;
- The Plan has addressed the nature, magnitude, and/or type of risks that have changed;
- The current resources available are appropriate for implementing the Plan;
- The Plan has addressed implementation issues such as technical, political, legal or coordination issues with other agencies; and
- The Plan has measured the outcomes that have occurred and the progress that has been made regarding meeting hazard mitigation goals and objectives.

D2-c. The *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*, is an open document that will be evaluated and updated as needed. The Clay County Emergency Management Director is responsible for ensuring the Plan is maintained. The Clay County Emergency Management Director will arrange and work with the Team throughout the Plan's maintenance process.

D2-a. Annually, the Clay County Emergency Management Director will reach out to the designated community representatives and the public and ask them to review the Plan and notify the Emergency Management Director of any changes. The group will review each chapter and individually discuss hazard mitigation actions that have been undertaken to indicate what has worked and not worked for their communities. At each annual review, the Planning Team shall acknowledge the occurrence of significant weather events, funding availability, changes in local priorities, and technological advancements. The public will be encouraged to provide input and insight into the Plan and the progress in achieving the goals set forth.

When the review concludes, the Planning Team will make changes to the current mitigation strategy, goals, and objectives, as needed. If no changes are proposed, the Plan will not be updated until required (within 5 years). The Planning Team, with the assistance of SECOG staff, is responsible for ensuring that the Plan updates are incorporated into the Plan document.

D1-a. Each Planning Team member will then be tasked with reporting findings back to their local government officials. All city council meetings are open to the public and agendas are posted in advance. It is the responsibility of each designated community representative to inform the residents of their jurisdiction on the details of the Plan updates and mitigation activities, both planned and completed.

Clay County, and the communities in the County, will utilize specific methods to continue to engage the public while implementing, monitoring, and evaluating the Plan. These specific methods include, but are not limited to:

- Hosting public meetings on an annual or semi-annual basis to discuss the Plan and any potential updates. County and municipal staff will notify the public by publishing notices in the newspaper, posting on the municipal or County website, and/or publishing the meeting information on social media.
- Scheduling time for Tommy the Turtle, the SD OEM's mascot, to educate children on disaster preparedness. Educational facilities will purchase the children's disaster preparedness books for their classrooms and libraries.
- Presenting at fairs, events, festivals, and other large gatherings to answer questions and inform residents about hazard mitigation.
- Conducting a survey concerning residents' knowledge on hazard mitigation. The survey could be posted to the communities' social media sites and municipal or county websites.

D3-a. Clay County, and the communities within the County will integrate the ideas, information, and the strategies acquired through the creation of this Plan into their existing planning mechanisms in several ways. First, each community creates an annual budget. Communities that seek to implement future mitigation projects will incorporate the learnings from the Planning Team meetings, such as FEMA grant timelines and cost-share information, into their budgets.

In addition to an annual budget, Clay County and Vermillion create a capital improvement plan. A capital improvement plan is a multi-year, living document that includes numerous immediate and future capital needs that have been identified over the past several years. Larger hazard mitigation projects, such as structure and infrastructure projects, that require a great deal of funding or will require several years of construction and/or planning, may be included in a community's capital improvement plan.

Moreover, each community also has a comprehensive plan. By law in South Dakota, to have zoning regulations, a community must have a comprehensive plan. Clay County, and the communities within the County, have zoning regulations, and therefore, have Comprehensive Plans. SECOG drafts all comprehensive plans in Clay County. In its comprehensive plans, SECOG includes a section on environmental constraints in that community. SECOG integrates the information acquired through the creation of this Plan, namely the SFHAs, in the environmental constraints section of the comprehensive plan. More specifically, SECOG's comprehensive plans

include future land use maps. SFHAs are kept in mind while creating future lands use maps to discourage development in these areas. Communities can then use this information when planning housing developments, prioritizing infrastructure projects, and developing their economic development strategies/strategic plans.

Another example of Plan integration is the NFIP. In the creation of this Plan, the Planning Team reviewed NFIP information for each community. FEMA recently updated its floodplain maps for Clay County. Communities that participate in the NFIP will adopt an updated floodplain ordinance provided by the State's Floodplain Manager as a result of the new maps. Depending on the outcome of the new floodplain maps, communities may have to adjust their zoning ordinances if areas are in a SFHA. Communities will bring this new information back to their governing bodies to further strengthen their policies and procedures concerning the NFIP. This strategy will be incorporated into the communities' and County's ordinances to ensure that they are compliant with the program's expectations. To ensure the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota's* usefulness, local policy makers need to be familiar with the goals and actions that are identified in this Plan and incorporate them into local priorities. This can be accomplished by aligning local capital improvements with mitigation improvements during each community's annual budgeting process. This allows jurisdictions to better plan for future hazard mitigation projects and activities.

D3-c. Each community in Clay County will integrate the mitigation strategies listed in *Section Four* of this Plan into their own planning mechanisms. Each community in this multi-jurisdictional Plan is unique and has their own specific community needs. The goal for Clay County, and the communities within the County, is to integrate and use the Plan as a foundation and informational guide for developing/updating their own planning mechanisms, such as comprehensive plans, zoning ordinances, municipal ordinances, transportation plans, strategic plans, local emergency operations plans, etc. However, mitigation strategies for each county/city are different based on individual inputs concerning future mitigation actions. During the Planning Team meetings, participants completed a Hazard Integration Activity that was broken up into two parts.

Below lists a summary of a few of the ways in which Clay County, and the communities within Clay County, will integrate the ideas, information, and strategy of the Plan into other planning mechanisms.

Summary of Hazard Information Integration

D2-c. The Hazard Information Integration Activity sought to identify whether communities' existing plans align or conflict with the local mitigation plan. The results of the Hazard Integration Activity indicate that most communities in Clay County have existing plans that align with this Plan. More specifically, results showed that Clay County, Irene, Vermillion, and Wakonda all have a comprehensive plan that aligns with the local mitigation plan.

Comprehensive Plans

Clay County, the City of Irene, the City of Vermillion, and the Town of Wakonda's comprehensive plans align with the local mitigation plan. Comprehensive plans contain future land use maps to clearly identify natural hazard areas such as floodplains and the bluffs (Vermillion). Comprehensive plans discourage development and redevelopment within natural hazard areas. Comprehensive plans also illustrate wetlands to discourage any development and redevelopment in wetland areas as development in these areas may negatively impact the natural environment.

Transportation Plans

Clay County and the City of Vermillion are the only communities that have a Master Transportation Plan. The County's Master Transportation Plan aligns with this Plan as it addresses flooding on pages 53, 110 and 112. This Plan and the transportation plans align as transportation plans are used to guide growth to safe locations. In addition, transportation plans address movement systems that are designed to function under disaster conditions. The City of Vermillion's Master Transportation Plan conflicts with this Plan as the City of Vermillion's Master Transportation does not address natural hazard areas and does not promote compact and mixed-use development near high hazards areas.

Zoning Ordinances

Zoning ordinances of each jurisdiction align with the NFIP and the local mitigation plan. Zoning ordinances align well with the NFIP and the local mitigation plan as each community has adopted a floodplain ordinance as required by the NFIP. According to the Community Status Book, all communities participate in the program meaning that, at some point in time, each community adopted a floodplain ordinance. Zoning ordinances discourage development and redevelopment in natural hazard areas such as the floodplains.

Overlay Districts

According to the Nashua Regional Planning Commission, an overlay district is a land use planning tool used to create a special zoning "layer" placed on top of the base (primary) zoning district. The overlay district standards may supplement or supersede those of the underlying base zoning districts. Overlay districts may share common zoning boundaries, include, or cross, multiple zoning boundaries of the base districts, or may stand-alone where no underlying district exists to manage development or the character in particular areas of a community. Overlay districts fall into three general categories:

- Transportation
- Environmentally sensitive areas
- Special development areas

Overlay districts, like the underlying base zoning district, consist of a designated physical area (boundaries), that is accurately described in text (zoning ordinance), and visually depicted by mapped boundaries (zoning map). One of the most common overlay districts is the Wetlands Conservation District. It typically spans the entire community. A definition of wetlands is provided,

and wetlands found within the community fall under the requirements of the wetlands overlay district. More stringent requirements regarding building setbacks, buffers, disturbance, and land uses, are just a few of the parameters that supersede the underlying base (primary) zoning district. One of the considerations for adding complexity to zoning ordinances by utilizing overlay districts is administration.

Neither Clay County, nor the jurisdictions within Clay County, utilize overlay districts.

Subdivision Regulations

In Clay County, subdivisions are restricted in natural hazard areas and procedures are found within the floodplain and drainage plans. Clay County's subdivision regulations do not provide conservation subdivisions. The City of Vermillion's subdivision regulations align with restricting the subdivision of land within or next to natural hazard areas. The City of Vermillion's subdivision regulations do not provide conservation subdivisions nor cluster subdivisions to conserve environmental resources.

Stormwater Master Plan

The purpose of Stormwater Master Plans is to provide municipalities a comprehensive planning document that focuses on current needs within the existing infrastructure, improvements to the system, and resources to assist with long term collection infrastructure planning. Stormwater Master Plans are used in communities that have issues with drainage ways, drainage basin boundaries, and hydraulic flood routing. Stormwater Master Plans help communities make decisions about future growth or identify stormwater drainage issues. The Hazard Information Integration Activity quizzed participants if their Stormwater Master Plans promote use of porous building materials through incentive programs, include green stormwater infrastructure in impaired watersheds, and prioritize socially vulnerable communities. The City of Irene, the City of Vermillion, and the City of Wakonda answered no to all questions indicating a gap in the alignment of the local mitigation plan.

Resilience Plan

Clay County, Irene, Vermillion, and Wakonda do not have resilience plans. The County, and communities within the County, could develop their own resilience plan based on available funding resources and staff time.

Emergency Action Plan

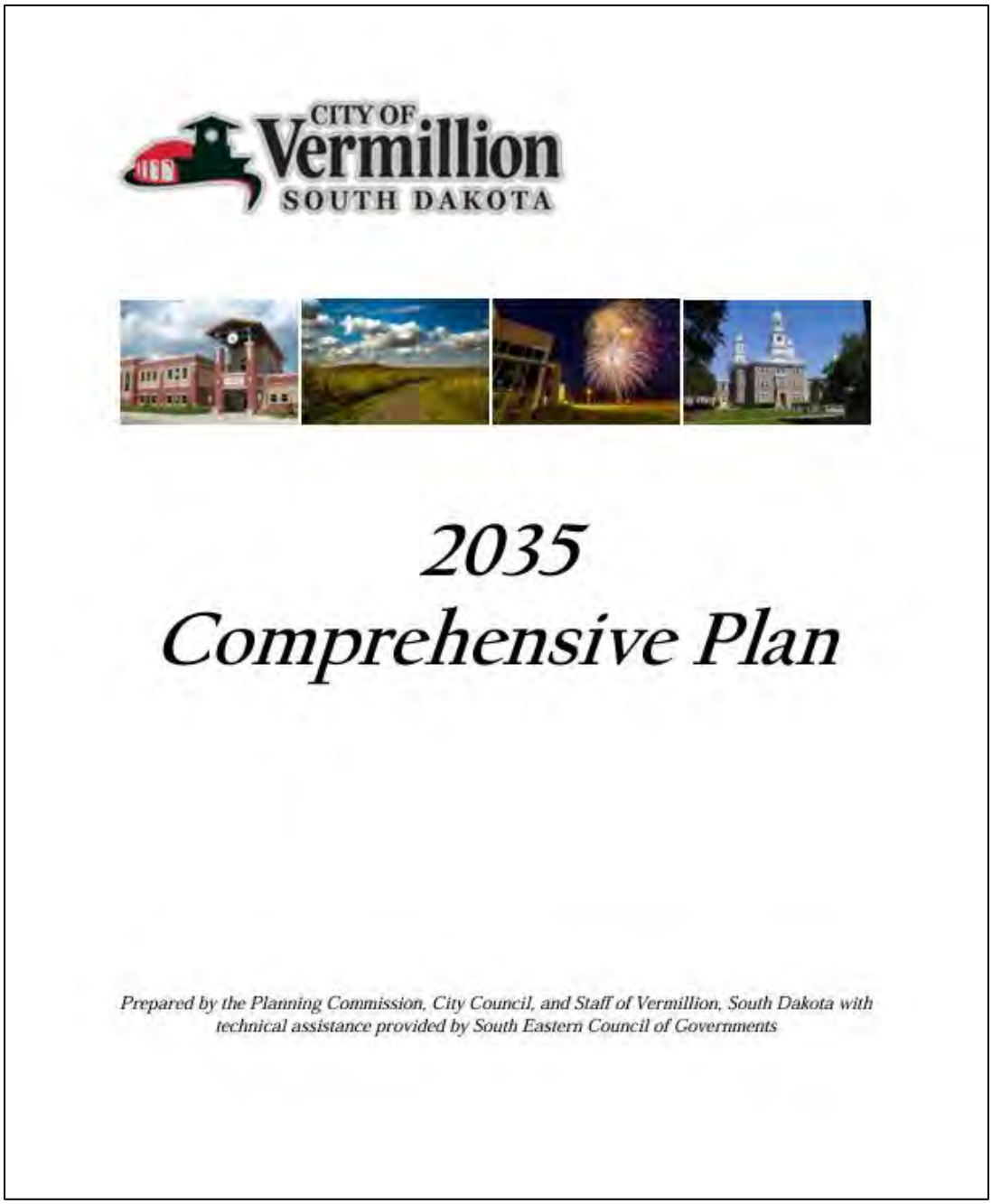
Emergency Action Plans focus on being prepared for emergency events. Clay County creates an overall LEOP that aligns with this local mitigation plan. The LEOP is an evacuation plan to deal with emergencies, ensures all evacuation routes are located outside of the floodplain, and provides emergency communication systems and procedures in case of potential hazard exposure. The municipalities are included in this plan and therefore would not need their own LEOP unless that is something the communities want to address individually. Non-profit organizations that serve vulnerable populations and USD stated that they have current emergency operations plans which are being implemented.

Integrated Watershed Management Plans

Integrated Watershed Management Plans are not applicable as watershed plans are provided by the South Dakota Department of Agriculture and Natural Resources.

Table 5.1 below summarizes hazard integration actions which may address gaps between the applicable plans. The Hazard Information Integration Activities can be found in Appendix R. Figure 5.1 below is the cover page of the 2035 Comprehensive Plan for the City of Vermillion.

Figure 5.1 Comprehensive Plan for the City of Vermillion



D3-a. & D3-b. *Table 5.1 Hazard Integration Actions to Address Gaps*

Hazard Integration Actions to Address Gaps				
Plan	**Clay County**	**Irene**	**Vermillion**	**Wakonda**
Stormwater Master Plan	N/A	Irene does not have a Stormwater Master Plan. A Stormwater Master Plan may assist the City of Irene in drafting a capital improvement plan and with annual budgeting. The City could hire a consultant to create a Stormwater Master Plan.	Vermillion does not have a Stormwater Master Plan. A Stormwater Master Plan may assist the City of Vermillion in drafting a capital improvement plan and with annual budgeting. The City could hire a consultant to create a Stormwater Master Plan.	Wakonda does not have a Stormwater Master Plan. A Stormwater Master Plan may assist the Town of Wakonda in drafting a capital improvement plan and with annual budgeting. The Town could hire a consultant to create a Stormwater Master Plan.
Resilience Plan	An action to address this gap is to develop a resilience plan.	An action to address this gap is to develop a resilience plan.	An action to address this gap is to develop a resilience plan.	An action to address this gap is to develop a resilience plan.
Emergency Action Plan	The LEOP aligns with the local mitigation plan. Cities and townships are included in Clay County's LEOP.	Covered under the County; however, could develop a LEOP for the City, if desired.	Covered under the County; however, could develop a LEOP for the City, if desired.	Covered under the County; however, could develop a LEOP for the Town, if desired.
Master Transportation Plans	Aligns	The City of Irene does not have a Master Transportation Plan. As the City of Irene is small, a Master Transportation Plan may not be necessary.	The City of Vermillion's Master Transportation Plan conflicts with this Plan, as the City's Master Transportation Plan does not address natural disasters such as flooding.	The Town of Wakonda does not have a Master Transportation Plan. As the Town of Wakonda is small, a Master Transportation Plan may not be necessary.

References

Association of State Dam Safety Officals. (1972, Janaury 1). *Canyon Lake - SD00000-128.* Retrieved from Dam Safety: https://damsafety.org/incidents/sd00000-128

Avera Health. (2024, March 28). *Sunset Manor Avera*. Retrieved from Avera: https://www.avera.org/locations/profile/sunset-manor-avera-irene/

Baxter, J., Helbrecht, K., Robinson, S. F., Reynolds, S., Reeder, A., & Kendro, H. (2013). *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards.* Washington: Strategic Alliance for Risk Reduction (STARR) & FEMA Risk Analysis Division .

Building Codes - South Dakota. (2024, 04 23). Retrieved from National Building Code Adoption Tracking Portal: https://stantec.maps.arcgis.com/apps/MapSeries/index.html?appid=a053ac48343c4217ab4184bc8759c350

Businesses. (2024, March 28). Retrieved from Irene SD: https://www.irenesd.com/businesses

Census of Agriculture. (2024, 03 28). *Publications County Profile*. Retrieved from 2017 Ag Census: https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/South_Dakota/cp46027.pdf

Clay County. (2040). Comprehensive Plan. *Environmental Constraints*, 11.

Clay County Park. (2024, March 28). Retrieved from Vermillion Area Chamber & Development: https://livevermillion.com/claycountypark/

Climate Mapping For Resilience and Adaptation. (2023, 03 02). Retrieved from Living Atlas Assessment Tool: https://livingatlas.arcgis.com/assessment-tool/explore/map

Council on Environmental Quality. (2023, 03 02). *Screening Tool*. Retrieved from Climate and Ecomonic Justice Screening Tool: https://screeningtool.geoplatform.gov/en/#13.26/43.56183/-96.70883

Council on Environmental Quality. (2023, 03 02). *Screening Tool*. Retrieved from Climate and Ecomonic Justice Screening Tool: https://screeningtool.geoplatform.gov/en/#10.42/42.7666/-96.9343

Douglas Malo. (1997). *South Dakota Physiographic Regions.* Retrieved from USD: https://www.sdgs.usd.edu/naturalsource/habitats/earth/PhysiographicRegions.pdf

Environmental, Health and Safety Office. (2023, July 23). USD Evacuation and Severe Weather Plans. Vermillion, South Dakota, US.

Federal Emergency Management Agency . (2023, April 19). *FEMA.* Retrieved from FEMA.gov: https://www.fema.gov/sites/default/files/documents/fema_local-mitigation-planning-policy-guide_042022.pdf

Federal Emergency Management Agency. (2020, March 13). *FEMA*. Retrieved from Covid-19 Disaster Declaration: https://www.fema.gov/disaster/coronavirus/disaster-declarations

Federal Emergency Management Agency. (2022). *Local Mitigation Planning Policy Guide.* Washington: Federal Insurance and Mitigation Administration.

Federal Emergency Management Agency. (2023, January 18). *Declared Disasters*. Retrieved from FEMA: https://www.fema.gov/disaster/declarations

Federal Emergency Management Agency. (2023, December 21). *National Building Code Adoption Tracking Portal*. Retrieved from Building Code Adoption: https://stantec.maps.arcgis.com/apps/MapSeries/index.html?appid=a053ac48343c4217ab4184bc8759c350

Federal Emergency Management Agency. (2023, February 6). *National Risk Index*. Retrieved from Risk Index Map: https://hazards.fema.gov/nri/map

Federal Emergency Management Agency. (2024, March 28). *National Risk Index*. Retrieved from National Risk Index Clay County, SD Report: https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataIDs=C46027

FEMA . (2023, 03 23). *National Flood Insurance Program.* Retrieved from FloodSmart: https://agents.floodsmart.gov/agents-guide/background

FEMA. (2019, June 24). *Disaster Declaration DR-4440-SD*. Retrieved from Designated Areas: https://www.fema.gov/disaster/4440/designated-areas

FEMA. (2020, 03 13). *Disaster Declaration EM-3475-SD*. Retrieved from Designated Areas: https://www.fema.gov/disaster/3475/designated-areas

FEMA. (2021, 03 11). *Disaster Declaration DR-4527-SD*. Retrieved from Designated Areas: https://www.fema.gov/disaster/4527/designated-areas

FEMA. (2022, 06 29). *Disaster Declaration DR-4656-SD*. Retrieved from Designated Areas: https://www.fema.gov/disaster/4656/designated-areas

FEMA. (2023). 2.1 Local Responsibilities. In FEMA, *Local Mitigation Planning Policy Guide* (p. 10).

FEMA. (2023, May 9). *Chapter 2 - Types of Floods and Floodplains.* Retrieved from Training.FEMA: https://training.fema.gov/hiedu/docs/fmc/chapter%202%20-%20types%20of%20floods%20and%20floodplains.pdf

FEMA. (2023, May 4). *Community Resilience*. Retrieved from Department of Homeland Security: https://hazards.fema.gov/nri/community-resilience

FEMA. (2023, May 4). *Map Service Center*. Retrieved from https://msc.fema.gov/portal/home

FEMA. (2024, 03 28). *Community Status Book.* Retrieved from FEMA: https://www.fema.gov/cis/SD.html

Keeley, J. (2008, August 8). *Fire Intensity*. Retrieved from ScienceDirect: https://www.sciencedirect.com/science/article/abs/pii/B9780080454054004961

NASA. (2024, 03 28). *Global Precipitation Measurment*. Retrieved from NASA Resources: https://gpm.nasa.gov/resources/faq/what-drought-and-what-causes-it

National Center of Education Statistics. (2024, 03 28). *Public School Districts: Vermillion*. Retrieved from NCES: https://nces.ed.gov/ccd/districtsearch/district_detail.asp?ID2=4674370

National Flood Insurance Program. (2023, March 23). *Flood Insurance 101: Getting Started Selling Flood Insurance*. Retrieved from Floodsmart: https://agents.floodsmart.gov/agents-guide/background

National Intergrated Drought Information System. (2012, September). *Historical Data and Conditions*. Retrieved from Drought: https://www.drought.gov/historical-information?state=south-dakota&countyFips=46083&dataset=0&selectedDateUSDM=20110830

National Oceanic and Atmospheric Administration (NOAA) . (2023, February 9). *Division of National Centers for Environmental Information's (NCEI)* . Retrieved from Historical Storm Events: https://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=46%2CSOUTH+DAKOTA

National Oceanic and Atmospheric Administration. (2023, February 6). *National Centers of Environmental Information*. Retrieved from Climate Data Online: https://www.ncei.noaa.gov/cdo-web/

National Oceanic and Atomospheric Administation. (2024, 03 28). *NOAA Studies by Location*. Retrieved from Paleo Search: https://www.ncei.noaa.gov/access/paleo-search/reports/location?dataTypeId=12&search=true#:~:text=%5B%2B%5D%20Idaho-,%5B%2B%5D%20South%20Dakota,-%5B%2B%5D%20Indiana

National Register of Historic Places. (2024, 03 28). *South Dakota - Clay County.* Retrieved from National Register of Historic Places: https://nationalregisterofhistoricplaces.com/sd/clay/state.html

National Weather Service. (2023, May 4). *Storm Ready in South Dakota*. Retrieved from Weather.gov Storm Ready: https://www.weather.gov/stormready/sd-sr

National Weather Service. (2023, May 4). *Storm Ready Program*. Retrieved from NOAA: https://www.weather.gov/stormready/

National Weather Service. (2024, March 28). *Event Summaries*. Retrieved from Weather Event Summaries: https://www.weather.gov/fsd/events

Nations Online. (2023, April 27). *Map of South Dakota*. Retrieved from Nations Online: https://www.nationsonline.org/oneworld/map/USA/south_dakota_map.htm

NOAA. (2019, 03 13-14). *Heavy Rain and Snow Melt Create Widespread Flood*. Retrieved from National Weather Service: https://www.weather.gov/fsd/20190314-Flooding

NOAA. (2019, 09 11-12). *Heavy Rainfall and Flooding* . Retrieved from National Weather Service: https://www.weather.gov/fsd/20190911-Flooding

NOAA. (2023, 03 16). *Current U.S. Drought Monitor Conditions for South Dakota*. Retrieved from National Integrated Drought Information System: https://www.drought.gov/states/south-dakota

NOAA. (2023, May 9). *Flood Related Hazards.* Retrieved from National Weather Service: https://www.weather.gov/safety/flood-hazards

NOAA. (2023, May 28). *NOAA NATIONAL CENTERS*. Retrieved from State Summaries 2022: https://statesummaries.ncics.org/chapter/sd/

NOAA. (2023, May 9). *Severe Weather 101*. Retrieved from NOAA National Severe Storms Laboratory: https://www.nssl.noaa.gov/education/svrwx101/tornadoes/

NOAA. (2023, May 9). *The Enhanced Fujita Scale (EF Scale)*. Retrieved from National Weather Service: https://www.weather.gov/oun/efscale

NOAA. (2024, 03 28). *National Severe Storms Laboratory*. Retrieved from Severe Weather 101 - Thunderstorms: https://www.nssl.noaa.gov/education/svrwx101/thunderstorms/

NOAA. (2024, March 28). *Regional Snowfall Index RSI*. Retrieved from NOAA Monitoring: https://www.ncei.noaa.gov/access/monitoring/rsi/

NOAA. (2024, 03 28). *Storm Events Database.* Retrieved from NOAA: Clay County, SD: https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28C%29+Flash+Flood&eventType=%28Z%29+Flood&beginDate_mm=01&beginDate_dd=01&beginDate_yyyy=2013&endDate_mm=12&endDate_dd=31&endDate_yyyy=2022&county=CLAY%3A27&hailfilter=0.00&tornfilter=0&wind

NOAA National Severe Storms Laboratory. (2023, May 9). *Severe Weather 101 - Winter Weater*. Retrieved from Severe Storms Laboratory: https://www.nssl.noaa.gov/education/svrwx101/winter/types/

Rafferty, J. P. (2024, 03 8). *Richter Scale*. Retrieved from Britannica: Science and Tech: https://www.britannica.com/science/Richter-scale

Sanford. (2024, 03 28). *Sanford Health Vermillion Care Center*. Retrieved from https://www.sanfordhealth.org/locations/sanford-health-vermillion-care-center

SD Department of Agriculture and Natural Resources. (2013, 06 15). *Vermillion River Report.* Retrieved from Vermillion River Basin Strategic Plan: https://danr.sd.gov/Conservation/WatershedProtection/ReportsPublications/tmdl_vermillionplan2013.pdf

SD Department of Public Safety. (2023, May 9). *Emergency Services*. Retrieved from Department of Public Safety: https://dps.sd.gov/emergency-services/emergency-management/mitigation/national-flood-insurance

SD Department of Public Safety. (2024, 03 28). *National Flood Insurance Program.* Retrieved from Department of Public Safety: Emergency Services: https://dps.sd.gov/emergency-services/emergency-management/mitigation/national-flood-insurance

Service Master Restore. (2024, May 24). *How Are Floods Measured?* Retrieved from Service Master Restore: https://www.servicemasterrestore.com/blog/flood-damage/how-are-floods-measured-/

SESDAC Foundation. (2024, March 28). *Sesdac Foundation*. Retrieved from SESDAC: https://www.sesdac.org/foundation/

Smith, C. (2024, May 24). *Burn Severity Explained*. Retrieved from Story Maps ArcGIS: https://storymaps.arcgis.com/stories/ed9018a155af47ab904e5e0db5da3e14

Social Vulnerability Index. (2023, 03 02). Retrieved from Agency for Toxic Substance & Disease Registry: https://www.atsdr.cdc.gov/placeandhealth/svi/interactive_map.html

Speck, R. A. (1988). *The Coteau du Missouri: A Regional Study.* Retrieved from South Dakota State University: https://openprairie.sdstate.edu/cgi/viewcontent.cgi?article=5574&context=etd

State Climate Summaries 2022. (2024, March 28). Retrieved from NOAA National Centers of Environmental Information: https://statesummaries.ncics.org/chapter/sd/

State of South Dakota. (2019). Harzard Mitigation Plan.

The City of Irene. (2013). Irene 2035 Comprehensive Plan. *Environmental Constraints*, 8.

Top Streams in Clay County, SD. (2024, March 28). Retrieved from AnyplaceAmerica: https://www.anyplaceamerica.com/directory/sd/clay-county-46027/streams/

U.S Geological Survey. (2023, May 4). *Earthquakes in South Dakota*. Retrieved from U.S. Geological Survey: http://www.sdgs.usd.edu/earthquakes/

U.S. Congress. (2000, October 30). Disaster Mitigation Act of 2000. Washington, Washington D.C., United States. Retrieved from https://www.fema.gov/sites/default/files/2020-11/fema_disaster-mitigation-act-of-2000_10-30-2000.pdf

U.S. Environmental Protection Agency. (2022, December 20). *EnviroAtlas*. Retrieved from EnviroAtlas Interactive Map: https://www.epa.gov/enviroatlas/enviroatlas-interactive-map

U.S. Fish & Wildlife Service's National Wetlands Inventory. (2023, May 4). *National Wetlands Inventory*. Retrieved from US Fish and Wildlife NWI: https://www.fws.gov/program/national-wetlands-inventory

U.S. Geological Survey. (2019, 06 08). *Surface Runoff and Water Cycle*. Retrieved from USGA: Water and Science : https://www.usgs.gov/special-topics/water-science-school/science/surface-runoff-and-water-cycle#overview

U.S. Geological Survey. (2023, 12 10). *Earthquake Hazards Program*. Retrieved from Earthquake Overview: https://earthquake.usgs.gov/earthquakes/eventpage/us7000lhzm/executive

U.S. Geological Survey. (2023, May 4). *Earthquake Search Results*. Retrieved from U.S. Geological Survey: https://earthquake.usgs.gov/earthquakes/map/?extent=32.65788,-112.36816&extent=53.40953,-84.24316&range=search&baseLayer=terrain&timeZone=utc&search=%7B%22name%22:%22Search%20Results%22,%22params%22:%7B%22starttime%22:%221900-01-01%2000:00:00%22,%22maxlat

U.S. Geological Survey. (2023, May 4). *U.S. Landslide Inventory*. Retrieved from Landslide Inventory Map: https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=ae120962f459434b8c904b456c82669d

Ulteig. (2023, 02 21). *Clay County Master Transportation Plan.* Retrieved from Ulteig: https://ulteig.com/wp-content/uploads/2023/03/Clay-County-MTP_Final-Report_2-21-23_ForWebpage.pdf

US Census Bureau. (2024, March 28). *2020 Census Demographic Data Map Viewer*. Retrieved from Maps Geo Census: https://maps.geo.census.gov/ddmv/map.html

US Census Bureau. (2024, 03 28). *Median Income*. Retrieved from US Census Data: https://data.census.gov/table/ACSST5Y2022.S1903?q=vermillion,%20SD

US Census Bureau. (2024, March 28). *Median Income*. Retrieved from US Census Data: https://data.census.gov/table/ACSST5Y2022.S1701?q=Irene,%20South%20Dakota

US Census Bureau. (2024, 03 28). *Median Income in the Past 12 months*. Retrieved from US Census Data: https://data.census.gov/table/ACSST5Y2022.S1903?q=wakonda,%20sd

US Census Bureau. (2024, March 28). *Poverty Status*. Retrieved from US Census Data: https://data.census.gov/table/ACSST5Y2022.S1701?q=Irene,%20South%20Dakota

US Census Bureau. (2024, March 28). *Redistricting Data: Popluation.* Retrieved from US Census Data: https://data.census.gov/table/DECENNIALPL2020.P1?q=vermillion,%20sd&tid=DECENNIALPL2010.P1

US Census Bureau. (2024, 03 28). *Redistricting Data: Population*. Retrieved from US Census Data: https://data.census.gov/table/DECENNIALPL2020.P1?q=wakonda,%20sd

US Census Data. (2024, 03 28). *ACS Demographic and Housing Estimates*. Retrieved from US Census Data: https://data.census.gov/table/ACSDP5Y2022.DP05?q=wakonda,%20sd

US Census Data. (2024, 03 28). *Householss and Families.* Retrieved from US Census Data: https://data.census.gov/table/ACSST5Y2022.S1101?q=Wakonda%20town,%20South%20Dakota

US Geological Survey. (2024, March 28). *Earthquakes Recorded*. Retrieved from USGS: https://www.usgs.gov/faqs/how-are-earthquakes-recorded-how-are-earthquakes-measured-how-magnitude-earthquake-determined#:~:text=Earthquakes%20are%20recorded%20by%20a,that%20makes%20the%20ground%20vibrate.

US Geological Survey. (2024, 03 28). *South Dakota Earthquake Report*. Retrieved from Earthquake List: https://earthquakelist.org/usa/south-dakota/#all-latest-earthquakes

USACE. (2024, 03 28). *National Inventory of Dams*. Retrieved from Inventory of Dams: Clay County: https://nid.sec.usace.army.mil/#/dams/search/sy=@countyState:Clay,%20South%20Dakota&viewType=map&resultsType=dams&advanced=false&hideList=false&eventSystem=false

USDA . (2024, 03 28). Retrieved from 2023 STATE AGRICULTURE OVERVIEW: https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=SOUTH%20DAKOTA

USDA. (2024, 03 28). *Drought Classification*. Retrieved from U.S. Drought Monitor: https://droughtmonitor.unl.edu/About/AbouttheData/DroughtClassification.aspx

(2035). *Vermillion Comperhensive Plan.* Vermillion: SECOG.

Vermillion School District. (2024, 03 28). *Vermillion School District*. Retrieved from Vermillion: K-12: https://vermillion.k12.sd.us/our-district/

Welch, T. P. (1982). *The James River Highlands : An Area Study.* Brookings: OPEN Praire.

Zach. (2021, December 13). *How are wildfires measured?* Retrieved from Creative Crisis Leadership: https://www.creativecrisisleadership.org/2021/12/13/how-are-wildfires-measured/

Appendix

Appendix A
Invite List, Designated Representatives, Sign-In Sheets, & Attendance List

Full Invitation List

First	Last	Organization	Title	Email/Mailing Address
Arden	Abild	Vermillion Basin Water Develop. District	Chair	aabild60@gmail.com
Damon	Alvey	Vermillion School District	Superindentent of Schools	Damon.Alvey@k12.sd.us
Kurt	Amundson	Spirit Mound Township	Chairman	46008 310th St, Vermillion, SD 57069
Gary	Andersen	Riverside Township	Superintendent	30094 463rd Ave, Centerville, SD 57014
Max	Anderson	Fairview Township	Superintendent	2609 E SD HWY 50, Vermillion, SD 57069
Ryan	Anderson	Communitcations Center	Director	randerson@claycomm.org
Nancy	Andresen	Wakonda	Finance Officer	nancy.andresen@gmail.com
Brian	Anglin	SESDAC	Director of Maintenance	brian.anglin@sesdac.org
Aaron	Armstrong	Clay County	Clay County Sheriff	aarmstrong@claysheriff.org
Barb	Ballensky	Vermillion Public Transit		barbb@sesdac.org
Jack	Baustian	Vermillion, South Dakota	Assistant to CM	jackb@cityofvermillion.com
Jeff	Becker	Spirit Mound Township	Superintendent	31327 459th Ave, Meckling, SD 57069
Jessica	Beringer	Clay County	Deputy Auditor	jessica.beringer@claycountysd.org
Laura	Bies	Prairie Center Township	Treasurer	31229 Greenfield Rd, Vermillion, SD 57069
Kalin	Bird	Vermillion, South Dakota	Building Offical	kalink@cityofvermillion.com
Joe	Booth	Irene	Council Member	jbooth@orbitcominc.net
Crystal	Brady	Vermillion, South Dakota	Police Chief	cbrady@vermillionpd.org
Curt	Brodsky	Spirit Mound Township	Clerk	31179 462nd Ave, Vermillion, SD 57069
Trent	Bruce	DGR Engineering	Project Engineer	trent.bruce@dgr.com
Matthew	Callahan	Vermillion, South Dakota	Fire Chief	mattc@cityofvermillion.com
Michelle	Carpenter	Wakonda	Finance Officer	townofwakonda@gmail.com
Dale	Christensen	Glenwood Township	Superintendent	46982 300th St, Beresford, SD 57004
Sheree	Christensen	Farmer State Agency	Acting County Executive Director	sheree.christensen@usda.gov
Brittany	Cihak	Irene Community Development Corporation	Community Development Coordinator	icdc@iw.net
Jon	Cole	Vermillion, South Dakota	Mayor	vermillionmayor@gmail.com
Kelsey	Collier-Wise	United Way of Vermillion	Executive Director	director@unitedwayofvermillion.org
Troy	Cowman	Yankton County EMS	Deputy Ambulance Administrator	troy@co.yankton.sd.us
Carri	Crum	Clay County	Auditor	carri.crum@claycountysd.org
Matthew	Davis	Irene	Council Member	mdavis2115@yahoo.com
Chad	Davison	University of South Dakota		Chad.davison@usd.edu

Brittany	DeJong	Vermillion Chamber of Commerce	Chamber Manager	Brittany@vermillionChamber.com
Jose	Dominguez	Vermillion, South Dakota	City Engineer	josed@cityofvermillion.com
Jeff	Dressen	Meckling Township	Treasurer	31246 457th Ave, Meckling, SD 57069
Larry	Erickson	Riverside Township	Chairman	29859 461st Ave, Centerville, SD 57014
Robert	Fallan	Prairie Center Township	Superintendent	31438 Greenfield Rd, Vermillion, SD 57069
Ryan	Fickbohm	Garfield Township	Superintendent	30332 467th Ave, Beresford, SD 57004
Chatel	Fischer	Glenwood Township	Treasurer	46470 303rd Rd, Centerville, SD 57014
Jon	Frey	Vermillion School District	Principal	jon.frey@k12.sd.us
Darby	Ganschow	Bethel Township	Clerk	30506 455th Ave, Volin, SD 57072
Brad	Georgeson	Turner County EMA	Emergency Management Director	turnercoem@iw.net
Glen	Gilbertson	Norway Township	Treasurer	31704 Bergan Ave, Meckling, SD 57069
Roger	Gilbertson	Spirit Mound Township	Treasurer	31085 SD HWY 19, Vermillion, SD 57069
Geoffrey	Gray-Lobe	Clay County Commissioner	Commissioner	geoffrey.gray-lobe@claycountysd.org
Shane	Griese	Vermillion, South Dakota	Utilities Manager	shaneg@cityofvermillion.com
Drew	Gunderson	Clay County	P&Z Administrator	drew.gunderson@claycountysd.org
Richard	Hammond	Clay County Commissioner	Commissioner	richard.hammond@claycountysd.org
Brendon	Hanson	Irene Community Development Corporation	President	hansenagency@outlook.com
Calvin	Hanson	Norway Township	Superintendent	31524 452nd Ave, Meckling, SD 57069
Todd	Heine	Vermillion Township	Superintendent	1020 E 320th St, Vermillion, SD 57069
Julia	Hellwege	Vermillion, South Dakota	Northeast Ward	julia.hellwege@gmail.com
Mike	Hemmingson	Riverside Township	Treasurer	30213 Norwegian Ave, Centerville, SD 57014
Daryl	Henrikson	Riverside Township	Superintendent	45829 301st St, Wakonda, SD 57073
Rich	Holland	Vermillion, South Dakota	President	richhollandjr@gmail.com
Allen	Holoch	Norway Township	Clerk	31608 Meckling Rd, Meckling, SD 57069
Duane	Holoch	Vermillion Township	Chairman	46068 Timber Rd, Vermillion, SD 57069
Ron	Hout	Pleasant Valley Township	Chairman	46314 306th St, Centerville, SD 57014
Andy	Howe	Clay County	Clay County Sheriff	ahowe@claysheriff.org
Joe	Hubert	Prairie Center Township	Superintendent	46624 315th St, Vermillion, SD 57069
Brian	Humphrey	Vermillion, South Dakota	Northwest Ward	brianhumphrey57069@gmail.com
Dave	Hutchinson	Irene-Wakonda School District	Superindentent	dave.hutchison@k12.sd.us
Bob	Iverson	Vermillion Basin Water Develop. District	Secretary	bobandlinda74@hotmail.com
Bryant	Jackson	University of South Dakota	USD Police Director	brant.jackson@usd.edu
Angela	Jackson	Fairview Township	Clerk	46516 316th St, Vermillion, SD 57069

Sam	Jacobs	Vermillion School District	Principal	Samuel.Jacobs@k12.sd.us
Lindsey	Jennewein	Vermillion, South Dakota	Central Ward	lindsey.jennewein@gmail.com
Kyle	Jensen	Norway Township	Superintendent	31582 452nd Ave, Meckling, SD 57069
Bryce	Johnke	Irene	Mayor	Bryce.Johnke@sightpathmedical.com
Andrew	Johnson	Meckling Township	Superintendent	45646 SD HIGHWAY 50, Meckling, SD 57069
Kim	Johnson	Vermillion School District	Principal	Kimmarie.Johnson@k12.sd.us
Nicole	Klunder	Clay County	Deputy Auditor	nicole.klunder@claycountysd.org
Tony	Klunder	Vermillion, South Dakota	Vermillion EMS	tonyk@cityofvermillion.com
Tony	Klunder	Vermillion Fire & EMS	Division Chief	tonyk@cityofvermillion.com
Matt	Knodel	Irene Fire and Rescue	Fire Chief	irenevfd@outlook.com
Kevin	Kocer	Vermillion School District	Business Manager	Kevin.Kocer@k12.sd.us
Mike	Kruse	Clay-Union Electric Co-Op	Operations Manager	mkruse@clayunionelectric.coop
Joe	Landeen	Glenwood Township	Superintendent	46767 301st St, Beresford, SD 57004
Audrey	Larsen	Fire/EMS Vermillion	Adminstrative Assistant	audreyl@cityofvermillion.com
Chris	Larsen	Clay-Union Electric Co-Op	General Manager	clarson@clayunionelectric.coop
Jane	Larson	Meckling Township	Clerk	31377 464th Ave, Meckling, SD 57069
Keith	Larson	Glenwood Township	Clerk	46594 300th St, Beresford, SD 57004
Craig	Lauritzen	DGR Engineering	Project Engineer	craig.lauritzen@dgr.com
Karl	Leikvold	Pleasant Valley Township	Superintendent	30681 Pleasant Valley, Wakonda, SD 57073
Travis	Letellier	Vermillion, South Dakota	Northeast Ward	tlete001@gmail.com
Brian	Limoges	University of South Dakota		brian.limoges@usd.edu
Donald	Logue	Bethel Township	Chairman	30674 Bluff Rd, Volin, SD 57072
Mike	Logue	Bethel Township	Treasurer	30560 452nd Ave, Volin SD 57072
Debra	Lyle	Irene-Wakonda School District	Elementary Principal/Title I	debra.lyle@k12.sd.us
Tom	Manning	Prairie Center Township	Chairman	46490 314th St, Vermillion, SD 57069
Jeff	McCormick	SPN & Associates	Project Engineer	jmccormick@spn-assoc.com
Joel	McNeely	Irene-Wakonda School District	JH/HS Principal	joel.mcneely@k12.sd.us
Larry	McPherson	Clay County	Highway Foreman	larry.mcpherson@claycountysd.org
Tom	Merrigan	Vermillion Township	Superintendent	1208 Coyote St, Vermillion, SD 57069
Jill	Mockler	Pleasant Valley Township	Treasurer	30451 464th Ave, Centerville, SD 57014
Todd	Mockler	Fairview Township	Superintendent	46918 317th St, Burbank, SD 57010
Travis	Mockler	Clay County Commissioner	Vice Chairman	travis.mockler@claycountysd.org
James	Morrison	Bethel Township	Superintendent	45787 304th St, Wakonda, SD 57073
Adam	Mount	Spirit Mound Township	Superintendent	30976 Bluff Rd, Volin, SD 57072

Steve	Muilenburg	Clay Rural Water System	Manager	steve.muilenburg@clayruralwater.com
Joe	Munson	Banner Associates	Department Head	joem@bannerassociates.com
Mike	Murra	Vermillion, South Dakota	Northwest Ward	mwmurra@hotmail.com
Jamie	Neitzke	Fairview Township	Treasurer	2703 E Main St, Vermillion, SD 57069
Adam	Nelson	Star Township	Superintendent	PO BOX 381, Wakonda, SD 57073
Craig	Nelson	Garfield Township	Chairman	30641 466th Ave, Centerville, SD 57014
Dale	Nelson	Star Township	Treasurer	45622 299nd St, Wakonda, SD 57073
Glen	Nelson	Norway Township	Chairman	31545 454th Ave, Meckling, SD 57069
Ron	Nielsen	Glenwood Township	Chairman	46891 299th St, Beresford, SD 57004
Tom	O'Boyle	Vermillion School District	Principal	Tom.OBoyle@k12.sd.us
Kevin	O'Kelley	University of South Dakota	Environmental Health and Safety	kevin.okelley@usd.edu
Matt	Olson	Prairie Center Township	Clerk	46562 312th St, Vermillion, SD 57069
Jim	Orr	Vermillion Township	Treasurer	2947 Pettersen Rd, Vermillion, SD 57069
JuStin	Orr	Bethel Township	Superintendent	30804 Bluff Rd, Volin, SD 57072
Tim	Ostrem	Riverside Township	Clerk	45924 300th St, Centerville, SD 57014
Nick	Oyen	Garfield Township	Clerk	30369 466th Ave, Bereford, SD 57004
Paul	Pederson	Clay County	Chief Deputy	ppederson@claysheriff.org
Jim	Peterson	Vermillion Chamber of Commerce	President	Jim@vermillionchamber.com
John	Peterson	Star Township	Chairman	45304 302nd St, Wakonda, SD 57073
Ronald	Peterson	Star Township	Clerk	29714 455th Ave, Wakonda, SD 57073
Amy	Pohlson	Vermillion School District	Principal	amy.pohlson@k12.sd.us
Rodney	Polley	Clay County	Highway Superintendent	rod.polley@claycountysd.org
Mike	Pollman	Wakonda Fire/First Responders		xkv8tor@yahoo.com
Scott	Pottorff	University of South Dakota	Saftey Officer	Scott.pottorff@usd.edu
John	Prescott	Vermillion, South Dakota	City Administrator	johnp@cityofvermillion.com
Katherine	Price	Vermillion, South Dakota	Central Ward	KEPcynicPride@msn.com
Katie	Redden	Vermillion, South Dakota	Finance Officer	katier@cityofvermillion.com
Brendyn	Richards	Garfield Township	Treasurer	46501 306th St, Vermillion, SD 57069
Stephen	Rogers	Irene First Responders EMS	EMS Responder	stephenrogers86@hotmail.com
Paul	Scherschligt	Yankton County EMS	Director of Emergency Management	paul@yanktonoem.com
Mike	Seiner	Fairview Township	Chairman	46756 317th St, Vermillion, SD 57069
Mike	Slattery	Meckling Township	Superintendent	45725 Jetley Rd, Vermillion, SD 57069
Elizabeth	Smith	Clay County Commissioner	Chairperson	betty.smith@claycountysd.org

Jacob	Sonne	SPN & Associates	Project Engineer	jsonne@spn-assoc.com
Stacy	Starzl Hansen	Southeast CASA	Executive Director	southeastcasadirector@gmail.com
Layne	Stewart	Clay County	Emergency Manager	lstewart@claycountyoem.org
Robin	Stockland	Sunset Manor Area(Irene-Wakonda)	Administrator	robin.stockland@avera.org
Wes	Stockland	Star Township	Superintendent	29778 455th Ave, Wakonda, SD 57073
Laura	Sundet	Clay County	Secretary	laura.sundet@claycountysd.org
Wayne	Thedorff	Garfield Township	Superintendent	30442 University Rd, Centerville, SD 57014
David	Thiesse	Clay County Commissioner	Commissioner	david.thiesse@claycountysd.org
Thomas	Tiahrt	Pleasant Valley Township	Clerk	30514 460th Ave, Wakonda, SD 57073
Casey	Van Beek	Irene	Finance Officer	irenecityhall@iw.net
Eric	Van Dusen	Yankton County EMS	Ambulance Adminsitrator	eric@co.yankton.sd.us
Jim	Viergutz	Irene	Council Member	bdmarcotte@iw.net
Troy	WalrAven	Meckling Township	Chairman	45303 313th St, Meckling, SD 57069
Jonathan	Walser	Vermillion District Facilities		Jonathan.Walser@k12.sd.us
Steve	Ward	Vermillion, South Dakota	Vice-President	steve.ward@usd.edu
Jason	Westcott	Union County EMA	Emergency Management Director	ucemasd@unioncountysd.org
Jackie	Williams	Vermillion Township	Clerk	31536 Princeton Ave, Vermillion, SD 57069
Ricky	Wolfswinkel	Pleasant Valley Township	Superintendent	30376 458th Ave, Wakonda, SD 57073
Ana		Touching Lives Caregivers, LLC		ana@touchinglivescaregivers.com
		Vermillion Basin Water Develop. District	Office Email	vbwdd@hotmail.com
		Irene Police Department		irenepolice@iw.net

Community / Organization Representative

Clay County Rep	Drew Gunderson
Clay County EM Rep	Layne Stewart
Clay County Sheriff	Aaron Armstrong
City of Irene	Rick Bak
Fairview Township	Angela Jackson
Glenwood Township	Joseph Landeen
Pleasant Valley Township	Rick Wolfswint
Riverside Township	Richard Adamson
SESDAC Representative	Brian Anglin
Spirit Mound Township	Curt Brodsky
Star Township	Ronald Peterson
Uni. Of South Dakota	Kevin O'Kelley
City of Vermillion	John Prescott
Vermillion Fire EMS	Tony Klunder
Vermillion Police Department	Crystal Brady
Vermillion School District	Jonathan Walser
Town of Wakonda	Jessie Fischer
Sunset Manor Irene/Wakonda	Robin Stockland
Yankton EMS	Eric Van Dusen

SIGN-IN

JULY 20, 2023 – 3:00 PM – VERMILLION EMS TRAINING ROOM

CLAY COUNTY PRE-DISASTER MITIGATION MEETING #1

NAME & TITLE	REPRESENTING	EMAIL	PHONE	TRAVELED FROM...
Rod Polley	Clay	Rod.Polley@claycountysd.org	605-677-7149 / 605-677-5085	
Eric VanDusen - Administrator	YCEMS	eric@co.yankton.sd.us	605-848-3219	Yankton
David Thiesse	Clay	david.thiesse@claysp.	605-670-2305	
Jon Walser	VSP	jonathan.walser@k12.sd.us	816-730-1024	
Shane Griese - Utility Manager COV	COV	sharig@cityofvermillion.com	605-675-9005	
Richard Adamson	Riverside Clay	radamsa@yahoo.	605-670-1621	
Robin Stockland	Sunset Manor & Wakonda & Heritage Manor	robin.stockland@avera.org	605-661-9512	
Larry McPherson	Clay	Larry McPherson@Clay	605 677 7149	
Aaron Armstrong	Clay CO SO	aarmstrong@claysheriff.org	605 677-7100	
Travis Mockler	Clay Co	TMockler63@gmail.com	605-660-5914	
Ron Peterson	Star Township	ronaldp@iw.net	605-653-9540	

SIGN-IN

JULY 20, 2023 – 3:00 PM – VERMILLION EMS TRAINING ROOM

CLAY COUNTY PRE-DISASTER MITIGATION MEETING #1

NAME & TITLE	REPRESENTING	EMAIL	PHONE	TRAVELED FROM...
LAYNE STEWART EMERGENCY MANAGER	CLAY COUNTY	LAYNE. STEWART @ CLAYCOUNTYOEM. ORG	677-7185	VERMILLION
Sophie Johnson	SECOG	Sophie @secog.org	681-8184	SF
Troy Cowman	Yankton Co EMS	troy@co.yankton.sd.us	605-760-4248	Yankton
John Prescott	City of Vermillion	johnp@cityofvermillion.com	677-7050	Vermillion
Tracy Emerson	@centurylink		605536	Centerville
Doug Andersen	Riverside Township		605-941-4038	Centerville
Ron Hunt	PLEASANT VALLEY		605-987 0419	CENTERVILLE
Roger Gibbs	Spirit Mound	rmgibbs at icloud.com	605 677 5700	Vermillion
Drew Gunderson Zoning admin	Clay County	drew.gunderson@claycountysd.gov	670 7145	Vermillion
Chad Davison Assist. Dir. of events & fac.	Clay County [redacted]	Chad.davison@usd.edu	402-707-7490	Vermillion
Scott Pottorff - Safety Officer	USD	Scott.pottorff@usd.edu	712-898-4254	Verm.
Dick HAMMOND	Clay Co Commission	rhhhei@gmail.com	605-670-2321	Vermillion

SIGN-IN

JULY 20, 2023 – 3:00 PM – VERMILLION EMS TRAINING ROOM

CLAY COUNTY PRE-DISASTER MITIGATION MEETING #1

NAME & TITLE	REPRESENTING	EMAIL	PHONE	TRAVELED FROM...
BRIAN ANGLIN DIRECTOR OF MAINTENANCE	SESDAC	Brian.anglin@sesdac.org	605-677-4450	VERMILLION
KEVIN O'KELLEY LEPC	USD	Kevin.okelley@usd.edu	(605)658-3766	VERMILLION
Joseph Lardeen	Glenwood	big_lardeen@Hotmail.com	605-300-0041	Benstead
Jack Baustian Asst to City Mgr	City of Vermillion	jacksb@cityofvermillion.com	605 677 7050	Vermillion
Matt Callahan Chief of Fire EMS	City of Vermillion	mattc@cityofvermillion.com	605 677 7098	Vermillion
Tony Klunder Division Chief	City of Vermillion	tonyK@cityofvermillion.com	605 677 7098	Vermillion

SIGN-IN

JULY 20, 2023 – 3:00 PM – VERMILLION EMS TRAINING ROOM

CLAY COUNTY PRE-DISASTER MITIGATION MEETING #1

NAME & TITLE	REPRESENTING	EMAIL	PHONE	TRAVELED FROM...
Curt Brodsky Clerk	Spirit Mound	Curt Brodsky @GMail.com	605-670-0300	Vermillion
Damon Alvey	Vermillion School Dist	damon.alvey@k12sd.us	605-677-7000	Vermillion
Carri Crum	Clay County	carri.crum@claycountysd.org	605-677-7120	Vermillion
Crystal Brady	VermillionPD	cbrady@vermillionpd.org	605-677-7070	Vermillion
Andy Howe	Clay Co. Sheriff	ahowe@claysheriff.org	605-677-7100	Vermillion
Angela Jackson	Fairview Township	akjackson69@gmail.com	605-688-0748	Vermillion

SIGN-IN

AUGUST 24, 2023 – 3:00 PM – VERMILLION PUBLIC LIBRARY

CLAY COUNTY PRE-DISASTER MITIGATION PLAN MEETING #2

NAME	REPRESENTING	EMAIL	PHONE	TRAVELED FROM...
Robin Stockland	Wakonda Heritage Manor + Sunset Manor	robin.stockland@cvera.org	605-624-9512	Wakonda
Ron Hurt	PLEASANT VALLEY TOWNSHIP	HURT TRUCKING@GMAIL.COM	605-857-0419	CENTERVILLE SD
Rod Polley	Clay Co Hwy Dept	rod.polley@claycountysd.org	605-677-7149	Vermillion
Ryan [redacted]	Spirit Mound Township	rmgilbs at icloud.com	605 677-5700	Vermillion
Larry McPherson	Clay Co. Hwy Dept		605-677-7149	Vermillion
KEVIN O'KELLEY	USD	kevin.okelley@usd.edu	(510) 487-0763	VERMILLION
[redacted] ANGLIN	SESDAC	brian.anglin@sesdac.org	605-677-9450	Vermillion
Jon Walser	VSD	jonathan.walser@k12.sd.us	605-730-1024	Verm
Dave Thiesse	Clay County Commission	david.thiesse@claycounty	605-670-2393	Verm
Caitlin Collier	self	collierlawoffice@gmail.com	605-202-0281	Verm
Richard Adamson	Riverside Twshp	radamson@yahoo.com	6056701671	Centerville
LAYNE STEWART	CLAY COUNTY	LAYNE.STEWART@CLAYCOUNTYOCEM.ORG	677-7185	VERM

SIGN-IN

AUGUST 24, 2023 – 3:00 PM – VERMILLION PUBLIC LIBRARY

CLAY COUNTY PRE-DISASTER MITIGATION PLAN MEETING #2

NAME	REPRESENTING	EMAIL	PHONE	TRAVELED FROM...
Shane Gross	City of Vermillion	Shaneg@cityofvermillion.com	605-677-7084	
John Prescott	City of Vermillion	johnp@cityofvermillion.com	605-677-7050	
Drew Gunderson	Clay County	drew.gunderson@gmail.com	666 7145	
Danielle Franco	SECOG	danielle@secog.org	681-8177	SF
Sophie Johnson	SECOG	sophie@secog.org		SF
Harley Ferguson	SECOG	harley@secog.org		SF

SIGN-IN

AUGUST 24, 2023 – 3:00 PM – VERMILLION PUBLIC LIBRARY

CLAY COUNTY PRE-DISASTER MITIGATION PLAN MEETING #2

NAME	REPRESENTING	EMAIL	PHONE	TRAVELED FROM...
✓ Barb Balcerski	Vermillion Public Transit	barbb@sesdac.org	605.624.1987	Vermillion
✓ mike kruse	clay-union	mkruse@clay-union Electric	605-202-1068	Vermillion
✓ Ron Peterson	Star Twp	ronaldp@iw.net	605-653-9540	Wakonda
✓ Scott Pottorff	USD	Scott.Pottorff@usd.edu	605-658-6109	Vermillion
✓ Tony Klumb	COV-EMS	tonyk@cityofvermillion.com	605-677-7098	Vermillion
✓ Matt Callahan	COV-Fire/EMS	mattc@Cityofvermillion.com	605-677-7098	Vermillion
Jim Morrison	Bethel TWP	JMorrisonfarms@gmail.com	6055661-0268	Wakonda

SIGN-IN

September 28, 2023 – 3:00 PM –Vermillion EMS Training Room

CLAY COUNTY PRE-DISASTER MITIGATION MEETING THREE

NAME	REPRESENTING	EMAIL	PHONE	TRAVELED FROM...
Richard Adamson	Riverside Tush	radamson5@yahoo.com	605-670-1621	
Al Holock	Norway	allen.holock@Gmail.com	605-670 1397	
Sophie Johnson	SECOG	Sophie@Secog.org	(605)681-8184	
Harley Ferguson	SECOG	harley@secog.org	(605)681-8135	

SIGN-IN

September 28, 2023 – 3:00 PM –Vermillion EMS Training Room

CLAY COUNTY PRE-DISASTER MITIGATION MEETING THREE

NAME	REPRESENTING	EMAIL	PHONE	TRAVELED FROM...
✓ Kevin O'Kelley	USD	kevin.okelley@usd.edu	658-3766	VERM
✓ Scott Pottoff	USD	Scott.Pottoff@usd.edu	658-C109	Verm
✓ Ron Hart	PLEASANT VALLEY TOWNSHIP		857-0419	CENTERVILLE
✓ John Prescott	City of Vermillion	johnp@cityofvermillion.com	677-7050	Verm
✓ Shane Griese	COV	shaneg@cityofvermillion.com	6777084	Verm
✓ Barb Ballensky	VPT	barbb@sesdac.org	624-1987	Verm
✓ Tony Klunder	Fire/EMS Vermillion	tonyk@cityofvermillion.com	675-9677	Verm
✓ Richard Hammond	Clay Co	rhhheiesgmail.com	670-2321	Verm.

SIGN-IN

September 28, 2023 – 3:00 PM –Vermillion EMS Training Room

CLAY COUNTY PRE-DISASTER MITIGATION MEETING THREE

NAME	REPRESENTING	EMAIL	PHONE	TRAVELED FROM...
Carri Crum	County	carri.crum@claycountysd.org	605-677-7120	Vermillion
Drew Gunderson	County	Drew.Gunderson@clay	677 7145	Vermillion
Crystal Brady	City	cbrady@vermillionpd.org	605-677-7070	Vermillion

SIGN-IN

October 19, 2023 – 3:00 PM –Vermillion EMS Training Room

CLAY COUNTY PRE-DISASTER MITIGATION MEETING THREE

NAME	REPRESENTING	EMAIL	PHONE	TRAVELED FROM...
Scott Pattorff	USD	Scott.pattoff@usd.edu	605-658-6109	USD Campus...
John Prescott	City	johnp@cityofvermillion.com	605-677-7050	City Hall
Richard Adamson	Riverside Twsh	radamson51@yahoo.com	605-670-1621	North Clay
Rick Bak	City of Irene	irenecityhall@iwinet	605-263-3476	Irene
Sophie Johnson	SECOG	sophie@secog.org	(605)681-8184	

SIGN-IN

October 19, 2023 – 3:00 PM –Vermillion EMS Training Room

CLAY COUNTY PRE-DISASTER MITIGATION MEETING THREE

NAME	REPRESENTING	EMAIL	PHONE	TRAVELED FROM...
Jon Walser	VSD	jonathan.walser@k12.sd.us	986-730-1024	
Shane Greg	COV	sheng@cityofvermillion.com	605-677-7084	
Crystal Brady	VPD	cbrady@vermillionpd.org	605-675-9052	
Harley Ferguson	SECOG	harley@secog.org	(605) 681-8135	
Jacob Sonne	SPN/Wakonda	jsonne@spn-assoc.com	605-996-7761	

Clay PDM
Meeting #5
November 16, 2023 @ 3:00pm

(Sign In Sheet)

	NAME	ORGANIZATION	TRAVELED FROM
1.	Danielle Franco	SECOG	Sioux Falls
2.	Sophie Johnson	SECOG	Sioux Falls
3.	Rod Pooley	Clay Co. Hwy	Vermillion
4.	Rick Wolfswink	Pleasant Valley	Vermillion
5.	Jon Walser	VSD	Vermillion
6.	Richard Adamson	Riverside Twship	N. Clay
7.	Scott Pothoff	University of South Dakota	Vermillion
8.	John Prescott	City of Vermillion	Vermillion
9.	Shane Gruesa	City of Vermillion	Vermillion
10.	Andy Howe	Clay County	Vermillion
11.	Crystal Brady	Vermillion PD	Vermillion
12.	Matt Callahan	Vermillion Fire EMS	Vermillion
13.	Jessie Fischer	Town of Wakonda, SD	Wakonda, SD
14.			

SIGN-IN

February 1, 2024 – 3:00 PM –Council Chambers of Vermillion City Hall

CLAY COUNTY PRE-DISASTER MITIGATION PUBLIC MEETING

NAME	REPRESENTING	EMAIL	PHONE	TRAVELED FROM...
Sophie Johnson	SECOG	sophie@secog.org	(605) 681-8184	SF
LAYNE STEWART	CLAY Co	LAYNE.STEWART@CLAYCOUNTYSDGOV	605 677 7185	VERM
John Prescott	City of Vermillion	johnp@cityofvermillion.com	605-677-7050	Vermillion
Rich Holland	city of Vermillion	richhollandjr@gmail.com	6053519826	Vermillion
Daniel Anderson	CoV	daniela@cityofvermillion.com	(308)218 8314	Verm

First	Last	Organization	Email	07/20/23	8/24/23	9/28/23	10/19/23	11/16/23
Richard	Adamson	Riverside Township	radamson@yahoo.com	✔	✔	✔	✔	✔
Damon	Alvey	Vermillion School District	Damon.Alvey@k12.sd.us	✔				
Gary	Andersen	Riverside Township		✔				
Brian	Anglin	SESDAC	brian.anglin@sesdac.org	✔	✔			
Aaron	Armstrong	Clay County	aarmstrong@claysheriff.org	✔				
Rick	Bak	City of Irene	irenecityhall@iw.net					✔
Barb	Ballensky	Vermillion Public Transit	barbb@sesdac.org		✔	✔		
Jack	Baustian	Vermillion, South Dakota	jackb@cityofvermillion.com	✔				
Crystal	Brady	Vermillion, South Dakota	cbrady@vermillionpd.org	✔		✔	✔	✔
Curt	Brodsky	Spirit Mound Township		✔				
Matthew	Callahan	Vermillion, South Dakota	mattc@cityofvermillion.com	✔	✔			✔
Caitlin	Collier	Citizen	collierlawoffice@gmail.com		✔			
Troy	Cowman	Yankton County EMS	troy@co.yankton.sd.us	✔				
Carri	Crum	Clay County	carri.crum@claycountysd.org	✔		✔		
Chad	Davison	University of South Dakota	Chad.davison@usd.edu	✔				
Larry	Erickson	Riverside Township		✔				
Harley	Ferguson	SECOG	harley@secog.org		✔		✔	
Jessie	Fischer	Town of Wakonda						✔
Danielle	Franco	SECOG	danielle@secog.org		✔	✔		✔
Roger	Gilbertson	Pleasant Valley Township	rmgilbsaticloud.com	✔	✔			
Shane	Griese	Vermillion, South Dakota	shaneg@cityofvermillion.com	✔	✔	✔	✔	✔
Drew	Gunderson	Clay County	drew.gunderson@claycountysd.org	✔	✔	✔		
Dick	Hammond	Clay County Commissioner	richard.hammond@claycountysd.org	✔		✔		
Ron	Hout	Pleasant Valley Township	houttrucking@gmail.com	✔	✔	✔		
Andy	Howe	Clay County	ahowe@claysheriff.org	✔				✔
Angela	Jackson	Fairview Township	akjackson69@gmail.com	✔				
Sophie	Johnson	SECOG	sophie@secog.org	✔	✔	✔	✔	✔
Tony	Klunder	Vermillion Fire & EMS	tonyk@cityofvermillion.com	✔	✔	✔		
Mike	Kruse	Clay-Union Electric	mkruse@clay.unionelectric		✔			
Joseph	Landeen	Glenwood Township	big_landeen@hotmail.com	✔				
Larry	McPherson	Clay County	larry.mcpherson@claycountysd.org	✔	✔			
Travis	Mockler	Clay County Commissioner	travis.mockler@claycountysd.org	✔				

Jami	Morrison	Bechel TWP?	jmorrisonfarmboy@gmail.com		✔			
Kevin	O'Kelley	University of South Dakota	kevin.okelley@usd.edu	✔	✔	✔		
Ronald	Peterson	Star Township	ronaldp@iw.net	✔	✔			
Rodney	Polley	Clay County	rod.polley@claycountysd.org	✔	✔			✔
Scott	Pottorff	University of South Dakota	Scott.pottorff@usd.edu	✔	✔	✔	✔	✔
John	Prescott	Vermillion, South Dakota	johnp@cityofvermillion.com	✔	✔	✔	✔	✔
Jacob	Sonne	SPN Wakonda	jsonne@spn-assoc.com				✔	
Layne	Stewart	Clay County	layne.steward@claycountyoem.org	✔	✔	✔	✔	
Robin	Stockland	Sunset Manor Area(Irene-Wakonda)	robin.stockland@avera.org	✔	✔			
David	Thiesse	Clay County Commissioner	david.thiesse@claycountysd.org	✔	✔			
Eric	Van Dusen	Yankton County EMS	eric@co.yankton.sd.us	✔				
Jonathan	Walser	Vermillion District Facilities	Jonathan.Walser@k12.sd.us	✔	✔		✔	✔
Rick	Wolfswint	Pleasant Valley Township						✔

Appendix B
Media Releases

Press Release

FOR IMMEDIATE RELEASE

Release Date: July 6, 2023
Contact: Sophie Johnson, South Eastern Council of Governments, (605) 681-8184

Clay County Pre-Disaster Mitigation Planning Meeting
to be held on July 20, 2023, at 3:00 p.m.

Over the course of the next several months, a planning committee consisting of representatives from Clay County, and municipalities within Clay County, will be meeting to facilitate the update of the Clay County Pre-Disaster Mitigation Plan (PDM). The updated Plan is required for Clay County, and municipalities within the county, to remain eligible for the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program funding.

Clay County will hold a meeting to receive public input **Thursday, July 20, 2023, at 3:00 p.m.** at the Vermillion EMS Training Room located at 820 N. Dakota St., Vermillion, SD, 57069. At this meeting, the committee will discuss the need for the updated Plan, review representatives' roles and responsibilities throughout the planning process, and assess community hazards.

Individuals with interest regarding the topics being discussed are encouraged to attend to provide feedback on potential pre-disaster hazard mitigation projects. For more information, please contact Sophie Johnson, South Eastern Council of Governments Community Development Manager, at (605) 681-8184, Layne Stewart, Clay County Emergency Manager, at (605) 677-7185, or visit https://secog.org/services/community-development/pdm/

Press Release

FOR IMMEDIATE RELEASE

Release Date: August 8, 2023
Contact: Sophie Johnson, South Eastern Council of Governments, (605) 681-8184

Clay County Pre-Disaster Mitigation Planning Meeting
to be held on August 24, 2023, at 3:00 p.m.

Over the course of the next several months, a planning committee consisting of representatives from Clay County, and municipalities within Clay County, will be meeting to facilitate the update of the Clay County Pre-Disaster Mitigation (PDM) Plan. The updated Plan is required for Clay County, and municipalities within the county, to remain eligible for the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program funding.

Clay County will hold a meeting to receive public input **Thursday, August 24, 2023, at 3:00 p.m.** in the Kozak Room of the Vermillion Public Library located at 18 Church St., Vermillion, SD, 57069. At this meeting, the committee will discuss the previous hazards and problem statement activities and access capabilities and vulnerabilities.

Individuals with interest regarding the topics being discussed are encouraged to attend to provide feedback on potential pre-disaster hazard mitigation projects. For more information, please contact Sophie Johnson, South Eastern Council of Governments Community Development Manager, at (605) 681-8184, Layne Stewart, Clay County Emergency Manager, at (605) 677-7185, or visit https://secog.org/services/community-development/pdm/

Press Release

FOR IMMEDIATE RELEASE

Release Date: September 6, 2023
Contact: Sophie Johnson, South Eastern Council of Governments, (605) 681-8184

Clay County Pre-Disaster Mitigation Planning Meeting
To be held on September 28, 2023, at 3:00 p.m.

Over the course of the next several months, a planning committee consisting of representatives from Clay County, and municipalities within Clay County, will meet to facilitate the update of the Clay County Pre-Disaster Mitigation (PDM) Plan. The updated Plan is required for Clay County, and municipalities within the county, to remain eligible for the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program funding.

Clay County will hold a meeting to receive public input **Thursday, September 28, 2023, at 3:00 p.m.** in the Vermillion EMS Training Room located at 820 N. Dakota St., Vermillion, SD, 57069. At this meeting, the committee will discuss the previous identifying assets and capabilities assessment activities and set future mitigation actions.

Individuals with interest regarding the topics being discussed are encouraged to attend to provide feedback on potential pre-disaster hazard mitigation projects. For more information, please contact Sophie Johnson, South Eastern Council of Governments Community Development Manager, at (605) 681-8184, Layne Stewart, Clay County Emergency Manager, at (605) 677-7185, or visit https://secog.org/services/community-development/pdm/

Press Release

FOR IMMEDIATE RELEASE

Release Date: October 6, 2023
Contact: Sophie Johnson, South Eastern Council of Governments, (605) 681-8184

Clay County Pre-Disaster Mitigation Planning Meeting
To be held on October 19, 2023, at 3:00 p.m.

Over the course of the next several months, a planning committee consisting of representatives from Clay County, and municipalities within Clay County, will meet to facilitate the update of the Clay County Pre-Disaster Mitigation (PDM) Plan. The updated PDM Plan is required for Clay County, and municipalities within the county, to remain eligible for the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program funding.

Clay County will hold a meeting to receive public input **Thursday, October 19, 2023, at 3:00 p.m.** in the Vermillion EMS Training Room located at 820 N. Dakota St., Vermillion, SD, 57069. At this meeting, the committee will discuss the previous hazard information integration activity and discuss the National Flood Insurance Program.

Individuals with interest regarding the topics being discussed are encouraged to attend to provide feedback on potential pre-disaster hazard mitigation projects. For more information, please contact Sophie Johnson, South Eastern Council of Governments Community Development Manager, at (605) 681-8184, Layne Stewart, Clay County Emergency Manager, at (605) 677-7185, or visit https://www.secog.org/services/pre-disaster_mitigation_planning.php

Press Release

FOR IMMEDIATE RELEASE

Release Date: November 2, 2023
Contact: Sophie Johnson, South Eastern Council of Governments, (605) 681-8184

Clay County Pre-Disaster Mitigation Planning Meeting
To be held on November 16, 2023, at 3:00 p.m.

Over the course of the last several months, a planning committee consisting of representatives from Clay County, and municipalities within Clay County, has been meeting to facilitate the Clay County Pre-Disaster Mitigation (PDM) Plan. The updated PDM Plan is required for Clay County, and municipalities within the county, to remain eligible for the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program funding.

Clay County will hold a meeting to receive public input, **Thursday, November 16, 2023, at 3:00 PM** in the Vermillion EMS Training Room located at 820 N. Dakota St., Vermillion, SD, 57069. At this meeting, the committee will conduct a high-level overview of the 2024 Pre-Disaster Mitigation Plan and the changes made from the 2019 Pre-Disaster Mitigation Plan.

Individuals with interest regarding the topics being discussed are encouraged to attend to provide feedback on potential pre-disaster hazard mitigation projects. For more information, please contact Sophie Johnson, South Eastern Council of Governments Community Development Manager, at (605) 681-8184, Layne Stewart, Clay County Emergency Manager, at (605) 677-7185, or visit https://www.secog.org/services/pre-disaster_mitigation_planning.php

Notice of Public Meeting

FOR IMMEDIATE RELEASE

Release Date: January 19, 2024
Contact: Sophie Johnson, South Eastern Council of Governments, (605) 681-8184

Clay County Pre-Disaster Mitigation Public Meeting to be held on February 1, 2024, at 3:00 P.M.

Over the course of the last several months, a planning committee consisting of representatives from Clay County, and municipalities within Clay County, has been meeting to update the Clay County Pre-Disaster Mitigation Plan. The updated Plan is required for Clay County, and municipalities within Clay County, to remain eligible for the Federal Emergency Management Agency's Hazard Mitigation Grant Program Funding.

Clay County will hold a public meeting to receive input on **Thursday, February 1, 2024, at 3:00 P.M.** in the **Council Chambers of Vermillion City Hall (25 Center St., Vermillion, SD 57069)**. At this meeting, the public is invited to comment on the draft 2024 Pre-Disaster Mitigation Plan for Clay County and provide feedback. The 2024 Pre-Disaster Mitigation Plan for Clay County, will be available on the South Eastern Council of Governments' website at this link: https://www.secog.org/services/pre-disaster_mitigation_planning.php on January 19, 2024.

For more information, please contact Sophie Johnson at (605) 681-8184 or Layne Stewart, Clay County Emergency Manager, at (605) 677-7185.

Appendix C
Meeting #1 Documents

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

AGENDA

Thursday, July 20, 2023

3:00 p.m. at 820 N. Dakota St., Vermillion, SD 57069

I. Welcome and Introductions – 5 minutes

II. Overview and Purpose – 5 minutes

III. Goals & Objectives – 5 minutes

IV. Review Participant Packet – 5 minutes

   a. Hazard Activity – 15 minutes

   b. Problem Statement Activity – 15 minutes

   c. Critical Facilities Activity – 10 minutes

V. Wrap-Up – 5 minutes

Next Meeting: Thursday, August 24, 2023, at 3:00 p.m. at the Vermillion Library located at 18 Church Street in the Kozak Room.

Homework:

- **Read and review 2019 PDM Plan**
- **Submit natural disaster photos to sophie@secog.org**

CLAY COUNTY PRE-DISASTER MITIGATION PLAN UPDATE

FEMA requires state, tribal, and local governments to develop and adopt hazard mitigation plans as a condition for receiving certain types of non-emergency disaster assistance, including funding for mitigation projects. Jurisdictions must update their hazard mitigation plans and re-submit them for FEMA approval every five years to maintain eligibility.

Clay County has received grant funds to assist with the costs associated with the development of the Plan Update. The match requirement is met through in-kind contributions – meeting participation, city council/county commission meeting discussions, and mileage calculations to and from meetings.

Meeting 1:	**July 20, 2023**	**3:00 pm**	**Vermillion Fire/EMS 820 N. Dakota St. Vermillion, SD 57069**
Meeting 2:	**August 24, 2023**	**3:00 pm**	**Vermillion Public Library Kozak Room 18 Church St. Vermillion, SD 57069**
Meeting 3:	**September 28, 2023**	**3:00 pm**	**Vermillion Fire/EMS 820 N. Dakota St. Vermillion, SD 57069**
Meeting 4:	**October 19, 2023**	**3:00 pm**	**Vermillion Fire/EMS 820 N. Dakota St. Vermillion, SD 57069**
Meeting 5:	**November 16, 2023**	**3:00 pm**	**Vermillion Fire/EMS 820 N. Dakota St. Vermillion, SD 57069**

PRE-DISASTER HAZARD MITIGATION

DEFINITIONS

Assets – are determined by the community and include but are not limited to: people; structures; systems; natural, historic, and cultural resources; and/or activities that have value to the community.

Community resilience – is the ability of a community to prepare for anticipated hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions. Activities such as disaster preparedness (which includes prevention, protection, mitigation, response and recovery), and reducing community stressors (the underlying social economic and environmental conditions that can weaken a community) are key steps to resilience.

Exposure – the people, property, systems, or functions that could be lost to a hazard. Generally, exposure includes what lies in the area the hazard could affect.

Hazard – is an act or phenomenon that has the potential to produce harm or other undesirable consequences to a person or thing.

Hazard mitigation – mean any sustained action taken to reduce or eliminate long-term risk to life and property from natural hazards.

Natural hazard – are a source of harm or difficulty created by a meteorological, environmental or geological event.

Preparedness – a continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective action in an effort to ensure effective coordination during incident response.

Probability of future hazard events – means the likelihood of the hazard occurring or reoccurring. It may be defined in historical frequencies, statistical probabilities, hazard probability maps and/or general descriptors (e.g., unlikely, likely, highly likely).

Risk – for the purpose of hazard mitigation planning is the potential for damage or loss created by interaction of natural hazards with assets, such as buildings, infrastructure or natural and cultural resources.

Risk assessment – Risk assessment is the process of measuring the potential loss of life, personal injury, economic injury, and property damage resulting from hazards.

Vulnerability – is a description of which assets, including structures, systems, populations and other assets as defined by the community, within locations identified to be hazard-prone, are at risk from the effects of the identified hazard(s).

PRE-DISASTER MITIGATION PLANNING

ACRONYMS

APA	Approvable Pending Adoption
ATSDA	Agency for Toxic Substances and Disease Registry
BRIC	Building Resilient Infrastructure and Communities
CDBG	Community Development Block Grant
CDC	Centers for Disease Control and Prevention
CFR	Code of Federal Regulations
CRS	Community Rating System
DANR	Department of Agriculture and Natural Resources
EDA	Economic Development Administration
EO	Executive Order
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FMA	Flood Mitigation Assistance
FMA	Floodplain Management Association
FIRM	Flood Insurance Rate Map
GOED	Governor's Office of Economic Development
HHPD	High Hazard Potential Dam
HMA	Hazard Mitigation Assistance
HMGP	Hazard Mitigation Grant Program
LEOP	Local Emergency Operations Plan
NCEI	National Centers for Environmental Information
NCDC	National Climate Data Center
NFIP	National Flood Insurance Program
NOAA	National Oceanic and Atmospheric Administration
NSFHA	No Special Flood Hazard Area
NWS	National Weather Service
SECOG	South Eastern Council of Governments
SDDOT	South Dakota Department of Transportation
SDOEM	South Dakota Office of Emergency Management
SFHA	Special Flood Hazard Area
SHMO	State Hazard Mitigation Officer
SRL	Severe Repetitive Loss
USDA	United States Department of Agriculture – Rural Development
USGS	United States Geological Survey
USACE	United States Army Corps of Engineers

PRE-DISASTER MITIGATION PLANNING

DEFINITIONS

Assets – are determined by the community and include but are not limited to: people; structures; systems; natural, historic, and cultural resources; and/or activities that have value to the community.

Climate Change – refers to changes in average weather conditions that persist over multiple decades or longer. Climate change encompasses both increases and decreases in temperature, as well as shifts in precipitation, changing risk of certain types of severe weather events, and changes to other features of the climate system.

Community Lifelines – are the most fundamental services in the community that, when stabilized, enable all other aspects of society to function. The integrated network of assets, services and capabilities that provide community lifeline services are used day to day to support recurring needs. Lifelines enable the continuous operation of critical government and business functions and are essential to human health and safety or economic security. Lifelines include safety and security; food, water, shelter; health and medical; energy; communications; transportation; and hazardous material.

Community Resilience – is the ability of a community to prepare for anticipated hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions. Activities such as disaster preparedness (which includes prevention, protection, mitigation, response and recovery), and reducing community stressors (the underlying social economic and environmental conditions that can weaken a community) are key steps to resilience.

Equity – is the consistent and systematic fair, just, and impartial treatment of all individuals.

Exposure – the people, property, systems, or functions that could be lost to a hazard. Generally, exposure includes what lies in the area the hazard could affect.

Extent – is defined as the range of anticipated intensities of the identified hazards.

Hazard – is an act or phenomenon that has the potential to produce harm or other undesirable consequences to a person or thing.

Hazard Mitigation – is any sustained action taken to reduce or eliminate long-term risk to life and property from natural hazards.

Impacts – are the consequences or effects of each hazard on the participants' assets identified in the vulnerability assessment.

Integrate – means to include hazard mitigation principles, vulnerability information, and mitigation actions into other existing community planning to leverage activities that have co-benefits, reduce risk, and increase resilience.

Involvement – means being engaged and actively participating in the development of the plan; providing input and directly providing, affecting or editing plan content as the representative of the participating jurisdiction(s) or organization.

A **Mitigation Action** is a measure, project, plan, or activity proposed to reduce current and future vulnerabilities described in the risk assessment.

Natural Hazards – are a source of harm or difficulty created by a meteorological, environmental, or geological event.

Preparedness – a continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective action in an effort to ensure effective coordination during incident response.

Probability of Future Hazard Events – means the likelihood of the hazard occurring or reoccurring. It may be defined in historical frequencies, statistical probabilities, hazard probability maps and/or general descriptors (e.g., unlikely, likely, highly likely).

Repetitive Loss Structure – means one covered under a National Flood Insurance Program flood insurance policy that (1) has incurred flood-related damage on two occasions, in which the cost of repair, on average, equaled or exceeded 25% of the value of the structure at the time of each such flood event; and (2) at the time of the second incidence of flood-related damage, the contract for flood insurance contains increased cost of compliance coverage.

Risk – for the purpose of hazard mitigation planning, risk is the potential for damage or loss created by the interaction of natural hazards with assets, such as buildings, infrastructure, or natural and cultural resources.

Risk Assessment – is the process of measuring the potential loss of life, personal injury, economic injury, and property damage resulting from hazards.

Social Vulnerability – is the potential for loss within an individual or social group, recognizing that some characteristics influence an individual's or group's ability to prepare, respond, cope, or recover from an event. These characteristics can overlap within populations to create heightened vulnerability, which may be compounded by infrastructure deficiencies within communities and historic or existing discriminatory government policies.

Underserved Communities – populations sharing a particular characteristic, as well as geographic communities that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life. The barriers to opportunity and participation these communities face have been occurring throughout history and continue today.

Vulnerability – is a description of which assets, including structures, systems, populations, and other assets as defined by the community, within locations identified to be hazard-prone, are at risk from the effects of the identified hazard(s).

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: _____ Name: _____

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease				
Dam Failure				
Drought				

Earthquake				
Extreme Cold				
Extreme Heat				
Flood				
Hail				
Lightning				

Severe Wind				
Severe Winter Weather				
Tornado				

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: _____ **Name:** _____

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. _____

Affect: _____

Example: _____

2. _____

Affect: _____

Example: _____

3. _____

Affect: _____

Example: _____

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Minnehaha and Lincoln Counties
Pre-Disaster Hazard Mitigation

HELPFUL LINKS

FEMA National Hazards - https://hazards.fema.gov/nri/natural-hazards 2017

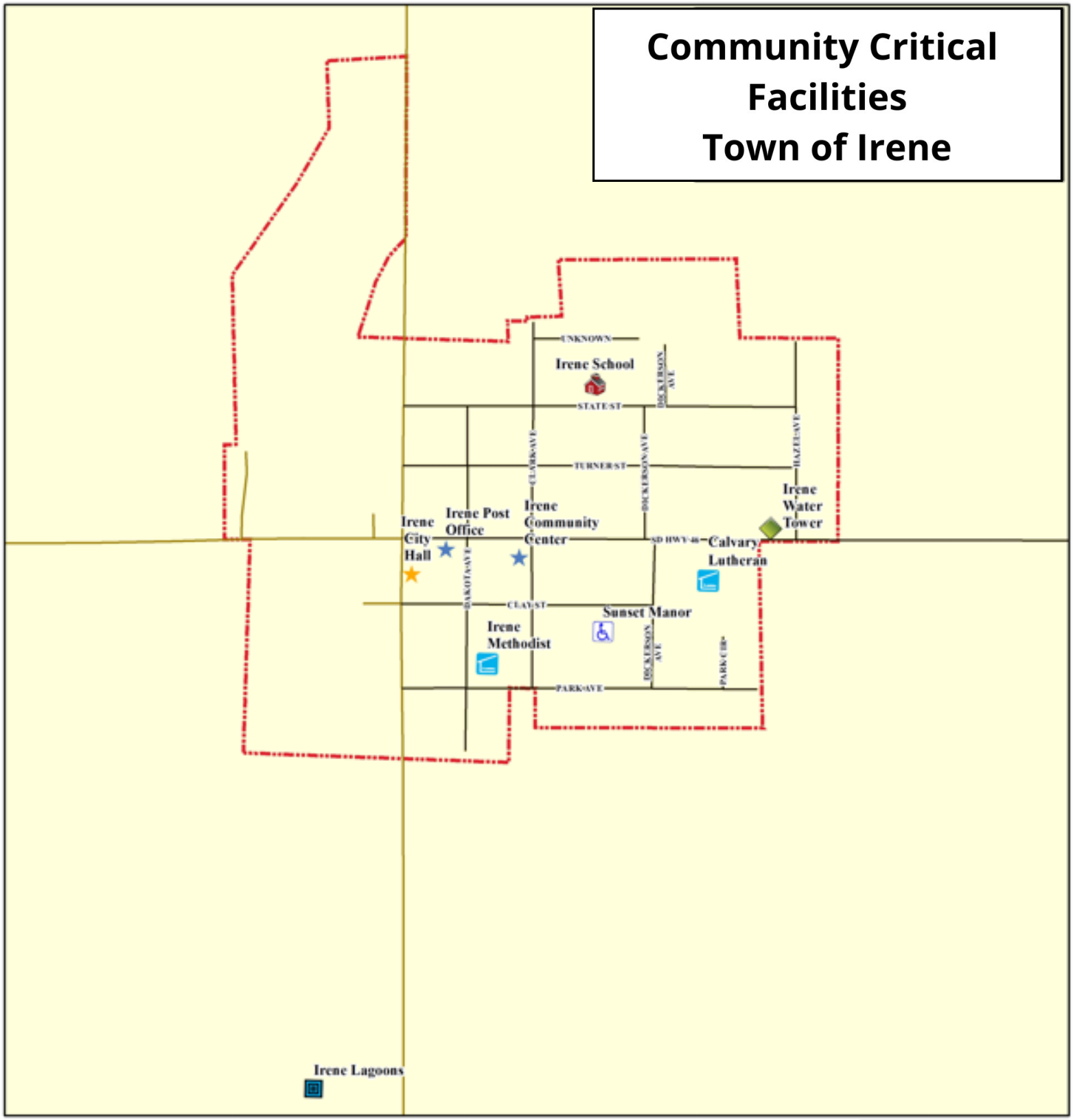
Clay County PDM -
https://secog.org/files/6315/3729/7873/Final_with_FEMA_Approval.pdf

FEMA List of Hazards and Preparedness -
https://www.fema.gov/pdf/areyouready/basic_preparedness.pdf#:~:text=Technological%20Hazards%201.%20Hazardous%20Materials%20Incidents%202.%20Nuclear,select%20maps%2C%20and%20follow%20the%20directions.%20National%20haz-

FEMA National Risk Index - https://hazards.fema.gov/nri/map

FEMA Declared Disasters –
https://www.fema.gov/disaster/declarations?field_dv2_state_territory_tribal_value=SD&field_year_value%5B%5D=2022&field_year_value%5B%5D=2021&field_year_value%5B%5D=2020&field_year_value%5B%5D=2019&field_year_value%5B%5D=2018&field_dv2_declaration_type_value=DR&field_dv2_incident_type_target_id_selective=All

Community Critical Facilities
Town of Irene



Legend

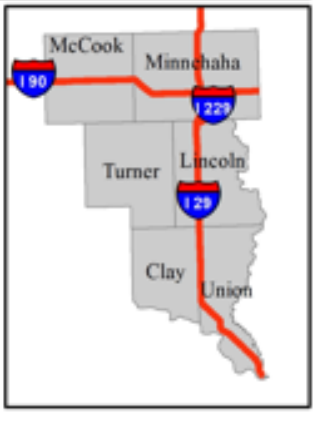
- City Hall
- Courthouse
- Government Building
- Hospital
- Ambulance
- Fire Station
- Police Station
- Daycare
- School
- Nursing Home/Assisted Living
- Shelter
- Water Tower
- Water Treatment
- Lift Station
- Airport

0 375 750 1,500 Feet

N W E S

SECOG

Map updated by SECOG on 4/4/2019



Community Critical Facilities City of Vermillion



Legend

- City Hall
- Courthouse
- Government Building
- Hospital
- Ambulance
- Fire Station
- Police Station
- Daycare
- School
- Nursing Home/Assisted Living
- Shelter
- Water Tower
- Water Treatment
- Lift Station
- Airport

0 1,250 2,500 5,000 Feet

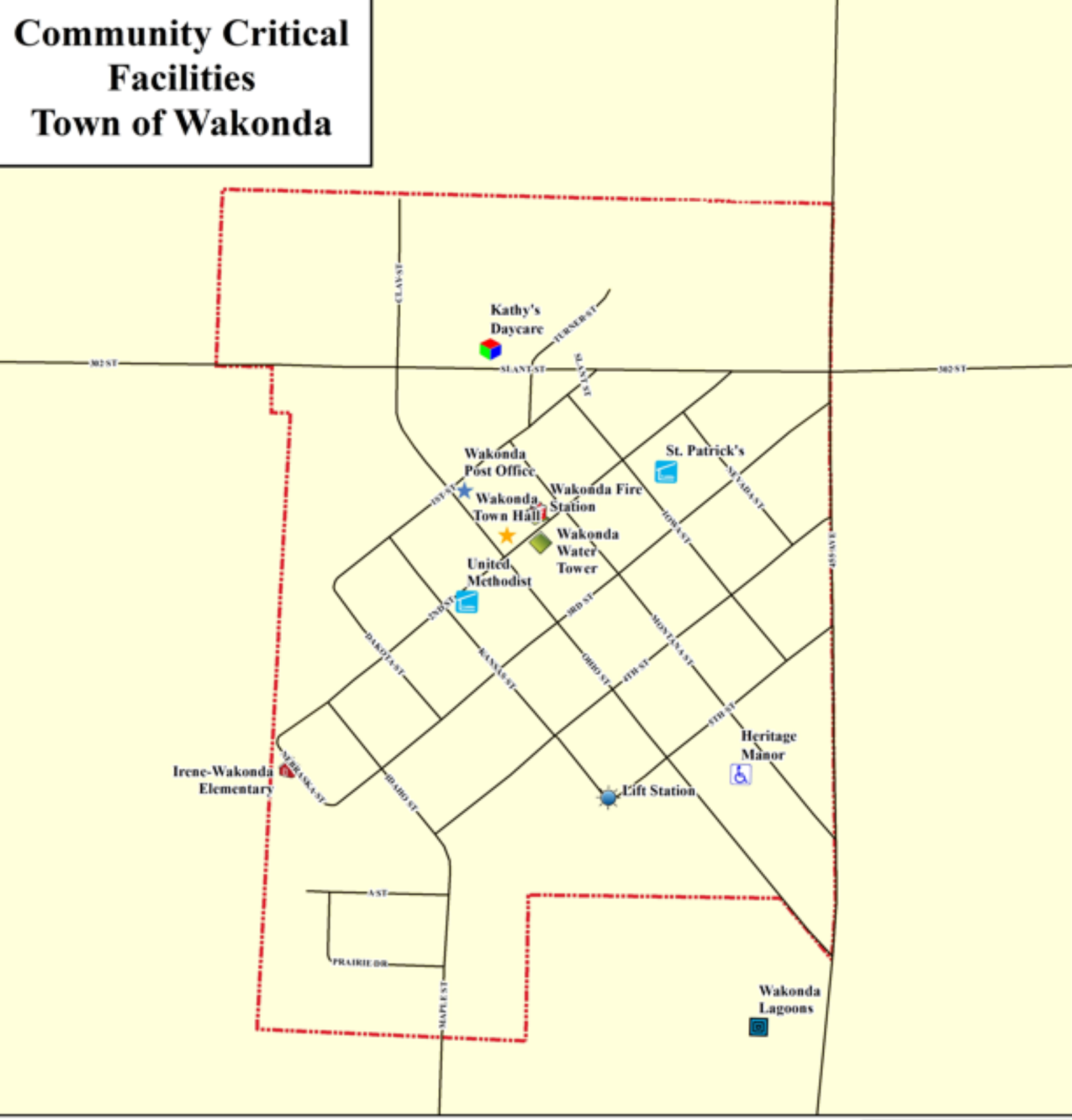
N W E S

SECOG

Map updated by SECOG on 4/1/2019



Community Critical Facilities Town of Wakonda



Legend

- City Hall
- Courthouse
- Government Building
- Hospital
- Ambulance
- Fire Station
- Police Station
- Daycare
- School
- Nursing Home/Assisted Living
- Shelter
- Water Tower
- Water Treatment
- Lift Station
- Airport

0 375 750 1,500 Feet

N W E S

SECOG

Map updated by



Clay County
Pre-Disaster Hazard Mitigation

Minutes
Thursday, July 20, 2023
3:00 p.m. at 820 N. Dakota St., Vermillion, SD 57069

I. The initial meeting of the Clay County Pre-Disaster Mitigation Planning Team convened at 3:00 p.m. on July 20, 2023, at the Vermillion Fire EMS Department.

Jack Baustian	City of Vermillion, Assistant City Manager
Matt Callahan	City of Vermillion, Chief of Fire/EMS
John Prescott	City of Vermillion, City Manager
Tony Klunder	City of Vermillion, EMS Division Chief
Shane Griese	City of Vermillion, Utilities Manager
David Thiesse	Clay County Commission
Dick Hammon	Clay County Commission
Travis Mockler	Clay County Commission
Larry McPherson	Clay County Highway, Foreman
Drew Gunderson	Clay County Planning & Zoning
Aaron Armstrong	Clay County Sheriff
Andy Howe	Clay County Sheriff
Cari Crum	Clay County, Auditor
Rod Polley	Clay County, Highway Superintendent
Angela Jackson	Fairview Township
Joseph Landeen	Glenwood Township
Ron Hout	Pleasant Valley Township, Chairman
Roger Gilbertson	Pleasant Valley Township, Treasurer
Richard Adamson	Riverside Township
Larry Erickson	Riverside Township, Chairman
Gary Andersen	Riverside Township, Superintendent
Brian Anglin	SESDAC, Director of Maintenance
Curt Brodsky	Spirit Mound Township, Clerk
Ron Peterson	Star Township
Robin Stockland	Sunset Manor & Wakonda Heritage Manor
Chad Davison	University of South Dakota
Kevin O'Kelley	University of South Dakota
Scott Pottoff	University of South Dakota, Safety Officer
Crystal Brady	Vermillion Police Department
Jon Walser	Vermillion School District
Damon Alvey	Vermillion School District, Superintendent
Eric Van Dusen	Yankton County EMS
Troy Cowman	Yankton County EMS

II. Participants signed in and received a packet of materials for their reference. The materials included Definition of Terms & Acronyms, a list of upcoming meetings, a Hazard Activity worksheet, and a Problem Statement Activity worksheet.

III. After introductions, Sophie Johnson, of SECOG, gave a brief explanation regarding the overview, purpose, and funding of the Plan.

IV. Sophie informed the group that FEMA updated its Local Mitigation Planning Policy Guide, which went into effect April 19, 2023. She also explained involvement from participating jurisdictions and the definition of stakeholder.

V. Sophie described participants' roles and responsibilities and explained that each community will need to designate a representative.

VI. The Planning Team reviewed the 2019 Plan's goals and objectives and adopted goals and objectives for the 2024 Plan.

VII. Participants then completed the Hazard Activity. Participants were asked to refer to the list of hazards and categorize the hazards in regard to location, extent, probability, and overall significance. The activity worksheets were collected by SECOG staff. SECOG staff will compile answers and discuss at the August meeting.

VIII. Next, participants completed the Problem Statements Activity. Participants were asked to write problem statements concerning hazard identified as having an overall significance rating of high. The activity worksheets were collected by SECOG staff. SECOG staff will compile answers and discuss at the August meeting.

IX. Lastly, participants completed the Critical Facilities Activity. Four large maps were provided were included critical facilities according to the 2019 Plan. Participants were asked to add, remove, and adjust facilities as necessary. This activity will be reviewed at the August meeting.

X. Sophie reviewed upcoming meeting dates.

XI. The meeting adjourned at 4:00 p.m.

Next Meeting: Thursday, August 24, 2023, at 3:00 p.m. in the Kozak Room of the Vermillion Public Library located at 18 Church St., Vermillion, SD 57069.

Appendix D
Meeting #2 Documents

Clay County
Pre-Disaster Hazard Mitigation

AGENDA

Thursday, August 24, 2023

3:00 p.m. at 18 Church St., Vermillion, SD 57069

I. Welcome and Introductions – 5 minutes

II. Review of Hazard Activity – 10 minutes

III. Review of Problem Statements Activity – 5 minutes

IV. Activity: Identifying Assets Activity – 15 minutes

V. Activity: Capability Assessment – 20 minutes

VI. Homework: Mitigation Action Update – 5 minutes

VII. Wrap-Up – 2 minutes

Next Meeting: Thursday, September 28, 2023, at 3:00 p.m. at 820 N. Dakota St., Vermillion, SD 57069

Homework:

- **Submit storm damage photos to sophie@secog.org**
- **Read and review 2019 Clay County PDM Plan**
- **Mitigation Action Update**

Identifying Assets

Review the Hazard Activity and Problem Statement Activity results where you described issues that you have with the identified hazards. We are now going to look at specific community assets that can be affected by the identified hazards.

Instructions: For the hazards that affect your community, identify two to three examples of assets that can be affected by the identified hazards.

Vulnerable Assets	
People (Residents, workers, visiting populations, and socially vulnerable populations like seniors, individuals with disabilities, lower-income individuals, etc.)	
Example #1	
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Structures (Community centers, historic places, planned capital improvement)	
Example #1	
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	

Economic Assets (Major employers, primary economic sectors, key infrastructure like telecommunications networks)	
Example #1	
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Natural, Historic, and Cultural Resources (Areas of conservation, beaches, parks, critical habitats)	
Example #1	
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Community Activities (Major local events such as festivals or economic events like farming or fishing)	
Example #1	
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	

Capability Assessment Worksheet

Community/Organization: _____

Person Completing: _____

Please indicate which of the following your community/organization has in place.

Plans	**Yes**	**No**	**Notes**
Comprehensive/Master Plan			Expiration date:
Capital Improvements Plan			
Economic Development Plan			
Local Emergency Operations Plan			
Continuity of Operations Plan			
Transportation Plan			Expiration date:
Stormwater Management Plan			
Other Special Plans			Name:

Building Code, Permitting, and Inspections	**Yes**	**No**	**Notes**
Building Code			
Building Code Effectiveness Grading Schedule Score			Score:
Fire Department ISO Rating			Score:
Site Plan Review Requirements			

Land Use Planning and Ordinances	**Yes**	**No**	**Notes**
Zoning Ordinance			
Subdivision Ordinance			
Floodplain Ordinance			
Natural Hazard Specific Ordinance			Name:
Stormwater			
Flood Insurance Rate Maps			
Acquisition of Land for Open Space and Public Recreation Uses			
Other			Name:

Administration	**Yes**	**No**	**Notes**
Planning Commission			
Mitigation Planning Committee			
Maintenance Programs to Reduce Risk			Name:
Mutual Aide Agreements			Entities:

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official			Name(s):
Floodplain Administrator			Name(s):
Emergency Manager			Name(s):
Community Planner			Name(s):
Civil Engineer			Name(s):
GIS Coordinator			Name(s):
Other			Name(s):

Technical	Yes	No	Notes
Warning Systems/Services			What type:
Hazard Data and Information			What type:
Grant Writing			
HAZUS Analysis (Floods)			
Other			

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding			
Authority to Levy Taxes for Specific Purposes			
Fees:	**Yes**	**No**	**Notes**
Water			
Sewer			
Gas			
Electric			
Storm Water			
Impact Fees for New Development			
Incur Debt through General Obligation Bond and/or Special Tax Bonds			
Incur Debt through Private Activities			
Community Development Block Grant			
Other Federal Funding Programs			
State Funding Programs			
Other			

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.			Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)			Name(s):
Natural disaster or safety related school programs			Name(s):
StormReady certification			Name(s):
Firewise Communities Certification			Name(s):
Public-private partnership initatives addressing disaster-related issues			Name(s):
Other			Name(s):

Clay County
Pre-Disaster Mitigation Plan

Mitigation Action Update

Community/Organization Name: Clay County

Representative Name: _____

Representative Email: _____

Name of Flood Plain Manager: _____

Flood Plain Manager Email: _____

In the 2017 Plan Update, the following Mitigation Actions were proposed.

What is the status of the projects?
If they were not completed, why?
If they were completed, when?

- **Update flood plain management restrictions restricting or prohibiting development in the flood plain**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

- **Participate in National Flood Insurance Program**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

Please return today or if unable to answer all questions, email to sophie@secog.org or bring to the September meeting.

- **Promote site and building design standards to minimize damage**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

- **Establish standards for regular upkeep and maintenance of utilities and infrastructure**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

- **Incentive hazard mitigation**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

- **Provide shelter for displaced rural residents**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

Please return today or if unable to answer all questions, email to sophie@secog.org or bring to the September meeting.

Clay County
Pre-Disaster Mitigation Plan

Mitigation Action Update

Community/Organization Name: Clay Rural Water System

Representative Name: _____

Representative Email: _____

Name of Flood Plain Manager: _____

Flood Plain Manager Email: _____

In the 2017 Plan Update, the following Mitigation Actions were proposed.

What is the status of the projects?
If they were not completed, why?
If they were completed, when?

- **Form partnerships with county government and rural utilities**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

- **Conduct regular maintenance for drainage systems and flood control structures**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

Please return today or if unable to answer all questions, email to sophie@secog.org or bring to the September meeting.

- **Provide standby generator for critical facilities**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

- **Review culvert sizing in flood prone areas**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

- **Educate about dangers of driving through flooded roads and downed power lines**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

- **Mutual aid agreement between utilities and local governments**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

Please return today or if unable to answer all questions, email to sophie@secog.org or bring to the September meeting.

- **Education and awareness programs**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

Please return today or if unable to answer all questions, email to sophie@secog.org or bring to the September meeting.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan

Mitigation Action Update

Community/Organization Name: Vermillion

Representative Name: _____

Representative Email: _____

Name of Flood Plain Manager: _____

Flood Plain Manager Email: _____

In the 2017 Plan Update, the following Mitigation Actions were proposed.

What is the status of the projects?
If they were not completed, why?
If they were completed, when?

- **Purchase a 6-inch trash pump**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

- **Tornado shelter for mobile home park residents or visitors without a place to shelter**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

Please return today or if unable to answer all questions, email to sophie@secog.org or bring to the September meeting.

- **Implement improvements to the Hwy 50 drainage system as recommended in drainage study**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

- **Improve system of tracking people and assets utilized to respond to disasters**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

- **Complete upgrades to public safety radio system**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

- **Acquire additional trash pumps to remove water after heavy rains**

  ___ Complete (or) ___ Not Complete

  Status:

Please return today or if unable to answer all questions, email to sophie@secog.org or bring to the September meeting.

Why?

- **Ensure generator at backup emergency communication center/main fire station is adequate**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

- **Explore an ordinance requiring safe rooms at new developments**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

Please return today or if unable to answer all questions, email to sophie@secog.org or bring to the September meeting.

Clay County
Pre-Disaster Mitigation Plan

Mitigation Action Update

Community/Organization Name: Irene

Representative Name: _____

Representative Email: _____

Name of Flood Plain Manager: _____

Flood Plain Manager Email: _____

In the 2017 Plan Update, the following Mitigation Actions were proposed.

What is the status of the projects?
If they were not completed, why?
If they were completed, when?

- **Address storm water issues on north half of city**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

- **Raise awareness among local residents of shelter locations**

  ___ Complete (or) ___ Not Complete

  Status:

  Why?

Please return today or if unable to answer all questions, email to sophie@secog.org or bring to the September meeting.

Clay County
Pre-Disaster Hazard Mitigation

MINUTES

Thursday, August 24, 2023

3:00 p.m. at 18 Church St., Vermillion, SD

I. The second meeting of the Clay County Pre-Disaster Mitigation (PDM) Planning Team convened at 3:00 p.m. on August 24, 2023, at the Vermillion Public Library. The following people were in attendance:

Barb Ballensky	Vermillion Public Transit
Brian Anglin	SESDAC, Director of Maintenance
Caitlin Collier	Citizen
David Thiesse	Clay County Commission
Drew Gunderson	Clay County Planning & Zoning
Jim Morrison	Bethel Township
John Prescott	City of Vermillion, City Manager
Jon Walser	Vermillion School District
Kevin O'Kelley	University of South Dakota
Larry McPherson	Clay County Highway, Foreman
Matt Callahan	City of Vermillion, Chief of Fire/EMS
Mike Kruse	Clay-Union Electric
Richard Adamson	Riverside Township
Robin Stockland	Sunset Manor & Wakonda Heritage Manor
Rod Polley	Clay County, Highway Superintendent
Roger Gilbertson	Spirt Mound Township, Treasurer
Ron Hout	Pleasant Valley Township, Chairman
Ron Peterson	Star Township
Scott Pottoff	University of South Dakota, Safety Officer
Shane Griese	City of Vermillion, Utilities Manager
Tony Klunder	City of Vermillion, EMS Division Chief

II. Participants signed in and received a packet of materials. The materials included the meeting Agenda, a Vulnerability Assessment Activity, and a Capabilities Assessment Activity. This packet was also emailed out to all participants prior to the meeting.

III. SECOG began the meeting with an introduction of SECOG staff and Layne Stewart, Clay County Emergency Manager. Attendees went around the room and stated their name, title, and community or organization.

IV. The Planning Team reviewed the Hazard Activity from the initial planning meeting on July 20, 2023. Participants were informed what the priority hazards were in the 2019 Clay County PDM Plan and what the priority hazards will be for the 2024 PDM Plan. The four priority hazards for the updated Plan are drought, severe summer storms, severe winter storms, and floods.

Clay County
Pre-Disaster Hazard Mitigation

V. SECOG presented weather event statistics from the National Oceanic and Atmospheric Administration (NOAA) from the previous three years.

VI. SECOG reviewed the results of the Problem Statement Activity from the initial planning meeting. Discussion was had on adding a problem statement regarding drought/extreme heat and its potential to result in injury or loss of life.

VII. Next, the Planning Team completed the Vulnerability Assessment. The Vulnerability Assessment was used to determine vulnerabilities within each community such as people, structures, economic assets, natural, historic, or cultural resources, and community events.

VIII. Then, the Planning Team completed the Capabilities Assessment. The Capabilities Assessment was used to determine what capabilities communities/organizations already have in mitigating against natural disasters.

IX. SECOG requested photos of storm damage that has occurred between 2019 to present to insert in the Plan.

X. Clay County, Clay Rural Water System, Irene, and Vermillion participants were asked to stay to provide a Mitigation Action update. Participants were asked to review the mitigation actions listed in the 2019 PDM Plan, and indicate if the actions were completed, and if not, why.

Next Meeting: Thursday, September 28, 2023, at 3:00 p.m. at 820 N. Dakota St., Vermillion

Appendix E
Meeting #3 Documents

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

AGENDA

Thursday, September 28, 2023

3:00 pm at 820 N. Dakota St. Vermillion, SD 57069

I. Welcome and Introductions – 5 minutes

II. Review of Vulnerability Assessment Activity – 5 minutes

III. Review of Capability Assessment Activity – 5 minutes

IV. Update Fire Departments – 2 minutes

V. Activity: Future Mitigation Actions – 20 minutes

VI. Activity/Homework: Hazard Information Integration - 20 minutes

Next Meeting: Thursday, October 19, 2023, at 3:00 pm at 820 N. Dakota St. Vermillion, SD

Homework:

- **Submit storm damage photos to sophie@secog.org**
- **Homework: Hazard Information Integration**

Community Fire Departments

Do the following fire departments still exist?

Irene Volunteer Fire Department	☐ Yes	☐ No
Vermillion Fire EMS Department	☐ Yes	☐ No
Wakonda Fire Department	☐ Yes	☐ No

If there are any fire departments in Clay County that are not on this list, please add them below.

_____

_____

_____

_____

_____

_____

FUTURE MITIGATION ACTIONS ACTIVITY

Community/Organization: _____

Mitigation Action:					
Hazard(s): Drought					
Funding Sources:					
Responsible Entities:					
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☐ No		**Priority:** ☐ High	☐ Medium	☐ Low	
Will this action protect lives and prevent injuries?			☐ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?			☐ Yes	☐ No	
Does the community or public support this action?			☐ Yes	☐ No	
How do you plan to implement this mitigation action?					

Mitigation Action:					
Hazard(s): Flood					
Funding Sources:					
Responsible Entities:					
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☐ No		**Priority:** ☐ High	☐ Medium	☐ Low	
Will this action protect lives and prevent injuries?			☐ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?			☐ Yes	☐ No	
Does the community or public support this action?			☐ Yes	☐ No	
How do you plan to implement this mitigation action?					

Mitigation Action:					
Hazard(s): Summer Storm (Tornado, Winds, Hail, Lightning)					
Funding Sources:					
Responsible Entities:					
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☐ No	**Priority:** ☐ High	☐ Medium	☐ Low		
Will this action protect lives and prevent injuries?				☐ Yes	☐ No
Will this action eliminate or reduce damage to structures and infrastructure?				☐ Yes	☐ No
Does the community or public support this action?				☐ Yes	☐ No
How do you plan to implement this mitigation action?					

Mitigation Action:					
Hazard(s): Winter Storm (Ice, blizzard, extreme cold)					
Funding Sources:					
Responsible Entities:					
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☐ No	**Priority:** ☐ High	☐ Medium	☐ Low		
Will this action protect lives and prevent injuries?				☐ Yes	☐ No
Will this action eliminate or reduce damage to structures and infrastructure?				☐ Yes	☐ No
Does the community or public support this action?				☐ Yes	☐ No
How do you plan to implement this mitigation action?					

Mitigation Action:					
Hazard(s): Agricultural Pests and Disease					
Funding Sources:					
Responsible Entities:					
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☐ No	**Priority:** ☐ High	☐ Medium	☐ Low		
Will this action protect lives and prevent injuries?				☐ Yes	☐ No
Will this action eliminate or reduce damage to structures and infrastructure?				☐ Yes	☐ No
Does the community or public support this action?				☐ Yes	☐ No
How do you plan to implement this mitigation action?					

Mitigation Action:					
Hazard(s): Geological Hazards (Earthquake, Landslide, Avalanche)					
Funding Sources:					
Responsible Entities:					
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☐ No	**Priority:** ☐ High	☐ Medium	☐ Low		
Will this action protect lives and prevent injuries?				☐ Yes	☐ No
Will this action eliminate or reduce damage to structures and infrastructure?				☐ Yes	☐ No
Does the community or public support this action?				☐ Yes	☐ No
How do you plan to implement this mitigation action?					

Mitigation Action:					
Hazard(s): Wildfires					
Funding Sources:					
Responsible Entities:					
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☐ No		**Priority:** ☐ High	☐ Medium	☐ Low	
Will this action protect lives and prevent injuries?			☐ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?			☐ Yes	☐ No	
Does the community or public support this action?			☐ Yes	☐ No	
How do you plan to implement this mitigation action?					

Mitigation Action:					
Hazard(s):					
Funding Sources:					
Responsible Entities:					
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☐ No		**Priority:** ☐ High	☐ Medium	☐ Low	
Will this action protect lives and prevent injuries?			☐ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?			☐ Yes	☐ No	
Does the community or public support this action?			☐ Yes	☐ No	
How do you plan to implement this mitigation action?					

Mitigation Action:					
Hazard(s):					
Funding Sources:					
Responsible Entities:					
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☐ No		**Priority:** ☐ High	☐ Medium		☐ Low
Will this action protect lives and prevent injuries?			☐ Yes		☐ No
Will this action eliminate or reduce damage to structures and infrastructure?			☐ Yes		☐ No
Does the community or public support this action?			☐ Yes		☐ No
How do you plan to implement this mitigation action?					

Mitigation Action:					
Hazard(s):					
Funding Sources:					
Responsible Entities:					
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☐ No		**Priority:** ☐ High	☐ Medium		☐ Low
Will this action protect lives and prevent injuries?			☐ Yes		☐ No
Will this action eliminate or reduce damage to structures and infrastructure?			☐ Yes		☐ No
Does the community or public support this action?			☐ Yes		☐ No
How do you plan to implement this mitigation action?					

Mitigation Action:					
Hazard(s):					
Funding Sources:					
Responsible Entities:					
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☐ No		**Priority:** ☐ High	☐ Medium		☐ Low
Will this action protect lives and prevent injuries?			☐ Yes		☐ No
Will this action eliminate or reduce damage to structures and infrastructure?			☐ Yes		☐ No
Does the community or public support this action?			☐ Yes		☐ No
How do you plan to implement this mitigation action?					

Mitigation Action:					
Hazard(s):					
Funding Sources:					
Responsible Entities:					
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☐ No		**Priority:** ☐ High	☐ Medium		☐ Low
Will this action protect lives and prevent injuries?			☐ Yes		☐ No
Will this action eliminate or reduce damage to structures and infrastructure?			☐ Yes		☐ No
Does the community or public support this action?			☐ Yes		☐ No
How do you plan to implement this mitigation action?					

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazard Information Integration Activity (Part 1)

OVERVIEW

Making sure that your local hazard mitigation plan aligns with other existing plans is vital. Such alignment can help you make sure policies and programs do not conflict. It can also help you make sure policies and programs complement and support each other. This can serve to create a more hazard-resistant and resilient community.

STEP 1: IDENTIFY RELEVANT PLANS AND POTENTIAL PARTNER AGENCIES

SECOG staff have already identified relevant plans and potential partner agencies.

STEP 2: IDENTIFY GAPS AND OVERLAPS

The next step is to look at each plan and check if the proposed policies or actions align or conflict with those in the local hazard mitigation plan. Please provide notes/explanations as necessary.

STEP 3: IDENTIFY ACTIONS TO ADDRESS GAPS AND LEVERAGE OVERLAPS

This step will be discussed in the next meeting.

Table 2. Matrix of plans and agencies.

Plan	Agency/Agencies Responsible	Question	Y/N	Align or Conflict	Explanation/Notes
Comprehensive Plan	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board	Does the future land-use map clearly identify natural hazard areas?			
		Do the land use policies discourage development or redevelopment within natural hazard areas?			
		Does the plan leave enough space for expected future growth in areas outside natural hazard areas?			
Transportation Plan	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board, Highway Superintendent, City Engineer, Contracted Engineers	Does the transportation plan limit access to hazard areas?			
		Is transportation policy used to guide growth to safe locations?			
		Are movement systems designed to function under disaster conditions (e.g., evacuation)?			
		Does the transportation plan promote compact, mixed-use development near high hazard areas? (e.g. floodplain?)			

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Plan	Agency/Agencies Responsible	Question	Y/N	Align or Conflict	Explanation/Notes
Zoning Ordinances	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board	Does the zoning ordinance conform to the comprehensive plan in terms of discouraging development or redevelopment within natural hazard areas?			
		Does the ordinance contain natural hazard overlay zones that set conditions for land use within such zones?			
		Does the ordinance prohibit development within, or filling of, wetlands, floodways, and floodplains?			
		Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use?			
Overlay Districts	Water Development District, SD Department of Agriculture and Natural Resources, City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board, City Engineer, Contracted Engineer	Is a Conservation Overlay Zoning District in place to help protect environmentally sensitive areas?			

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Plan	Agency/Agencies Responsible	Question	Y/N	Align or Conflict	Explanation/Notes
Subdivision Regulations	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board	Do the subdivision regulations restrict the subdivision of land within or next to natural hazard areas?			
		Do the regulations provide for conservation subdivisions or cluster subdivisions to conserve environmental resources?			
Stormwater Master Plan	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board, Utility Department, City Engineer, Contracted Engineer	Does the stormwater master plan promote the use of porous building materials through incentive programs?			
		Does the stormwater master plan include green stormwater infrastructure in impaired watersheds?			
		Does the placement of stormwater management projects prioritize socially vulnerable communities?			

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Plan	Agency/Agencies Responsible	Question	Y/N	Align or Conflict	Explanation/Notes
Resilience Plan	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board, Office of Emergency Management	Does the plan identify areas at high risk of natural disaster impacts?			
		Does the plan develop actions to recover from natural hazard events? Do those actions align with those the local hazard mitigation plan identifies?			
		Does the plan identify areas in which socially vulnerable populations and underserved communities have a high risk of exposure to natural hazards? If so, do the actions identified to address that risk align with those in the local hazard mitigation plan?			
Parks and Recreation Plan	Parks and Recreation Department, SD Game, Fish & Parks, City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board	Does the plan prioritize open green spaces? Are such spaces planned in areas with high impervious surface coverage?			

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

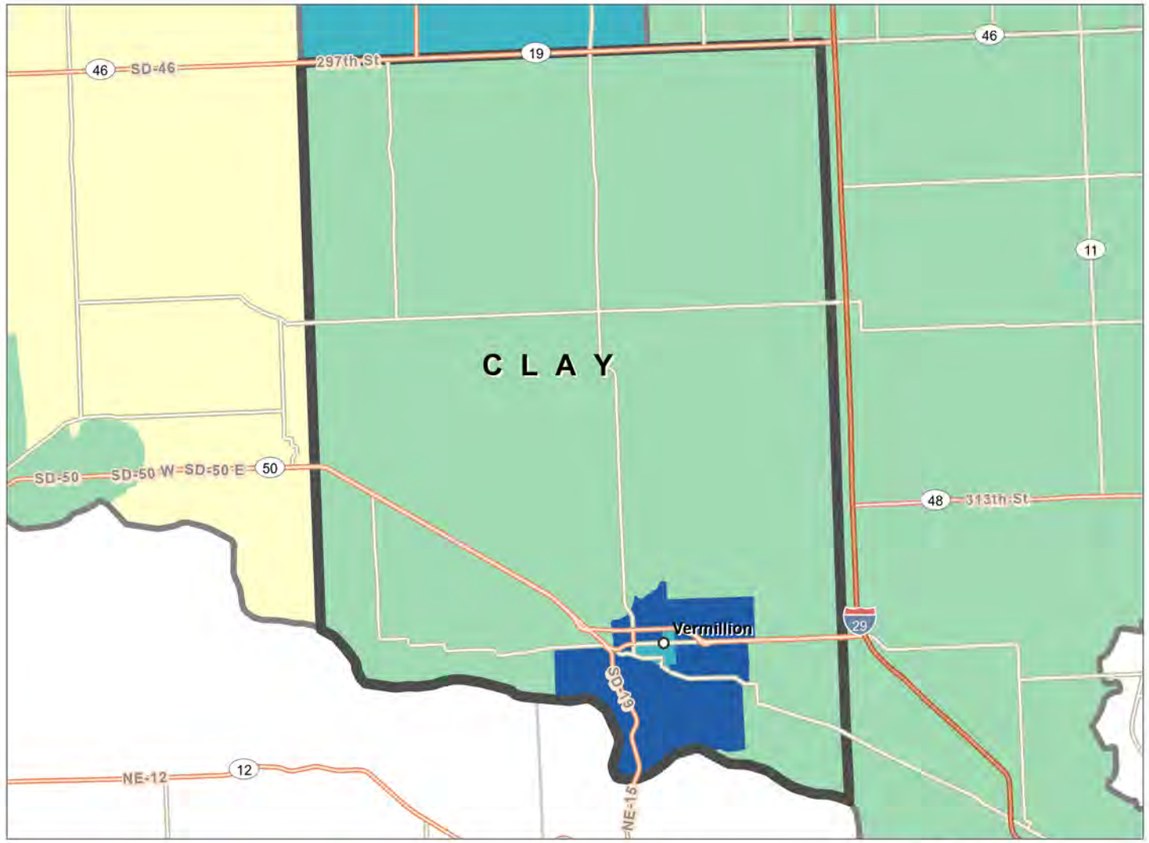
Clay County
Pre-Disaster Hazard Mitigation

Plan	Agency/Agencies Responsible	Question	Y/N	Align or Conflict	Explanation/Notes
Emergency Action Plan	Office of Emergency Management, City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board	Is there an adopted evacuation and shelter plan to deal with emergencies from natural hazards?			
		Are evacuation routes located outside of floodplains or liquefaction zones?			
		Are there emergency communication systems in place? Are those systems deployed in areas with the highest potential hazard exposure?			
Integrated Watershed Management Plan	Water Development District, SD Department of Agriculture and Natural Resources, City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board, City Engineer, Contracted Engineer	Does the plan include policies that restrict development that would increase downstream flooding?			
		Does the plan include policies that restrict development that would increase sedimentation or erosion?			

CDC/ATSDR Social Vulnerability Index 2020

CLAY COUNTY, SOUTH DAKOTA

Overall Social Vulnerability[1]



Highest (Top 4th) — Vulnerability (SVI 2020)[2] — Lowest (Bottom 4th)

Data Unavailable[3]

0 1.25 2.5 5 7.5
Miles



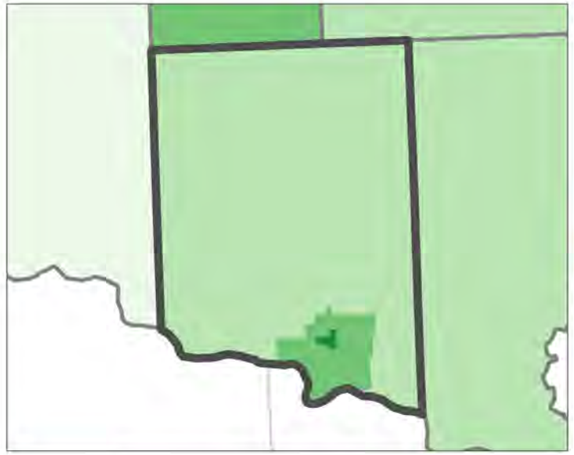
Social vulnerability refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **CDC/ATSDR Social Vulnerability Index (CDC/ATSDR SVI 2020)[4] County Map** depicts the social vulnerability of communities, at census tract level, within a specified county. CDC/ATSDR SVI 2020 groups **sixteen census-derived factors** into **four themes** that summarize the extent to which the area is socially vulnerable to disaster. The factors include economic data as well as data regarding education, family characteristics, housing, language ability, ethnicity, and vehicle access. Overall Social Vulnerability combines all the variables to provide a comprehensive assessment.

ATSDR Agency for Toxic Substances and Disease Registry

GRASP Geospatial Research, Analysis, and Services Program

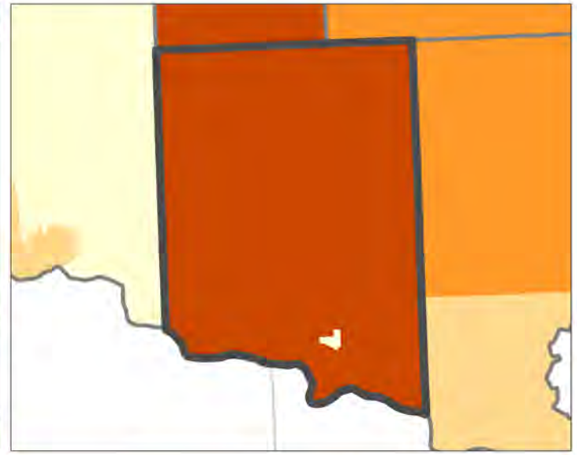
CDC/ATSDR SVI Themes

Socioeconomic Status[5]



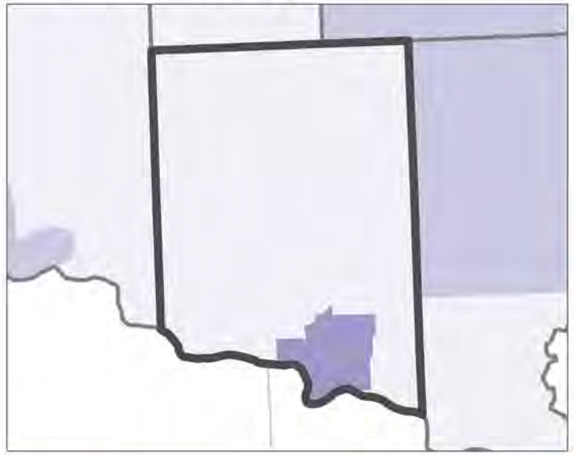
Highest (Top 4th) — Vulnerability (SVI 2020)[2] — Lowest (Bottom 4th)

Household Characteristics[6]



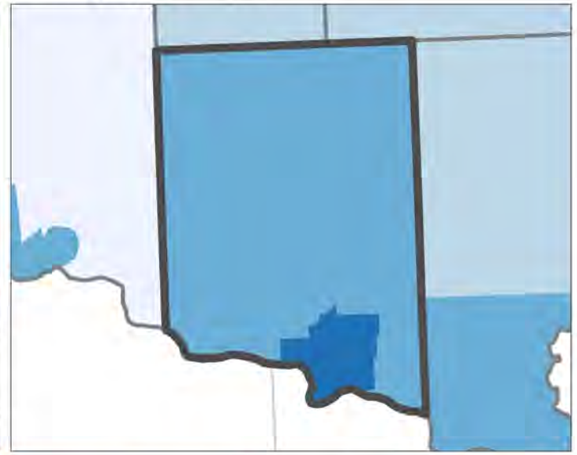
Highest (Top 4th) — Vulnerability (SVI 2020)[2] — Lowest (Bottom 4th)

Racial and Ethnic Minority Status[7]



Highest (Top 4th) — Vulnerability (SVI 2020)[2] — Lowest (Bottom 4th)

Housing Type/Transportation[8]



Highest (Top 4th) — Vulnerability (SVI 2020)[2] — Lowest (Bottom 4th)

Data Sources: [1]CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMapTM Premium.

Notes: [1]Overall Social Vulnerability: All 16 variables. [3]Census tracts with 0 population. [4]The CDC/ATSDR SVI combines percentile rankings of US Census American Community Survey (ACS) 2016-2020 variables, for the state, at the census tract level. [5]Socioeconomic Status: Below 150% Poverty, Unemployed, Housing Costs Burden, No High School Diploma, No Health Insurance. [6]Household Characteristics: Aged 65 and Older, Aged 17 and Younger, Civilian with a Disability, Single-Parent Household, English Language Proficiency. [7]Race/Ethnicity: Hispanic or Latino (of any race); Black and African American, Not Hispanic or Latino; American Indian and Alaska Native, Not Hispanic or Latino; Asian, Not Hispanic or Latino; Native Hawaiian and Other Pacific Islander, Not Hispanic or Latino; Two or More Races, Not Hispanic or Latino; Other Races, Not Hispanic or Latino. [8]Housing Type/Transportation: Multi-Unit Structures, Mobile Homes, Crowding, No Vehicle, Group Quarters.

Projection: South Dakota Custom Lambert NAD83 (EJH).

References: Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).
CDC/ATSDR SVI web page: https://www.atsdr.cdc.gov/placeandhealth/svi/index.html.

Clay County
Pre-Disaster Hazard Mitigation

MINUTES

Thursday, September 28, 2023

3:00 p.m. at 820 N. Dakota St. Vermillion, SD 57069

I. The third meeting of the Clay County Pre-Disaster Mitigation (PDM) Planning Team convened at 3:00 p.m. on September 28, 2023, at the Vermillion Fire EMS Station. The following individuals were in attendance:

Allen Holoch	Norway Township
Barb Ballensky	Vermillion Public Transit
Carri Crum	Clay County Auditor
Crystal Brady	Vermillion Chief of Police
Drew Gunderson	Clay County Planning & Zoning
John Prescott	City of Vermillion, City Manager
Kevin O'Kelley	University of South Dakota
Richard Adamson	Riverside Township
Richard Hammond	Clay County Commissioner
Ron Hout	Pleasant Valley Township, Chairman
Ron Peterson	Star Township
Scott Pottoff	University of South Dakota, Safety Officer
Shane Griese	City of Vermillion, Utilities Manager
Tony Klunder	City of Vermillion, EMS Division Chief

II. Participants signed in and received a packet of materials. The materials included the meeting Agenda, Hazard Information Activity, including potential funding sources, a Social Vulnerability handout, and the Future Mitigation Actions Activity. This packet was also emailed out to all participants prior to the meeting.

III. After introductions, Sophie Johnson, of SECOG, reviewed the results of the Vulnerability Assessment Activity.

IV. Harley Ferguson, of SECOG, reviewed the results of the Capability Assessment Activity.

V. The team was asked to update fire department information for the Plan.

VI. Sophie Johnson, of SECOG, explained the Hazard Information Integration Activity. Participants were given 20 minutes to complete the activity.

VII. Harley Ferguson, of SECOG, explained Future Mitigation Actions Activity. Participants were given 20 minutes to complete the activity, or they could take it with them and return at the next meeting.

VIII. SECOG requested photos of storm damage that occurred between 2019 and 2022 to include in the Plan.

Next Meeting: Thursday, October 19, 2023, at 3:00 p.m. at 820 N. Dakota St. Vermillion

Appendix F
Meeting #4 Documents

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

AGENDA

Thursday, October 19, 2023

3:00 pm at 820 N. Dakota St. Vermillion, SD 57069

I. Welcome and Introductions – 2 minutes

II. Planning Progress to Date – 5 minutes

III. FEMA Funding Opportunities – 10 minutes

IV. Activity: National Flood Insurance Program (NFIP) – 15 minutes

V. Activity: Growth Assessment – 10 minutes

VI. Review of Maps – 10 minutes

Next Meeting: Thursday, November 16, 2023, at 3:00 pm at 820 N. Dakota St., Vermillion

HAZARD MITIGATION PLANNING PROCESS

Progress to Date

Task 1: Determine the Planning Area and Resources

Task 2: Build the Planning Team

Task 3: Create and Outreach Strategy

Task 4: Review Community Capabilities (NFIP)

Capability Assessment - Meeting 2
National Flood Insurance Program - Meeting 4

Task 5: Conduct a Risk Assessment

Hazard Activity – Meeting 1
Problem Statements Activity – Meeting 1
Assets Vulnerability Assessment Activity – Meeting 2

Task 6: Develop a Mitigation Strategy

Adopt Goals and Objectives – Meeting 1
Mitigation Action Updates – Meeting 2
Growth Assessment - Meeting 4
Future Mitigation Actions – Meeting 3

Task 7: Integration and Implementation

Hazard Integration Information (Part I) – Meeting 3
Hazard Integration Information (Part II) – Meeting 4

Task 8: Review and Adopt the Plan – Meeting 4

Explanation of Adoption Process – Meeting 4
Review Plan (High Level Overview) – Meeting 5

Task 9: Create a Safe and Resilient Community

This task is completed by each individual community after the Plan has been adopted and includes implementing mitigation actions.

FUNDING OPPORTUNITIES

DANR – Department of Agriculture and Natural Resources

- Drinking Water Funding
  - Funds to improve and maintain drinking water infrastructure throughout the state via grants and low-interest loans.
- Sanitary & Storm Sewer Funding
  - Funds to improve and maintain wastewater treatment and storm water management infrastructure throughout the state via grants and low-interest loans.
- Watershed Restoration Funding
  - Funds to manage the state's nonpoint source (NPS) program projects that identify and address NPS pollution problems.
- Community Forestry Grant
  - Funds to maintain, plant, and educate communities on forestry activities.

CDBG – Community Development Block Grant Programs (GOED)

- CDBG – Community Projects
  - Community Projects funding is available for a range of community development needs. Typical projects include water and wastewater infrastructure, community centers, workforce training, medical centers, and senior centers.
- CDBG – Imminent Threat
  - Imminent Threat funding assists communities in addressing an urgent, recent issue that poses a risk to the health and safety of its residents.

EDA – Economic Development Administration

- Competitive Grant
  - Through its competitive grant process, EDA evaluates projects through the lens of its investment priorities:
    - Equity
    - Recovery & Resilience
    - Workforce Development
    - Manufacturing
    - Technology-Based Economic Development
    - Environmentally Sustainable Development
    - Exports & FDI (Foreign Direct Investment)
- Supplemental Disaster Funding
  - EDA provides Supplemental Disaster funding to eligible grantees in communities impacted by natural disasters.

DOT – Department of Transportation

- CAG – Community Access Grants
  - State funds for towns of less than 5,000 people to construct or reconstruct major streets in each town such as Main Street, the road to the elevator, schools, hospitals, etc.
- TAP – Transportation Alternatives Program
  - State funds for programs and projects involving transportation alternatives, including on-and-off road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation.

FEMA – Federal Emergency Management Agency

- BRIC – Building Resilient Infrastructure and Communities
  - Federal funds that may be used for capability and capacity building activities, mitigation projects, and management costs.
- HMGP – Hazard Mitigation Grant Program
  - Federal funds that may be used for capability and capacity building activities, mitigation projects, and management costs.

NATIONAL FLOOD INSURANCE PROGRAM (NFIP)

Community/Organization: _____

Communities participating in the NFIP have a responsibility to do the following:

- ✓ Adopt and enforce a flood damage prevention ordinance
- ✓ Require permits for all types of development in the floodplain
- ✓ Assure that building sites are reasonably safe from flooding
- ✓ Estimate flood elevations where not determined by FEMA
- ✓ Require new or substantially improved homes and manufactured homes to be elevated above the Base Flood Elevation
- ✓ Require non-residential buildings to be elevated or flood-proofed
- ✓ Determine if damaged buildings are substantially damaged
- ✓ Conduct field inspections and city violations
- ✓ Require Elevation Certificates to document compliance
- ✓ Carefully consider requests for variances
- ✓ Resolve non-compliance and violations
- ✓ Advise FEMA when updates to flood maps are needed

Description of Community Assistance for the 2024 Clay County PDM Plan.

NFIP Topic	Comments
Staff Resources	
Who is responsible for floodplain management in your community? Do they serve any roles other than Community Floodplain Administrator (FPA)?	
Is the Community FPA or NFIP Coordinator a Certified Floodplain Manager?	
Explain NFIP administration services (e.g., permit review, GIS, inspections, engineering capability).	
What are the barriers to running an effective NFIP program in the community, if any?	

Regulation	
How does the community enforce local floodplain regulations and monitor compliance?	
How are Letters of Map change (LOMCs) tracked and complied?	
Explain the permitting process.	

GROWTH ASSESMENT

Community/Organization: _____

Has your community experienced areas of growth since 2019?

If yes, please provide specifics (i.e., housing development on the north side of town)

Has your community experienced impediments to growth over since 2019?

If yes, please provide specifics (i.e., vacant land in town is in the flood plain)

Population Growth (2010-2020): _____%

Building Permits 2019-Present: _____

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazard Information Integration (Part 2)

OVERVIEW

Making sure that your local hazard mitigation plan aligns with other existing plans is vital. Such alignment can help you make sure policies and programs do not conflict. It can also help you make sure policies and programs complement and support each other. This can serve to create a more hazard-resistant and resilient community.

STEP 1: IDENTIFY RELEVANT PLANS AND POTENTIAL PARTNER AGENCIES

STEP 2: IDENTIFY GAPS AND OVERLAPS

STEP 3: IDENTIFY ACTIONS TO ADDRESS GAPS AND LEVERAGE OVERLAPS

Other local plans, the agencies responsible for those plans, and specific elements of those plans that conflict with or complement those developed in the local hazard mitigation plan have been identified. Now, you are ready to develop actions to address gaps or leverage points of commonality. To do this, work with agencies responsible for other relevant plans throughout the planning cycle. This helps to make sure that the local hazard mitigation plan and other local plans align appropriately. Methods for aligning plans could include:

- Hold regular meetings with other local agencies to talk about potential areas for alignment or improvement.
- Invite other local agencies to be part of your hazard mitigation planning team. This will let them stay up to date with actions and strategies that you develop. It can also help them develop actions that align with those of the local hazard mitigation plan.
- Send regular email updates to other local agencies to keep them up to date with your planning process and proposed actions, strategies, and projects.
- Send a copy of the first draft of the local hazard mitigation plan to other planning agencies to review early and often in the planning process.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Plan	Question	Answer	Actions to Address Gaps
Comprehensive Plan	Does the future land-use map clearly identify natural hazard areas?	No	**What steps could the County take to get the future land-use map to clearly identify natural hazard areas?**
Transportation Plan	Does the transportation plan limit access to hazard areas?	No	**How could the transportation plan be amended to limit access to hazard areas in Clay County? What/where are the hazard areas?**
	Is transportation policy used to guide growth to safe locations?	No	**How could the transportation policy be amended to guide growth to safe locations?**

Subdivision Regulations	Do the subdivision regulations restrict the subdivision of land within or next to natural hazard areas?	No	**What steps would the County need to take to amend subdivision regulations to restrict the subdivision of land within or next to natural hazard areas?**
Integrated Watershed Management Plan	Does the plan include policies that restrict development that would increase sedimentation or erosion?	No	**How could the County incorporate policies that restrict development that would increase sedimentation or erosion?**

Clay County
Pre-Disaster Hazard Mitigation

MINUTES
Thursday, October 19, 2023
3:00 p.m. at 820 N. Dakota St. Vermillion, SD 57069

I. The fourth meeting of the Clay County Pre-Disaster Mitigation (PDM) Planning Team convened at 3:00 p.m. on October 19, 2023, at the Vermillion Fire EMS Station. The following individuals were in attendance:

II.

Richard Adamson	Riverside Township
Rick Bak	City of Irene
Crystal Brady	Vermillion Chief of Police
Harley Ferguson	SECOG
Shane Griese	City of Vermillion, Utilities Manager
Sophie Johnson	SECOG
John Prescott	City of Vermillion, City Manager
Scott Pottoff	University of South Dakota, Safety Officer
Jacob Sonne	SPN Engineering
John Walser	Vermillion School District

III. Participants signed-in and received a packet of materials. The materials included the meeting Agenda, Planning Progress to Date, FEMA Funding Opportunities, National Flood Insurance Program (NFIP), and the Growth Activity. This packet was also emailed out to all participants prior to the meeting.

IV. After introductions, Sophie Johnson, of SECOG, went over the planning progress to date.

V. Sophie Johnson reviewed the common Future Mitigation Actions and explained the FEMA funding opportunities that are available. She also explained the grant process, eligibility, timeline, feasibility, monitoring, and close-out.

VI. Harley Ferguson, of SECOG, reviewed other funding opportunities and common mitigation actions that could receive the other funding options.

VII. Harley Ferguson reviewed the National Flood Insurance Program, explained who participates, and FEMA's new maps.

VIII. Sophie Johnson discussed the final meeting date and details, the upcoming public hearing date and details.

IX. Harley Ferguson explained process to adopt the plan.

X. Sophie Johnson explained that critical facilities maps will be reviewed in meeting five. The Planning Team then broke off into separate groups by community to complete part 2 of the hazard information integration activity.

XI. SECOG requested photos of storm damage that occurred between 2019 and 2022 to include in the Plan.

Appendix G
Meeting #5 Documents

Clay County
Pre-Disaster Hazard Mitigation

AGENDA

Thursday, November 16, 2023

3:00 pm at 820 N. Dakota St., Vermillion, SD 57069

I. Welcome and Introductions – 2 minutes

II. Review of Maps – 10 minutes

III. Discussion Regarding Changes to the PDM Plan – 30 minutes

IV. Keeping the Plan Current – 5 Minutes

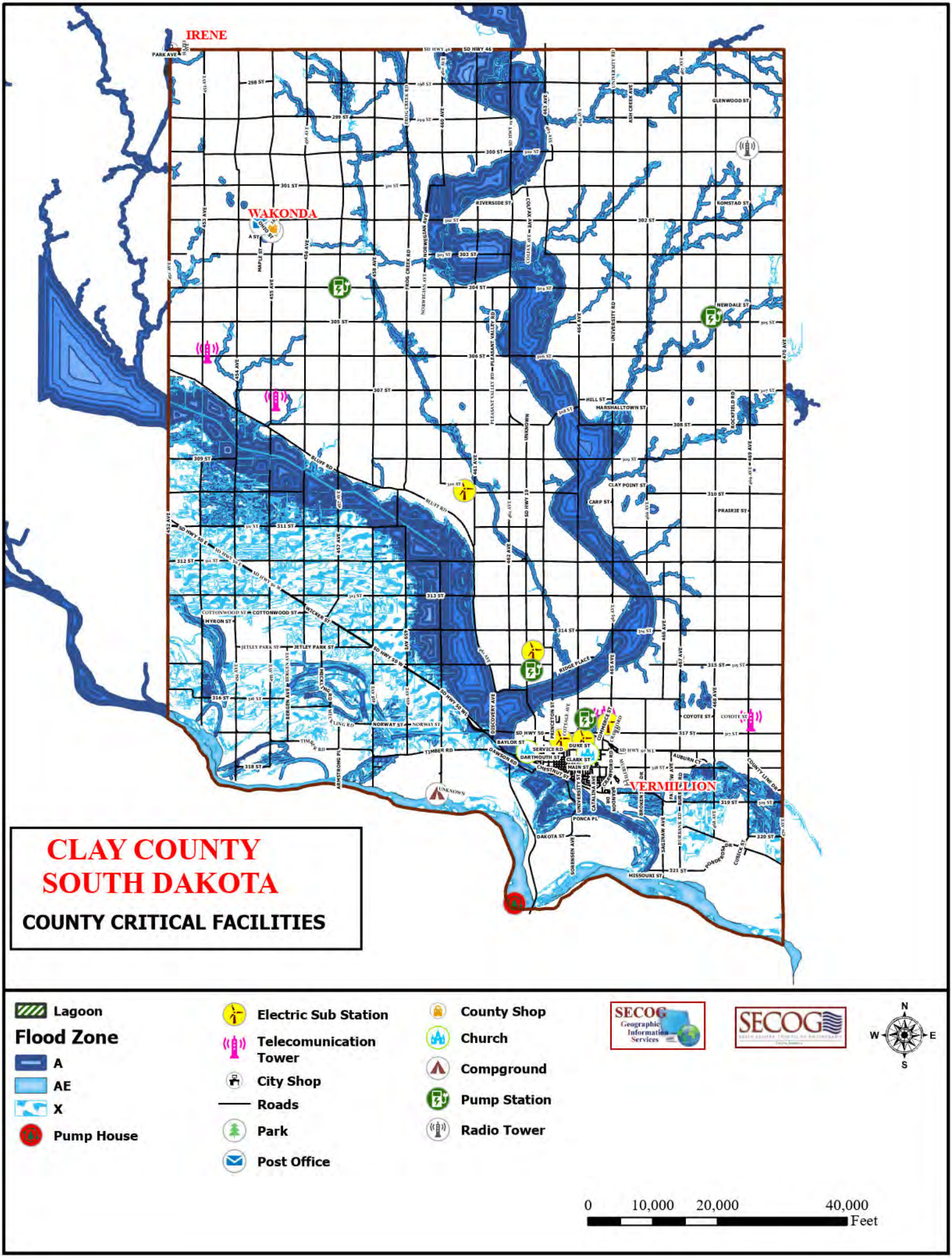
V. Resolutions – 5 Minutes

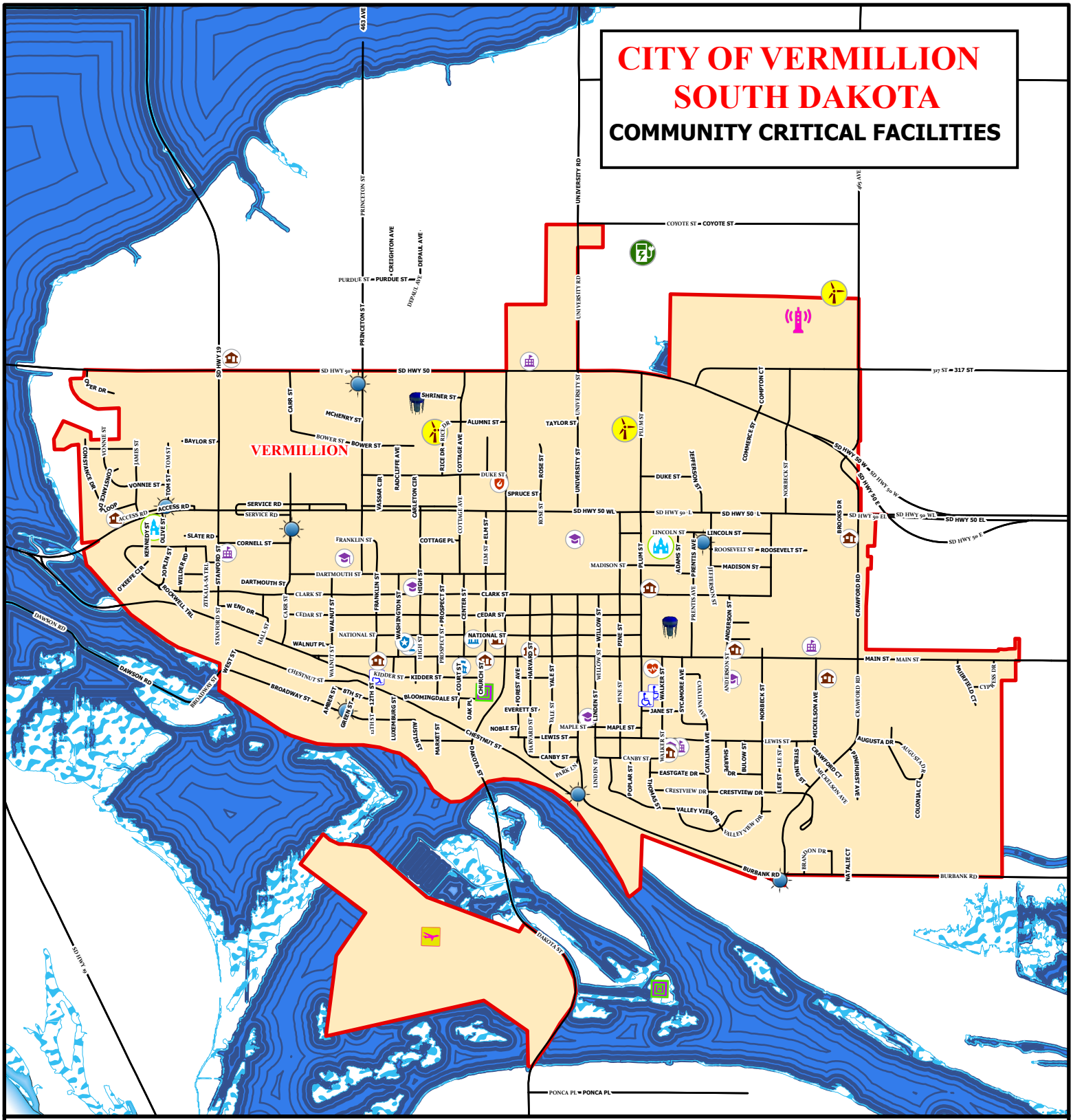
VI. Survey – 2 minutes

VII. Public Hearings – 2 minutes

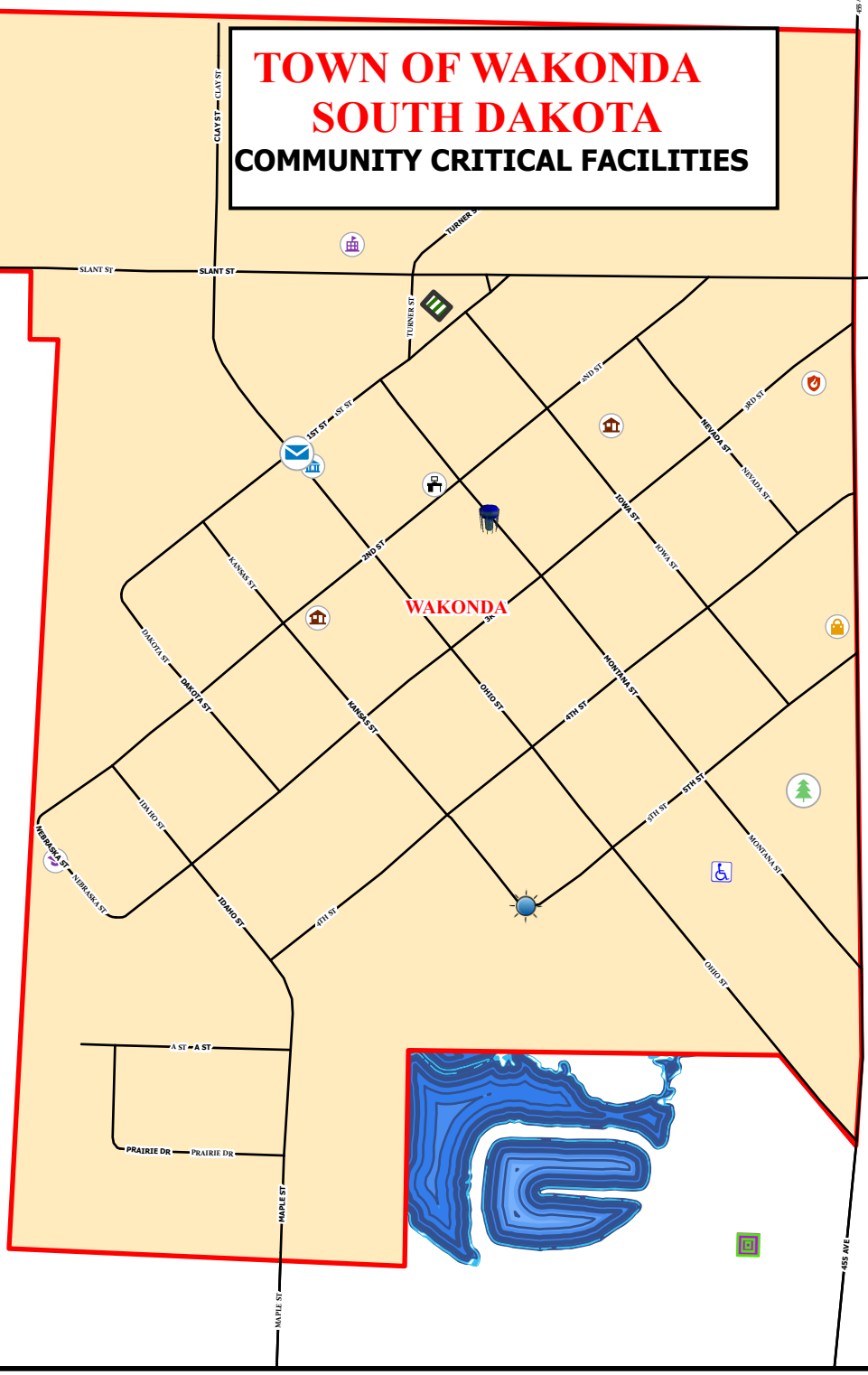
Public Meeting –

- February 1, 2024 | Vermillion Public Library | 18 Church St., Vermillion, SD 57069


IRENE
WAKONDA
VERMILLION
CLAY COUNTY
SOUTH DAKOTA
COUNTY CRITICAL FACILITIES
Lagoon
Flood Zone
A
AE
X
Pump House
Electric Sub Station
Telecomunication Tower
City Shop
Roads
Park
Post Office
County Shop
Church
Compground
Pump Station
Radio Tower
SECOG Geographic Information Services
SECOG
N
W
E
S
0
10,000
20,000
40,000
Feet


CITY OF VERMILLION
SOUTH DAKOTA
COMMUNITY CRITICAL FACILITIES
VERMILLION
Lagoon
City Hall
Courthouse
Government Building
Hospital
Ambulance
Fire Station
Police Station
Daycare
School
Nursing Home/ Senior Center
Shelter
Water Tower
Water Treatment
Lift Station
Airport
Flood Zone
A
AE
X
Pump House
Electric Sub Station
Telecomunication Tower
City Shop
Roads
Park
Post Office
County Shop
Church
City Boundary
Compground
Pump Station
Radio Tower
SECOG Geographic Information Services
SECOG
N
W
E
S
0
1,500
3,000
6,000
Feet

TOWN OF WAKONDA
SOUTH DAKOTA
COMMUNITY CRITICAL FACILITIES



- Lagoon
- City Hall
- Courthouse
- Government Building
- Hospital
- Ambulance
- Fire Station
- Police Station
- Daycare
- School
- Nursing Home/ Senior Center
- Shelter
- Water Tower
- Water Treatment
- Lift Station
- Airport

Flood Zone

- A
- AE
- X
- City Shop
- Roads
- City Boundary
- Park
- Post Office
- County Shop

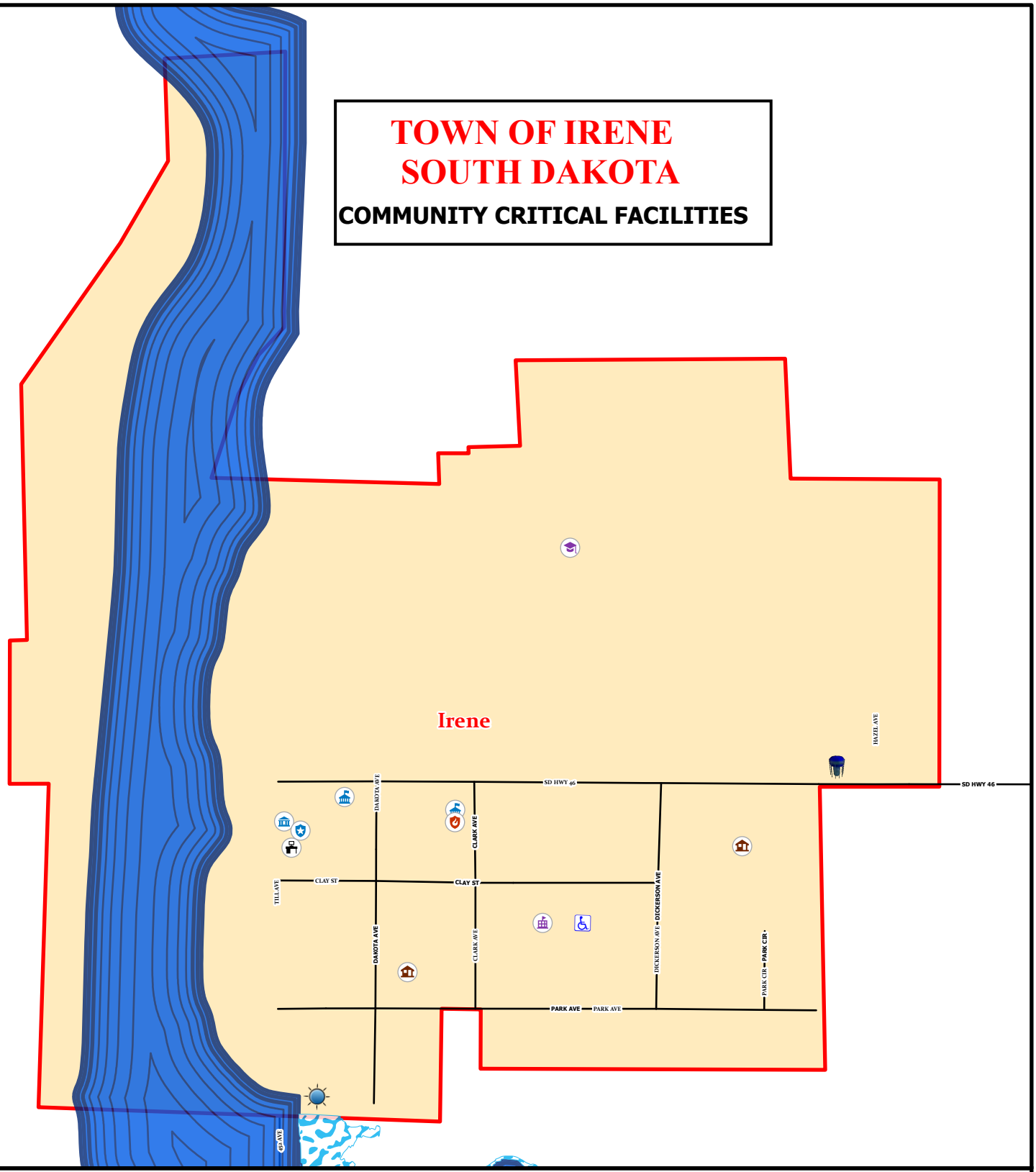
SECOG Geographic Information Services

SECOG

N W E S

0 400 800 1,600 Feet

TOWN OF IRENE
SOUTH DAKOTA
COMMUNITY CRITICAL FACILITIES



- Lagoon
- City Hall
- Courthouse
- Government Building
- Hospital
- Ambulance
- Fire Station
- Police Station
- Daycare
- School
- Nursing Home/ Senior Center
- Shelter
- Water Tower
- Water Treatment
- Lift Station
- Airport

Flood Zone

- A
- AE
- X
- City Shop
- Roads
- City Boundary
- Park
- Post Office
- County Shop

SECOG Geographic Information Services

SECOG

N
W E
S

0 345 690 1,380 Feet

Clay County
Pre-Disaster Hazard Mitigation

MINUTES
Thursday, November 16, 2023
3:00 p.m. at 820 N. Dakota St. Vermillion, SD 57069

I. The fifth meeting of the Clay County Pre-Disaster Mitigation (PDM) Planning Team convened at 3:00 p.m. on November 19, 2023, at the Vermillion Fire EMS Station. The following individuals were in attendance:

II.

Richard Adamson	Riverside Township
Crystal Brady	Vermillion Chief of Police
Matt Callahan	Vermillion Fire EMS
Jessie Fischer	Town of Wakonda
Danielle Franco	SECOG
Shane Griese	City of Vermillion, Utilities Manager
Andy Howe	Clay County
Sophie Johnson	SECOG
Rod Polley	Clay County Highway Department
John Prescott	City of Vermillion, City Manager
Scott Pottoff	University of South Dakota, Safety Officer
John Walser	Vermillion School District
Rick Wolfswink	Pleasant Valley Township

III. Participants signed-in and received a meeting agenda. The agenda was also emailed out to all participants prior to the meeting.

IV. After introductions, the group went over the final critical facility maps and made any necessary changes.

V. Sophie Johnson, of SECOG, went over the Plan Update Assessment and highlighted the major changes to the 2024 Plan.

VI. Sophie Johnson reviewed section one and section two changes.

VII. Danielle Franco, of SECOG, reviewed section three and four changes.

VIII. Sophie Johnson reviewed section five changes and asked for feedback from participants.

IX. Sophie Johnson discussed the Public Meeting date, resolution process, and asked all participants to take a quick survey to let SECOG know how we did.

The Public Meeting will be held on Thursday, February 1, 2024, at 3:00 p.m. at Vermillion City Hall in the City Council chambers.

Appendix H
Capability Assessment Activity

Capabilities Assessment Summary	Clay County	Irene	Vermillion	Wakonda
Plans				
Comprehensive/Master Plan	Y	Y	Y	Y
Capital Improvements Plan	N	N	Y	N
Economic Development Plan	N	N	Y	N
Local Emergency Operations Plan	Y	Y	Y	Y
Continuity of Operations Plan	Y	N	N	N
Transportation Plan	Y	Y	Y	N
Stormwater Management Plan	N	Y	Y	N
Other Special Plans	N	Y	Y	Y
Building Codes, Permitting, and Inspections				
Building Code	N	N	Y	N
Building Code Effectiveness Grading Schedule Score	N	N	N	N
Fire Department ISO Rating	Y	Y	Y	Y
Site Plan Review Requirements	Y	Y	Y	Y
Land Use Planning and Ordinances				
Zoning Ordinance	Y	Y	Y	Y
Subdivision Ordinance	Y	Y	Y	Y
Floodplain Ordinance	Y	Y	Y	Y
Natural Hazard Specific Ordinance	N	N	N	N
Stormwater Ordinance	N	Y	Y	N
Flood Insurance Rate Maps	Y	Y	Y	Y
Acquisition of Land for Open Space and Public Recreation Uses	N	N	Y	N
Other	N	N	N	N
Administration				
Planning Commission	Y	Y	Y	Y
Mitigation Planning Committee	N	N	N	N
Maintenance Programs to Reduce Risk	N	Y	Y	N

Mutal Aide Agreements	N	N	Y	Y
Staff				
Chief Building Official	Y	Y	Y	N
Floodplain Administrator	Y	Y	Y	Y
Emergency Manager	Y	N	Y	Y
Community Planner	Y	Y	N	Y
Civil Engineer	Y	Y	Y	Y
GIS Coordinator	Y	Y	Y	Y
Other	N	N	N	N
Technical				
Warning Systems/ Services	Y	Y	Y	Y
Hazard Data and Information	Y	N	N	N
Grant Writing	Y	N	Y	Y
HAZUS Analysis (Floods)	N	N	N	N
Other	N	N	N	N
Funding Resources				
Capital Improvements Project Funding	Y	Y	Y	N
Authority to Levy Taxes for Specific Purposes	N	N	Y	Y
Fees:				
Water	N	Y	Y	Y
Sewer	N	Y	Y	Y
Gas	N	N	Y	N
Electric	N	N	Y	N
Stormwater	N	Y	Y	N
Impact Fees for New Development	N	Y	N	N
Incur Debt through General Obligation Bond and/or Special Tax Bonds	N	Y	Y	Y
Incur Debt through Private Activities	N	N	Y	N
Community Development Block Grant	Y	N	Y	Y
Other Federal Funding Programs	Y	N	Y	Y

State Funding Programs	Y	Y	Y	Y
Other	N	N	Y	N
Education and Outreach				
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	N	N	Y	Y
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	Y	Y	Y	Y
Natural disaster or safety related school programs	N	N	Y	N
StormReady certification	Y	N	Y	Y
Firewise Communities Certification	N	N	N	N
Public-private partnership initiatives addressing disaster-related issues	N	N	Y	N
Other	N	N	N	N

Capability Assessment Worksheet

Community/Organization: Clay County

Person Completing: Drew Gunderson

Please indicate which of the following your community/organization has in place.

Plans	Yes	No	**Notes**
Comprehensive/Master Plan	✓		Expiration date: 2020
Capital Improvements Plan		✓	
Economic Development Plan	✓		
Local Emergency Operations Plan	✓		
Continuity of Operations Plan	✓		
Transportation Plan	✓	✗	Expiration date:
Stormwater Management Plan		✓	
Other Special Plans		✓	Name:

Building Code, Permitting, and Inspections	Yes	No	**Notes**
Building Code		✓	
Building Code Effectiveness Grading Schedule Score	✓		Score:
Fire Department ISO Rating		✓	Score:
Site Plan Review Requirements	✓		

Land Use Planning and Ordinances	Yes	No	**Notes**
Zoning Ordinance	✓		
Subdivision Ordinance	✓		
Floodplain Ordinance	✓		
Natural Hazard Specific Ordinance		✓	Name:
Stormwater	✓		
Flood Insurance Rate Maps	✓		
Acquisition of Land for Open Space and Public Recreation Uses		✓	
Other		✓	Name:

Administration	Yes	No	**Notes**
Planning Commission	✓		
Mitigation Planning Committee		✓	
Maintenance Programs to Reduce Risk		✓	Name:
Mutual Aide Agreements		✓	Entities:

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official		✓	Name(s):
Floodplain Administrator	✓		Name(s): Drew G
Emergency Manager	✓		Name(s): Layne S
Community Planner		✓	Name(s):
Civil Engineer		✓	Name(s):
GIS Coordinator		✓	Name(s):
Other		✓	Name(s):

Technical	Yes	No	Notes
Warning Systems/Services	✓		What type:
Hazard Data and Information	✓		What type:
Grant Writing		✓	
HAZUS Analysis (Floods)		✓	
Other		✓	

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding		✓	
Authority to Levy Taxes for Specific Purposes		✓	
Fees:	Yes	No	Notes
Water		✓	
Sewer		✓	
Gas		✓	
Electric		✓	
Storm Water		✓	
Impact Fees for New Development		✓	
Incur Debt through General Obligation Bond and/or Special Tax Bonds		✓	
Incur Debt through Private Activities		✓	
Community Development Block Grant		✓	Maybe but I don't know
Other Federal Funding Programs		✓	
State Funding Programs		✓	
Other		✓	

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		✓	Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	✓		Name(s):
Natural disaster or safety related school programs	✓	X	Name(s):
StormReady certification	✓		Name(s):
Firewise Communities Certification		✓	Name(s):
Public-private partnership initatives addressing disaster-related issues		✓	Name(s):
Other		✓	Name(s):

Capability Assessment Worksheet

Community/Organization: Clay Co

Person Completing: Laura McPherson

Please indicate which of the following your community/organization has in place.

Plans	**Yes**	**No**	**Notes**
Comprehensive/Master Plan			Expiration date:
Capital Improvements Plan			
Economic Development Plan			
Local Emergency Operations Plan	✓		
Continuity of Operations Plan			
Transportation Plan	✓		Expiration date: 2042 20yr Plan
Stormwater Management Plan			
Other Special Plans			Name:

Building Code, Permitting, and Inspections	**Yes**	**No**	**Notes**
Building Code			
Building Code Effectiveness Grading Schedule Score			Score:
Fire Department ISO Rating			Score:
Site Plan Review Requirements			

Land Use Planning and Ordinances	**Yes**	**No**	**Notes**
Zoning Ordinance			
Subdivision Ordinance			
Floodplain Ordinance			
Natural Hazard Specific Ordinance			Name:
Stormwater			
Flood Insurance Rate Maps			
Acquisition of Land for Open Space and Public Recreation Uses			
Other			Name:

Administration	**Yes**	**No**	**Notes**
Planning Commission			
Mitigation Planning Committee			
Maintenance Programs to Reduce Risk			Name:
Mutual Aide Agreements			Entities:

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official	✓		Name(s): Rod Polley
Floodplain Administrator			Name(s):
Emergency Manager	✓		Name(s): Layne Stewart
Community Planner			Name(s):
Civil Engineer			Name(s):
GIS Coordinator			Name(s):
Other			Name(s):

Technical	Yes	No	Notes
Warning Systems/Services	✓		What type: Dispatch
Hazard Data and Information			What type:
Grant Writing			
HAZUS Analysis (Floods)			
Other			

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding			
Authority to Levy Taxes for Specific Purposes			
Fees:	Yes	No	Notes
Water			
Sewer			
Gas			
Electric			
Storm Water			
Impact Fees for New Development			
Incur Debt through General Obligation Bond and/or Special Tax Bonds			
Incur Debt through Private Activities			
Community Development Block Grant			
Other Federal Funding Programs	✓		FEMA.
State Funding Programs	✓		D.O.T.
Other			

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.			Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)			Name(s):
Natural disaster or safety related school programs			Name(s):
StormReady certification			Name(s):
Firewise Communities Certification			Name(s):
Public-private partnership initatives addressing disaster-related issues			Name(s):
Other			Name(s):

Capability Assessment Worksheet

Community/Organization: Clay Co Hwy Dept.

Person Completing: Rod Pouy

Please indicate which of the following your community/organization has in place.

Plans	**Yes**	**No**	**Notes**
Comprehensive/Master Plan			Expiration date:
Capital Improvements Plan			
Economic Development Plan			
Local Emergency Operations Plan			
Continuity of Operations Plan			
Transportation Plan	X		Expiration date: 12/2042
Stormwater Management Plan			
Other Special Plans			Name:

Building Code, Permitting, and Inspections	**Yes**	**No**	**Notes**
Building Code			
Building Code Effectiveness Grading Schedule Score			Score:
Fire Department ISO Rating			Score:
Site Plan Review Requirements			

Land Use Planning and Ordinances	**Yes**	**No**	**Notes**
Zoning Ordinance			
Subdivision Ordinance			
Floodplain Ordinance			
Natural Hazard Specific Ordinance			Name:
Stormwater			
Flood Insurance Rate Maps			
Acquisition of Land for Open Space and Public Recreation Uses			
Other			Name:

Administration	**Yes**	**No**	**Notes**
Planning Commission			
Mitigation Planning Committee			
Maintenance Programs to Reduce Risk			Name:
Mutual Aide Agreements			Entities:

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official			Name(s):
Floodplain Administrator			Name(s):
Emergency Manager			Name(s):
Community Planner			Name(s):
Civil Engineer			Name(s):
GIS Coordinator			Name(s):
Other	X		Name(s): Rod Polley & Larry McPherson

Technical	Yes	No	Notes
Warning Systems/Services	X		What type: Dispatch, Shariff & Alice
Hazard Data and Information			What type:
Grant Writing			
HAZUS Analysis (Floods)			
Other			

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding			
Authority to Levy Taxes for Specific Purposes			
Fees:	Yes	No	Notes
Water			
Sewer			
Gas			
Electric			
Storm Water			
Impact Fees for New Development			
Incur Debt through General Obligation Bond and/or Special Tax Bonds			
Incur Debt through Private Activities			
Community Development Block Grant			
Other Federal Funding Programs	X		FEMA
State Funding Programs	X		D.O.T.
Other	X		Clay County

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.			Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)			Name(s):
Natural disaster or safety related school programs			Name(s):
StormReady certification			Name(s):
Firewise Communities Certification			Name(s):
Public-private partnership initatives addressing disaster-related issues			Name(s):
Other			Name(s):

Capability Assessment Worksheet

Community/Organization: City of Vermillion / Clay County EMS

Person Completing: Tony Klunder

Please indicate which of the following your community/organization has in place.

Plans	Yes	No	**Notes**
Comprehensive/Master Plan – city	X		Expiration date:
Capital Improvements Plan – city	X		
Economic Development Plan – city	X		
Local Emergency Operations Plan	X		
Continuity of Operations Plan			
Transportation Plan			Expiration date:
Stormwater Management Plan			
Other Special Plans			Name:

Building Code, Permitting, and Inspections	Yes	No	**Notes**
Building Code	X		
Building Code Effectiveness Grading Schedule Score			Score:
Fire Department ISO Rating	X		Score: City: 3 County: 6x Wakonda: 10
Site Plan Review Requirements			

Land Use Planning and Ordinances	Yes	No	**Notes**
Zoning Ordinance city/county	X		
Subdivision Ordinance			
Floodplain Ordinance			
Natural Hazard Specific Ordinance			Name:
Stormwater			
Flood Insurance Rate Maps			
Acquisition of Land for Open Space and Public Recreation Uses			
Other			Name:

Administration	Yes	No	**Notes**
Planning Commission	X		
Mitigation Planning Committee			
Maintenance Programs to Reduce Risk			Name:
Mutual Aide Agreements	X		Entities: City → Yankton Ambulance Others governed by SDCL.

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official - City	X		Name(s): Kalin Byrd
Floodplain Administrator			Name(s):
Emergency Manager – County occupant	X		Name(s): Layne Stewart
Community Planner			Name(s):
Civil Engineer	X		Name(s): Jose Dominguez
GIS Coordinator	X		Name(s): Todd Nordyke
Other			Name(s):

Technical	Yes	No	Notes
Warning Systems/Services	X		What type:
Hazard Data and Information			What type:
Grant Writing			
HAZUS Analysis (Floods)			
Other			

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding			
Authority to Levy Taxes for Specific Purposes			
Fees:	Yes	No	Notes
Water			
Sewer			
Gas			
Electric			
Storm Water			
Impact Fees for New Development			
Incur Debt through General Obligation Bond and/or Special Tax Bonds			
Incur Debt through Private Activities			
Community Development Block Grant			
Other Federal Funding Programs			
State Funding Programs			
Other			

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.			Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	X		Name(s): Fire Dept
Natural disaster or safety related school programs			Name(s):
StormReady certification	X		Name(s): County Em
Firewise Communities Certification			Name(s):
Public-private partnership initatives addressing disaster-related issues			Name(s):
Other			Name(s):

Capability Assessment Worksheet

Community/Organization: Clay Union Electric

Person Completing: Mike Kruse (Vermillion moving north of town 4 miles

Please indicate which of the following your community/organization has in place.

Plans	**Yes**	**No**	**Notes**
Comprehensive/Master Plan		X	Expiration date:
Capital Improvements Plan		X	
Economic Development Plan		X	
Local Emergency Operations Plan		X	
Continuity of Operations Plan			
Transportation Plan			Expiration date:
Stormwater Management Plan			
Other Special Plans			Name:

Building Code, Permitting, and Inspections	**Yes**	**No**	**Notes**
Building Code	X		
Building Code Effectiveness Grading Schedule Score		X	Score:
Fire Department ISO Rating		X	Score:
Site Plan Review Requirements		X	

Land Use Planning and Ordinances	**Yes**	**No**	**Notes**
Zoning Ordinance		X	
Subdivision Ordinance		X	
Floodplain Ordinance		X	
Natural Hazard Specific Ordinance		X	Name:
Stormwater		X	
Flood Insurance Rate Maps		X	
Acquisition of Land for Open Space and Public Recreation Uses			
Other			Name:

Administration	**Yes**	**No**	**Notes**
Planning Commission		X	
Mitigation Planning Committee		X	
Maintenance Programs to Reduce Risk		X	Name:
Mutual Aide Agreements		X	Entities:

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official		X	Name(s):
Floodplain Administrator		X	Name(s):
Emergency Manager		X	Name(s):
Community Planner		X	Name(s):
Civil Engineer		X	Name(s):
GIS Coordinator		X	Name(s):
Other			Name(s):

Technical	Yes	No	Notes
Warning Systems/Services		X	What type:
Hazard Data and Information		X	What type:
Grant Writing		X	
HAZUS Analysis (Floods)		X	
Other			

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding		X	
Authority to Levy Taxes for Specific Purposes		X	
Fees:	Yes	No	Notes
Water			
Sewer			
Gas			
Electric			
Storm Water			
Impact Fees for New Development			
Incur Debt through General Obligation Bond and/or Special Tax Bonds			
Incur Debt through Private Activities			
Community Development Block Grant			
Other Federal Funding Programs			
State Funding Programs			
Other			

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		X	Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)			Name(s):
Natural disaster or safety related school programs		X	Name(s):
StormReady certification	X		Name(s):
Firewise Communities Certification	X		Name(s):
Public-private partnership initatives addressing disaster-related issues		X	Name(s):
Other			Name(s):

Capability Assessment Worksheet

Community/Organization: City of Irene

Person Completing: Casey / Rick Bak

Please indicate which of the following your community/organization has in place.

Plans	Yes	No	Notes
Comprehensive/Master Plan	✓		Expiration date: 2035
Capital Improvements Plan		✓	
Economic Development Plan		✓	
Local Emergency Operations Plan	✓		County Plan
Continuity of Operations Plan		✓	
Transportation Plan	✓		Expiration date:
Stormwater Management Plan	✓		
Other Special Plans	✓		Name: Facilities Plans

Building Code, Permitting, and Inspections	Yes	No	Notes
Building Code		✓	
Building Code Effectiveness Grading Schedule Score		✓	Score:
Fire Department ISO Rating	✓		Score: 10
Site Plan Review Requirements	✓		

Land Use Planning and Ordinances	Yes	No	Notes
Zoning Ordinance	✓		
Subdivision Ordinance	✓		
Floodplain Ordinance	✓		
Natural Hazard Specific Ordinance		✓	Name:
Stormwater	✓		
Flood Insurance Rate Maps	✓		FEMA / Environmental Constraints
Acquisition of Land for Open Space and Public Recreation Uses		✓	
Other		✓	Name:

Administration	Yes	No	Notes
Planning Commission - City Council	✓		
Mitigation Planning Committee		✓	
Maintenance Programs to Reduce Risk	✓		Name: Maintenance Staff
Mutual Aide Agreements	✓		Entities: Irene EMS / Yankton EMS

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official		✓	Name(s):
Floodplain Administrator	✓		Name(s): Finance officer
Emergency Manager	✓		Name(s): Layne Stewart
Community Planner	✓		Name(s): SECOG
Civil Engineer	✓		Name(s): DGR Engineering
GIS Coordinator	✓		Name(s): SECOG
Other		✓	Name(s):

Technical	Yes	No	Notes
Warning Systems/Services	✓		What type: Sirens
Hazard Data and Information		✓	What type:
Grant Writing	✓		SECOG
HAZUS Analysis (Floods)		✓	
Other		✓	

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding	✓		
Authority to Levy Taxes for Specific Purposes	✓		
Fees:	Yes	No	Notes
Water	✓		
Sewer	✓		
Gas		✓	
Electric		✓	
Storm Water	✓		Maybe included in sewer
Impact Fees for New Development		✓	
Incur Debt through General Obligation Bond and/or Special Tax Bonds	✓		
Incur Debt through Private Activities		✓	
Community Development Block Grant	✓		
Other Federal Funding Programs	✓		
State Funding Programs	✓		LWCF, DOT, DAUR
Other		✓	

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		✓	Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	✓		Name(s):
Natural disaster or safety related school programs		✓	Name(s):
StormReady certification		✓	Name(s):
Firewise Communities Certification		✓	Name(s):
Public-private partnership initatives addressing disaster-related issues		✓	Name(s):
Other		✓	Name(s):

Capability Assessment Worksheet

Community/Organization: PLEASANT VALLEY TOWNSHIP

Person Completing: RON HUOT

Please indicate which of the following your community/organization has in place.

Plans	**Yes**	**No**	**Notes**
Comprehensive/Master Plan		✓	Expiration date:
Capital Improvements Plan		✓	
Economic Development Plan		✓	
Local Emergency Operations Plan		✓	
Continuity of Operations Plan		✓	
Transportation Plan		✓	Expiration date:
Stormwater Management Plan		✓	
Other Special Plans		✓	Name:

Building Code, Permitting, and Inspections	**Yes**	**No**	**Notes**
Building Code		✓	
Building Code Effectiveness Grading Schedule Score		✓	Score:
Fire Department ISO Rating		✓	Score:
Site Plan Review Requirements		✓	

Land Use Planning and Ordinances	**Yes**	**No**	**Notes**
Zoning Ordinance		✓	
Subdivision Ordinance		✓	
Floodplain Ordinance		✓	
Natural Hazard Specific Ordinance		✓	Name:
Stormwater		✓	
Flood Insurance Rate Maps		✓	
Acquisition of Land for Open Space and Public Recreation Uses		✓	
Other		✓	Name:

Administration	**Yes**	**No**	**Notes**
Planning Commission		✓	
Mitigation Planning Committee		✓	
Maintenance Programs to Reduce Risk		✓	Name:
Mutual Aide Agreements		✓	Entities:

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official		✓	Name(s):
Floodplain Administrator		✓	Name(s):
Emergency Manager		✓	Name(s):
Community Planner		✓	Name(s):
Civil Engineer		✓	Name(s):
GIS Coordinator		✓	Name(s):
Other			Name(s):

Technical	Yes	No	Notes
Warning Systems/Services		✓	What type:
Hazard Data and Information		✓	What type:
Grant Writing		✓	
HAZUS Analysis (Floods)		✓	
Other			

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding	✓		REPLACE CULVERTS
Authority to Levy Taxes for Specific Purposes		✓	
Fees:	Yes	No	Notes
Water		✓	
Sewer		✓	
Gas		✓	
Electric		✓	
Storm Water		✓	
Impact Fees for New Development		✓	
Incur Debt through General Obligation Bond and/or Special Tax Bonds		✓	
Incur Debt through Private Activities		✓	
Community Development Block Grant		✓	
Other Federal Funding Programs		✓	
State Funding Programs		✓	
Other		✓	

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		✓	Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)		✓	Name(s):
Natural disaster or safety related school programs		✓	Name(s):
StormReady certification		✓	Name(s):
Firewise Communities Certification		✓	Name(s):
Public-private partnership initatives addressing disaster-related issues		✓	Name(s):
Other			Name(s):

Capability Assessment Worksheet

Community/Organization: Riverside Township

Person Completing: Richard Adamson

Please indicate which of the following your community/organization has in place.

Plans	**Yes**	**No**	**Notes**
Comprehensive/Master Plan		X	Expiration date:
Capital Improvements Plan	X		
Economic Development Plan		X	
Local Emergency Operations Plan	X		Clay County
Continuity of Operations Plan		X	
Transportation Plan		X	Expiration date:
Stormwater Management Plan		X	
Other Special Plans		X	Name:

Building Code, Permitting, and Inspections	**Yes**	**No**	**Notes**
Building Code		X	
Building Code Effectiveness Grading Schedule Score		X	Score:
Fire Department ISO Rating		X	Score:
Site Plan Review Requirements		X	

Land Use Planning and Ordinances	**Yes**	**No**	**Notes**
Zoning Ordinance	X		
Subdivision Ordinance		X	
Floodplain Ordinance		X	
Natural Hazard Specific Ordinance		X	Name:
Stormwater		X	
Flood Insurance Rate Maps		X	
Acquisition of Land for Open Space and Public Recreation Uses		X	
Other		X	Name:

Administration	**Yes**	**No**	**Notes**
Planning Commission		X	
Mitigation Planning Committee		X	
Maintenance Programs to Reduce Risk		X	Name:
Mutual Aide Agreements		X	Entities:

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official		X	Name(s):
Floodplain Administrator		X	Name(s):
Emergency Manager		X	Name(s):
Community Planner		X	Name(s):
Civil Engineer		X	Name(s):
GIS Coordinator		X	Name(s):
Other		X	Name(s):

Technical	Yes	No	Notes
Warning Systems/Services		X	What type:
Hazard Data and Information		X	What type:
Grant Writing		X	
HAZUS Analysis (Floods)		X	
Other		X	

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding		X	
Authority to Levy Taxes for Specific Purposes	X		
Fees:	Yes	No	Notes
Water		X	
Sewer		X	
Gas		X	
Electric		X	
Storm Water		X	
Impact Fees for New Development		X	
Incur Debt through General Obligation Bond and/or Special Tax Bonds		X	
Incur Debt through Private Activities		X	
Community Development Block Grant		X	
Other Federal Funding Programs		X	
State Funding Programs		X	
Other		X	

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		X	Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)		X	Name(s):
Natural disaster or safety related school programs		X	Name(s):
StormReady certification		X	Name(s):
Firewise Communities Certification		X	Name(s):
Public-private partnership initatives addressing disaster-related issues		X	Name(s):
Other		X	Name(s):

Capability Assessment Worksheet

Community/Organization: SESDAL

Person Completing: BRIAN ANGLIN

Please indicate which of the following your community/organization has in place.

Plans	**Yes**	**No**	**Notes**
Comprehensive/Master Plan	✓		Expiration date:
Capital Improvements Plan	✓		
Economic Development Plan	✓		
Local Emergency Operations Plan	✓		
Continuity of Operations Plan	✓		
Transportation Plan	✓		Expiration date:
Stormwater Management Plan		~~✓~~ ?	
Other Special Plans			Name:

Building Code, Permitting, and Inspections	**Yes**	**No**	**Notes**
Building Code	✓		
Building Code Effectiveness Grading Schedule Score	✓		Score:
Fire Department ISO Rating	✓		Score:
Site Plan Review Requirements	✓		

Land Use Planning and Ordinances	**Yes**	**No**	**Notes**
Zoning Ordinance	✓		
Subdivision Ordinance	✓		
Floodplain Ordinance	✓		
Natural Hazard Specific Ordinance	✓		Name:
Stormwater	✓		
Flood Insurance Rate Maps	✓		
Acquisition of Land for Open Space and Public Recreation Uses	✓		
Other			Name:

Administration	**Yes**	**No**	**Notes**
Planning Commission	✓		
Mitigation Planning Committee	✓		
Maintenance Programs to Reduce Risk	✓		Name:
Mutual Aide Agreements	✓		Entities:

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official	✓		Name(s):
Floodplain Administrator	✓		Name(s):
Emergency Manager	✓		Name(s): Wayne Stuckey
Community Planner	✓		Name(s):
Civil Engineer	✓		Name(s):
GIS Coordinator			Name(s): Unknown
Other			Name(s):

Technical	Yes	No	Notes
Warning Systems/Services	✓		What type:
Hazard Data and Information	✓		What type:
Grant Writing			Unknown
HAZUS Analysis (Floods)			
Other			

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding	✓		
Authority to Levy Taxes for Specific Purposes	✓		
Fees:	Yes	No	Notes
Water	✓		
Sewer	✓		
Gas	✓		
Electric	✓		
Storm Water	✓		
Impact Fees for New Development	✓		
Incur Debt through General Obligation Bond and/or Special Tax Bonds	✓		
Incur Debt through Private Activities	✓		
Community Development Block Grant			Unknown
Other Federal Funding Programs			
State Funding Programs	✓		
Other			

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	✓		Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	✓		Name(s):
Natural disaster or safety related school programs	✓		Name(s):
StormReady certification	✓		Name(s):
Firewise Communities Certification			Name(s): Unknown
Public-private partnership initatives addressing disaster-related issues	✓		Name(s):
Other			Name(s):

Capability Assessment Worksheet

Community/Organization: VERMILLION PUBLIC TRANSIT / SESDAC

Person Completing: BARB BALLENSKY

Please indicate which of the following your community/organization has in place.

Plans	Yes	No	Notes
Comprehensive/Master Plan	✓		Expiration date:
Capital Improvements Plan	✓		
Economic Development Plan	✓		
Local Emergency Operations Plan	✓		
Continuity of Operations Plan	✓		
Transportation Plan	✓		Expiration date:
Stormwater Management Plan		✓	UNKNOWN
Other Special Plans			Name:

Building Code, Permitting, and Inspections	Yes	No	Notes
Building Code	✓		
Building Code Effectiveness Grading Schedule Score		✓	Score: UNKNOWN
Fire Department ISO Rating		✓	Score: UNKNOWN
Site Plan Review Requirements	✓		

Land Use Planning and Ordinances	Yes	No	Notes
Zoning Ordinance	✓		
Subdivision Ordinance	✓		
Floodplain Ordinance	✓		
Natural Hazard Specific Ordinance	✓		Name:
Stormwater	✓		
Flood Insurance Rate Maps	✓		
Acquisition of Land for Open Space and Public Recreation Uses	✓		
Other			Name:

Administration	Yes	No	Notes
Planning Commission	✓		
Mitigation Planning Committee	✓		
Maintenance Programs to Reduce Risk	✓		Name:
Mutual Aide Agreements	✓		Entities:

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official	✓		Name(s):
Floodplain Administrator			Name(s): UNKNOWN
Emergency Manager	✓		Name(s): Layne Stevens
Community Planner	✓		Name(s):
Civil Engineer	✓		Name(s):
GIS Coordinator			Name(s): UNKNOWN
Other			Name(s):

Technical	Yes	No	Notes
Warning Systems/Services	✓		What type:
Hazard Data and Information	✓		What type:
Grant Writing		✓	UNKNOWN
HAZUS Analysis (Floods)		✓	UNKNOWN
Other			

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding	✓		
Authority to Levy Taxes for Specific Purposes	✓		
Fees:	Yes	No	Notes
Water	✓		
Sewer	✓		
Gas	✓		
Electric	✓		
Storm Water	✓		
Impact Fees for New Development		✓	UNKNOWN
Incur Debt through General Obligation Bond and/or Special Tax Bonds	✓		
Incur Debt through Private Activities	✓		
Community Development Block Grant	✓		
Other Federal Funding Programs	✓		
State Funding Programs	✓		
Other			

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	✓		Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	✓		Name(s):
Natural disaster or safety related school programs	✓		Name(s):
StormReady certification		✓	Name(s): UNKNOWN
Firewise Communities Certification		✓	Name(s): UNKNOWN
Public-private partnership initatives addressing disaster-related issues		✓	Name(s): UNKNOWN
Other			Name(s):

Capability Assessment Worksheet

Community/Organization: Spirit Mound Township

Person Completing: Roger Gilbertson

Please indicate which of the following your community/organization has in place.

Plans	**Yes**	**No**	**Notes**
Comprehensive/Master Plan		X	Expiration date:
Capital Improvements Plan	X		Road Grader purchase & Maintance
Economic Development Plan		X	
Local Emergency Operations Plan		X	
Continuity of Operations Plan		X	
Transportation Plan		X	Expiration date:
Stormwater Management Plan		X	
Other Special Plans		X	Name:

Building Code, Permitting, and Inspections	**Yes**	**No**	**Notes**
Building Code		X	
Building Code Effectiveness Grading Schedule Score		X	Score:
Fire Department ISO Rating		X	Score:
Site Plan Review Requirements		X	

Land Use Planning and Ordinances	**Yes**	**No**	**Notes**
Zoning Ordinance		X	
Subdivision Ordinance		X	
Floodplain Ordinance		X	
Natural Hazard Specific Ordinance		X	Name:
Stormwater		X	
Flood Insurance Rate Maps		X	
Acquisition of Land for Open Space and Public Recreation Uses		X	
Other		X	Name:

Administration	**Yes**	**No**	**Notes**
Planning Commission		X	
Mitigation Planning Committee		X	
Maintenance Programs to Reduce Risk		X	Name:
Mutual Aide Agreements		X	Entities:

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official		X	Name(s):
Floodplain Administrator		X	Name(s):
Emergency Manager		X	Name(s):
Community Planner		X	Name(s):
Civil Engineer		X	Name(s):
GIS Coordinator		X	Name(s):
Other		X	Name(s):

Technical	Yes	No	Notes
Warning Systems/Services		X	What type:
Hazard Data and Information		X	What type:
Grant Writing		X	
HAZUS Analysis (Floods)		X	
Other		X	

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding		X	
Authority to Levy Taxes for Specific Purposes		X	
Fees:	Yes	No	Notes
Water		X	
Sewer		X	
Gas		X	
Electric		X	
Storm Water		X	
Impact Fees for New Development		X	
Incur Debt through General Obligation Bond and/or Special Tax Bonds		X	
Incur Debt through Private Activities		X	
Community Development Block Grant		X	
Other Federal Funding Programs		X	
State Funding Programs		X	
Other		X	

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		X	Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)		X	Name(s):
Natural disaster or safety related school programs		X	Name(s):
StormReady certification		X	Name(s):
Firewise Communities Certification		X	Name(s):
Public-private partnership initatives addressing disaster-related issues		X	Name(s):
Other		X	Name(s):

Capability Assessment Worksheet

Community/Organization: Star Township

Person Completing: Ron Peterson

Please indicate which of the following your community/organization has in place.

Plans	Yes	No	Notes
Comprehensive/Master Plan		X	Expiration date:
Capital Improvements Plan	X		5 year plan for small structure improvements
Economic Development Plan		X	
Local Emergency Operations Plan		X	
Continuity of Operations Plan		X	
Transportation Plan		X	Expiration date:
Stormwater Management Plan		X	
Other Special Plans		X	Name:

Building Code, Permitting, and Inspections	Yes	No	Notes
Building Code		X	
Building Code Effectiveness Grading Schedule Score		X	Score:
Fire Department ISO Rating		X	Score:
Site Plan Review Requirements		X	

Land Use Planning and Ordinances	Yes	No	Notes
Zoning Ordinance		X	
Subdivision Ordinance		X	
Floodplain Ordinance		X	
Natural Hazard Specific Ordinance		X	Name:
Stormwater		X	
Flood Insurance Rate Maps		X	
Acquisition of Land for Open Space and Public Recreation Uses		X	
Other		X	Name:

Administration	Yes	No	Notes
Planning Commission		X	
Mitigation Planning Committee		X	
Maintenance Programs to Reduce Risk		X	Name:
Mutual Aide Agreements		X	Entities:

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official		X	Name(s):
Floodplain Administrator		X	Name(s):
Emergency Manager		X	Name(s):
Community Planner		X	Name(s):
Civil Engineer		X	Name(s):
GIS Coordinator		X	Name(s):
Other		X	Name(s):

Technical	Yes	No	Notes
Warning Systems/Services		X	What type:
Hazard Data and Information		X	What type:
Grant Writing		X	
HAZUS Analysis (Floods)		X	
Other		X	

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding		X	
Authority to Levy Taxes for Specific Purposes	X		
Fees:	Yes	No	Notes
Water		X	
Sewer		X	
Gas		X	
Electric		X	
Storm Water		X	
Impact Fees for New Development		X	
Incur Debt through General Obligation Bond and/or Special Tax Bonds		X	
Incur Debt through Private Activities		X	
Community Development Block Grant		X	
Other Federal Funding Programs		X	
State Funding Programs	X		RAIF Small Structure Improvements
Other		X	

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		X	Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)		X	Name(s):
Natural disaster or safety related school programs		X	Name(s):
StormReady certification		X	Name(s):
Firewise Communities Certification		X	Name(s):
Public-private partnership initatives addressing disaster-related issues		X	Name(s):
Other		X	Name(s):

Capability Assessment Worksheet

Community/Organization: University of South Dakota

Person Completing: Scott Pottorff

Please indicate which of the following your community/organization has in place.

Plans	Yes	No	**Notes**
Comprehensive/Master Plan	✓		Expiration date:
Capital Improvements Plan	✓		
Economic Development Plan	✓		
Local Emergency Operations Plan	✓		
Continuity of Operations Plan	✓		
Transportation Plan		✓	Expiration date:
Stormwater Management Plan		✓	
Other Special Plans			Name:

Building Code, Permitting, and Inspections	Yes	No	**Notes**
Building Code	✓		
Building Code Effectiveness Grading Schedule Score		✓	Score:
Fire Department ISO Rating	✓		Score:
Site Plan Review Requirements		✓	

Land Use Planning and Ordinances	Yes	No	**Notes**
Zoning Ordinance		✓	
Subdivision Ordinance		✓	
Floodplain Ordinance		✓	
Natural Hazard Specific Ordinance		✓	Name:
Stormwater		✓	
Flood Insurance Rate Maps		✓	
Acquisition of Land for Open Space and Public Recreation Uses		✓	
Other		✓	Name:

Administration	Yes	No	**Notes**
Planning Commission	✓		
Mitigation Planning Committee	✓		
Maintenance Programs to Reduce Risk	✓		Name:
Mutual Aide Agreements	✓		Entities:

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official	✓		Name(s): Brian Limoges
Floodplain Administrator		✓	Name(s):
Emergency Manager	✓		Name(s): Kevin O'Kelley
Community Planner		✓	Name(s):
Civil Engineer		✓	Name(s):
GIS Coordinator		✓	Name(s):
Other			Name(s):

Technical	Yes	No	Notes
Warning Systems/Services	✓		What type: Building FA/Sprinkler systems/Metasys
Hazard Data and Information	✓	✓	What type:
Grant Writing	✓		
HAZUS Analysis (Floods)		✓	
Other		✓	

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding		✓	
Authority to Levy Taxes for Specific Purposes		✓	
Fees:	Yes	No	Notes
Water		✓	
Sewer		✓	
Gas		✓	
Electric		✓	
Storm Water		✓	
Impact Fees for New Development		✓	
Incur Debt through General Obligation Bond and/or Special Tax Bonds	✓		
Incur Debt through Private Activities	✓		
Community Development Block Grant			maybe?
Other Federal Funding Programs	✓		
State Funding Programs	✓		
Other	✓		

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	✓		LEPC, POD Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	✓		Name(s):
Natural disaster or safety related school programs	✓		Name(s):
StormReady certification		✓	Name(s):
Firewise Communities Certification		✓	Name(s):
Public-private partnership initatives addressing disaster-related issues	✓		Name(s):
Other			Name(s):

Capability Assessment Worksheet

Community/Organization: UNIVERSITY OF SOUTH DAKOTA

Person Completing: KEVIN O'KELLEY

Please indicate which of the following your community/organization has in place.

Plans	**Yes**	**No**	**Notes**
Comprehensive/Master Plan	X		Expiration date: ~~2025~~ 2030
Capital Improvements Plan	X		
Economic Development Plan	X		
Local Emergency Operations Plan	X		
Continuity of Operations Plan	X		
Transportation Plan		X	Expiration date:
Stormwater Management Plan		X	
Other Special Plans			Name:

Building Code, Permitting, and Inspections	**Yes**	**No**	**Notes**
Building Code		X	WE COMPLY WITH UBC + UFC
Building Code Effectiveness Grading Schedule Score		X	Score:
Fire Department ISO Rating		X	Score:
Site Plan Review Requirements		X	

Land Use Planning and Ordinances	**Yes**	**No**	**Notes**
Zoning Ordinance		X	
Subdivision Ordinance			
Floodplain Ordinance			
Natural Hazard Specific Ordinance			Name:
Stormwater			
Flood Insurance Rate Maps			
Acquisition of Land for Open Space and Public Recreation Uses			
Other			Name:

Administration	**Yes**	**No**	**Notes**
Planning Commission		X	
Mitigation Planning Committee		X	
Maintenance Programs to Reduce Risk	X		Name: MAINTENANCE + REPAIR
Mutual Aide Agreements		X	Entities:

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official	X		Name(s): BRIAN LIMOGES
Floodplain Administrator		X	Name(s):
Emergency Manager	X		Name(s): KEVIN O'KELLEY
Community Planner		X	Name(s):
Civil Engineer	~~X~~	X	Name(s): ~~PIERRE SOARES~~
GIS Coordinator			Name(s):
Other			Name(s):

Technical	Yes	No	Notes
Warning Systems/Services	X		What type: TORNADO SIREN
Hazard Data and Information		X	What type: CHEMICAL SAFETY DATA
Grant Writing	X		GRANT STAFF
HAZUS Analysis (Floods)		X	
Other		X	

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding	X		
Authority to Levy Taxes for Specific Purposes		X	
Fees:	Yes	No	Notes
Water		X	
Sewer			
Gas			
Electric			
Storm Water			
Impact Fees for New Development			
Incur Debt through General Obligation Bond and/or Special Tax Bonds			
Incur Debt through Private Activities			
Community Development Block Grant			
Other Federal Funding Programs			
State Funding Programs	X		
Other			

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	~~X~~	X	Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)		X	Name(s):
Natural disaster or safety related school programs		X	Name(s):
StormReady certification		X	Name(s):
Firewise Communities Certification		X	Name(s):
Public-private partnership initatives addressing disaster-related issues	X		Name(s): CEPC
Other			Name(s):

Capability Assessment Worksheet

Community/Organization: VSP

Person Completing: Jan Walker

Please indicate which of the following your community/organization has in place.

Plans	Yes	No	**Notes**
Comprehensive/Master Plan	X		Expiration date:
Capital Improvements Plan	X		
Economic Development Plan	N/A		
Local Emergency Operations Plan	X		
Continuity of Operations Plan	X		
Transportation Plan	X		Expiration date:
Stormwater Management Plan	N/A		
Other Special Plans	N/A		Name:

Building Code, Permitting, and Inspections	Yes	No	**Notes**
Building Code	X		
Building Code Effectiveness Grading Schedule Score	N/A		Score:
Fire Department ISO Rating	X		Score:
Site Plan Review Requirements			

Land Use Planning and Ordinances	Yes	No	**Notes**
Zoning Ordinance	X		
Subdivision Ordinance	N/A		
Floodplain Ordinance	X		
Natural Hazard Specific Ordinance	N/A		Name:
Stormwater	X		
Flood Insurance Rate Maps	X		
Acquisition of Land for Open Space and Public Recreation Uses	X		
Other			Name:

Administration	Yes	No	**Notes**
Planning Commission	N/A		
Mitigation Planning Committee	X		
Maintenance Programs to Reduce Risk	X		Name:
Mutual Aide Agreements	N/A		Entities:

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official	N/A		Name(s):
Floodplain Administrator	N/A		Name(s):
Emergency Manager	X		Name(s):
Community Planner	X		Name(s):
Civil Engineer	X		Name(s):
GIS Coordinator	N/A		Name(s):
Other			Name(s):

Technical	Yes	No	Notes
Warning Systems/Services	X		What type:
Hazard Data and Information	X		What type:
Grant Writing	N/A		
HAZUS Analysis (Floods)	N/A		
Other			

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding	X		
Authority to Levy Taxes for Specific Purposes	N/A		
Fees:	Yes	No	Notes
Water	X		
Sewer	X		
Gas	X		
Electric	X		
Storm Water	X		
Impact Fees for New Development	N/A		
Incur Debt through General Obligation Bond and/or Special Tax Bonds	X		
Incur Debt through Private Activities	N/A		
Community Development Block Grant	N/A		
Other Federal Funding Programs	X		
State Funding Programs	X		
Other			

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	Yes	No	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	N/A		Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	X		Name(s):
Natural disaster or safety related school programs	X		Name(s):
StormReady certification	N/A		Name(s):
Firewise Communities Certification	N/A		Name(s):
Public-private partnership initatives addressing disaster-related issues	N/A		Name(s):
Other			Name(s):

Capability Assessment Worksheet

Community/Organization: City of Vermillion

Person Completing: Matt Callahan

Please indicate which of the following your community/organization has in place.

Plans	**Yes**	**No**	**Notes**
Comprehensive/Master Plan	X		Expiration date:
Capital Improvements Plan	X		
Economic Development Plan		X	
Local Emergency Operations Plan	X		
Continuity of Operations Plan	X		
Transportation Plan		X	Expiration date:
Stormwater Management Plan	X		
Other Special Plans			Name:

Building Code, Permitting, and Inspections	**Yes**	**No**	**Notes**
Building Code	X		
Building Code Effectiveness Grading Schedule Score		X	Score:
Fire Department ISO Rating	X		Score: 3/6X
Site Plan Review Requirements	X		

Land Use Planning and Ordinances	**Yes**	**No**	**Notes**
Zoning Ordinance	X		
Subdivision Ordinance	X		
Floodplain Ordinance	X		
Natural Hazard Specific Ordinance		X	Name:
Stormwater		X	
Flood Insurance Rate Maps		X	
Acquisition of Land for Open Space and Public Recreation Uses		X	
Other		X	Name:

Administration	**Yes**	**No**	**Notes**
Planning Commission	X		
Mitigation Planning Committee	X		
Maintenance Programs to Reduce Risk	X		Name:
Mutual Aide Agreements		X	Entities:

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official	X		Name(s): Kalin Bird
Floodplain Administrator		X	Name(s):
Emergency Manager	X		Name(s): County Level
Community Planner		X	Name(s):
Civil Engineer	X		Name(s): Jose Dominguez
GIS Coordinator	X		Name(s): Todd Nordike
Other		X	Name(s):

Technical	Yes	No	Notes
Warning Systems/Services	X		What type: outdoor sirens
Hazard Data and Information		X	What type:
Grant Writing		X	
HAZUS Analysis (Floods)		X	
Other		X	

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding	X		
Authority to Levy Taxes for Specific Purposes		X	
Fees:	Yes	No	Notes
Water	X		
Sewer	X		
Gas			
Electric	X		
Storm Water	X		
Impact Fees for New Development	X		
Incur Debt through General Obligation Bond and/or Special Tax Bonds	X		
Incur Debt through Private Activities			
Community Development Block Grant	X		
Other Federal Funding Programs	X		
State Funding Programs	X		
Other			

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	X		Name(s): LEPC
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	X		Name(s): Fire Dept. Life Safety Division
Natural disaster or safety related school programs		X	Name(s):
StormReady certification		X	Name(s):
Firewise Communities Certification		X	Name(s):
Public-private partnership initatives addressing disaster-related issues		X	Name(s):
Other		X	Name(s):

Capability Assessment Worksheet

Community/Organization: City of Vermillion

Person Completing: John Prescott

Please indicate which of the following your community/organization has in place.

Plans	**Yes**	**No**	**Notes**
Comprehensive/Master Plan	X		Expiration date:
Capital Improvements Plan	X		
Economic Development Plan	X		
Local Emergency Operations Plan	X		
Continuity of Operations Plan		X	unknown
Transportation Plan	X		Expiration date:
Stormwater Management Plan	X		
Other Special Plans	X		Name: Bike Master Plan

Building Code, Permitting, and Inspections	**Yes**	**No**	**Notes**
Building Code	X		
Building Code Effectiveness Grading Schedule Score		X	Score: Unknown
Fire Department ISO Rating	X		Score:
Site Plan Review Requirements	X		

Land Use Planning and Ordinances	**Yes**	**No**	**Notes**
Zoning Ordinance	X		
Subdivision Ordinance	X		
Floodplain Ordinance	X		
Natural Hazard Specific Ordinance		X	unknown Name:
Stormwater	X		
Flood Insurance Rate Maps	X		
Acquisition of Land for Open Space and Public Recreation Uses	X		
Other			Name:

Administration	**Yes**	**No**	**Notes**
Planning Commission	X		
Mitigation Planning Committee		X	Unknown
Maintenance Programs to Reduce Risk	X		Name:
Mutual Aide Agreements	X		Entities: Elk Point, Yankton

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official	X		Name(s):
Floodplain Administrator	X		Name(s):
Emergency Manager	X		Name(s):
Community Planner		X	Name(s):
Civil Engineer	X		Name(s):
GIS Coordinator	X		Name(s):
Other			Name(s):

Technical	Yes	No	Notes
Warning Systems/Services	X		What type:
Hazard Data and Information		X	What type:
Grant Writing	X		
HAZUS Analysis (Floods)		X	
Other			

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding	X		
Authority to Levy Taxes for Specific Purposes	X		
Fees:	Yes	No	Notes
Water	X		
Sewer	X		
Gas	X		
Electric	X		
Storm Water	X		
Impact Fees for New Development		X	
Incur Debt through General Obligation Bond and/or Special Tax Bonds	X		
Incur Debt through Private Activities	X		
Community Development Block Grant	X		
Other Federal Funding Programs	X		
State Funding Programs	X		
Other			

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	X		Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	X		Name(s):
Natural disaster or safety related school programs Unknown			Name(s):
StormReady certification Unknown			Name(s):
Firewise Communities Certification Unknown			Name(s):
Public-private partnership initatives addressing disaster-related issues		X	Name(s):
Other			Name(s):

Capability Assessment Worksheet

Community/Organization: Vermillion

Person Completing: Caitlin Collier

Please indicate which of the following your community/organization has in place.

Plans	**Yes**	**No**	**Notes**
Comprehensive/Master Plan		✓	Expiration date: I have created 1 "Go" bucket for healthcare; have car kit for basic food & cooking equipment & thumb drives of important documents
Capital Improvements Plan		✓	
Economic Development Plan		✓	
Local Emergency Operations Plan		✓	
Continuity of Operations Plan		✓	
Transportation Plan		✓	Expiration date:
Stormwater Management Plan		✓	
Other Special Plans	✓	~~✓~~	Name:

Building Code, Permitting, and Inspections	**Yes**	**No**	**Notes**
Building Code		✓	
Building Code Effectiveness Grading Schedule Score		✓	Score:
Fire Department ISO Rating		✓	Score:
Site Plan Review Requirements		✓	But doing site plan for house for fire & flood danger

Land Use Planning and Ordinances	**Yes**	**No**	**Notes**
Zoning Ordinance			
Subdivision Ordinance			
Floodplain Ordinance			
Natural Hazard Specific Ordinance			Name:
Stormwater			
Flood Insurance Rate Maps			
Acquisition of Land for Open Space and Public Recreation Uses			
Other			Name:

Administration	**Yes**	**No**	**Notes**
Planning Commission			
Mitigation Planning Committee			
Maintenance Programs to Reduce Risk			Name:
Mutual Aide Agreements			Entities:

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official			Name(s):
Floodplain Administrator			Name(s):
Emergency Manager			Name(s):
Community Planner			Name(s):
Civil Engineer			Name(s):
GIS Coordinator			Name(s):
Other			Name(s):

Technical	Yes	No	Notes
Warning Systems/Services			What type:
Hazard Data and Information			What type:
Grant Writing			
HAZUS Analysis (Floods)			
Other			

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding		✓	
Authority to Levy Taxes for Specific Purposes		✓	
Fees:	Yes	No	Notes
Water		✓	
Sewer		✓	
Gas		/	
Electric		/	
Storm Water		/	
Impact Fees for New Development		✓	
Incur Debt through General Obligation Bond and/or Special Tax Bonds		/	
Incur Debt through Private Activities		/	
Community Development Block Grant		/	
Other Federal Funding Programs			
State Funding Programs		/	
Other		/	

As an individual, I am planning to purchase energy efficient items that will give me federal tax credits

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	X		Name(s): Sierra Club, Greening Vermillion
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	X		Name(s): Caitlin Collier
Natural disaster or safety related school programs			Name(s):
StormReady certification			Name(s):
Firewise Communities Certification			Name(s):
Public-private partnership initatives addressing disaster-related issues			Name(s):
Other			Name(s):

Capability Assessment Worksheet

Community/Organization: City of Vermillion

Person Completing: Shane Griese

Please indicate which of the following your community/organization has in place.

Plans	**Yes**	**No**	**Notes**
Comprehensive/Master Plan	X		Expiration date:
Capital Improvements Plan	X		
Economic Development Plan		X	
Local Emergency Operations Plan	X		
Continuity of Operations Plan		X	
Transportation Plan	X		Expiration date:
Stormwater Management Plan	X		
Other Special Plans	X		Name: Emergency Response Plans

Building Code, Permitting, and Inspections	**Yes**	**No**	**Notes**
Building Code	X		
Building Code Effectiveness Grading Schedule Score	X		Score:
Fire Department ISO Rating	X		Score:
Site Plan Review Requirements		X	Working on it

Land Use Planning and Ordinances	**Yes**	**No**	**Notes**
Zoning Ordinance	X		
Subdivision Ordinance	X		
Floodplain Ordinance	X		
Natural Hazard Specific Ordinance		X	Name:
Stormwater	X		
Flood Insurance Rate Maps		X	
Acquisition of Land for Open Space and Public Recreation Uses	X		
Other			Name:

Administration	**Yes**	**No**	**Notes**
Planning Commission	X		
Mitigation Planning Committee		X	
Maintenance Programs to Reduce Risk		X	Name:
Mutual Aide Agreements	X		Entities: City of Vermillion / Elk Point

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official	X		Name(s):
Floodplain Administrator			Name(s): Unknown
Emergency Manager	X		Name(s):
Community Planner	X		Name(s):
Civil Engineer	X		Name(s):
GIS Coordinator	X		Name(s):
Other			Name(s):

Technical	Yes	No	Notes
Warning Systems/Services	X		What type: Tornado
Hazard Data and Information			What type: Unknown
Grant Writing	X		Secog
HAZUS Analysis (Floods)			Unknown
Other			

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding	X		
Authority to Levy Taxes for Specific Purposes	X		
Fees:	Yes	No	Notes
Water	X		
Sewer	X		
Gas	X		
Electric	X		
Storm Water	X		
Impact Fees for New Development			Unknown
Incur Debt through General Obligation Bond and/or Special Tax Bonds	X		
Incur Debt through Private Activities	X		
Community Development Block Grant	X		
Other Federal Funding Programs	X		
State Funding Programs	X		
Other			

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	X		Name(s): This Group, WARN
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	X		Name(s):
Natural disaster or safety related school programs	X		Name(s):
StormReady certification			Name(s): Unknown
Firewise Communities Certification			Name(s): Unknown
Public-private partnership initatives addressing disaster-related issues			Name(s): Unknown
Other			Name(s):

Capability Assessment Worksheet

Mine are for my specific facilities.

Community/Organization: Watonda Heritage Manor & Sunset Manor - Irene

Person Completing: Robin Stockland, Administrator

Please indicate which of the following your community/organization has in place.

Plans	Yes	No	Notes
Comprehensive/Master Plan	✓		Expiration date: Overall Emergency Preparedness Plan - at each facility - all in one plan
Capital Improvements Plan		✓	
Economic Development Plan		✓	
Local Emergency Operations Plan	✓		We have an emergency preparedness plan for each facility - updated yearly - CMS regulation
Continuity of Operations Plan	✓		
Transportation Plan	✓		Expiration date:
Stormwater Management Plan		✓	
Other Special Plans			Name:

Building Code, Permitting, and Inspections	Yes	No	Notes
Building Code	✓		Yearly Life Safety Inspections by DOH.
Building Code Effectiveness Grading Schedule Score		✓	Score:
Fire Department ISO Rating		✓	Score:
Site Plan Review Requirements	✓		Yearly

Land Use Planning and Ordinances	Yes	No	Notes
Zoning Ordinance		✓	
Subdivision Ordinance		✓	
Floodplain Ordinance		✓	
Natural Hazard Specific Ordinance		✓	Name:
Stormwater		✓	
Flood Insurance Rate Maps		✓	
Acquisition of Land for Open Space and Public Recreation Uses		✓	
Other		✓	Name:

Administration	Yes	No	Notes
Planning Commission		✓	
Mitigation Planning Committee		✓	
Maintenance Programs to Reduce Risk	✓		Name:
Mutual Aide Agreements	✓		Entities: We have agreements with local bus services, local school district + churches for evacuation plans + local water district for water

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official		✓	Name(s):
Floodplain Administrator		✓	Name(s):
Emergency Manager	✓		Name(s): Robin Administrator
Community Planner		✓	Name(s):
Civil Engineer		✓	Name(s):
GIS Coordinator		✓	Name(s):
Other Maintenance Directors - Assist with Emerg. plans	✓		Name(s): Rich Picek + Chris Rempp Wakonda Irene

Technical	Yes	No	Notes
Warning Systems/Services	✓		What type: Sprinkler systems + alarms/fire - Clay County notifies us of severe weather
Hazard Data and Information	✓		What type: Chemicals
Grant Writing	✓		We do our own grant writing - Robin Stockland, Admin
HAZUS Analysis (Floods)		✓	
Other		✓	

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding		✓	
Authority to Levy Taxes for Specific Purposes		✓	

Fees:	Yes	No	Notes
Water		✓	
Sewer		✓	
Gas		✓	
Electric		✓	
Storm Water		✓	
Impact Fees for New Development		✓	
Incur Debt through General Obligation Bond and/or Special Tax Bonds		✓	
Incur Debt through Private Activities	✓		
Community Development Block Grant		✓	We have attempted to get but unsuccessful
Other Federal Funding Programs	✓		We depend on Medicare + Medicaid funding through our resident Revenue - but no grant activity for this
State Funding Programs	✓		
Other			

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	**Yes**	**No**	**Notes**
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		✓	Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)		✓	Name(s):
Natural disaster or safety related school programs		✓	Name(s):
StormReady certification		✓	Name(s):
Firewise Communities Certification		✓	Name(s):
Public-private partnership initatives addressing disaster-related issues	✓		Working on emergency preparedness/ disaster planning with South Dakota Name(s): Health Care Association, our facilities + other health care organizations
Other		✓	Name(s):

Capability Assessment Worksheet

Community/Organization: Town of Wakanda

Person Completing: Jessie Fischer

Please indicate which of the following your community/organization has in place.

Plans	Yes	No	Notes
Comprehensive/Master Plan	✓		Expiration date: 2035
Capital Improvements Plan		✓	
Economic Development Plan		✓	
Local Emergency Operations Plan	✓		
Continuity of Operations Plan		✓	
Transportation Plan		✓	Expiration date:
Stormwater Management Plan		✓	
Other Special Plans	✓		Name: Facilities Plans

Building Code, Permitting, and Inspections	Yes	No	Notes
Building Code		✓	
Building Code Effectiveness Grading Schedule Score		✓	Score:
Fire Department ISO Rating	✓		Score: 10
Site Plan Review Requirements		✓	

Land Use Planning and Ordinances	Yes	No	Notes
Zoning Ordinance	✓		
Subdivision Ordinance	✓	✓	
Floodplain Ordinance	✓		
Natural Hazard Specific Ordinance		✓	Name:
Stormwater		✓	
Flood Insurance Rate Maps	✓		FEMA Fim Maps / Environmental Constraints
Acquisition of Land for Open Space and Public Recreation Uses		✓	
Other		✓	Name:

Administration	Yes	No	Notes
Planning Commission – City Council	✓	✓	
Mitigation Planning Committee		✓	
Maintenance Programs to Reduce Risk		✓	Name:
Mutual Aide Agreements	✓		Entities: Vermillion EMS & Fire

Please indicate if your community/organizations has staff with the following titles.

Staff	Yes	No	Notes
Chief Building Official		✓	Name(s):
Floodplain Administrator	✓		Name(s): Finance officer
Emergency Manager	✓		Name(s): Layne Stewart
Community Planner	✓		Name(s): SECOG
Civil Engineer	✓		Name(s): SPN Associates
GIS Coordinator	✓		Name(s): SECOG
Other		✓	Name(s):

Technical	Yes	No	Notes
Warning Systems/Services	✓		What type:
Hazard Data and Information		✓	What type:
Grant Writing	✓		SECOG
HAZUS Analysis (Floods)		✓	
Other		✓	

Please indicate if your community/organization has used the following funding in the past for mitigation actions.

Funding Resource	Yes	No	Notes
Capital Improvements Project Funding	✓		
Authority to Levy Taxes for Specific Purposes	✓		
Fees:	Yes	No	Notes
Water	✓		
Sewer	✓		
Gas		✓	
Electric		✓	
Storm Water		✓	
Impact Fees for New Development		✓	
Incur Debt through General Obligation Bond and/or Special Tax Bonds	✓		
Incur Debt through Private Activities		✓	
Community Development Block Grant	✓		
Other Federal Funding Programs	✓		
State Funding Programs	✓		LWCF, DOT, DNR
Other		✓	

Please identify programs and methods that your community/organzation already has in place.

Education and Outreach	Yes	No	Notes
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	✓		Name(s):
Ongoing public education or information program (e.g. responsible water use, fire safety, household preparedness, environmental education)	✓		Name(s):
Natural disaster or safety related school programs		✓	Name(s):
StormReady certification	✓		Name(s):
Firewise Communities Certification		✓	Name(s):
Public-private partnership initatives addressing disaster-related issues		✓	Name(s):
Other		✓	Name(s):

Appendix I
Hazard Activity

Top Hazards	
Drought	*Extreme Heat
Floods	*Heavy Rain
Severe Winter Storms	*Snow, Wind Chill, Ice Storm, Extreme Cold
Severe Summer Storms	*Tornadoes, Lightning, Hail, Thunderstorm winds

Harzard Activity Summary				
Hazard List	**Location**	**Maximum Probable Extent**	**Probability of Future Events**	**Overall Significance**
Agricultural Pests & Diseases	48	33	37	Medium
Dam Failure	11	5	4	Medium
Drought	71	54	54	High
Earthquakes	4	5	5	Low
Erosion	40	27	38	Medium
Extreme Cold*	70	53	61	High
Extreme Heat*	68	46	60	High
Flood*	54	53	55	High
Hail	51	34	51	High
Landslide*	0	3	5	Low
Lightning*	47	27	49	Medium
Severe Wind	56	44	49	High
Severe Winter Weather	70	53	64	High
Tornado*	57	50	46	High
Wildfire	21	19	18	Medium

Location (Affected Area)																
Communities	**Hazards**	Agricultural Pests & Diseases	Dam Failure	Drought	Earthquakes	Erosion	Extreme Cold	Extreme Heat	Flood	Hail	Landslide	Lightning	Severe Wind	Severe Winter Weather	Tornado	Wildfire
Clay County Rep		1	1	2	0	1	2	2	1	1	0	1	1	2	1	1
Clay County Rep		2	0	2	0	1	0	0	2	1	0	0	2	1	1	0
Clay County Rep		3	1	2	0	1	2	2	1	2	0	3	2	3	2	0
Clay County Rep		1	1	3	0	2	3	3	3	3	0	3	3	3	3	3
Clay County Rep		3	0	3	0	3	3	3	2	3	0	3	3	3	3	0
Clay County Rep		2	0	2	0	1	2	2	2	2	0	1	2	3	1	1
Clay County Rep		2	0	3	0	1	3	3	2	3	0	2	2	2	2	0
Clay County Rep		2	0	2	0	0	3	3	1	0	0	0	1	2	1	0
Clay County Rep		3	0	3	0	1	2	2	2	1	0	1	2	2	1	1
Fairview Township		1	0	2	1	2	2	2	2	2	0	2	2	2	2	2
Glenwood Township		1	0	2	0	1	3	3	1	1	0	1	2	3	1	1
Pleasant Valley		0	0	2	0	1	2	2	2	1	0	1	0	1	1	1
Riverside Township		1	1	2	0	2	1	1	3	1	0	1	1	1	1	1
Riverside Township		1	0	1	0	2	1	1	2	1	0	0	1	2	1	1
SESDAC Rep		2	0	3	0	2	3	3	3	2	0	2	2	2	2	0
Spirit Mound Township		3	0	3	0	2	3	3	2	1	0	1	1	3	3	0
Spirit Mound Township		3	0	3	0	2	3	3	2	1	0	1	1	3	3	0
Star Township		1	0	2	0	1	2	1	1	1	0	2	1	1	1	1
USD		0	0	3	0	0	3	3	1	1	0	0	3	3	2	0
USD		1	0	2	0	2	3	3	1	2	0	1	1	3	1	0
USD		1	0	2	1	1	2	2	2	3	0	2	2	2	2	0
City of Vermillion		1	1	3	0	1	3	3	2	1	0	3	3	3	2	0
City of Vermillion		1	0	2	0	0	2	2	1	2	0	1	1	3	3	0
City of Vermillion		1	0	2	0	1	3	3	1	2	0	3	3	2	1	1
Vermillion Fire EMS		2	0	3	1	2	2	2	1	2	0	2	3	2	1	1
Vermillion Fire EMS		2	0	2	0	0	2	1	2	1	0	2	1	2	3	0
Vermillion Police Department		1	0	3	0	1	2	2	2	3	0	1	2	2	3	0
Vermillion School District		2	0	2	0	2	2	2	2	2	0	2	2	2	2	2
Sunset Manor Irene/Wakonda		0	0	0	0	0	1	2	1	1	0	1	1	2	1	0
Yankton EMS		2	3	2	1	1	2	1	2	1	0	1	2	2	3	1
Yankton EMS		2	3	3	0	3	3	3	2	3	0	3	3	3	3	3
***Total Results:**		**48**	**11**	**71**	**4**	**40**	**70**	**68**	**54**	**51**	**0**	**47**	**56**	**70**	**57**	**21**

Ranking Table	
Location (Affected Area)	Score
Negligible	0
Limited	1
Significant	2
Extensive	3

Negligible	0-22
Limited	23-45
Significant	46-68
Extensive	69-93

Maximum Probable Extent																
Communities	**Hazards**	**Agricultural Pests & Diseases**	**Dam Failure**	**Drought**	**Earthquakes**	**Erosion**	**Extreme Cold**	**Extreme Heat**	**Flood**	**Hail**	**Landslide**	**Lightning**	**Severe Wind**	**Severe Winter Weather**	**Tornado**	**Wildfire**
Clay County Rep		0	1	1	1	0	1	1	2	1	0	0	1	2	1	0
Clay County Rep		1	0	1	0	1	0	0	2	1	0	0	1	1	1	0
Clay County Rep		2	0	2	0	1	2	1	2	1	0	0	2	3	2	0
Clay County Rep		1	1	2	0	2	2	2	2	2	0	2	3	3	3	3
Clay County Rep		2	0	2	0	1	2	2	2	1	1	1	2	2	3	1
Clay County Rep		1	0	2	0	1	2	2	2	1	0	0	2	2	1	1
Clay County Rep		0	0	2	0	0	2	2	2	2	0	1	2	2	2	0
Clay County Rep		1	0	1	0	0	1	1	1	2	0	0	1	1	1	0
Clay County Rep		1	0	3	0	0	2	1	3	0	0	0	1	1	0	0
Fairview Township		1	0	1	1	1	1	1	1	1	0	1	1	1	1	1
Glenwood Township		0	0	2	0	1	1	1	2	1	0	0	1	2	0	0
Pleasant Valley		1	0	1	0	1	2	2	2	0	0	1	1	1	0	0
Riverside Township		0	1	1	0	1	1	1	2	1	0	1	1	1	1	1
Riverside Township		0	0	0	0	1	0	0	2	0	0	0	1	2	1	0
SESDAC Rep		2	0	3	0	1	3	3	3	2	0	2	2	2	2	0
Spirit Mound Township		2	0	3	0	2	3	3	2	1	0	1	1	3	3	0
Spirit Mound Township		3	0	3	0	2	3	3	2	1	0	1	1	3	3	0
Star Township		1	0	2	0	1	2	1	1	1	0	1	1	1	2	0
USD		0	0	0	2	0	1	1	1	0	0	0	1	2	3	2
USD		1	0	3	0	2	2	2	1	1	0	1	1	2	1	0
USD		1	0	2	0	0	1	1	1	1	0	1	2	1	1	0
City of Vermillion		1	0	2	0	2	3	3	2	1	0	2	2	2	1	0
City of Vermillion		1	1	1	0	0	1	1	1	1	0	1	1	1	1	1
City of Vermillion		1	0	1	1	1	2	2	1	2	0	1	2	2	3	0
Vermillion Fire EMS		2	0	3	0	1	3	2	1	2	1	1	1	2	1	1
Vermillion Fire EMS		1	0	1	0	0	2	0	1	1	0	2	1	1	1	2
Vermillion Police Department		1	0	2	0	0	1	1	2	1	0	0	2	1	3	0
Vermillion School District		1	0	2	0	1	1	1	2	1	0	1	1	1	1	1
Sunset Manor Irene/Wakonda		0	0	0	0	0	1	1	1	1	0	1	1	1	1	0
Yankton EMS		2	1	2	0	1	2	1	2	1	1	1	1	2	3	2
Yankton EMS		2	0	3	0	2	3	3	2	2	0	3	3	2	3	3
Total Results:		**33**	**5**	**54**	**5**	**27**	**53**	**46**	**53**	**34**	**3**	**27**	**44**	**53**	**50**	**19**

Ranking Table	
Maximum Probable Extent	**Score**
Weak	0
Moderate	1
Severe	2
Extreme	3

Weak	0-22
Moderate	23-45
Severe	46-68
Extreme	69-93

Probability of Future Events

Communities	Hazards	Agricultural Pests & Diseases	Dam Failure	Drought	Earthquakes	Erosion	Extreme Cold	Extreme Heat	Flood	Hail	Landslide	Lightning	Severe Wind	Severe Winter Weather	Tornado	Wildfire
Clay County Rep		1	0	2	0	1	2	2	2	2	0	1	2	2	1	0
Clay County Rep		1	0	1	0	2	0	0	2	1	0	0	1	1	1	0
Clay County Rep		1	0	1	0	1	2	2	0	2	0	1	1	3	2	0
Clay County Rep		1	1	2	0	2	2	2	2	3	0	3	3	3	2	2
Clay County Rep		1	0	1	0	2	3	3	2	2	1	2	2	3	2	2
Clay County Rep		2	0	2	0	1	3	3	3	1	0	1	2	2	1	1
Clay County Rep		0	0	2	0	1	1	1	1	1	0	1	1	2	1	0
Clay County Rep		1	0	1	0	0	1	1	2	2	0	0	1	1	1	0
Clay County Rep		1	0	2	0	1	2	2	3	1	0	1	1	2	1	0
Fairview Township		2	0	2	2	2	2	2	2	2	0	2	2	2	2	2
Glenwood Township		1	0	2	0	1	1	1	2	1	0	0	1	1	1	0
Pleasant Valley		1	0	1	0	1	2	2	2	1	0	1	1	1	1	0
Riverside Township		1	1	1	0	1	1	1	2	1	0	1	1	1	1	1
Riverside Township		0	0	0	0	1	0	0	3	1	0	0	1	2	0	0
SESDAC Rep		2	0	3	0	2	3	3	3	2	0	2	2	2	2	0
Spirit Mound Township		2	0	3	0	2	3	3	1	1	0	1	1	3	3	0
Spirit Mound Township		2	0	2	0	1	2	2	1	1	0	1	1	2	2	0
Star Township		2	1	2	0	1	3	2	1	1	0	3	2	2	1	1
USD		0	0	0	0	0	1	1	0	1	0	1	1	1	0	0
USD		0	0	3	0	2	3	3	2	3	0	2	2	3	2	0
USD		1	0	2	1	0	2	2	1	2	1	3	2	2	2	0
City of Vermillion		1	0	3	0	3	3	3	2	3	0	3	2	3	1	0
City of Vermillion		1	0	2	0	1	2	2	1	2	0	2	2	2	2	1
City of Vermillion		2	0	2	0	1	2	2	2	2	0	2	2	3	2	0
Vermillion Fire EMS		2	0	2	1	2	3	3	1	2	1	3	2	2	1	1
Vermillion Fire EMS		1	0	2	0	0	2	2	2	1	0	2	1	2	1	1
Vermillion Police Department		1	0	1	0	1	2	2	2	1	0	1	1	2	2	0
Vermillion School District		2	0	2	0	2	2	2	2	2	0	2	2	2	2	2
Sunset Manor Irene/Wakonda		0	0	0	0	0	1	2	2	1	0	1	1	2	1	0
Yankton EMS		2	1	2	0	1	2	1	2	3	2	3	3	3	3	2
Yankton EMS		2	0	3	1	2	3	3	2	2	0	3	2	2	2	2
Total Results:		**37**	**4**	**54**	**5**	**38**	**61**	**60**	**55**	**51**	**5**	**49**	**49**	**64**	**46**	**18**

Ranking Table	
Probability of Future Events	Score
Unlikely	0
Occasional	1
Likely	2
High Likely	3

Unlikely	0-22
Occasional	23-45
Likely	46-68
High Likely	69-93

Overall Significance

Communities	Hazards	Agricultural Pests & Diseases	Dam Failure	Drought	Earthquakes	Erosion	Extreme Cold	Extreme Heat	Flood	Hail	Landslide	Lightning	Severe Wind	Severe Winter Weather	Tornado	Wildfire
Clay County Rep		1	1	2	1	1	2	2	3	2	1	1	2	3	2	1
Clay County Rep		2	1	2	1	2	1	1	3	2	1	1	2	2	2	1
Clay County Rep		2	1	2	1	2	2	2	2	2	1	1	2	3	3	1
Clay County Rep		2	2	2	1	2	3	3	3	3	1	3	3	3	3	3
Clay County Rep		2	1	3	1	3	3	3	2	2	1	1	3	3	3	2
Clay County Rep		2	1	3	1	2	3	3	3	2	1	1	2	3	2	1
Clay County Rep		2	1	3	1	1	3	3	2	2	1	2	3	2	2	1
Clay County Rep		2	1	2	1	1	2	2	2	1	1	1	1	2	1	1
Clay County Rep		2	1	2	1	1	2	2	3	1	1	1	2	2	1	1
Fairview Township		2	1	3	1	2	3	3	2	3	1	3	3	3	3	3
Glenwood Township		1	2	1	2	1	2	3	1	1	1	1	1	2	1	1
Pleasant Valley		2	1	2	1	2	2	3	3	1	1	1	2	2	1	1
Riverside Township		1	2	1	1	2	2	2	3	2	1	2	2	2	2	2
Riverside Township		1	1	1	1	2	1	1	3	1	1	1	2	2	2	1
SESDAC Rep		2	1	3	1	2	3	3	3	3	1	3	3	3	3	1
Spirit Mound Township		3	1	3	1	2	3	3	2	2	1	2	2	3	3	1
Spirit Mound Township		3	1	3	1	2	3	3	2	2	1	2	2	3	3	1
Star Township		1	1	3	1	1	2	1	2	2	1	1	2	2	2	1
USD		1	1	1	1	1	2	2	2	2	1	1	2	2	2	1
USD		2	1	2	1	2	2	2	2	2	1	1	1	2	2	1
USD		1	1	2	1	1	2	2	2	1	1	1	2	2	2	1
City of Vermillion		1	1	3	1	3	3	3	2	3	1	3	2	3	1	1
City of Vermillion		1	1	2	1	1	2	2	1	2	1	2	2	2	2	2
City of Vermillion		2	1	2	1	1	3	3	2	3	1	2	3	3	3	1
Vermillion Fire EMS		3	1	2	1	2	2	2	2	2	1	1	2	3	2	1
Vermillion Fire EMS		1	1	3	1	1	3	2	3	2	1	3	2	2	1	2
Vermillion Police Department		1	1	2	1	1	3	3	2	2	1	1	2	3	2	1
Vermillion School District		3	1	3	1	2	2	2	3	2	1	1	1	2	2	2
Sunset Manor Irene/Wakonda		1	1	1	1	1	2	2	2	2	1	2	2	2	2	1
Yankton EMS		2	2	3	1	2	2	2	3	2	2	2	2	3	3	2
Yankton EMS		2	2	3	1	2	3	3	2	3	1	3	3	2	3	2
Total Results:		**54**	**36**	**70**	**32**	**51**	**73**	**73**	**72**	**62**	**32**	**51**	**65**	**76**	**66**	**42**

Ranking Table	
Overall Significance	Score
Low	1
Medium	2
High	3

Score is based out of 100
Low = 0-31
Medium = 32-62
High = 63-100

Low	0-32
Medium	33-61
High	62-93

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Clay County **Name:** Travis Mockler

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Extensive	moderate	Occasional	medium
Avalanche	Negligible	Weak	unlikely	Low
Dam Failure	Negligble	Weak	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Significant	moderate	Likely	medium
Subsidence (gradual caving or sinking of a land area)	Limited	weak	Unlikely	Low
Tornado	Limited	Weak	Occasional	Low
Tsunami	negligible	Weak	Unlikely	Low
Wildfire	Limited	Weak	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	limited	Weak	Occasional	Low
Hurricane	negligible	weak	unlikely	Low
Landslide	negligible	Weak	unlikely	Low
Lightning	Limited	Weak	Occasional	Low
Sea Level Rise	negligible	Weak	unlikely	Low
Severe Wind	Significant	Moderate	Occasional	medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	extensive	Extreme	Likely	Medium
Earthquake	negligible	Weak	unlikely	Low
Erosion	Limited	Weak	Occasional	Low
Extreme Cold	Significant	Severe	Likely	Medium
Extreme Heat	Significant	Moderat	Likely	medium
Flood	Significant	Extreme	Highly Likely	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Clay County **Name:** Drew Gunderson

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Limited	Weak	Occ	Low
Avalanche	Neg	Weak	Unlikely	Low
Dam Failure	Lim	Mod	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Sig	Mod	Likely	Med
Earthquake	Neg	mod	unli	Low
Erosion	Lim	Weak	Occ	Low
Extreme Cold	Sig	mod	Likely	med
Extreme Heat	Sig	mod	Likely	med
Flood	Lim	Sev	med	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Lim	mod	Likely	~~Low~~ med
Hurricane	Neg	weak	unlikely	Low
Landslide	Neg	weak	unli	Low
Lightning	Lim	Weak	Occ	Low
Sea Level Rise	Neg	weak	unli	Low
Severe Wind	Lim	Mod	Likely	Med

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Sig	Severe	~~Likely~~ Likely	High
Subsidence (gradual caving or sinking of a land area)	Neg	Weak	Unli	Low
Tornado	Lim	Mod	~~Unli~~ Occ	med
Tsunami	Neg	Weak	Unli	Low
Wildfire	Lim	weak	Unli	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Clay County **Name:** Richard Hammond

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Significant	moderate	occasional	medium
Avalanche Negligible.	Negligible.	weak	unlikely ~~occasional~~.	Low
Dam Failure	Negligble	Weak	unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Significant	moderate	Occasionally	medium
Earthquake	Negligible	Weak	unlikely	Low
Erosion	Negligible	Weak	unlikely	Low
Extreme Cold	Extensive	moderate	Occasionally	medium
Extreme Heat	Extensive	moderate	Occasionally	medium
Flood	Limited	moderate	Likely	medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	negligible	Severe	Likely	Low
Hurricane	negligible	weak	unlikely	Low
Landslide	negligible	weak	unlikely	Low
Lightning	negligible	weak	unlikely	Low
Sea Level Rise	negligible	weak	unlikely	Low
Severe Wind	Limited	moderate	occasional	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Significant	moderate	occasional	medium
Subsidence (gradual caving or sinking of a land area)	negligible	~~Low~~ weak	unlikely	Low
Tornado	Limited	moderate	occasional	Low
Tsunami	negligible	weak	unlikely	Low
Wildfire	negligible	weak	unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Clay County Commission **Name:** David Thiessen

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Significant	Weak	Unlikely	Medium
Avalanche	Negligible	Weak	Unlikely	Low
Dam Failure	~~Significant~~ Negligible	Weak	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Extensive	Severe	Likely	High
Earthquake	Negligible	weak	Unlikely	Low
Erosion	Limited	weak	Occasional	Low
Extreme Cold	Extensive	Severe	Occasional	High ~~Medium~~
Extreme Heat	Extensive	Severe	Occasional	High ~~Medium~~
Flood	Sigificant	Severe	Occasional	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Extensive	Severe	Occasional	Medium
Hurricane	Negligible	weak	unlikely	Low
Landslide	Negligible	weak	Unlikely	Low
Lightning	Significant	Moderate	Occasional	Medium
Sea Level Rise	Negligible	weak	Unlikely	Low
Severe Wind	Significant	Severe	Occasional	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Significant	Severe	Likely	Med
Subsidence (gradual caving or sinking of a land area)	Limited	Weak	Unlikely	Low
Tornado	Significant	Severe	Occasional	Med
Tsunami	Negligible	weak	Unlikely	Low
Wildfire	Negligible	weak	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Clay County SO **Name:** Aaron Armstrong

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Significant	Moderate	Likely	Medium
Avalanche	Negligible	weak	Unlikely	Low
Dam Failure	Negligible	weak	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	significant	Severe	Likely	High
Earthquake	Negligible	weak	Unlikely	Low
Erosion	Limited	Moderate	Occasional	Medium
Extreme Cold	significant	Severe	Highly Likely	High
Extreme Heat	Significant	Severe	Highly Likely	High
Flood	Significant	Severe	Highly Likely	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Significant	Moderate	Occasional	Medium
Hurricane	Negligible	weak	Unlikely	Low
Landslide	Negligible	weak	unlikely	Low
Lightning	Limited	weak	Occasional	Low
Sea Level Rise	Negligible	weak	Unlikely	Low
Severe Wind	Significant	Severe	Likely	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Extensive	Severe	Likely	High
Subsidence (gradual caving or sinking of a land area)	Negligible	Weak	Unlikely	Low
Tornado	Limited	Moderate	Occasional	Malium
Tsunami	Negligible	weak	unlikely	Low
Wildfire	Limited	Moderate	Occasional	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Clay County Sheriff **Name:** Andy Howe

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	extensive	Severe	Occasional	medium
Avalanche	negligible	weak	unlikely	low
Dam Failure	~~Limited~~ Negligible	weak	unlikely	low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	extensive	severe	occasional	high
Earthquake	negligible	weak	unlikely	low
Erosion	extensive	moderate	likely	high
Extreme Cold	extensive	severe	highly likely	high
Extreme Heat	extensive	severe	highly likely	high
Flood	significant	severe	likely	medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	extensive	moderate	likely ~~occasional~~	medium
Hurricane	negligible	weak	unlikely	low
Landslide	negligible	moderate	occasional	low
Lightning	extensive	moderate	likely	low
Sea Level Rise	negligible	weak	unlikely	low
Severe Wind	extensive	severe	likely	high

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	extensive	severe	highly likely	high
Subsidence (gradual caving or sinking of a land area)	negligible	moderate	unlikely	low
Tornado	extensive	extreme	likely ~~occasional~~	high
Tsunami	negligible	weak	unlikely	low
Wildfire	negligible	moderate	likely	medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Clay Co. Hwy Dep **Name:** Larry McPherson

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Limited	Moderate	Occasional	Medium
Avalanche	Negligible	Weak	Unlikely	Low
Dam Failure	Limited	moderate	Occasional	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Ext	Ext.	Highly likely	High
Subsidence (gradual caving or sinking of a land area)	Limited	Moderate	Occ.	Med
Tornado	Ext	Ext.	High	High
Tsunami	Neg.	High Like	High	High
Wildfire	Ext	High Like	High	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Extensive	Severe	Highly Likely	High
Hurricane	Negligible	Weak	Unlikely	Low
Landslide	Negligible	Weak	Unlikely	Low
Lightning	Extensive	Severe	Highly likely	High
Sea Level Rise	Neg	Weak	Unlikely	Low
Severe Wind	Ext.	Ext.	Highly likely	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	~~Extensive~~ Significant	Severe	Likely	medium
Earthquake	Negligible	Weak	Unlikely	Low
Erosion	Significant	Severe	Likely	medium
Extreme Cold	Extensive	Severe	Likely	High
Extreme Heat	Extensive	Severe	Likely	High
Flood	Extensive	Severe	Likely	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Clay County - Vermillion **Name:** Chad Davison

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Extensive	Severe	Occasional	medium
Avalanche	Negligible	weak	Unlikely	Low
Dam Failure	Limited	weak	unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Significant	Severe	Occasional	medium
Earthquake	negligible	Weak	unlikely	Low
Erosion	Limited	moderate	Occasional	medium
Extreme Cold	Significant	Severe	~~Occasional~~ Likely	medium
Extreme Heat	Significant	moderate	Likely	medium
Flood	Limited	Severe	unlikely	medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Significant	moderate	likely	medium
Hurricane	negligible	weak	unlikely	Low
Landslide	negligible	weak	unlikely	Low
Lightning	extensive	weak	occasional	Low
Sea Level Rise	negligible	weak	unlikely	Low
Severe Wind	Significant	Severe	Likely	medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Extensive	extreme	Highly likely	high
Subsidence (gradual caving or sinking of a land area)	Negligible	weak	unlikely	Low
Tornado	Significant	Severe	likely	high
Tsunami	Negligible	weak	unlikely	Low
Wildfire	Negligible	weak	unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Clay Co. Hwy **Name:** Bob Polley

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Significant	Moderate	Occasional	Med.
Avalanche	negligible	weak	unlikely	Low
Dam Failure	negligible	weak	unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

	Location	Max Probable Ext.	Probability of Occurrence/ Events	Overall Significance Ranking
Drought	Significant	Moderate	Occasional	Mod.
Earthquake	Negligible	Weak	Unlikely	Low
Erosion	Limited	Moderate	Likely	Mod.
Extreme Cold	Negligible	Weak	unlikely	Low
Extreme Heat	Negligible	Weak	unlikely	Low
Flood	Significant	Severe	Likely to Highly Likely	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

	Location	Max Probability	Probability of Future	Overall Signif. Ranking
Hail	Limited	Moderate	Occasionally	Med.
Hurricane	Negligible	Weak	unlikely	Low
Landslide	negligible	weak	unlikely	low
Lightning	Negligible	weak	unlikely	Low
Sea Level Rise	negligible	weak	unlikly	Low
Severe Wind	Limited to Significant	Moderate	Occasionally	Med.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Limited	Moderate	Occasional	Med
Subsidence (gradual caving or sinking of a land area)	Limited	Moderate	Occasional	Low to Med
Tornado	Limited	Moderate	Occasional	Med
Tsunami	Negligible	Weak	unlikely	Low
Wildfire	Negligible	Weak	unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Fairview Township **Name:** Angela K Jackson

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Limited	Moderate	Likely	Medium
Avalanche	negligible	Weak	unlikely	Low
Dam Failure	Negligible	weak	unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Significant	Mod	Likely	High
Earthquake	Limited	Mod	Likely	Low
Erosion	significant	Mod	Likely	medium
Extreme Cold	significant	mod	Likely	High
Extreme Heat	Significant	Mod	Likely	High
Flood	significant	Mod	Likely	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Significant	Mod	Likely	High
Hurricane	Negligible	Weak	unlikely	Low
Landslide	Negligible	weak	unlikely	Low
Lightning	significant	mod	likely	High
Sea Level Rise	Negligible	~~pe~~ak	unlikely	Low
Severe Wind	Significant	mod	likely	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Significant	mod	Likely	High
Subsidence (gradual caving or sinking of a land area)	Significant	mod	Likely	Low
Tornado	Significant	mod	Likely	High
Tsunami	Negligible	weak	unlikely	Low
Wildfire	Significant	mod	likely	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Glenwood Township **Name:** Joe Lardeen

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Limited	Weak	Occasional	Low
Avalanche	Negligible	Weak	Unlikely	Low
Dam Failure	Neg	Weak	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Significant	Severe	Likely	Medium
Earthquake	Neg	Weak	Unlikely	Low
Erosion	Limited	Moderate	Occasional	Medium
Extreme Cold	Extensive ~~Limited~~	Moderate	Occasional	Low
Extreme Heat	Extensive ~~Limited~~	Moderate	Occasional	Medium
Flood	Limited ~~Neg~~	~~Weak~~ Severe	Likely	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Limited	Modrate	occasional	Low
Hurricane	Neg	Weak	unlikely	Low
Landslide	Neg	Weak	unlikely	Low
Lightning	Limited	Weak	unlikely	Low
Sea Level Rise	Neg	Weak	Unlikely	Low
Severe Wind	Significant ~~Limited~~	Moderate	occasional	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Extensive ~~Limited~~	Severe	occasional	Medium
Subsidence (gradual caving or sinking of a land area)	Neg	Weak	Unlikely	Low
Tornado	Limited	Weak	Occasional	Low
Tsunami	Neg	Weak	unlikely	Low
Wildfire	Limited	Weak	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: PLEASANT VALLEY **Name:** RON HUOT

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	NEGLIGIBLE	MODERATE	OCCASIONAL	MEDIUM
Avalanche	NEGLIGIBLE	WEAK	UNLIKELY	LOW
Dam Failure	NEGLIGIBLE	WEAK	UNLIKELY	LOW

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	SIGNIFICANT	MODERATE	OCASIONAL	MEDIUM
Earthquake	NEGLIGIABE	WEAK	UNLIKEY	LOW
Erosion	LIMITED	MODIRATE	OCACTIONAL	MODERATE
Extreme Cold	SIGNIFICANT	~~SEVERE~~ LIKELY	LIKELY	MODIUM
Extreme Heat	SIGNIFECANT	SEVERE ~~LIKELY~~	~~HIGH~~ LIKELY	high
Flood	SIGNITCANS	SEVER	LIKELY	HIGH

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	LIMITED	WEAK	OCCATIONAL	LOW
Hurricane	LIMITED	MODERATE	OCATIOAL	~~LL~~ MEDIUM
Landslide	NEGLIGIBLE	WEAK	UNLIKELY	LOW
Lightning	LIMITED	MODERATE	OCCASIONAL	LOW
Sea Level Rise	NEGLIGLADE	WEAK	UNLIKELY	LOW
Severe Wind	NEGLIGLADE	MODERATE	OCATOZAL	MEDIUM

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	~~MODERATE~~ LIMITED	~~OCCASIONAL~~ MODERATE	OCCASIONAL	MODERATE
Subsidence (gradual caving or sinking of a land area)	LIMITED	WEAK	UNLIKELY	LOW
Tornado	LIMITED	WEAK	OCCASIONAL	LOW
Tsunami	LIMITED	WEAK	UNLIKELY	LOW
Wildfire	LIMITED	WEAK	UNLIKELY	LOW

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Riverside Twsh **Name:** Richard Adamson

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Limited	Weak	Unlikely	Low
Avalanche	Negligible	Weak	Unlikely	Low
Dam Failure	Neg	Weak	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Limited	Weak	Unlikely	Low
Earthquake	Neg	Weak	Unlikely	Low
Erosion	Significant	Moderate	Occasional	Medium
Extreme Cold	Limited	Weak	Unlikely	Low
Extreme Heat	Limited	Weak	Unlikely	Low
Flood	Significant	Severe	Highly Likely	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Limited	Weak	Occasional	Low
Hurricane	Neg	Weak	Unlikely	Low
Landslide	Neg	Weak	Unlikely	Low
Lightning	Neg	Weak	Unlikely	Low
Sea Level Rise	Neg	Weak	Unlikely	Low
Severe Wind	Limited	Moderate	Occasional	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Significant	Severe	Likely	Medium
Subsidence (gradual caving or sinking of a land area)	Limited	Weak	Unlikely	Low
Tornado	Limited	Moderate	Unlikely	Medium
Tsunami	Neg	Weak	Unlikely	Low
Wildfire	Limited	Weak	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Riverside Township **Name:** Gary Andersen

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Limited	weak	Occasional	Low
Avalanche	Negligible	weak	unlikely	Low
Dam Failure	Limited	Moderate	Occasional	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Significant	Moderate	Occasional	Low
Earthquake	Neg	Weak	unlikely	Low
Erosion	Significant	Moderate	Occasional	Medium
Extreme Cold	Limited	Moderate	Occasional	Medium
Extreme Heat	Limited	Moderate	Occasional	Medium
Flood	Extensive	Severe	Likely	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Limited	Moderate	Occasional	Medium
Hurricane	Neg.	Weak	unlikely	Low
Landslide	Neg	Weak	unlikely	Low
Lightning	Limited	Moderate	Occasional	Medium
Sea Level Rise	Neg	Weak	unlikely	Low
Severe Wind	Limited	Moderate	Occasional	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Limited	Moderate	Occasional	Medium
Subsidence (gradual caving or sinking of a land area)	Neg	Weak	unlikely	Low
Tornado	Limited	Moderate	Occasional	Medium
Tsunami	Neg	Weak	unlikely	Low
Wildfire	Limited	Moderate	Occasional	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: SESPAC **Name:** BRIAN ANGLEN

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	~~Significant~~	SEVERE	LIKELY	MED/HIGH
Avalanche	Negligible	WEAK	UNLIKELY	LOW
Dam Failure	~~Limited~~ Negligible	~~Moderate~~ WEAK	~~Occasional~~ Unlikely	~~Low~~ Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	EXTENSIVE	EXTREME	Highly Likely	High
Earthquake	Negligible	WEAK	unlikely	Low
Erosion	Significant	Moderate	Likely	Medium
Extreme Cold	Extensive	Extreme	Highly Likely	High
Extreme Heat	Extensive	Extreme	HighLY Likely	High
Flood	Extensive	Extreme	Highly Likely	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Significant	SEVERE	Likely	High
Hurricane	Low	WEAK	unlikely	Low
Landslide	Low	WEAK	unlikely	Low
Lightning	Significant	Severe	Likely	High
Sea Level Rise	Low	WEAK	unlikely	Low
Severe Wind	Significant	Severe	Likely	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Significant	Severe	Likely	HIGH
Subsidence (gradual caving or sinking of a land area)	Limited	WEAK	Occasional	Low
Tornado	Significant	Severe	Likely	High
Tsunami	Negligible	WEAK	unlikely	Low
Wildfire	Negligible	WEAK	unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Spirit Mound township **Name:** Ragan Gilbertson

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Extensive	Severe	Likely	High
Avalanche	Negligible	Weak	unlikely	Low
Dam Failure	Negligible	Weak	unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Extensive	Extrem	Highly likely	High
Earthquake	Neglig	Weak	unlikely	Low
Erosion	Significant	Severe	Likley	Medium
Extreme Cold	Extensive	Extrem	Highly Likely	High
Extreme Heat	Extensive	Extrem	Highly Likely	High
Flood	Significant	Severe	Occasional	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Limited	Moderate	occasional	Medium
Hurricane	Negligible	Weak	Unlikely	Low
Landslide	Negligible	Weak	unlikely	Low
Lightning	Limited	Moderate	Occasional	Medium
Sea Level Rise	Negligible	Weak	unlikely	Low
Severe Wind	Limited	Moderate	Occasional	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Extensive	Extreme	Highly Likely	High
Subsidence (gradual caving or sinking of a land area)	Negligable	Weak	unlikely	Low
Tornado	Extensive	Extreme	Highly likely	High
Tsunami	Negligable	Weak	unlikely	Low
Wildfire	Negligable	Weak	unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Spirit Mound Township **Name:** Curt Bradsky

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Extensive	Extreme	Likely	high
Avalanche	Negligible	weak	unlikely	Low
Dam Failure	Negligible	weak	unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	extensive	Extreme	Likely	high
Earthquake	Negligible	week	unlikely	Low
Erosion	significant	Severe	occasional	medium
Extreme Cold	extensive	Extreme	Likely	high
Extreme Heat	Extensive	Extreme	Likely	high
Flood	significant	Severe	occasional	medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Limited	moderate	Occasional	medium
Hurricane	Negligible	week	unlikely	Low
Landslide	Negligible	week	unlikely	Low
Lightning	Limited	moderate	occasional	medium
Sea Level Rise	Negligible	week	unlikely	Low
Severe Wind	Limited	moderate	occasional	medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Extensive	Extreme	Likely	High
Subsidence (gradual caving or sinking of a land area)	Negligible	weak	unlikely	Low
Tornado	Extensive	Extreme	Likely	high
Tsunami	Negligible	weak	unlikely	Low
Wildfire	Negligible	weak	unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Star Township **Name:** Ron Peterson

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Limited	Moderate	Likely	Low
Avalanche	Negligible	Weak	Unlikely	Low
Dam Failure	Negligible	Weak	Occasional	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Significant	Severe	Likely	High
Earthquake	Negligible	Weak	Unlikely	Low
Erosion	Limited	Moderate	Occasional	Low
Extreme Cold	Significant	Severe	Highly Likely	Medium
Extreme Heat	Limited	Moderate	Likely	Low
Flood	~~Negligible~~ ~~Limited~~ Limited	Moderate	Occasional	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Limited	Moderate	Occasional	Medium
Hurricane	Negligable	Weak	Unlikely	Low
Landslide	Negligable	Weak	Unlikely	Low
Lightning	Significant	Moderate	Highly Likely	Low
Sea Level Rise	Negligable	Weak	Unlikely	Low
Severe Wind	Limited	Moderate	Likely	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Limited	Moderate	Likely	Medium
Subsidence (gradual caving or sinking of a land area)	Negligible	Weak	Unlikely	Low.
Tornado	Limited	Severe	Occasional	Medium
Tsunami	Negligible	Weak	Unlikely	Low
Wildfire	~~Weak~~ ~~Negligible~~ Limited	Weak	Occasional	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: UNIVERSITY OF SOUTH DAKOTA **Name:** KEVIN O'KELLEY

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	NEGLIGIBLE	WEAK	UNLIKELY	LOW
Avalanche	"	"	"	LOW
Dam Failure	"	"	"	LOW

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	EXTENSIVE	WEAK	UNLIKELY	LOW
Earthquake	NEGLIGIBLE	SEVERE	UNLIKELY	LOW
Erosion	NEGLIGIBLE	WEAK	UNLIKELY	LOW
Extreme Cold	EXTENSIVE	MODERATE	OCCASIONAL	MEDIUM
Extreme Heat	EXTENSIVE	MODERATE	OCCASIONAL	MEDIUM
Flood	LIMITED	MODERATE	UNLIKELY	MEDIUM

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	EXTENSIVE	WEAK	OCCASIONAL	MEDIUM
Hurricane	NEGLIGIBLE	WEAK	UNLIKELY	LOW
Landslide	NEGLIGIBLE	WEAK	UNLIKELY	LOW
Lightning	NEGLIGIBLE	WEAK	OCCASIONAL	LOW
Sea Level Rise	NEGLIGIBLE	WEAK	UNLIKELY	LOW
Severe Wind	EXTENSIVE	MODERATE	OCCASIONAL	MEAIUM

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	EXTENSIVE	SEVERE	OCCASIONAL	MEDIUM
Subsidence (gradual caving or sinking of a land area)	NEGLIGIBLE	WEAK	UNLIKELY	LOW
Tornado	SIGNIFICANT	EXTREME	UNLIKELY	MEDIUM
Tsunami	NEGLIGIBLE	EXTREME	UNLIKELY	LOW
Wildfire	NEGLIGIBLE	~~EXTREME~~ SEVERE	UNLIKELY	LOW

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: USD **Name:** Scott Pettorff

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Limited	Moderate	Unlikely	Medium
Avalanche	Negligible	Weak	Unlikely	Low
Dam Failure	Negligible ~~Limited~~	Weak	Unlikely	low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Extensive	Severe	Highly likely	Medium
Subsidence (gradual caving or sinking of a land area)	Negligible	Weak	Unlikely	Low
Tornado	Limited	Moderate	likely	Medium
Tsunami	Negligible	Weak	Unlikely	low
Wildfire	Negligible	Weak	Unlikely	low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Limited	Moderate	Highly likely	Medium
Hurricane	Negligible	Weak	Unlikely	low
Landslide	Negligible	Weak	Unlikely	low
Lightning	Limited	Moderate	likely	Low
Sea Level Rise	Negligible	Weak	Unlikely	low
Severe Wind	limited	Modrate	likely	low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Significant	Extreme	Highly likely	~~High~~ Medium
Earthquake	Negligible	Weak	Unlikely	Low
Erosion	Significant	Severe	Likely	Medium
Extreme Cold	Extensive	Severe	Highly likely	Medium
Extreme Heat	Extensive	Severe	Highly likely	Medium
Flood	Limited	Moderate	likely	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: VSD **Name:** Jon Walker

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	limited	Moderate	Occasional	low
Avalanche	Negligible	weak	Unlikely	Low
Dam Failure	~~Significant~~ Negligible	~~Moderate~~ weak	~~Occasional~~ Unlikely	low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	significant	Severe	likely	medium
Earthquake	limited	weak	Occasional	low
Erosion	limited	weak	unlikely	low
Extreme Cold	Significant	Moderate	likely	Medium
Extreme Heat	significant	Moderate	likely	Medium
Flood	significant	Moderate	Occasional	Med

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Significant	Moderate	likely	low
Hurricane	Yes	weak	unlikely	low
Landslide	limited	weak	occasional	low
Lightning	Significant	Moderate	Highly likely	low
Sea Level Rise	Yes	weak	unlikely	low
Severe Wind	Significant	Severe	likely	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Significant	Moderate	likely	Med
Subsidence (gradual caving or sinking of a land area)	limited	Moderate	Occasional	low
Tornado	Significant	Med	likely	Med
Tsunami	Neg	weak	unlikely	low
Wildfire	Neg	weak	Un	low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: City of Vermillion **Name:** Shane Griese

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Limited	Moderate	Occasional	Low
Avalanche	Negligible	Weak	Unlikely	Low
Dam Failure	Limited	~~Moderate~~ Low	Un-Likely	~~Medium~~ Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Extensive	Severe	Highly Likely	High
Earthquake	Negligible	Weak	Unlikely	Low
Erosion	Limited	Severe	Highly Likely	High
Extreme Cold	Extensive	Extreme	Highly Likely	High
Extreme Heat	Extensive	Extreme	Highly Likely	High
Flood	Significant	Severe	Likely	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Extensive	Moderate	Highly Likely	High
Hurricane	Negligible	Weak	Unlikely	low
Landslide	Negligible	Weak	Unlikely	Low
Lightning	Extensive	Severe	Highly Likely	High
Sea Level Rise	Negligible	Weak	Unlikely	Low
Severe Wind	Extensive	Severe	Likely	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Extensive	Severe	Highly Likely	High
Subsidence (gradual caving or sinking of a land area)	Negligible	Weak	Unlikely	Low
Tornado	Significant	Moderate	Occasional	Low
Tsunami	Negligible	Weak	Unlikely	Low
Wildfire	Negligible	Weak	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: City of Vermillion **Name:** Jack Baustian

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	~~Significant~~ Limited	Moderate	Occasional	Low
Avalanche	Negligible	Weak	Unlikely	Low
Dam Failure	~~Limited~~ Negligible	~~Moderate~~ Weak	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Significant	Moderate	Likely	Medium
Earthquake	Negligible	Weak	Unlikely	Low
Erosion	Negligible	Weak	Occasional	Low
Extreme Cold	Significant	Moderate	Likely	Medium
Extreme Heat	Significant	Moderate	Likely	Medium
Flood	Limited	Moderate	Occasional	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Limited	Moderate	Likely	Medium
Hurricane	Limited	Moderate	Likely	Medium
Landslide	Negligible	Weak	Unlikely	Low
Lightning	Limited	Moderate	Likely	Medium
Sea Level Rise	Negligible	Weak	Unlikely	Low
Severe Wind	Limited	Moderate	Likely	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Limited	Moderate	Likely	Medium
Subsidence (gradual caving or sinking of a land area)	Negligible	Weak	Unlikely	Low
Tornado	Limited	Moderate	Likely	Medium
Tsunami	Negligible	Weak	Unlikely	Low
Wildfire Grass fire	Limited	Moderate	Occasional	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: City of Vermillion **Name:** John Prescott

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Limited	Moderate	Likely	Medium
Avalanche	Neglibile	Weak	Unlikely	Low
Dam Failure	Negligible	Moderate	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Significant	Moderate	Likely	Medium
Earthquake	Negligible	Moderate	Unlikely	Low
Erosion	Limited	Moderate	Occassional	Low
Extreme Cold	Extensive	Severe	Likely	High
Extreme Heat	Extensive	Severe	Likely	High
Flood	Limited	Moderate	Likely	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Significant	Severe	Likely	High
Hurricane	Negligible	Weak	Unlikely	Low
Landslide	Negligible	Weak	Unlikely	Low
Lightning	Extensive	Moderate	Likely	Medium
Sea Level Rise	Negligible	Weak	Unlikely	Low
Severe Wind	Extensive	Severe	Likely	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Extensive	Severe	High Likely	High
Subsidence (gradual caving or sinking of a land area)	Negligible	Weak	Unlikely	Low
Tornado	Extensive	Extreme	Likely	High
Tsunami	Negligible	Weak	Unlikely	Low
Wildfire	Negligible	Weak	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: VFEMS- EMS (County Medical) **Name:** Tony K

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Significant	Severe	Likely	High
Avalanche	Negligible	N/A	Unlikely	Low
Dam Failure	~~Extensive~~ Negligible	~~Moderate~~ Weak	~~Occasional~~ Unlikely	~~High~~ Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Expensive	Extreme	Likely	Medium
Earthquake	Limited	Weak	occasional	Low
Erosion	Significant	Moderate	Likely	Medium
Extreme Cold	Significant	Extreme	Highly likely	Medium
Extreme Heat	Significant	Severe	Highly likely	Medium
Flood	Limited	Moderate	occasional	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Significant	Severe	Likely	Medium
Hurricane	Neg	Weak	unlikely	—
Landslide	Limited	Moderate	Occasional	Low
Lightning	Significant	Moderate	Highly likely	Low
Sea Level Rise	Limited	weak	unlikely	—
Severe Wind	Extensive	Moderate	likely	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Significant	Severe	Likely	High
Subsidence (gradual caving or sinking of a land area)	Significant	moderate	likely	med
Tornado	Limited	moderate	Occasional	med
Tsunami	unlikely	weak	unlikely	Low
Wildfire	Limited	moderate	Occasional	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Vermillion Fire EMS **Name:** Matt Callahan

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Significant	Moderate	Occasional	Low
Avalanche	Negligible	Weak	Unlikely	low
Dam Failure	Negligible	Weak	Unlikely	low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Significant	Severe	Likely	High
Earthquake	Negligible	Weak	unlikely	Low
Erosion	Negligible	weak	unlikely	Low
Extreme Cold	Significant	Severe	Likely	High
Extreme Heat	Limited	Moderate	Likely	Medium
Flood	Significant	Severe	Likely	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Limited	Moderate	Occasional	~~Low~~ Medium
Hurricane	Negligible	weak	Unlikely	Low
Landslide	Negligible	weak	Unlikely	Low
Lightning	Significant	Severe	Likely	High
Sea Level Rise	Negligible	weak	Unlikely	Low
Severe Wind	Limited	Moderate	Occasional	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Significant	Moderate	Likely	Medium
Subsidence (gradual caving or sinking of a land area)	Negligible	Weak	Unlikely	Low
Tornado	Limited	Moderate	Occasional	Low
Tsunami	Negligible	Weak	Unlikely	Low
Wildfire	Limited	Severe	Occasional	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Vermillion Police Dept **Name:** Crystal Brady

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Limited	moderate	Occasional	Low
Avalanche	Negligible	Weak	Unlikely	Low
Dam Failure	Negligible	Weak	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Extensive	Severe	Occasional	medium
Earthquake	Negligible	weak	Unlikely	Low
Erosion	Limited	Weak	occasional	Low
Extreme Cold	Significant	moderate	Likely	High
Extreme Heat	Significant	Moderate	Likely	High
Flood	Significant	Severe	Likely	medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Extensive	Moderate	Occasional	Medium
Hurricane	Negligible	Weak	Unlikely	Low
Landslide	Negligible	Weak	Unlikely	Low
Lightning	Limited	Weak	Occasional	Low
Sea Level Rise	Negligible	Weak	Unlikely	Low
Severe Wind	Significant	Severe	Occasional	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Significant	moderate	Likely	High
Subsidence (gradual caving or sinking of a land area)	Negligible	Weak	Unlikely	Low
Tornado	Extensive	Extreme	Likely	Medium
Tsunami	Negligible	Weak	Unlikely	Low
Wildfire	Negligible	Weak	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Vermillion School Dist. **Name:** Dr. Daman Alvey

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Sig	Moderate	Likely	High
Avalanche	Neg.	Weak	Unlikely	Low
Dam Failure	~~Sig~~ Neg	Weak	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Sig	Severe	Likely	High
Earthquake	Neg.	Weak	Unlikely	Low
Erosion	Sig	Moderate	Likely	Medium
Extreme Cold	Sig	Moderate	likely	Medium
Extreme Heat	Sig	Moderate	Likely	Medium
Flood	Sig	Severe	Likely	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Sig	Moderate	Likely	Medium
Hurricane	Neg.	Weak	Unlikely	Low
Landslide	Neg	Weak	Unlikely	Low
Lightning	Sig	Moderate	Likely	Low
Sea Level Rise	Neg	Weak	Unlikely	Low
Severe Wind	Sig	Moderate	Likely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Sig	Moderate	Likely	Medium
Subsidence (gradual caving or sinking of a land area)	Neg	Weak	Unlikely	Low
Tornado	Sig	Moderate	Likely	Medium
Tsunami	Neg	Weak	Unlikely	Low
Wildfire	Sig	Moderate	Likely	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Sunset Manor-Irene/Wakonda Heritage Manor **Name:** Robin Stockland

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Negligible	Weak	Unlikely	Low
Avalanche	Negligible	Weak	Unlikely	Low
Dam Failure	Negligible	Weak	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

	Location	Max Probable Extent	Probability of Future Events	Overall Significance Ranking
Drought	Negligible	Weak	Unlikely	Low
Earthquake	Negligible	Weak	Unlikely	Low
Erosion	Negligible	Weak	Unlikely	Low
Extreme Cold	Limited	Moderate	Occasional	Med.
Extreme Heat	Significant	Moderate	Likely	Med.
Flood	Limited	Moderate	Likely	Med

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

	Location	Max Probable Extent	Probability of Future Events	Overall Significance Ranking
Hail	Limited	Moderate	Occasional	Medium
Hurricane	Negligible	Weak	Unlikely	Low
Landslide	Negligible	Weak	Unlikely	Low
Lightning	Limited	Moderate	Occasional	Medium
Sea Level Rise	Negligible	Weak	Unlikely	Low
Severe Wind	Limited	Moderated	Occasional	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

	Location	Max. Probable Extent	Probability of Future Events	Overall Sign. Rating
Severe Winter Weather	Significant	Moderate	Likely	Medium
Subsidence (gradual caving or sinking of a land area)	Limited	Weak	Occasional	Low
Tornado	Limited	Moderate	Occasional	Medium
Tsunami	Negligible	Weak	Unlikely	Low
Wildfire	Negligible	Weak	Unlikely	Low

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Yankton County EMS **Name:** Eric Van Diseq

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Significant	Severe	Likely	Medium
Avalanche	Negligible	Weak	Unlikely	Low
Dam Failure	Extensive	Moderate	Occasional	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Significant	Severe	Likely	High
Earthquake	Limited	Weak	Unlikely	Low
Erosion	Limited	Moderate	Occasional	medium
Extreme Cold	Significant	Severe	Likely	medium
Extreme Heat	Limited	Moderate	Occasional	medium
Flood	Significant	Severe	Likely	High

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Limited	Moderate	Highly Likely	medium
Hurricane	Negligible	Weak	unlikely	Low
Landslide	Limited	moderate	Likely	Medium
Lightning	Limited	Moderate	Highly likely	medium
Sea Level Rise	Negligible	Weak	unlikely	Low
Severe Wind	Significant	Moderate	Highly likely	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Significant	Severe	Highly likely	High
Subsidence (gradual caving or sinking of a land area)	Limited	Severe	Likely	medium
Tornado	Extensive	Extreme	Highly likely	High
Tsunami	Negligible	Weak	unlikely	low
Wildfire	Limited	Severe	Likely	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazards Summary Worksheet

Community/Organization: Yonleton County EMS **Name:** Troy Cowman

Use this worksheet to summarize hazard description information and identify which hazards are most significant to Clay County. The definitions of classifications are provided on the PowerPoint. **Hazard**	**Location** (Negligible, Limited, Significant, Extensive)	**Maximum Probable Extent** (Weak, Moderate, Severe, Extreme)	**Probability of Future Events** (Unlikely, Occasional, Likely, Highly Likely)	**Overall Significance Ranking** (Low, Medium, High)
Agricultural Pests & Disease	Significant	Severe	Likely	Medium
Avalanche	Negligible	weak	unlikely	Low
Dam Failure	Extensive	Weak	unlikely	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Drought	Extensive	Extreme ~~Severe~~	Highly Likely	High
Earthquake	Negligible	weak	Occasional ~~Moderate~~	Low
Erosion	Extensive	Severe	Likely	Medium
Extreme Cold	Extensive	Extreme	Highly Likely	High
Extreme Heat	Extensive	Extreme	Highly Likely	High
Flood	Significant	Severe	Likely	Medium

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hail	Extensive	Severe	Likely	High
Hurricane	Negligible	weak	unlikely	low
Landslide	Negligible	weak	unlikely	low
Lightning	Extensive	Extreme	Highly Likely	High
Sea Level Rise	Negligible	weak	unlikely	low
Severe Wind	Extensive	Extreme	Likely	high

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Severe Winter Weather	Extensive	Severe	Likely	medium
Subsidence (gradual caving or sinking of a land area)	Limited	moderate	unlikely	low
Tornado	Extensive	Extreme	likely	high
Tsunami	Negligible	weak	unlikely	low
Wildfire	Extensive	Extreme	Likely	medium

Appendix J
Storm Weather Events

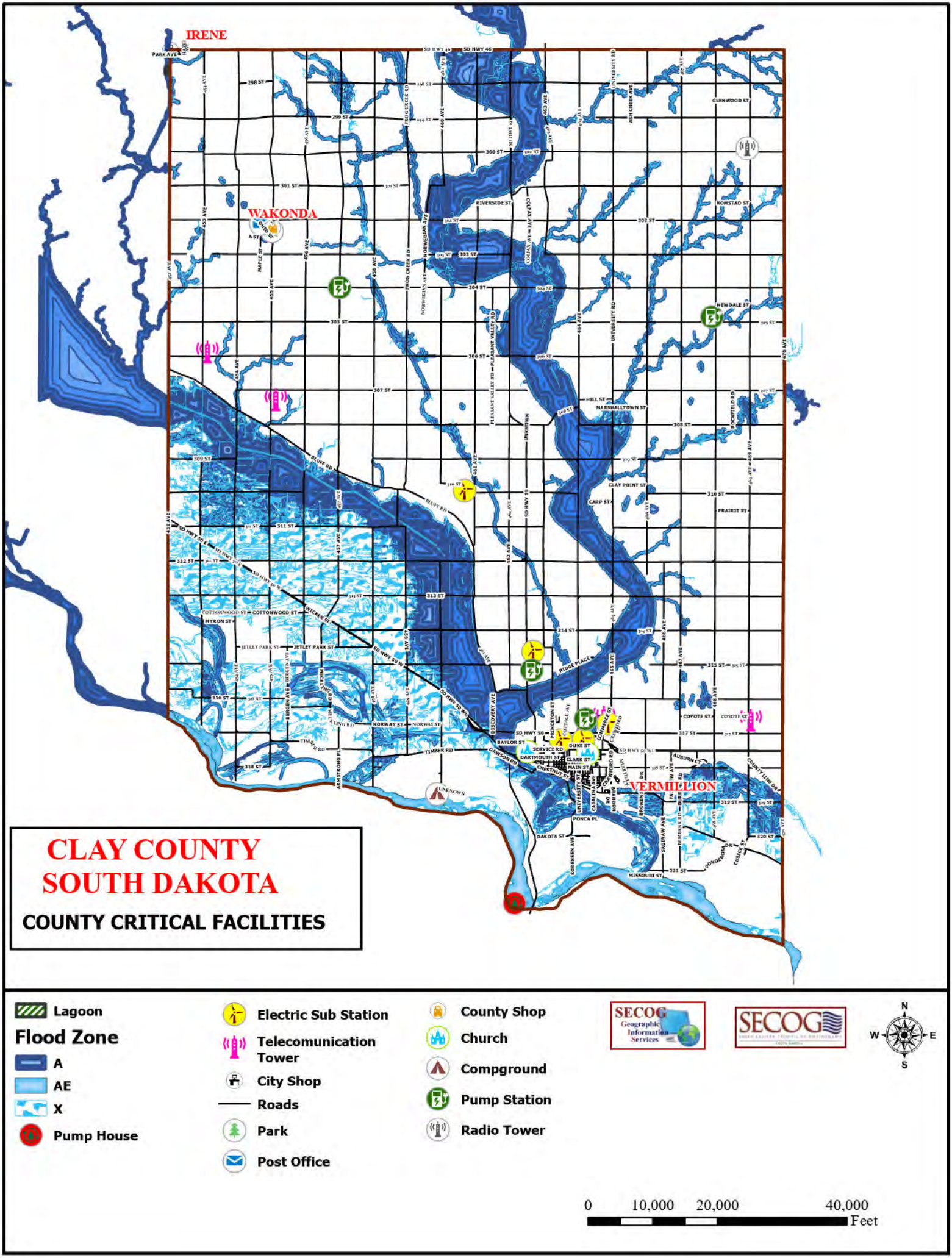
CZ_NAME_STR	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	MAGNITUD	TOR_F_SC	DEATHS_D	INJURIES_D	DAMAGE_	DAMAGE_(	SOURCE
CLAY (ZONE)	1/1/2019	0	Cold/Wind Chill			0	0	0	0	Mesonet
CLAY (ZONE)	2/3/2019	1900	Winter Weather			0	0	0	0	COOP Observer
CLAY (ZONE)	4/10/2019	1500	Ice Storm			0	0	0	0	Law Enforcement
CLAY (ZONE)	11/26/2019	1400	Winter Storm			0	0	0	0	COOP Observer
CLAY (ZONE)	11/28/2019	1200	Winter Weather			0	0	0	0	COOP Observer
CLAY (ZONE)	12/29/2019	800	Winter Weather			0	0	0	0	COOP Observer
CLAY (ZONE)	1/12/2020	1300	Winter Weather			0	0	0	0	CoCoRaHS
CLAY (ZONE)	1/17/2020	500	Blizzard			0	0	0	0	COOP Observer
CLAY (ZONE)	1/18/2020	2100	Cold/Wind Chill			0	0	0	0	Mesonet
CLAY (ZONE)	2/12/2020	1400	Winter Weather			0	0	0	0	AWOS
CLAY (ZONE)	2/12/2020	1700	Cold/Wind Chill			0	0	0	0	AWOS
CLAY (ZONE)	2/19/2020	200	Winter Weather			0	0	0	0	COOP Observer
CLAY (ZONE)	3/19/2020	1700	Winter Weather			0	0	0	0	COOP Observer
CLAY (ZONE)	4/12/2020	400	Winter Storm			0	0	0	0	COOP Observer
CLAY (ZONE)	10/24/2020	1500	Winter Weather			0	0	0	0	COOP Observer
CLAY (ZONE)	11/10/2020	800	Winter Storm			0	0	0	0	COOP Observer
CLAY (ZONE)	12/23/2020	900	Blizzard			0	0	0	0	Department of Highways
CLAY (ZONE)	12/29/2020	600	Winter Weather			0	0	0	0	COOP Observer
CLAY (ZONE)	1/23/2021	1800	Winter Weather			0	0	0	0	COOP Observer
CLAY (ZONE)	1/25/2021	1000	Winter Weather			0	0	0	0	COOP Observer
CLAY (ZONE)	2/4/2021	0	Winter Weather			0	0	0	0	COOP Observer
CLAY (ZONE)	2/14/2021	300	Extreme Cold/Wind Chill			0	0	0	0	Mesonet
CLAY (ZONE)	3/14/2021	2100	Winter Weather			0	0	0	0	COOP Observer
CLAY (ZONE)	12/10/2021	1130	Winter Storm			0	0	0	0	COOP Observer
CLAY (ZONE)	12/31/2021	2200	Cold/Wind Chill			0	0	0	0	Department of Highways
CLAY (ZONE)	1/1/2022	0	Cold/Wind Chill			0	0	0	0	Mesonet
CLAY (ZONE)	1/6/2022	400	Extreme Cold/Wind Chill			0	0	0	0	Mesonet
CLAY (ZONE)	2/21/2022	1500	Winter Weather			0	0	0	0	COOP Observer
CLAY (ZONE)	2/22/2022	1800	Cold/Wind Chill			0	0	0	0	AWOS
CLAY (ZONE)	3/5/2022	1300	Winter Weather			0	0	0	0	COOP Observer
CLAY (ZONE)	11/29/2022	400	Winter Weather			0	0	0	0	COOP Observer
CLAY (ZONE)	12/8/2022	1530	Winter Storm			0	0	0	0	COOP Observer
CLAY (ZONE)	12/15/2022	700	Winter Weather			0	0	0	0	COOP Observer
CLAY (ZONE)	12/21/2022	2000	Extreme Cold/Wind Chill			0	0	0	0	Mesonet
CLAY (ZONE)	12/22/2022	1200	Blizzard			0	0	0	0	Mesonet
			35 Events							

BEGIN_LOCATION	BEGIN_DATE	EVENT_TYPE	MAGNITUI	TOR_F_SC/	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
WAKONDA	7/17/2019	Thunderstorm Wind	74		0	0	$-	$-
WAKONDA	7/17/2019	Thunderstorm Wind	65		0	0	$-	$-
BURBANK	5/24/2020	Thunderstorm Wind	53		0	0	$-	$-
VERMILLION	6/21/2020	Hail	1		0	0	$-	$-
GREENFELD	6/21/2020	Hail	1		0	0	$-	$-
BURBANK	7/3/2020	Thunderstorm Wind	64		0	0	$-	$-
MECKLING	7/6/2020	Hail	1.25		0	0	$-	$32,000.00
VERMILLION	7/28/2020	Thunderstorm Wind	56		0	0	$2,000.00	$-
VERMILLION	7/28/2020	Thunderstorm Wind	52		0	0	$1,000.00	$-
DALESBURG	10/11/2020	Hail	1		0	0	$-	$-
	1/14/2021	High Wind	50		0	0	$-	$-
WAKONDA	5/15/2021	Tornado		EFU	0	0	$-	$-
BURBANK	6/11/2021	Thunderstorm Wind	61		0	0	$-	$-
DALESBURG	7/8/2021	Hail	1		0	0	$-	$85,000.00
BURBANK	9/16/2021	Thunderstorm Wind	62		0	0	$-	$2,000.00
	12/15/2021	High Wind	53		0	0	$-	$-
	3/25/2022	Strong Wind	43		0	0	$-	$-
	4/23/2022	High Wind	50		0	0	$-	$-
MECKLING	5/11/2022	Hail	1		0	0	$-	$6,000.00
MECKLING	5/12/2022	Thunderstorm Wind	75		0	0	$-	$-
VERMILLION	5/12/2022	Thunderstorm Wind	61		0	0	$-	$-
VERMILLION	5/12/2022	Thunderstorm Wind	56		0	0	$-	$-
DALESBURG	5/12/2022	Thunderstorm Wind	71		0	0	$-	$80,000.00
VERMILLION	5/12/2022	Hail	0.75		0	0	$-	$-
VERMILLION	5/12/2022	Hail	1		0	0	$-	$-
DALESBURG	5/12/2022	Thunderstorm Wind	53		0	0	$-	$-
MECKLING	5/29/2022	Hail	1		0	0	$-	$-
WAKONDA	5/30/2022	Hail	0.88		0	0	$-	$-
WAKONDA	5/30/2022	Hail	1.5		0	0	$-	$-
WAKONDA	5/30/2022	Hail	1.25		0	0	$-	$-
DALESBURG	10/23/2022	Thunderstorm Wind	55		0	0	$-	$-
		Average wind gusts	58.6				$3,000.00	$205,000.00
		Average Hail Size	1.1					

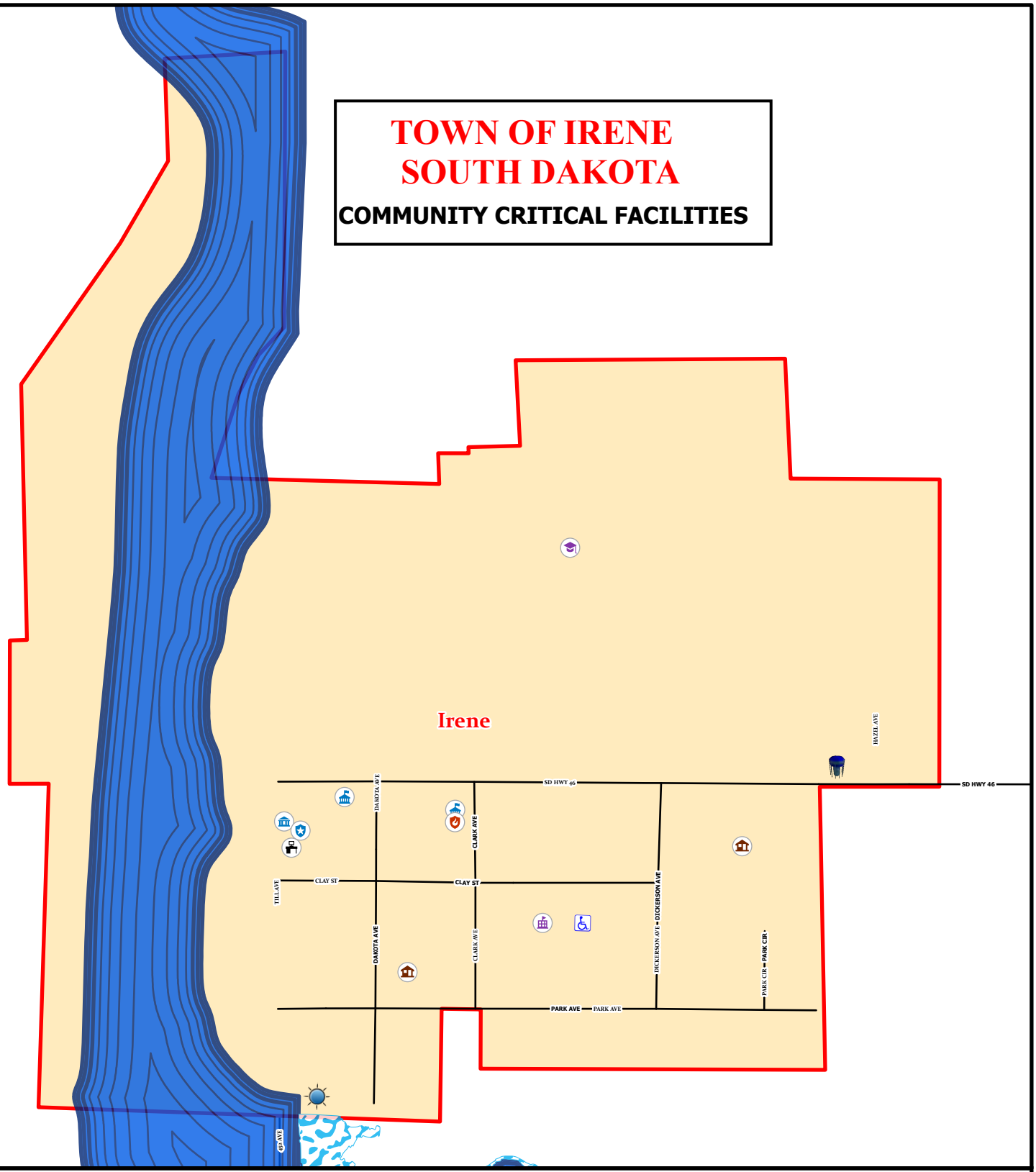
Community	BEGIN_DATE	EVENT_TYPE	DAMAGE_CROPS_NUM	END_DATE	Average Number of Days
CLAY (ZONE)	6/28/2019	Heat	$-	6/28/2019	1
CLAY (ZONE)	6/29/2019	Excessive Heat	$-	6/29/2019	1
CLAY (ZONE)	6/30/2019	Heat	$-	6/30/2019	1
CLAY (ZONE)	9/15/2020	Drought	$450,000.00	9/30/2020	15
CLAY (ZONE)	10/1/2020	Drought	$10,000.00	10/31/2020	30
CLAY (ZONE)	11/1/2020	Drought	$20,000.00	11/30/2020	29
CLAY (ZONE)	12/1/2020	Drought	$-	12/31/2020	30
CLAY (ZONE)	1/1/2021	Drought	$-	1/31/2021	30
CLAY (ZONE)	2/1/2021	Drought	$-	2/28/2021	27
CLAY (ZONE)	3/1/2021	Drought	$-	3/31/2021	30
CLAY (ZONE)	4/1/2021	Drought	$-	4/20/2021	19
CLAY (ZONE)	6/1/2021	Drought	$495,000.00	6/30/2021	29
CLAY (ZONE)	7/1/2021	Drought	$1,230,000.00	7/31/2021	30
CLAY (ZONE)	8/1/2021	Drought	$686,000.00	8/31/2021	30
CLAY (ZONE)	9/1/2021	Drought	$191,000.00	9/21/2021	20
CLAY (ZONE)	4/19/2022	Drought	$-	4/30/2022	11
CLAY (ZONE)	5/1/2022	Drought	$162,000.00	5/31/2022	30
CLAY (ZONE)	6/1/2022	Drought	$1,610,000.00	6/30/2022	29
CLAY (ZONE)	7/1/2022	Drought	$24,790,000.00	7/31/2022	30
CLAY (ZONE)	8/1/2022	Drought	$4,330,000.00	8/31/2022	30
CLAY (ZONE)	9/1/2022	Drought	$1,870,000.00	9/30/2022	29
CLAY (ZONE)	10/1/2022	Drought	$-	10/31/2022	30
CLAY (ZONE)	11/1/2022	Drought	$-	11/30/2022	29
CLAY (ZONE)	12/1/2022	Drought	$-	12/31/2022	30
Total:		24 Events	$35,844,000.00		23.75

BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_	INJURIES_	DAMAGE_PROPERTY_	DAMAGE_CROPS_	SOURCE	FLOOD_CAUSE	END_LOCATION	END_DATE	END_TIME
BURBANK	3/13/2019	12:55	Flood	0	0	$440,000.00	$-	COOP Observer	Heavy Rain / Snow Melt	DALESBURG	3/15/2019	10:00
WAKONDA	3/13/2019	17:35	Flood	0	0	$-	$-	COOP Observer	Heavy Rain / Snow Melt	DALESBURG	3/15/2019	14:00
WAKONDA	3/14/2019	1:00	Flood	0	0	$-	$-	River/Stream Gage	Heavy Rain / Snow Melt	WAKONDA	3/28/2019	8:00
WESTERVILLE	3/15/2019	22:45	Flood	0	0	$-	$-	River/Stream Gage	Heavy Rain / Snow Melt	DAVIDSON ARPT	3/25/2019	17:45
WAKONDA	4/9/2019	22:00	Flood	0	0	$-	$-	River/Stream Gage	Heavy Rain	WAKONDA	4/26/2019	21:00
WAKONDA	5/11/2019	2:00	Flood	0	0	$-	$-	River/Stream Gage	Heavy Rain	WAKONDA	5/15/2019	3:00
WAKONDA	5/25/2019	2:00	Flood	0	0	$-	$-	River/Stream Gage	Heavy Rain	WAKONDA	5/31/2019	23:59
WESTERVILLE	5/30/2019	19:30	Flood	0	0	$-	$-	River/Stream Gage	Heavy Rain	DAVIDSON ARPT	5/31/2019	23:59
WAKONDA	6/1/2019	0	Flood	0	0	$-	$-	River/Stream Gage	Heavy Rain	WAKONDA	6/6/2019	2:00
WESTERVILLE	6/1/2019	0	Flood	0	0	$-	$-	River/Stream Gage	Heavy Rain	DAVIDSON ARPT	6/4/2019	6:00
BURBANK	6/1/2019	0	Flood	0	0	$-	$26,430,000.00	Other Federal Agency	Heavy Rain	DALESBURG	6/30/2019	23:00
BURBANK	9/12/2019	0	Flood	0	0	$-	$22,000.00	Other Federal Agency	Heavy Rain	DALESBURG	9/16/2019	12:00
WAKONDA	9/13/2019	4:00	Flood	0	0	$20,000.00	$-	River/Stream Gage	Heavy Rain	WAKONDA	9/18/2019	22:00
WESTERVILLE	9/18/2019	10:00	Flood	0	0	$10,000.00	$-	River/Stream Gage	Heavy Rain	DAVIDSON ARPT	9/21/2019	3:00
WAKONDA	3/7/2020	4:00	Flood	0	0	$-	$-	River/Stream Gage	Heavy Rain / Snow Melt	WAKONDA	3/10/2020	9:00
WAKONDA	4/1/2020	2:00	Flood	0	0	$-	$-	River/Stream Gage	Heavy Rain	WAKONDA	4/1/2020	19:00
VERMILLION	7/28/2020	19:15	Flash Flood	0	0	$-	$-	Social Media	Heavy Rain	VERMILLION	7/28/2020	20:30
VERMILLION	7/28/2020	19:35	Flash Flood	0	0	$-	$-	Social Media	Heavy Rain	VERMILLION	7/28/2020	20:30
		8:48	18 Events	0	0	$470,000.00	$26,452,000.00					18:43

Appendix K
Critical Facilities & Flood Zone Maps


IRENE
WAKONDA
VERMILLION
CLAY COUNTY
SOUTH DAKOTA
COUNTY CRITICAL FACILITIES
Lagoon
Flood Zone
A
AE
X
Pump House
Electric Sub Station
Telecomunication Tower
City Shop
Roads
Park
Post Office
County Shop
Church
Compground
Pump Station
Radio Tower
SECOG Geographic Information Services
SECOG
N
W
E
S
0
10,000
20,000
40,000
Feet

TOWN OF IRENE
SOUTH DAKOTA
COMMUNITY CRITICAL FACILITIES



- Lagoon
- City Hall
- Courthouse
- Government Building
- Hospital
- Ambulance
- Fire Station
- Police Station
- Daycare
- School
- Nursing Home/ Senior Center
- Shelter
- Water Tower
- Water Treatment
- Lift Station
- Airport

Flood Zone

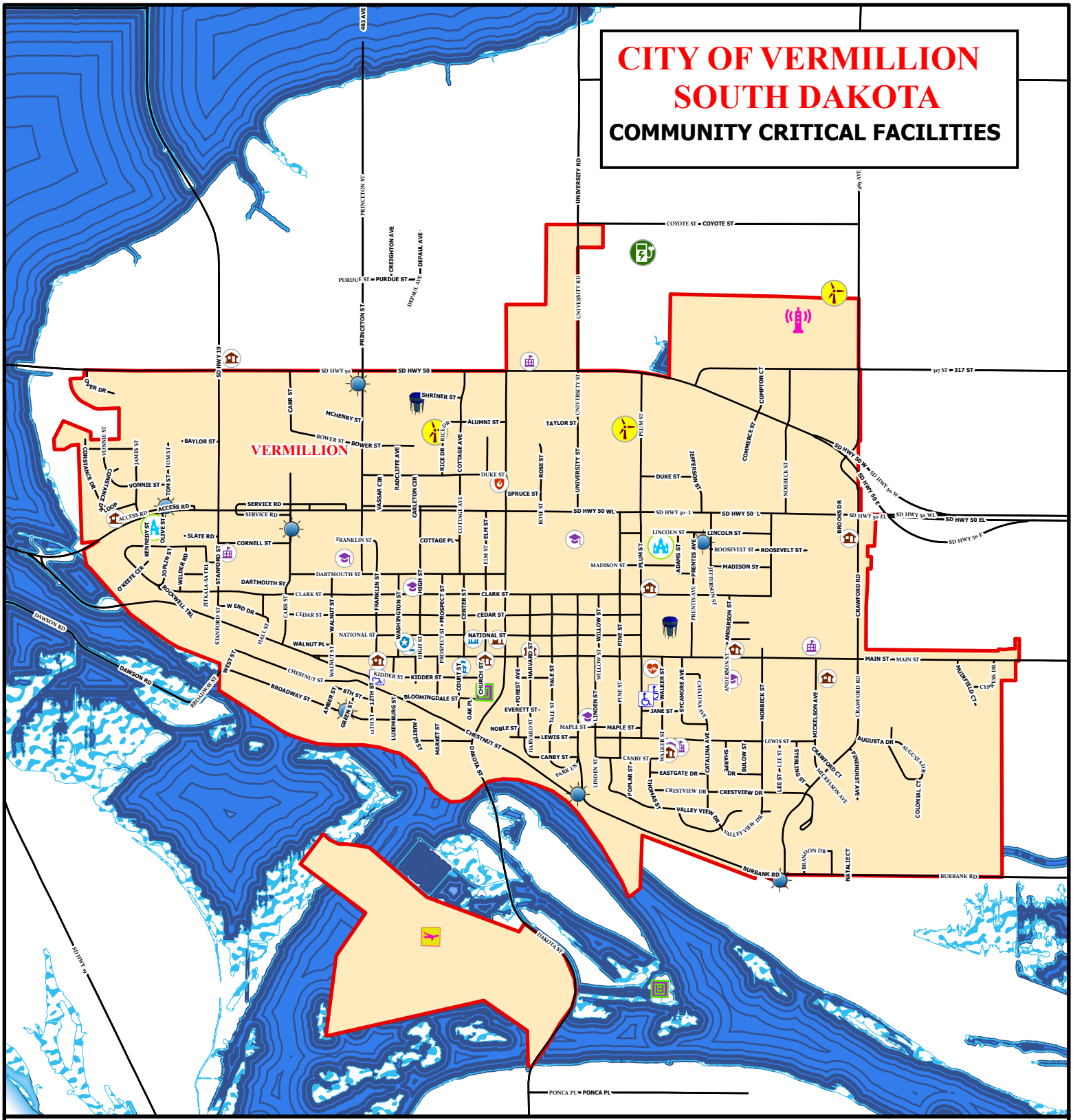
- A
- AE
- X
- City Shop
- Roads
- City Boundary
- Park
- Post Office
- County Shop

SECOG Geographic Information Services

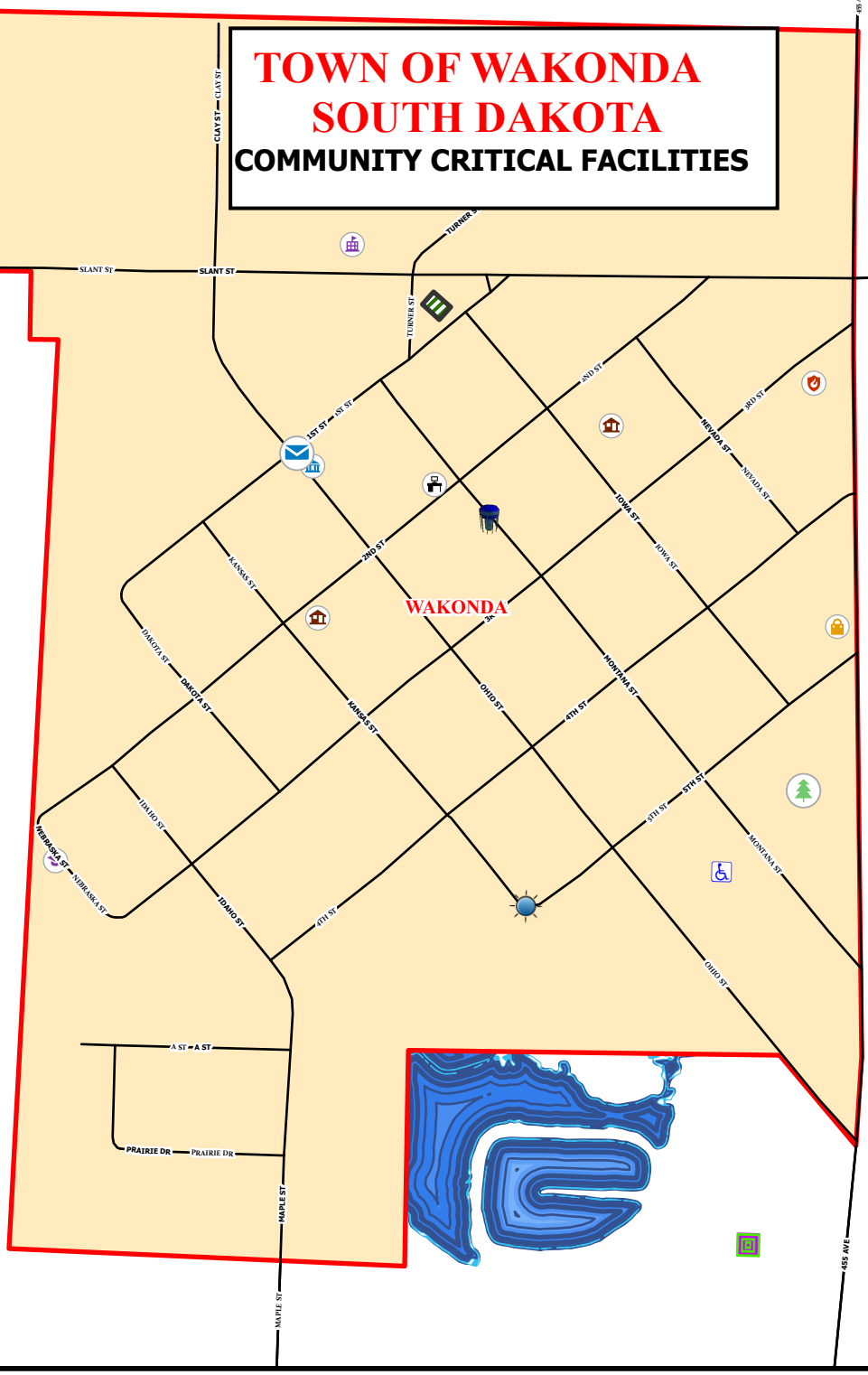
SECOG

N
W E
S

0 345 690 1,380 Feet


CITY OF VERMILLION
SOUTH DAKOTA
COMMUNITY CRITICAL FACILITIES
VERMILLION
Lagoon
City Hall
Courthouse
Government Building
Hospital
Ambulance
Fire Station
Police Station
Daycare
School
Nursing Home/ Senior Center
Shelter
Water Tower
Water Treatment
Lift Station
Airport
Flood Zone
A
AE
X
Pump House
Electric Sub Station
Telecomunication Tower
City Shop
Roads
Park
Post Office
County Shop
Church
City Boundary
Compground
Pump Station
Radio Tower
SECOG Geographic Information Services
SECOG
N
W
E
S
0
1,500
3,000
6,000
Feet

TOWN OF WAKONDA
SOUTH DAKOTA
COMMUNITY CRITICAL FACILITIES



- Lagoon
- City Hall
- Courthouse
- Government Building
- Hospital
- Ambulance
- Fire Station
- Police Station
- Daycare
- School
- Nursing Home/ Senior Center
- Shelter
- Water Tower
- Water Treatment
- Lift Station
- Airport

Flood Zone

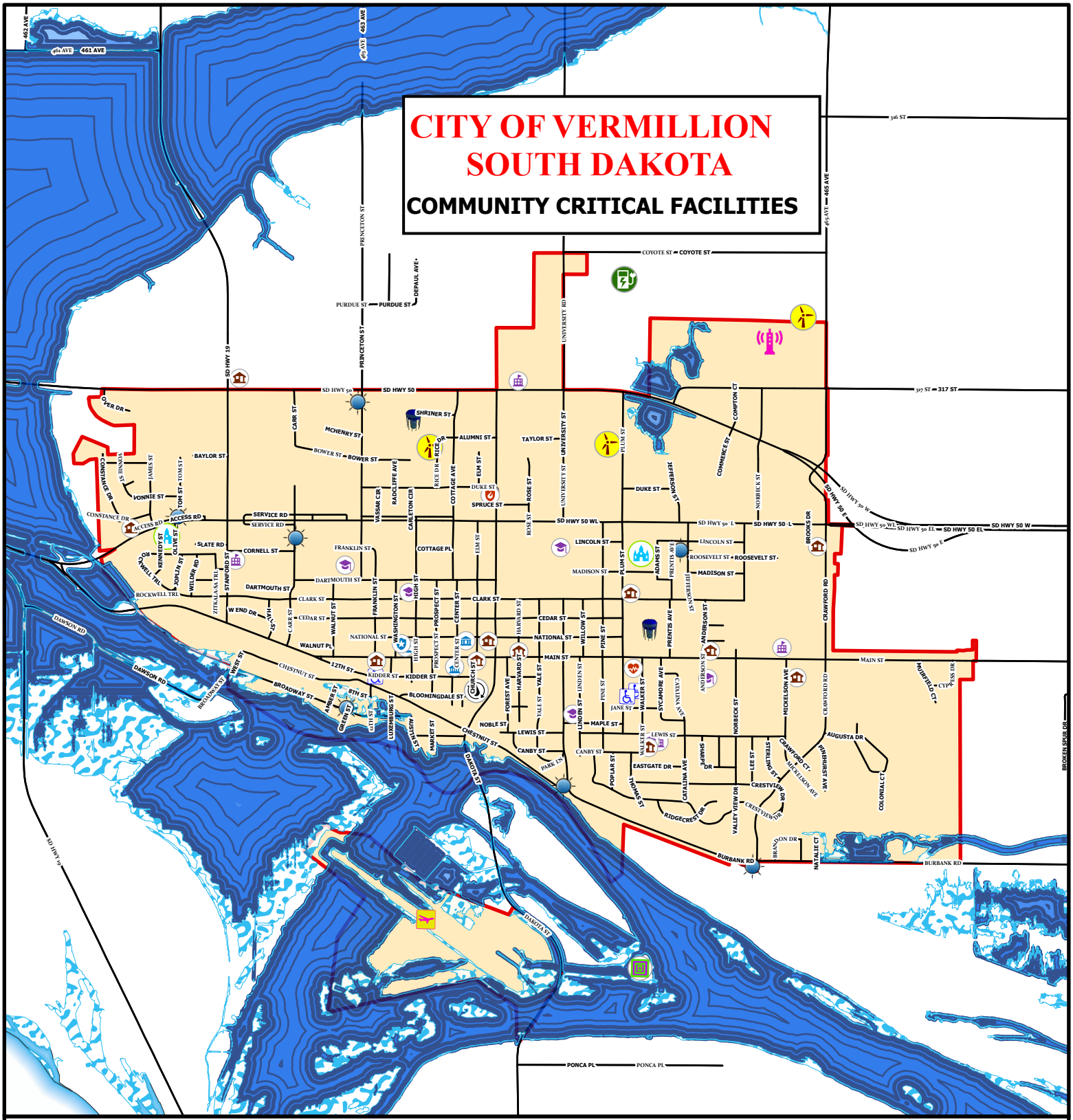
- A
- AE
- X
- City Shop
- Roads
- City Boundary
- Park
- Post Office
- County Shop

SECOG Geographic Information Services

SECOG

N W E S

0 400 800 1,600 Feet


CITY OF VERMILLION
SOUTH DAKOTA
COMMUNITY CRITICAL FACILITIES
Lagoon
City Hall
Courthouse
Government Building
Hospital
Ambulance
Fire Station
Police Station
Daycare
School
Nursing Home/ Senior Center
Shelter
Water Tower
Water Treatment
Lift Station
Airport
Flood Zone
A
AE
X
City Shop
Roads
Park
Post Office
County Shop
City Boundary
Pump Station
Wastewater Treatment Facility
SECOG Geographic Information Services
SECOG
N
W
E
S
0
1,500
3,000
6,000
Feet

Appendix L
Identifying Vulnerable Assets Activity

Identifying Assets Activity

Clay County	
People	
Example 1	Elderly, those in nursing homes
Example 2	Students in dormatories
Example 3	
What makes this group vulnerable?	These poplulations are helpless. They have no car, no tools, and often very low income. During prolnged heat or cold they hare home bound and will likely run out of food. This is expecially troubling when they are also out of power with no means to cook food.
Issues with recovery after an event?	
Structures	
Example 1	Dakota Dome
Example 2	Sanford Vermillion
Example 3	
What makes this group vulnerable?	The Dakota Dome holds several thousand people, all of whom might need to be evacuated simuntaneously in the event of a problem. Sanford Vermillion is our only hospital.
Issues with recovery after an event?	
Economic Assets	
Example 1	USD
Example 2	Masaba/Polaris
Example 3	Agriculture
What makes this group vulnerable?	These are majoy employers and draw many people to Clay County each day to shop and eat. Los of major business would have a large impact on small businesses.
Issues with recovery after an event?	
Natural, Historic, and Cultural Resources	
Example 1	Missouri River
Example 2	
Example 3	
What makes this group vulnerable?	The Missouri River has the potential to overflow the river banks and cause major flooding. Vermillion flooded and washed away in 1882.
Issues with recovery after an event?	
Community Activities	
Example 1	
Example 2	
Example 3	
What makes this group vulnerable?	
Issues with recovery after an event?	

Identifying Assets Activity

City of Vermillion	
People	
Example 1	Homebound individuals
Example 2	Students
Example 3	
	Streets can't be cleared due to heavy snow. Meals can't be delivered to homebound individuals.
What makes this group vulnerable?	Students aren't able to get to school.
	They don't have the physical ability to address the hazard and may not have the knowledge of
Issues with recovery after an event?	what to do in this situation.
Structures	
Example 1	Senior center
Example 2	
Example 3	
What makes this group vulnerable?	The roof might collaps and meals are prepared here.
Issues with recovery after an event?	No issues.
Economic Assets	
Example 1	Schools
Example 2	Businesses
Example 3	Hospitals
What makes this group vulnerable?	Aren't able to operate or open if staff is unable to get their during weather events.
Issues with recovery after an event?	No issues.
Natural, Historic, and Cultural Resources	
Example 1	Spring flooding with large snow storm.
Example 2	Wet heavy snow may damage the roof.
Example 3	
What makes this group vulnerable?	None.
Issues with recovery after an event?	None.
Community Activities	
Example 1	School events
Example 2	Community events
Example 3	Community gatherings
What makes this group vulnerable?	Activies at all examples are cancelled as they are not essential items that must happen.

Issues with recovery after an event?	No issues.

Identifying Assets Activity

STAR Township	
People	
Example 1	Local Residents
Example 2	Commuters
Example 3	Farmers
What makes this group vulnerable?	Weather events can affect the ability of these groups to get to work, perform their farming operations and receive emergency services.
Issues with recovery after an event?	None
Structures	
Example 1	Homes
Example 2	Farm Buildings
Example 3	Utility Infrastructure
What makes this group vulnerable?	Weather events can cause damage to all of the structures and create hardships or injuries to occupants.
Issues with recovery after an event?	
Economic Assets	
Example 1	Local Businesses
Example 2	Communications Networks
Example 3	None
What makes this group vulnerable?	Weather events can affect the number of customers that visit local businesses and can disrupt communication during emergencies.
Issues with recovery after an event?	None
Natural, Historic, and Cultural Resources	
Example 1	None
Example 2	None
Example 3	None
What makes this group vulnerable?	None
Issues with recovery after an event?	None
Community Activities	
Example 1	Farming
Example 2	High school athletic contests
Example 3	Church
What makes this group vulnerable?	Weather events will limit participation. Drought will severely affect farmers income.
Issues with recovery after an event?	

Identifying Assets Activity

City of Vermillion	
People	
Example 1	Nursing homes, mass elderly care facilities, individuals with disabilities
Example 2	Homeless population during warmer months
Example 3	Residences dependant on electricity
What makes this group vulnerable?	Lack of public shelter available. If there is a loss of electricity people have no secondary means for heat or power. There is no public transporation availale for means of getting people to shelters in the need of an emergency.
Issues with recovery after an event?	None.
Structures	
Example 1	USD Dakota Dome - emergency building
Example 2	Main Fire Station
Example 3	Walmart
What makes this group vulnerable?	USD Dakota Dome is the largest building to be used for mass sheltering in the event of a disaster. If the building were damaged the would create a challenge for mass sheltering. Main fire station is where all emergency medical supplies are located and is also a temporary storm shelter. In the event this building was damaged in a sever weather event it would create issues for medical staff to get supplies and others to have shelter. If damage occurs to Walmart it would cause supply issues as Walmart is the biggest supplier of food and toiletries in the area. Hospital is a major employer and many staff live outside of town. This could be an issue when transporation is limited in the event of a disaster.
Issues with recovery after an event?	None.
Economic Assets	
Example 1	Emergency Communication Center
Example 2	
Example 3	
What makes this group vulnerable?	
Issues with recovery after an event?	
Natural, Historic, and Cultural Resources	
Example 1	Spirit Mound
Example 2	
Example 3	
What makes this group vulnerable?	
Issues with recovery after an event?	
Community Activities	
Example 1	4H Fair
Example 2	Dakota Days
Example 3	
What makes this group vulnerable?	Dakota Days and the fair draw many visitors to the area. These visitors do not have a residence to take shelter in in the event of a storm which could create a need for a larger storm shelter.
Issues with recovery after an event?	

Identifying Assets Activity

Vermillion School District	
People	
Example 1	Seniors
Example 2	USD Students
Example 3	Chronically ill people
What makes this group vulnerable?	The transit nature of students and their limited stability in the community could make them an at risk population. Seniors inability to drive themselves in severe weather. No power would mean no access ot medication and Healthcare. Individuals with chronic illness would not be able to travel to healthcare facilities or to get medication that is necessary.
Issues with recovery after an event?	
Structures	
Example 1	Schools (k-12 and USD)
Example 2	Low income housing
Example 3	
What makes this group vulnerable?	Schools cancel due to weather. Low income housing lack of proper HVAC systems leading to damaged occcupancies.
Issues with recovery after an event?	
Economic Assets	
Example 1	Farming Industries
Example 2	
Example 3	
What makes this group vulnerable?	Drought/severe weather destroys crops and posiblly housing
Issues with recovery after an event?	
Natural, Historic, and Cultural Resources	
Example 1	
Example 2	
Example 3	
What makes this group vulnerable?	
Issues with recovery after an event?	
Community Activities	
Example 1	Dakota Farm Show
Example 2	
Example 3	
What makes this group vulnerable?	
Issues with recovery after an event?	

Identifying Assets Activity

Vermillion Public Transit	
People	
Example 1	People with disabilities
Example 2	Seniors
Example 3	Low Income
What makes this group vulnerable?	Access to essentials such as food and healthcare. Limited transporation.
Issues with recovery after an event?	
Structures	
Example 1	New grade school
Example 2	Hospital
Example 3	
What makes this group vulnerable?	Structures are not complete yet. Damage to hospital will affect the community.
Issues with recovery after an event?	
Economic Assets	
Example 1	Electrical lines into Vermillion
Example 2	USD Facilities
Example 3	Water Facilities
What makes this group vulnerable?	Wind can affect lines with poles. Structure damage at USD.
Issues with recovery after an event?	Floods could affect sewage system.
Natural, Historic, and Cultural Resources	
Example 1	Spirit Mound
Example 2	Clay County Park
Example 3	Vermillion and Missouri Rivers
What makes this group vulnerable?	Drought can affect grasses and native plants. Higher risk of fire. Floods can affect habitat.
Issues with recovery after an event?	
Community Activities	
Example 1	Farming
Example 2	
Example 3	
What makes this group vulnerable?	All weather events can affect farming.
Issues with recovery after an event?	

Identifying Assets Activity

USD	
People	
Example 1	Senior Citizens
Example 2	Homeless Population
Example 3	Low income families
What makes this group vulnerable?	
Issues with recovery after an event?	
Structures	
Example 1	Storm damaged buildings
Example 2	Places for community to go
Example 3	
	Severe Summer Storms have the potential to cause property damage, make centers unavailable to the community.
What makes this group vulnerable?	Postpone or prolong completion of needed community improvements
Issues with recovery after an event?	
Economic Assets	
Example 1	Loss of crops
Example 2	Unable to operate business
Example 3	communication services down
What makes this group vulnerable?	Loss of all communication towers could impact all of the community to respond to emergencies and allow people to have access to needed services.
Issues with recovery after an event?	
Natural, Historic, and Cultural Resources	
Example 1	Loss of critical habitats
Example 2	Parks
Example 3	
What makes this group vulnerable?	Unable to maintain or allow access to parkes from drought, flooding, or severe storms.
Issues with recovery after an event?	
Community Activities	
Example 1	
Example 2	
Example 3	
What makes this group vulnerable?	
Issues with recovery after an event?	

Identifying Assets Activity

Irene and Wakonda	
People	
Example 1	All residents in the flood plain.
Example 2	None
Example 3	None
What makes this group vulnerable?	They can't get to work, may not get emergency services, and cant get supplies.
	It takes a long time to fix roads/culverts/bridges. Difficult to get assistance from FEMA.
Issues with recovery after an event?	Can't get supplies needed for repairs due to supply chain shortages
Structures	
Example 1	None
Example 2	None
Example 3	None
What makes this group vulnerable?	None
Issues with recovery after an event?	None
Economic Assets	
Example 1	Bridges and roads for infrastructure
Example 2	None
Example 3	None
What makes this group vulnerable?	None
Issues with recovery after an event?	None
Natural, Historic, and Cultural Resources	
Example 1	Clay County Park
Example 2	None
Example 3	None
What makes this group vulnerable?	Bank stabilization is critical during earlier flooding of the Missouri River
Issues with recovery after an event?	None
Community Activities	
Example 1	Farming - flooding ruined many farm land acres.
Example 2	None
Example 3	None
What makes this group vulnerable?	Flooding wiped out the crops and prevented planting.
Issues with recovery after an event?	Recovery can be slow and take some time.

Identifying Assets Activity

SESDAC	
People	
Example 1	People with disabilities
Example 2	Homeless
Example 3	Low-income families
What makes this group vulnerable?	In a snow event peole that need medications may not be able to get their meds.
Issues with recovery after an event?	Had to get 4 wheel drive vehicle and go get the medications and deliver them to homes.
Structures	
Example 1	SESDAC main building (1314 Cherry St.)
Example 2	
Example 3	
What makes this group vulnerable?	Have had bad roof leak from heavy rain storm.
Issues with recovery after an event?	Had to close part of a building down until clean up was finished. Have not had any issues with clean ups.
Economic Assets	
Example 1	Sanford
Example 2	City of Vermillion
Example 3	Transit #3
What makes this group vulnerable?	Sanford is a necessity during a hazard as they provide medical assistance. City of Vermillion during and after sotrm events, clean up. Having transportation is a must for people that don't have their own means of transportation.
Issues with recovery after an event?	None
Natural, Historic, and Cultural Resources	
Example 1	None
Example 2	None
Example 3	None
What makes this group vulnerable?	None
Issues with recovery after an event?	None
Community Activities	
Example 1	None
Example 2	None

Example 3	None
What makes this group vulnerable?	None
Issues with recovery after an event?	None

Identifying Assets Activity

COV Fire EMS	
People	
Example 1	Residents
Example 2	Seniors/disabled populations
Example 3	Workers
What makes this group vulnerable?	Residents living in flood plain areas could see property damage and potential loss of life. Seniors and disabled populations have a even greater threat. Workers could have longer time responding as floods could block roadways.
Issues with recovery after an event?	None.
Structures	
Example 1	Senior Centers
Example 2	Hospitals
Example 3	None.
What makes this group vulnerable?	Heavy rainfall could flood basements to critical structures causing damage or issues that are potentially fatal to certain populations.
Issues with recovery after an event?	
Economic Assets	
Example 1	Wastewater Treatment Facility
Example 2	None.
Example 3	None.
What makes this group vulnerable?	Flooding could erode river bank damaging the wastewater treatment facility and causing environmental risks
Issues with recovery after an event?	None.
Natural, Historic, and Cultural Resources	
Example 1	Cotton Park
Example 2	Missouri River Basin
Example 3	None.
What makes this group vulnerable?	Low lying park could be damaged by flooding, protected environmental areas along the Missouri River Basin could be eliminated.
Issues with recovery after an event?	None.
Community Activities	
Example 1	Farm Land
Example 2	None.
Example 3	None.
What makes this group vulnerable?	Farmland in flood zones could see damage and losses.
Issues with recovery after an event?	Erosion could cause permanent losses to farmland.

Identifying Assets Activity

Riverside Township	
People	
Example 1	General Population
Example 2	
Example 3	
What makes this group vulnerable?	Winter storms make roadways hard to access. Loss of utilities can creat issues accessing medical necessities.
Issues with recovery after an event?	
Structures	
Example 1	Government
Example 2	Farming
Example 3	
What makes this group vulnerable?	Flooding costs or repair interfear with planned capital asset purchases and loss of farm revenues planned as assets.
Issues with recovery after an event?	
Economic Assets	
Example 1	Roadways
Example 2	
Example 3	
What makes this group vulnerable?	Flooding washes out roads which can cause loss of gravel surface which is high in cost and could take some time to repair due to the high cost associated.
Issues with recovery after an event?	
Natural, Historic, and Cultural Resources	
Example 1	
Example 2	
Example 3	
What makes this group vulnerable?	
Issues with recovery after an event?	
Community Activities	
Example 1	Farming
Example 2	
Example 3	
What makes this group vulnerable?	Drought would cause damage to crops and land. Flooding makes it hard to access some farm land and also would damage crops and land.
Issues with recovery after an event?	

VERMILION PUBLIC TRANSIT

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Identifying Assets

Review the Hazard Activity and Problem Statement Activity results where you described issues that you have with the identified hazards. We are now going to look at specific community assets that can be affected by the identified hazards.

Instructions: For the hazards that affect your community, identify two to three examples of assets that can be affected by the identified hazards.

Vulnerable Assets	
People (Residents, workers, visiting populations, and socially vulnerable populations like seniors, individuals with disabilities, lower-income individuals, etc.)	
Example #1	PEOPLE W/ DISABILITIES
Example #2	SENIORS
Example #3	LOW INCOME
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
ACCESS TO ESSENTIALS (FOOD, HEALTHCARE) POSSIBLY LIMITED TRANSPORTATION	
Structures (Community centers, historic places, planned capital improvement)	
Example #1	NEW GRADE SCHOOL BEING BUILT
Example #2	HOSPITAL
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
STRUCTURE NOT COMPLETE YET DAMAGE TO HOSPITAL WILL AFFECT THE COMMUNITY	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Economic Assets (Major employers, primary economic sectors, key infrastructure like telecommunications networks)	
Example #1	ELECTRICAL LINES INTO VERN
Example #2	USD FACILITIES
Example #3	WATER FACILITIES
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
WIND CAN AFFECT LINES & POLES STRUCTURE DAMAGE @ USD FLOODS COULD AFFECT ~~WATER SUPPLIES~~ SEWAGE SYSTEM	

Natural, Historic, and Cultural Resources (Areas of conservation, beaches, parks, critical habitats)	
Example #1	SPIRIT MOUND
Example #2	CLAY CO PARK
Example #3	VERMILLION & MISSOURI RIVERS
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
DROUGHT CAN AFFECT GRASSES & NATIVE PLANTS HIGHER RISK OF FIRE FLOODS CAN AFFECT ~~HABITAT~~	

Community Activities (Major local events such as festivals or economic events like farming or fishing)	
Example #1	FARMING
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
ALL WEATHER EVENTS CAN AFFECT FARMING – SNOW, TORNADO, WIND & DROUGHT	

Irene / Wakanda

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Identifying Assets

Review the Hazard Activity and Problem Statement Activity results where you described issues that you have with the identified hazards. We are now going to look at specific community assets that can be affected by the identified hazards.

Instructions: For the hazards that affect your community, identify two to three examples of assets that can be affected by the identified hazards.

Flooding

Vulnerable Assets	
People (Residents, workers, visiting populations, and socially vulnerable populations like seniors, individuals with disabilities, lower-income individuals, etc.)	
Example #1	All residents in the flooding area
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
You can't get to work, may not get emergency services, can't get supplies, emergency response It takes a long time to fix roads/culverts/bridges - - difficult to get FEMA assistance - can't get supplies needed for repair	
Structures (Community centers, historic places, planned capital improvement)	
Example #1	
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Economic Assets (Major employers, primary economic sectors, key infrastructure like telecommunications networks)	
Example #1	Bridges + Roads for infrastructure
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	

Natural, Historic, and Cultural Resources (Areas of conservation, beaches, parks, critical habitats)	
Example #1	Clay County Park during earlier flood - Missouri River flood
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Bank stabilization is critical	

Community Activities (Major local events such as festivals or economic events like farming or fishing)	
Example #1	Farming - flooding ruined many farm land acres.
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
- Wiped out the crops and/or prevented planting. Id economic stability for farmers / clay county - Recovery can be slow for the farming community	

SESDAC

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Identifying Assets

Review the Hazard Activity and Problem Statement Activity results where you described issues that you have with the identified hazards. We are now going to look at specific community assets that can be affected by the identified hazards.

Instructions: For the hazards that affect your community, identify two to three examples of assets that can be affected by the identified hazards.

Vulnerable Assets	
People (Residents, workers, visiting populations, and socially vulnerable populations like seniors, individuals with disabilities, lower-income individuals, etc.)	
Example #1	PEOPLE WITH DISABILITYS
Example #2	HOMELESS
Example #3	LOW-INCOME FAMILIES
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
IF A SNOW EVENT HAPPENS, PEOPLE THAT NEED MEDICATIONS MAY NOT BE ABLE TO GET THOSE MEDS, ∴ IN RESULT: HAD TO GET 4 WHEEL DRIVE PICK-UP AND GO GET MEDS & DELIVERED TO HOUSES	
Structures (Community centers, historic places, planned capital improvement)	
Example #1	SESDAC MAIN BUILDING 1314 CHERRY ST
Example #2	—
Example #3	—
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
- HAD BAD ROOF LEAK FROM RAIN STORM (HEAVY) - HAD TO CLOSE PART OF BUILDING DOWN UNTIL CLEAN UP WAS FINISHED - NEVER ANY ISSUES WITH CLEAN UPS	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Economic Assets (Major employers, primary economic sectors, key infrastructure like telecommunications networks)	
Example #1	SANFORD
Example #2	~~[illegible]~~ ↑
Example #3	CITY OF VERMILLION ↑↓ TRANSIT #3↓
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
- SANFORD IS A MUST NEED DURING A HAZARD - City OF Vermillion During / AFTER STORM EVENTS, CLEAN UP - HAVING TRANSPORTATION IS A MUST FOR PEOPLE THAT DON'T HAVE TRANSPORTATION	

Natural, Historic, and Cultural Resources (Areas of conservation, beaches, parks, critical habitats)	
Example #1	
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	

Community Activities (Major local events such as festivals or economic events like farming or fishing)	
Example #1	
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	

Vermillion

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Identifying Assets

Review the Hazard Activity and Problem Statement Activity results where you described issues that you have with the identified hazards. We are now going to look at specific community assets that can be affected by the identified hazards.

Instructions: For the hazards that affect your community, identify two to three examples of assets that can be affected by the identified hazards.

Vulnerable Assets	
People (Residents, workers, visiting populations, and socially vulnerable populations like seniors, individuals with disabilities, lower-income individuals, etc.)	
Example #1	Streets can't be cleared due to heavy snow
Example #2	Meals can't be delivered to homebound
Example #3	School kids aren't able to get to school
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Don't have physical ability to address the hazard. May not have knowledge of what to do in this situation.	
Structures (Community centers, historic places, planned capital improvement)	
Example #1	Roof at senior center might collapse - meals prepared here.
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
No issues.	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Economic Assets (Major employers, primary economic sectors, key infrastructure like telecommunications networks)	
Example #1	Schools and businesses aren't able to operate or open
Example #2	Hospital and clinics struggle to have enough staff able to get there to operate!
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Dependent on being able to move about and bring in resources. With major snow storm this is severely limited	
Natural, Historic, and Cultural Resources (Areas of conservation, beaches, parks, critical habitats)	
Example #1	Have spring flooding with large snow storm
Example #2	Wet heavy snow may damage roofs
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Nothing in particular	
Community Activities (Major local events such as festivals or economic events like farming or fishing)	
Example #1	School events cancelled
Example #2	Community events cancelled
Example #3	Community gathering events postponed
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Not essential items that have to happen. No issues	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

STAR TOWNSHIP
Clay County
Pre-Disaster Mitigation Plan Update

Identifying Assets

Review the Hazard Activity and Problem Statement Activity results where you described issues that you have with the identified hazards. We are now going to look at specific community assets that can be affected by the identified hazards.

Instructions: For the hazards that affect your community, identify two to three examples of assets that can be affected by the identified hazards.

Vulnerable Assets	
People (Residents, workers, visiting populations, and socially vulnerable populations like seniors, individuals with disabilities, lower-income individuals, etc.)	
Example #1	Local Residents
Example #2	Commuters
Example #3	Farmers
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Storms, floods, severe weather can affect the ability of these groups to get to work, perform their farming operations and receiving emergency services.	
Structures (Community centers, historic places, planned capital improvement)	
Example #1	Homes
Example #2	Farm Buildings
Example #3	utility Infrastructure
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Severe storms and high winds, heavy snow, ice etc. can cause damage to all of these and create hardships and injuries to their occupants and users.	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Economic Assets (Major employers, primary economic sectors, key infrastructure like telecommunications networks)	
Example #1	Local businesses
Example #2	Communications networks
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Severe storms, drought, etc. can affect the amount of customers at local business, and can disrupt communication during emergencies.	
Natural, Historic, and Cultural Resources (Areas of conservation, beaches, parks, critical habitats)	
Example #1	Townships don't have much of these.
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Community Activities (Major local events such as festivals or economic events like farming or fishing)	
Example #1	Farming
Example #2	High School Athletic Contests
Example #3	Church
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Severe storms and ice will & Limit participation in these activites, and drought will severely affect farming income.	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

COV Fire Grms

Identifying Assets

Review the Hazard Activity and Problem Statement Activity results where you described issues that you have with the identified hazards. We are now going to look at specific community assets that can be affected by the identified hazards.

Instructions: For the hazards that affect your community, identify two to three examples of assets that can be affected by the identified hazards.

Vulnerable Assets	
People (Residents, workers, visiting populations, and socially vulnerable populations like seniors, individuals with disabilities, lower-income individuals, etc.)	
Example #1	Residents
Example #2	Seniors, disabled populations
Example #3	Workers
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
#1 Residents living in flood zone areas could see property damage and potential loss of life. #2 Even greater threat to those in these populations #3 Workers could have hinder trip responding as floods could block road ways etc.	
Structures (Community centers, historic places, planned capital improvement)	
Example #1	Senior Centers
Example #2	Hospitals
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Heavy rainfall could flood basements to critical structures causing damage or issues that are potentially fatal to certain populations.	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Economic Assets (Major employers, primary economic sectors, key infrastructure like telecommunications networks)	
Example #1	Wastewater Treatment Facility
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Flooding could erode river bank damaging the wastewater ~~treatment~~ facility. Causing environmental risks	
Natural, Historic, and Cultural Resources (Areas of conservation, beaches, parks, critical habitats) Flooding	
Example #1	Cotton Park
Example #2	Missouri River basin
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Low lying park could be damaged by flooding, protected environmental areas along the Missouri River basin could be eliminated.	
Community Activities (Major local events such as festivals or economic events like farming or fishing)	
Example #1	Farm land
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Farmland in flood zones could see damage and losses. Erosion could cause permanent losses to farm land.	

Citizen Caitlin Collier

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Identifying Assets

Review the Hazard Activity and Problem Statement Activity results where you described issues that you have with the identified hazards. We are now going to look at specific community assets that can be affected by the identified hazards.

Instructions: For the hazards that affect your community, identify two to three examples of assets that can be affected by the identified hazards.

Vulnerable Assets	
People (Residents, workers, visiting populations, and socially vulnerable populations like seniors, individuals with disabilities, lower-income individuals, etc.)	
Example #1	Seniors / individuals w/ disabilities, low-income
Example #2	People who do NOT realize they need help
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
1. In extreme heat & cold, these individuals are in danger - hypothermia (cold), heatstroke, dehydration. Loss of electricity = loss of heat & cooling. 2. May be right now	
Structures (Community centers, historic places, planned capital improvement)	
Example #1	Grocery stores, food bank, restaurants,
Example #2	hospital, nursing home, schools.
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Loss of elec. → freezers out = loss of food & medicine. Inability to use med. equipment. Loss of AC = dangers of ~~hypothermia~~ heatstroke or death. More people die of extreme heat than any other natural disaster (Flood, tornado, wildfire, winter storm)	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Economic Assets (Major employers, primary economic sectors, key infrastructure like telecommunications networks)	
Example #1	USD, Midco, cell towers, Sanford –
Example #2	Vermillion, VSD - schools
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Necessary for public health & welfare. Emergency calls made & received to 911, etc. Absolute necessity in disasters.	
Natural, Historic, and Cultural Resources (Areas of conservation, beaches, parks, critical habitats)	
Example #1	old growth forests, trees everywhere
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Loss of large # of trees = more heat, more soil degradation, increased summer heat, loss of wild life habitat, increases amount of & depth of snowdrifts.	
Community Activities (Major local events such as festivals or economic events like farming or fishing)	
Example #1	
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Spirit Mound Township

Identifying Assets

Review the Hazard Activity and Problem Statement Activity results where you described issues that you have with the identified hazards. We are now going to look at specific community assets that can be affected by the identified hazards.

Instructions: For the hazards that affect your community, identify two to three examples of assets that can be affected by the identified hazards.

Vulnerable Assets	
People (Residents, workers, visiting populations, and socially vulnerable populations like seniors, individuals with disabilities, lower-income individuals, etc.)	
Example #1	~~Strangers~~ Senior Citizens older population can be Stranded during storms
Example #2	agriculter worker can be injured outside if caught outside
Example #3	~~tourists~~ livestock & pets can be injured or Killed outside with building collapse
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Rural population is usually isolated without help	
Structures (Community centers, historic places, planned capital improvement)	
Example #1	Peaking Plant (Power Plant)
Example #2	~~Story~~ Lewis & Clark Rural Water
Example #3	Clay Rural Water
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Power plant could be destroyed	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Economic Assets (Major employers, primary economic sectors, key infrastructure like telecommunications networks)	
Example #1	Clay Union Electric
Example #2	Lewis & Clark Rural Water
Example #3	Loss of jobs
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Building & Grounds Destruction Have not had a disaster yet for Them	
Natural, Historic, and Cultural Resources (Areas of conservation, beaches, parks, critical habitats)	
Example #1	Spirit Mound
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Community Activities (Major local events such as festivals or economic events like farming or fishing)	
Example #1	Farming
Example #2	Clay Union Elect.
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Crop Destruction Power Company building problems	

Tony
City of Vermillion
Clay County
Emergency Medical
focus.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Identifying Assets

Review the Hazard Activity and Problem Statement Activity results where you described issues that you have with the identified hazards. We are now going to look at specific community assets that can be affected by the identified hazards.

Instructions: For the hazards that affect your community, identify two to three examples of assets that can be affected by the identified hazards.

Vulnerable Assets	
People (Residents, workers, visiting populations, and socially vulnerable populations like seniors, individuals with disabilities, lower-income individuals, etc.)	
Example #1	Nursing / Mass elderly care - individuals w/ disabilities
Example #2	Homeless population during warmer months
Example #3	Residences dependant on electricity.
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Nursing home - no they have a back up generator. Homeless population - currently there are no public ~~Safter~~ shelters available in our jurisdiction Electricity power supply is cut and those dependant on power have no secondary means of heat / power. There are no public transportations or govt means of mass Sheltering.	
Structures (Community centers, historic places, planned capital improvement)	
Example #1	USD Dakota Dome - Emergency place for mass Sheltering
Example #2	Main Fire Station.
Example #3	Walmart
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Dome - this place is one of the biggest places for mass sheltering if damaged or in operable this would create a challenge for mass sheltering Main Fire station all emergency medical supplies are @ one building which also doubles as a temp storm shelter. Walmart - if damage occurs @ walmart - this is a major supply line Hospital - major employer they require several staff to respond. Many do not live locally.	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Economic Assets (Major employers, primary economic sectors, key infrastructure like telecommunications networks)	
Example #1	Emergency Communications Center
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Natural, Historic, and Cultural Resources (Areas of conservation, beaches, parks, critical habitats)	
Example #1	Spirit Mound
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Community Activities (Major local events such as festivals or economic events like farming or fishing)	
Example #1	4H Fair
Example #2	Dakota Days
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Dakota Days - influx of visitors to our region Clay County Fair - influx of visitors to the area.	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Vermillion School District

Identifying Assets

Review the Hazard Activity and Problem Statement Activity results where you described issues that you have with the identified hazards. We are now going to look at specific community assets that can be affected by the identified hazards.

Instructions: For the hazards that affect your community, identify two to three examples of assets that can be affected by the identified hazards.

Vulnerable Assets	
People (Residents, workers, visiting populations, and socially vulnerable populations like seniors, individuals with disabilities, lower-income individuals, etc.)	
Example #1	Seniors
Example #2	USD Students
Example #3	~~[redacted]~~ chronically ill people.
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
The transiente nature of students and their limited stability in the community Could make them a at risk population. Seniors inability to drive themselves in Severe weather condition, no power, no access to medication/Healthcare. Chronic illness severe winter weather limits travel to healthcare/medications	
Structures (Community centers, historic places, planned capital improvement)	
Example #1	Schools - K-12 + University
Example #2	Low income housing
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Schools cancel due to weath. low income housing lack of proper HVAC systems leading to damaged occupancies.	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Economic Assets (Major employers, primary economic sectors, key infrastructure like telecommunications networks)	
Example #1	Farming industries
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Drought/Severe weather destroys crops and possibly housing	
Natural, Historic, and Cultural Resources (Areas of conservation, beaches, parks, critical habitats)	
Example #1	
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Community Activities (Major local events such as festivals or economic events like farming or fishing)	
Example #1	Dakota Farm Show
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	

USD
Drought
Severe Summer storms
severe winter weather
flooding

Identifying Assets

Review the Hazard Activity and Problem Statement Activity results where you described issues that you have with the identified hazards. We are now going to look at specific community assets that can be affected by the identified hazards.

Instructions: For the hazards that affect your community, identify two to three examples of assets that can be affected by the identified hazards.

Vulnerable Assets	
People (Residents, workers, visiting populations, and socially vulnerable populations like seniors, individuals with disabilities, lower-income individuals, etc.)	
Example #1	Senior citizens
Example #2	Homeless Population
Example #3	Low-Income families
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Structures (Community centers, historic places, planned capital improvement)	
Example #1	Storm damages buildings places for community togs
Example #2	Unable to move forward w/planned improvement due to weather
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
	Severe Summer storms potential to cause property damage, make centers unavailable to the community. Post pone or hinder completion of needed community improvements

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Economic Assets (Major employers, primary economic sectors, key infrastructure like telecommunications networks)	
Example #1	loss of crops
Example #2	unable to operate business
Example #3	communication services down
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
loss of all farmers could impact all of the community to respond to emergencies or allow people to have access to needed services.	
Natural, Historic, and Cultural Resources (Areas of conservation, beaches, parks, critical habitats)	
Example #1	loss of critical habitat
Example #2	parks
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Unable to maintain or allow access to parks from drought, flooding or severe storms.	
Community Activities (Major local events such as festivals or economic events like farming or fishing)	
Example #1	Destruction of 4-H grounds
Example #2	loss of crops
Example #3	loa
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Crops damage has a huge economic impact on this area. Damage to areas that host annual events would economically impact revenue for the community	

Pleasant Valley Township

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Identifying Assets

Review the Hazard Activity and Problem Statement Activity results where you described issues that you have with the identified hazards. We are now going to look at specific community assets that can be affected by the identified hazards.

Instructions: For the hazards that affect your community, identify two to three examples of assets that can be affected by the identified hazards.

Vulnerable Assets	
People (Residents, workers, visiting populations, and socially vulnerable populations like seniors, individuals with disabilities, lower-income individuals, etc.)	
Example #1	RURAL RESIDANTS
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
THERE IS NO WARNING SYSTEM OUT IN THE COUNTRY	
Structures (Community centers, historic places, planned capital improvement)	
Example #1	BUILDINGS NOT WELL BUILT
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
MASS DISTRUCKTON	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Economic Assets (Major employers, primary economic sectors, key infrastructure like telecommunications networks)	
Example #1	LOST OF INCOME
Example #2	LOST OF JOBS
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
SOMETIMES ROADS ARE CLOSED DAMAGE IS SO BAD THEY DON'T OPEN BACK UP	
Natural, Historic, and Cultural Resources (Areas of conservation, beaches, parks, critical habitats)	
Example #1	RURAL PARKS
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
DAMAGE IS SO ~~BAD~~ BAD THEY DON'T REBUILD	
Community Activities (Major local events such as festivals or economic events like farming or fishing)	
Example #1	FARMING
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
DURING A ~~Bad~~ FLOOD SOIL IS MOVED HARD TO GET SOIL BACK TO WHERE IT NEEDS TO BE	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Clay County

Identifying Assets

Review the Hazard Activity and Problem Statement Activity results where you described issues that you have with the identified hazards. We are now going to look at specific community assets that can be affected by the identified hazards.

Instructions: For the hazards that affect your community, identify two to three examples of assets that can be affected by the identified hazards.

Vulnerable Assets	
People (Residents, workers, visiting populations, and socially vulnerable populations like seniors, individuals with disabilities, lower-income individuals, etc.)	
Example #1	ELDERLY, THOSE IN NURSING HOMES
Example #2	STUDENTS IN DORMITORIES
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
THESE POPULATIONS ARE HELPLESS. THEY HAVE NO CARS, NO TOOLS, AND ARE OFTEN POOR. DURING A PROLONGED HEAT OR COLD ISSUE, THEY ARE HOUSE-BOUND AND WILL SOON RUN OUT OF FOOD. DURING A POWER OUTAGE THEY ARE IN GENUINE TROUBLE.	
Structures (Community centers, historic places, planned capital improvement)	
Example #1	DAKOTA DOME (SPORTS STADIUM)
Example #2	SANFORD VERMILLION
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
DAKOTA DOME HOLDS SEVERAL THOUSAND PEOPLE, ALL OF WHOM MIGHT NEED TO EVACUATE SIMULTANEOUSLY IN THE EVENT OF A PROBLEM. SANFORD VERMILLION IS OUR ONLY HOSPITAL.	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Economic Assets (Major employers, primary economic sectors, key infrastructure like telecommunications networks)	
Example #1	UNIVERSITY OF SOUTH DAKOTA
Example #2	MASABA / POLARIS,
Example #3	AGRICULTURE
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
THESE MAJOR EMPLOYERS DRAW MANY PEOPLE INTO CLAY COUNTY EVERY DAY, TO SHOP AND EAT. LOSS OF A MAJOR BUSINESS WOULD HAVE A LARGE IMPACT ON OUR SMALL COMMUNITY. A PROLONGED DROUGHT WOULD HAVE ENORMOUS ECONOMIC IMPACT IN OUR AGRICULTURE-BASED ECONOMY.	
Natural, Historic, and Cultural Resources (Areas of conservation, beaches, parks, critical habitats)	
Example #1	MISSOURI RIVER
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
THE MISSOURI RIVER CAN DO WHATEVER IT WANTS. VERMILLION FLOODED AND WASHED AWAY IN 1882.	
Community Activities (Major local events such as festivals or economic events like farming or fishing)	
Example #1	~~A~~
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
~~A PROLONGED DROUGHT WOULD~~	

Riverside Township

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan Update

Identifying Assets

Review the Hazard Activity and Problem Statement Activity results where you described issues that you have with the identified hazards. We are now going to look at specific community assets that can be affected by the identified hazards.

Instructions: For the hazards that affect your community, identify two to three examples of assets that can be affected by the identified hazards.

Vulnerable Assets	
People (Residents, workers, visiting populations, and socially vulnerable populations like seniors, individuals with disabilities, lower-income individuals, etc.)	
Example #1	General Population
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Winter Storms - Access to Roadways Loss of utilities - Medical Access	
Structures (Community centers, historic places, planned capital improvement)	
Example #1	Government
Example #2	Farming
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Flooding - costs of repair interfer with planned capital asset purchases. Loss of farm revenues planned for assets	

Economic Assets (Major employers, primary economic sectors, key infrastructure like telecommunications networks)	
Example #1	Roadsways
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Flooding - Washes out Roads Loss of Gravel Surface - Impassable Cost to repair	
Natural, Historic, and Cultural Resources (Areas of conservation, beaches, parks, critical habitats)	
Example #1	
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
Community Activities (Major local events such as festivals or economic events like farming or fishing)	
Example #1	Farming
Example #2	
Example #3	
What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?	
~~Drought~~ - Drought - Flooding access to farm fields, damage to crops & crop land.	

Appendix M
NFIP Activity

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

NATIONAL FLOOD INSURANCE PROGRAM (NFIP)

Community/Organization: Ivanhoe

Communities participating in the NFIP have a responsibility to do the following:

- ✓ Adopt and enforce a flood damage prevention ordinance
- ✓ Require permits for all types of development in the floodplain
- ✓ Assure that building sites are reasonably safe from flooding
- ✓ Estimate flood elevations where not determined by FEMA
- ✓ Require new or substantially improved homes and manufactured homes to be elevated above the Base Flood Elevation
- ✓ Require non-residential buildings to be elevated or flood-proofed
- ✓ Determine if damaged buildings are substantially damaged
- ✓ Conduct field inspections and city violations
- ✓ Require Elevation Certificates to document compliance
- ✓ Carefully consider requests for variances
- ✓ Resolve non-compliance and violations
- ✓ Advise FEMA when updates to flood maps are needed

Description of Community Assistance for the 2024 Clay County PDM Plan.

- Skunk creek drainage study 2 years
- Skunk creek drainge project 2 years } county
- explore possibility of restriction necessary
- 2021 International

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Irene

NFIP Topic	Comments
Staff Resources	
Who is responsible for floodplain management in your community? Do they serve any roles other than Community Floodplain Administrator (FPA)?	Casey
Is the Community FPA or NFIP Coordinator a Certified Floodplain Manager?	
Explain NFIP administration services (e.g., permit review, GIS, inspections, engineering capability).	permit review
What are the barriers to running an effective NFIP program in the community, if any?	staff time population (425)

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Regulation	
How does the community enforce local floodplain regulations and monitor compliance?	Don't let any build in floodplain new development on high ground
How are Letters of Map change (LOMCs) tracked and complied?	
Explain the permitting process.	provide plans, setbacks, lot lines survey

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

NATIONAL FLOOD INSURANCE PROGRAM (NFIP)

Community/Organization: City of Vermillion

Communities participating in the NFIP have a responsibility to do the following:

1 ✓ Adopt and enforce a flood damage prevention ordinance ✓
2 ✓ Require permits for all types of development in the floodplain ✓
3 ✓ Assure that building sites are reasonably safe from flooding ✓
4 ✓ Estimate flood elevations where not determined by FEMA
5 ✓ Require new or substantially improved homes and manufactured homes to be ✓ elevated above the Base Flood Elevation
6 ✓ Require non-residential buildings to be elevated or flood-proofed ✓
7 ✓ Determine if damaged buildings are substantially damaged ✓
8 ✓ Conduct field inspections and city violations ✓
9 ✓ Require Elevation Certificates to document compliance ✓
10 ✓ Carefully consider requests for variances ✓
11 ✓ Resolve non-compliance and violations ✓
12 ✓ Advise FEMA when updates to flood maps are needed

Description of Community Assistance for the 2024 Clay County PDM Plan.

The City already participates with NFIP. Out of the 12 responsibilities listed the City does not estimate Flood elevations or advise FEMA when updated maps are needed.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

NFIP Topic	Comments
Staff Resources	
Who is responsible for floodplain management in your community? (1) Do they serve any roles other than Community Floodplain Administrator (FPA)? (2)	(1) Mr. José Domínguez. - City Engineer (2) He is the City Engineer and the Zoning Administrator.
Is the Community FPA or NFIP Coordinator a Certified Floodplain Manager? (1)	(1) No.
Explain NFIP administration services (e.g., permit review, GIS, inspections, engineering capability). (1)	(1) The department reviews permits, has GIS capabilities, completes inspections on capital projects, and has engineering capabilities. However, building permit review and issuance is handled in conjunction w/ the Code Enforcement Dept.
What are the barriers to running an effective NFIP program in the community, if any? (1)	(1) The City has none. However, the additional financial requirement due to the NFIP standards is a barrier for the community.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Regulation	
How does the community enforce local floodplain regulations and monitor compliance? (1)	(1) We have an ordinance that requires building permits for anything being constructed in the flood plain. This ordinance requires the construction to be at an elevation higher than the 100-yr flood elevation.
How are Letters of Map change (LOMCs) tracked and complied? (1)	(1) If we ever had any they would be included in the building permit file. As it is the City has not had any projects that required a LOMCs.
Explain the permitting process. (1)	(1) 1. Appticant submits a permit request to build w/in the flood plain. 2. City reviews the request and submitts any comments & requirements to the applicant. 3. After applicant complies w/ comments & additional requirements a building permit is issued. 4. Staff performs necessary inspections during construction. 5. after all inspections are completed, and required documents are turned in ~~by~~ applicant, occupancy is granted by the City.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

NATIONAL FLOOD INSURANCE PROGRAM (NFIP)

Community/Organization: Wakonda

Communities participating in the NFIP have a responsibility to do the following:

- ✓ Adopt and enforce a flood damage prevention ordinance
- ✓ Require permits for all types of development in the floodplain
- ✓ Assure that building sites are reasonably safe from flooding
- ✓ Estimate flood elevations where not determined by FEMA
- ✓ Require new or substantially improved homes and manufactured homes to be elevated above the Base Flood Elevation
- ✓ Require non-residential buildings to be elevated or flood-proofed
- ✓ Determine if damaged buildings are substantially damaged
- ✓ Conduct field inspections and city violations
- ✓ Require Elevation Certificates to document compliance
- ✓ Carefully consider requests for variances
- ✓ Resolve non-compliance and violations
- ✓ Advise FEMA when updates to flood maps are needed

Description of Community Assistance for the 2024 Clay County PDM Plan.

- Nursing home - generator ?
- School - generator?
-

- Follow-up w/ Logan?
- Extension?

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

NFIP Topic	Comments
Staff Resources	
Who is responsible for floodplain management in your community? Do they serve any roles other than Community Floodplain Administrator (FPA)?	
Is the Community FPA or NFIP Coordinator a Certified Floodplain Manager?	
Explain NFIP administration services (e.g., permit review, GIS, inspections, engineering capability).	
What are the barriers to running an effective NFIP program in the community, if any?	

Regulation	
How does the community enforce local floodplain regulations and monitor compliance?	
How are Letters of Map change (LOMCs) tracked and complied?	
Explain the permitting process.	

Appendix N
Growth Assessment Activity

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

GROWTH ASSESMENT

Community/Organization: City of Irene

Has your community experienced areas of growth since 2019? none

If yes, please provide specifics (i.e., housing development on the north side of town)

Village develop. corp. southeast
acres
almost full
residental
have 2nd phase
purchased land

Has your community experienced impediments to growth over since 2019?

If yes, please provide specifics (i.e., vacant land in town is in the flood plain)

slew to the North & South.

east ok

Population Growth (2010-2020): _____%

Building Permits 2019-Present: _____

2 houses in less than a year

1 pre-fab
1 being built this year
X
last year

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

GROWTH ASSESMENT

Community/Organization: Vermillion

Has your community experienced areas of growth since 2019?

If yes, please provide specifics (i.e., housing development on the north side of town)

The majority of new residential construction has taken place on the west side of town. Have also experienced development on the east side of town and in-fill or new development on lots around all parts of the community

Has your community experienced impediments to growth over since 2019?

If yes, please provide specifics (i.e., vacant land in town is in the flood plain)

Impediments to grow have been landowners not interested in selling or the cost of construction for infrastructure. Over the last year, the cost of building materials and financing have impacted growth.

Population Growth (2010-2020): 10.6 %

2010 census - 10,571
2020 census - 11,695
2022 estimate - 11,915

Building Permits 2019-Present: Commercial - 15
Single Fam Detached - 56
Single Fam Attached - 14
multi Family - 21

Appendix O
Problem Statement Activity

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Clay County **Name:** Travis Mockler

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Flooding

Affect: Roads are Closed or washed out and Limits access

Example: 300th / 302nd and 306th streets ~~are~~ were closed and Washed out

2. ~~Drought~~ Drought

Affect: results in crop Damage and increase in fire Calls

Example: Negatively impacts economy and increases fire Danger

3. Winter Storm

Affect: Can negatively affect Budgets if its a Long Winter

Example: removal of Snow ~~cost~~ from roads, ~~is~~ Leads to Significant Costs

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Clay County Sheriff **Name:** Andy Howe

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. erosion

Affect: This disaster causes damage to rural roads resulting in longer distance to travel or inaccesibility to areas

Example: Local runoff can exceed culvert capacity causing erosion roads

2. Flooding

Affect: This disaster causes rural roads to be underwater causing longer distances or inaccesibility to areas and causes crop and road damage.

Example: Vermillion River bottom areas are Flooded when snow melt and rain exceed riverbank capacity

3. extreme cold

Affect: Extreme cold results in extra use of propane and electricity for heat and is hard on equipment, livestock, and dangerous to humans.

Example: Extreme cold can occur for long or short durations but can be a large economic impact over a long period and disrupt activities and services.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Clay county – Vermillion **Name:** Chad Davison

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Tornado

Affect: This disaster results in damage & Loss in home & business.

Example: a recent tornado in a county near Clay resulted in Loss of homes & business along with damage to crops & fields

2. Hail

Affect: Hail damages fields and property

Example: with hail Storms occuring annually in Clay County, there is significant damage to ~~for~~ crops & fields along with property.

3. Etreme ~~Hot~~ winter weather

Affect: ~~Ice~~ knocks out power & makes travel impossible

Example: Numerous counts of 10 inches of Snow & bitter cold causes people to lose power and be Stuck in their homes.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Clay County **Name:** Drew Gunderson

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Winter Weather

Affect: This disaster limits road access, limits ability of first ems to respond + ~~[illegible]~~ shuts down econ activity in the area

Example: last Winter Storm Shut down the Town + limited people going to work or school for many days through the season

2. High wind

Affect: This disaster causes Propery damage

Example: in the rural ares these events rip down Buildings and crops

3. Torando

Affect: This disaster Creates Localized but heavy dammage

Example: Damage from This event impacts older and Lower income Communities the most because their structures are older or have fewer options to evac safely

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Clay Co. Hwy Dept **Name:** Larry McPherson

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Erosion

Affect: limit access

Example: Roadway Disasters

2.

Affect:

Example:

3.

Affect:

Example:

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Clay County Commission **Name:** David Thiesse

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Severe Heat

Affect: Crop damage, Road damage, Strain on Power Systems Causes Economic Impact

Example: ~~Flooding~~ Rural Community depends on Crop and Roads to maintain field to table economy

2. ~~Limits access~~ Flooding

Affect: Limits access to Ag facilities

Example: Unable to efficently move grain and livestock, Affects communities

3. Extreme Cold

Affect: Loss of Power, Road Closures

Example: Impacts economy and Safety

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Clay Co. Hwy **Name:** Rod Polley

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

#1. Flooding

Affect: Road Closures, Road & Bridge Damage, many Detours, Limited Emergency Response, Busses, Mail

Example: Gravel & Hard Surface Roads will be under water for months & sometimes take a year to fix. Detours from 8 to 16 miles.

#2. Wind

Affect: Downed trees, Road Blockages, Hwy Sign Damage, Power lines down preventing Cleanup

Example: Wind will take down Road Signs (Stop, Curve, Yield) could cause Accidents even Loss of Life trees Blocking Emergency personnel

#3. Extreme Snow

Affect: Block Road, make it difficult to get Employees to work for Snow Removal. & not enough Eq w. personnel to get everything open

Example: Also make Emergency Response Slow, extended time to get road traffic established.

Way

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Clay Co **Name:** Hammond

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Flooding

Affect: Roadway + Bridge damage/Destruction, Ag land seasonal loss Disruption of emergency services, School Bus Routes, other services

Example: Extreme Cold

2. Threats to Life/health; Loss of Critical Services,

Affect: Repeated flooding of Vermillion River

Example: Drought

3. Loss of Crops; Net Community wealth;

Affect:

Example: 2012 drought/heat damage

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Fairview Township **Name:** Angela Jackson

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Flooding

Affect: As a primarily rural township, flooding causes agricultural loss which negatively impacts our economy.

Example: ~~Tornado~~ Hail

2. As a primarily rural township, hail causes agricultural

Affect: loss which negatively impacts our economy

Example: Extreme Heat

3. as a primarily rural township, extreme heat causes agricultural loss which negatively impacts

Affect: our economy

Example: Extreme heat results in animal deaths and crop loss

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Blemwood Township **Name:** Joe Lardeen

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Flooding

Affect: Many roads wash over roads and wash out culverts and washes Gravel off the road. Washes out Creek Beds requiring rip rap also impacts access to ag roads.

Example: In the spring of 2023 the snow melted rapidly and cause roads to wash out. Cost the township lots of money in new gravel and culvert repair.

2. High Wind.

Affect: Blows down structures and trees. Ruins crops.

Example: 90 mph winds Flattens corn fields causing economic Impact to Farmers

3. Extreme Winter / snow / wind

Affect: For a township it caused a lot of extra labor and machinery to move the extra snow. Sometimes have to hire snow removal out side of our normally road Blade.

Example: This winter when the wind blew the 2ft of snow over the roads it caused residents to be stranded at home and not be able to get to work. also caused Farmer / rancher trouble in getting livestock Fed.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: PLEASANT VALLEY **Name:** RON HUNT

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. FLOOD

Affect: WASH OUT ROAD PEOPLE HAVE TO DRIVE EXTRA MILES

Example: HIGH WIND

2. BREAKS ROAD SIGNS

Affect: DRIVING HAZARDS

Example: ~~EXTREM COLD~~ HAZARD

3. ROADS ~~HEAVY~~ EXTREM COLD

Affect: ROAD HEVES

Example: RE WORK ROAD BED SO TRAFFIC CAN USE ROAD

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Riverside Township **Name:** Gary Andersen

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Flooding

Affect: causes extensive damage to Roads, Bridges, culverts Limits access for Fire + Ambulance, and lots of damage to Ag Land

Example:

2. High Wind

Affect: damage to Elect Lines

Example:

3.

Affect:

Example:

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Riverside Twshp **Name:** Richard Adamson

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Flooding

Affect: Washs out Roads & loss of surfacing

Example: Limits Transportation of farm machinery & Products

2. Severe Winter

Affect: Impassable Roads

Example: Creates hardships for citizens - Health emergencies - Utilities

3. _____

Affect: _____

Example: _____

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: SESDAC **Name:** BRIAN ANGLIN

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. TORNADO

Affect: RESULTS IN DAMAGE TO HOMES, POWER, CLOSES/DAMAGED STORES TO GET MEDICATION TO THE PEOPLE WE SERVE

Example: IF WE HAVE A EF4-5 WIPES HOUSES OUT WE HAVE TO FIND HOUSEING FOR THE PEOPLE WE SUPPORT. STILL HAVE TO GIVE MEDS TO PEOPLE REGUARDLESS OF WEATHER

2. (2) (EXTREME COLD / SNOW)

Affect: POWER OUTAGES, ROADS IMPASSABLE

Example: EXTREME COLD/SNOW CAN HAVE A HUGE IMPACT ON STAFF/PEOPLE WE SUPPORT CAN NOT ARRIVE TO WORK TO FILL SHIFTS

3. EXTREME HEAT

Affect: POWER OUTAGES,

Example: WE CAN NOT OPERATE WITHOUT NO POWER IN HOUSES FOR LONG PERIODS OF TIME

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Spirit Mound township **Name:** Curt Brockley

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Flooding

Affect: damage to critical facilities, power outages, limited access to critical facilities, damage to roads & culverts & Bridges

Example: extra driving due to limited access, closing of businesses

2. Drought

Affect: crop damage, Negative effect on economy, air quality

Example: loss of crop income (less spending)

3. Wind

Affect: Crop + structure damage, Negative impact on economy

Example: less income for many (less spending)

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Spirit Mound Township **Name:** Roger Gilbertson

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Flooding

Affect: This disaster damages to critical facilities & power loss

Example: Washes out road, culverts & bridges.

2.

Affect: People have to commute out of Their way many Xtra miles

Example:

3. Drought

Affect: Crop damage & effect on local economy

Example: Farmers without a crop to sell & culling of livestock bcase of lack of feed

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Star Township **Name:** Ron Peterson

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

Township Persective:

1. Flooding - Severe, heavy rainstorms wash out culverts and destroy roadway embankments and gravel.

Affect: Economic loss to township and inconvenience to residents for logs of use of the damaged roadways.

Example: ↗

2. Severe Winter Weather -

Affect: Major winter snow storms create blocked roads and loss of use by residents, school buses and delivery vehicles.

Example: Melting snow causes flooding.

3. Hail storms

Affect: Severe hail damages crops, vehicles & buildings.

Example: Economic loss of crop and costly repairs for vehicle, windshield & building damage.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: University of South Dakota **Name:** Scott Potthoff

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Severe Winter Weather

Affect: This disaster restricts interstate, highway, and city travel. Affecting the local economy by reducing productivity and damages due to frozen pipes, deaths from car accidents.

Example: As a rural community, many roads remain uncleared during severe weather reducing travel to the communities.

2. Drought

Affect: Disaster results in crop damage

Example: Primarily a farming community. Many industries are dependent on successful harvest. implement dealers, fertilizer sales, Pesticides, property taxes

3. ~~Extreme~~ heat

Affect: Affects at risks population Children, pregnant, elderly, Chronic health conditions

Example: ~~Children left in cars, elderly caught in the heat~~

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: UNIVERSITY OF SOUTH DAKOTA **Name:** KEVIN D KELLEY

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. EXTREME WINTER WEATHER

Affect: STUDENTS WOULD BE RESTRICTED TO DORM ROOMS.

Example: STUDENTS IN DORMS DO NOT HAVE SUFFICIENT FOOD TO STAY INDOORS FOR A MULTI-DAY BLIZZARD. THEY MIGHT ATTEMPT TO LEAVE, AND PUT THEMSELVES IN DANGER.

2. TORNADO

Affect: BUILDING DAMAGE.

Example: THE UNIVERSITY HAS SUFFICIENT REDUNDANCY OF OFFICE AND CLASSROOM SPACES, BUT DO NOT HAVE EXTRA DORM ROOMS. DAMAGE TO A DORMITORY WOULD BE CATASTROPHIC. STUDENTS WOULD HAVE TO LEAVE.

3. LIGHTNING.

Affect: A GROUNDS WORKER MAY BE EXPOSED WHILE WORKING OUTSIDE.

Example: I CAN PICTURE SOMEBODY CONTINUING TO MOW GRASS, TRYING TO GET DONE BEFORE THE STORM HITS, AND BEING STRUCK BY LIGHTNING.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: City of Vermillion **Name:** John Prescott

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Severe Winds

Affect: Causes damage to trees and structures.

Example: This event causes tree damage that results in disruption of municipal services to collect tree branches and remove trees in row. Municipal expenditures for staff time, fuel & related items to clean up town block by block.

2. Tornado

Affect: Severe damage to buildings and trees.

Example: Economy is significantly disrupted as time and money are spent on rebuild and clean up. Damage takes years to clean up

3. Extreme Cold

Affect: Disruption of normal business and government activities.

Example: School, business and government have to modify operations that otherwise would have people outside. Classes are likely cancelled which impacts where students are at and parents ability to work.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: City of Vermillion **Name:** Jack Baustian

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Extreme Cold Temp

Affect: People remain inside. Utility usage increases - stress on grid

Example: 40 Below wind chill in February mixed with ice storm causes school and USD to close. Keeping kids/adults home - increasing electric and natural gas usage

2. Flood from Missouri

Affect: Mobilization of people - affect on infrastructure

Example: Evacuation of citizens from lower Vermillion to higher ground - 2012

3. Lightning

Affect: Directly impacts infrastructure

Example: Lightning hits transformer causing some/all citizen with no power

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Vermillion PD **Name:** Crystal Brady

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Severe Wind

Affect: Severe wind causes trees to fall causing damage.

Example: Vermillion has numerous old, tall trees that fall in severe wind & cause damage to homes & vehicles.

2. Extreme Cold

Affect: Extreme Cold affects people w/o heat.

Example: There are numerous people in Vermillion that cannot afford heat in the winter & the extreme cold is very dangerous.

3. Tornado

Affect: A tornado in Vermillion could cause extensive damage to several important buildings & structures

Example: A tornado through Vermillion could destroy numerous homes & businesses that could take months or years to replace.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: City of Vermillion **Name:** Steve Griese

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Drought/Heat

Affect: Increased electric/water consumption. Stressing systems

Example: CVU has connections with Rural water and during droughts we see higher usage on all accounts which stresses the system as a whole. Power consumption increased stressing grid.

2. Extreme winter Weather

Affect: & Extreme cold can cause water system issues. Main Breaks often occur during cold snaps.

Example: Have had main lines break during cold spells putting the entire water system at risk.

3. Flooding

Affect: ~~Sa~~ Sewer basins overflow, Rising river can cause issues at wastewater treatment facility.

Example: River corroded bank exposing forcemain that feeds facility. Basins flood and cause overflows @ Lift stations.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Verm. Fire & EMS → EMS Aspect. **Name:** Tony Klunder

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Flooding

Affect: Spring thaw causes low lying flooding over roads and access points.

Example: Vermillion River floods causing road closures preventing ambulances in reaching patients in rural communities.

2. Extreme Winder Weather

Affect: During extreme cold / snow events. Highways, roads and driveways become impassable. Due to damages to critical infrastructure, power may be lossed and heating is stopped.

Example: Post blizzard, Main feeder powerlines are cut causing power outage and loss of utilities.

3. Tornado

Affect: tornado levels a rural community & access roads. Lack of temporary facilities

Example: Due to extreme rural location, roads & bridges may be out causing a delay in reaching victims. Due to geographic location causing a more delay in victims reaching healthcare facility

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Vermillion Fire EMS **Name:** Matt Callahan

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Flooding

Affect: damage to roadways or reroutes emergency services

Example: Delayed response to emergencies - potential loss of life or property

2. Tornadoes

Affect: Some damage to structures

Example: Severe destruction resulting in loss of life - property loss

3. ~~Fog~~ Drought

Affect: Crop loss

Example: Loss of farm crop = loss of income for families.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Vermillion Schol Dist. **Name:** Dr. Damon Alvey

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Tornado

Affect: This disaster causes damage to infrastructure, businesses, and citizens homes.

Example: A tornado may take out infrastructure for electrical needs, city sanitation or emergency services in our rural community

2. Hail

Affect: This disaster may cause loss of income as crops are destroyed or livestock are killed.

Example: Hail could have long term negative impacts on the economy and infrastructure in our community, destroying livlihoods and homes and business

3. Winter Storms

Affect: Winter conditions may impact electrical and other infrastructure. This over time could negatively impact schools, business, and essential services

Example: A prolonged snow event could leave families in poverty w/o food. With poor conditions citizens may not be able to attend needed services or have access to medications. A strong event could impact city services, electrical output, and EMS ability to respond

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Sunset Manor NH - Irene Wakonda Heritage Manor **Name:** Robin Stockland

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Winter Storm Events

Affect: Causes driving hazards & difficulty accessing the NH for employees or services.

Example: Staff are unable to safely get to the nursing homes to care for the residents which negatively impacts residents health & staff health.

2. Hail

Affect: This disaster causes damage to critical facilities & can result in power outages or building damage

Example: Hail has caused severe damage to the facility roof which may cause leaking & negatively impacts finances/economy due to repairs needed.

3. High Wind or Tornado

Affect: This disaster causes damage to trees & critical facilities which can cause power outages & injuries

Example: As nursing home facilities, our residents depend on us to be safe & during these events they can cause facility damage & injuries to staff or residents

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Yankton County EMS **Name:** Tray Courman

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Tornado

Affect: Severe damage to structures, power outages, injuries

Example: Nearby campgrounds can be destroyed with no storm shelter available

2. Severe winter weather

Affect: Road closures, power outages

Example: Unable to mobilize emergency vehicles on roadways. Residents at home with no power or heat

3. Severe summer heat

Affect: Stress on power grid, power outages, water shortages

Example: Residents without A/C can become overheated, increasing 911 calls and hospital visits. A/C not available to any residents during power outages

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: Yankton County EMS **Name:** Eric VanDusen

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Tornado

Affect: wide spread damage to buildings & services without shelters for recreation areas

Example: Would cause destruction to homes, buildings & possible loss of lives without storm shelters in place

2. Drought

Affect: Results in crop damage

Example: Rural Community causing massive loss of agriculture impacting the economy.

3. Winter Weather

Affect: Impacts travel for necessities of food/medication

Example: limits or prohibits travel for necessary provisions/medication/medical attention. Also could impact services for electrical/gas for heating resulting in loss of life.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Problem Statement Activity

Community/Organization: _____ **Name:** _____

Hazard #1 *Flooding*

Affect: *This disaster causes damage to critical facilities and can result in power outages.*

Example: *The North Creek sewage treatment plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.*

Hazard #2 *Drought*

Affect: *This disaster results in crop damage.*

Example: *As a primarily rural community, drought causes agricultural loss which negatively impacts our economy.*

1. Tornado

Affect: This disaster can cause damage to our schools which could cause students to be displaced which disrupts ther. learning enviorment.

Example: Tornado takes the roof off high school buildings resulting in the building needing to be repaired before students can return

2. Fire

Affect: This disaster could impact our community by damaging critical facilities like public utilities stations

Example:

3. Severe Winter Weather

Affect: This disaster can cause issues for residents like power outages.

Example:

Appendix P
Mitigation Action Update Activity

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan

Mitigation Action Update

Community/Organization Name: Clay County

Representative Name: Drew

Representative Email: _____

Name of Flood Plain Manager: Drew Gunderson

Flood Plain Manager Email: _____

In the 2017 Plan Update, the following Mitigation Actions were proposed.
What is the status of the projects?
If they were not completed, why?
If they were completed, when?

- **Update flood plain management restrictions restricting or prohibiting development in the flood plain**

  ✓ Complete (or) ___ Not Complete

  Status:

  Why?

- **Participate in National Flood Insurance Program**

  ✓ Complete (or) ___ Not Complete

  Status:

  Why?

Please return today or if unable to answer all questions, email to sophie@secog.org or bring to the September meeting.

- **Promote site and building design standards to minimize damage**

  ___ Complete (or) ✓ Not Complete

  Status:

  Why? lack of time, low priority

- **Establish standards for regular upkeep and maintenance of utilities and infrastructure**

  ___ Complete (or) ✓ Not Complete

  Status:

  Why? • New building • broad goal • all utilities being updating

- **Incentive hazard mitigation**

  ___ Complete (or) ✓ Not Complete

  Status:

  Why?

- **Provide shelter for displaced rural residents**

  ___ Complete (or) ✓ Not Complete

  Status:

  Why? • church • legion • nursing home

Please return today or if unable to answer all questions, email to sophie@secog.org or bring to the September meeting.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Mitigation Plan

Mitigation Action Update

Community/Organization Name: Vermillion

Representative Name: John Prescott

Representative Email: johnp@cityofvermillion.com

Name of Flood Plain Manager: Jose Dominguez

Flood Plain Manager Email: josed@cityofvermillion.com

In the 2017 Plan Update, the following Mitigation Actions were proposed.
What is the status of the projects?
If they were not completed, why?
If they were completed, when?

- **Purchase a 6-inch trash pump**

___ Complete (or) ✓ Not Complete

Status: Have a lot of small 4-inch trash pumps. Replaced a lot of 4-inch pumps.

Why?

- **Tornado shelter for mobile home park residents or visitors without a place to shelter**

___ Complete (or) ✓ Not Complete

Status: Looking at this for next park as an option.

Why? Funding is needed through grant or other sources to make this happen. ~~Parks~~ Mobile home parks haven't pushed this.

Please return today or if unable to answer all questions, email to sophie@secog.org or bring to the September meeting.

- **Implement improvements to the Hwy 50 drainage system as recommended in drainage study**

  ✓ Complete (or) ___ Not Complete

  Status: Completed

  Why?

- **Improve system of tracking people and assets utilized to respond to disasters**

  X Complete (or) ___ Not Complete

  Status: Was completed in Sakamanda Currently looking to change to a different program

  Why?

- **Complete upgrades to public safety radio system**

  ___ Complete (or) X Not Complete

  Status: Nearly Complete to P25

  Why? delay in State activation

- **Acquire additional trash pumps to remove water after heavy rains**

  X Complete (or) ___ Not Complete

  Status: Purchased new and replaced old existing pumps.

Please return today or if unable to answer all questions, email to sophie@secog.org or bring to the September meeting.

Why?

- **Ensure generator at backup emergency communication center/main fire station is adequate**

X Complete (or) ___ Not Complete

Status:

Seperate generators

Why?

- **Explore an ordinance requiring safe rooms at new developments**

X Complete (or) ~~X~~ Not Complete

Status:

~~has not~~
Current building code requires a storm shelter in schools and apartment buildings

Why?

not currently in ordinance

Please return today or if unable to answer all questions, email to sophie@secog.org or bring to the September meeting.

Appendix Q
Future Mitigation Actions Activity

Future Mitigation Action Activities

JURISDICTION	HAZARD	MITIGATION ACTION	PROJECT STATUS	PRIORITY	TIME FRAME	POTENTIAL FUNDING	RESPONSIBLE ENTITY
Clay County	Drought	**Education & Awareness Programs** – Mail/text information to residents concerning the effects of drought on water supply and the importance of conserving water during drought season. The County could work with rural water system providers to include a brochure in monthly water bills about current drought conditions and water-wise landscaping options.	New	Medium	Short Term	County Funding	*Clay County Emergency Manager, County Commission, Rural Water Systems
	Earthquakes	**Education & Awareness Programs** – Develop a technical assistance information program for homeowners. Teaching homeowners how to seismically strengthen their houses can be an effective mitigation activity. The program can include providing local government building departments with copies of existing strengthening and repair information for distribution.	New	Low	Long Term	County Funding SD OEM	County Commission, County Engineer, *Clay County Emergency Manager
	Landslides	**Local Planning & Regulations** – Define steep slope/high-risk areas in land-use decisions and the comprehensive plan to restrict new development in those areas.	New	Low	Long Term	County Funding	*County Commission, County Engineer, SECOG
	Multi-Hazard (Floods, Geological Hazards, Severe Summer Storms, Severe Winter Storms, & Wildfires)	**Structure & Infrastructure** – Improve storm drainage in areas that are prone to flooding, especially high traffic areas. This mitigation action has the potential to prevent injuries with less water on the roads during heavy rain and snow melt.	On-Going	High	Long Term	DANR CDBG HMGP	Clay County Emergency Manager, County Commission, *County Highway Department, SECOG

	Multi-Hazard (Floods, Geological Hazards, Severe Summer Storms, Severe Winter Storms, & Tornadoes)	**Natural Systems Protection** – Park improvements to the Clay County Park. During flooding events, the park along the river can erode. Planting trees can mitigate erosion and provide a natural wind break.	New	Low	Long Term	BRIC HMGP LWCF	County Commission, *Clay County Emergency Manager, SECOG, City Administrator
	Multi-Hazard (Tornadoes, Severe Summer Storms, & Severe Winter Storms)	**Structures & Infrastructure** – Build a storm shelter in densely populated areas that lack appropriate shelter from high winds and tornadoes.	On-Going	Medium	Long Term	BRIC HMGP	*County Commission, SECOG, County Engineer
	Wildfire	**Natural Systems Protection** – Install a water source at the Clay County Campground to prevent fire spread conditions are dry and fire pits are being used.	New	High	Short Term	HMGP	*County Commission, SECOG
	Wildfire	**Education and Awareness Programs** – Use local fire departments and SD OEM's Tommy the Turtle to provide information on wildfires in schools.	New	Medium	Short Term	County Funding SD OEM	County Emergency Manager, Clay County Fire Departments, SD OEM
	Severe Winter Storm	**Structures & Infrastructure –** Purchase snow gates for snowplows.	New	High	Short Term	CDBG	County Commission, *County Highway Department, SECOG

Irene	Drought	**Education & Awareness Programs** – Mail/text information to residents concerning the effects of drought on water supply and the importance of conserving water during drought season. A brochure could be included in the monthly water bills about current drought conditions and water-wise landscaping options.	New	High	Short Term	City Funding	Mayor of Irene, *City Finance Officer, Public Works Director
	Floods	**Local Planning & Regulations** – Develop a Best Management Practices maintenance and rehabilitation plan.	Internal Project	High	Short Term	City – No funding required	Mayor of Irene, City Finance Officer, SECOG, *Public Works Director
	Earthquakes	**Education & Awareness Programs –** Develop a technical assistance information program for homeowners. Teaching homeowners how to seismically strengthen their houses can be an effective mitigation activity. The City can distribute copies of existing strengthening and repair information.	New	Low	Long Term	City – No funding required	Mayor of Irene, *City Finance Officer, Public Works Director
	Landslides	**Local Planning & Regulations –** Define steep slope/high-risk areas in land-use decisions and the comprehensive plan to restrict new development in those areas.	New	Low	Long Term	City – No funding required	SECOG, City Finance Officer, *City Engineer, City Council
	Multi-Hazard (Floods, Severe Summer Storms, & Severe Winter Storms)	**Structures & Infrastructure** – Construct and improve storm drainage west side of the City.	New	Medium	Long Term	DANR HMGP	Mayor of Irene, City Finance Officer, SECOG, *Public Works Director

	Multi-Hazard (Agricultural Pests and Diseases, Drought, Floods, Geological Hazards, Severe Summer Storms, Severe Winter Storms, & Wildfires)	**Local Planning & Regulations** – Develop Irene Disaster Operation Plan.	New	High	Short Term	EDA HMGP City Funding SD Risk Management	Mayor of Irene, City Finance Officer, SECOG, *City Council
	Tornado	**Education and Awareness Programs –** Conduct outreach activities to increase awareness of tornado risk by conducting tornado drills in schools and public buildings	New	Medium	Short Term	City – No funding required	Mayor of Irene, City Finance, Officer, City Council, *Irene Fire and Rescue
	Wildfire	**Natural Systems Protection** – Perform landscaping maintenance such as pruning and clearing dead vegetation.	New	Low	Long Term	BRIC DANR HMGP	*Public Works Director
Vermillion	Drought	**Local Planning & Regulations –** Complete a Well Field Study, find alternate source of water, and complete leak detection and repair.	On-Going	Low	Long Term	DANR CDBG Vermillion Basin Water Development District	City Council, City Finance Officer, *City Engineer, City Manager, Mayor of Vermillion
	Drought	**Education & Awareness Programs** – Mail/text information to residents concerning the effects of drought on water supply and the importance of conserving water during drought season. Campaign would be included in monthly water bills about drought current drought conditions and information about water-wise landscaping options	New	High	Short Term	City Funding	City Council, *City Finance Officer, City Engineer, City Manager, Mayor of Vermillion
	Flooding	**Structure & Infrastructure** – Raise wastewater pretreatment and primary clarifiers so that the City is able to eliminate its screw pumps. Eliminating the screw pumps allows the facility to run by gravity flows the majority of the treatment process, eliminating the City's reliance on pumps/electricity to continue the treatment	On-Going	Low	Long Term	DANR CDBG EDA	City Council, City Finance Officer, *City Utilities Manager, City Engineer, City Manager, SECOG,

		process, making it a more resilient system in a result of a power outage.					Mayor of Vermillion
	Earthquakes	**Education & Awareness Programs** – Develop a technical assistance information program for homeowners. Teaching homeowners how to seismically strengthen their houses can be an effective mitigation activity. The City can distribute copies of existing strengthening and repair information.	New	Low	Long Term	City – No funding required	*City Engineer, City Manager, City Council, Mayor of Vermillion
	Geological Hazards	**Local Planning & Regulations** – Fix erosion of the Vermillion River Bank, repair damaged trails, and repair damaged pier to reduce debris in the river and prevent issues with Sanitary Sewer Lift Station #2 which is located close to the bank.	On-Going	Medium	Long Term	FEMA	City Council, City Finance Officer, *City Engineer, City Manager, SECOG, Mayor of Vermillion
	Multi-Hazard (Severe Summer Storms, Severe Winter Storms, & Tornadoes)	**Structures & Infrastructure** – Construct storm shelter in a new park next to a trailer park	On-Going	High	Long Term	HGMP BRIC	City Council, City Finance Officer, City Manager, *Parks & Recreation Director, SECOG, Mayor of Vermillion
	Multi-Hazard (Flooding, Severe Summer Storms, Severe Winter Storms, & Tornadoes)	**Structures & Infrastructure** – Install emergency back-up generator at City Hall	New	Medium	Long Term	HMGP BRIC	Mayor of Vermillion, City Finance Officer, SECOG, *City Manager, City Council
	Severe Winter Storm Severe Summer Storm	**Structures & Infrastructure –** Replace the golf course fuel tank as it is the only municipally owned fuel system within city limits, separate from the main fuel tank at the Service Center. The tank would serve as vital back up, should the Service Center be unavailable.	On-Going	Medium	Short Term	HMGP BRIC	City Council, City Finance Officer, Mayor of Vermillion, City Administrator, *Parks &

							Recreation Director, SECOG
	Severe Winter Storms	**Natural Systems Protection** – Put up a tree line by the new law enforcement center so that there is a natural barrier to reduce or block drifting snow.	New	Medium	Long Term	HMGP BRI DANR	City Council, City Finance Officer, Mayor of Vermillion, *City Manager, SECOG, Parks & Recreation Director
	Severe Winter Storms & Severe Summer Storms	**Structures & Infrastructure –** Purchase a generator for the City Service Center where the majority of the equipment is housed for the City Public Works Department.	On-Going	Medium	Short Term	HMGP BRIC EDA	Mayor of Vermillion, City Finance Officer, SECOG, *City Manager, City Engineer
	Severe Summer Storm	**Natural Systems Protection –** Complete tree trimming to prevent additional damage and clean up after heavy storms	On-Going	Low	Long Term	Tree Grants City Funding	City Council, City Finance Officer, Mayor of Vermillion, City Manager, SECOG, *Parks & Recreation Director
	Severe Winter Storm	**Structures & Infrastructure –** Get tower mixers and hydrant markers.	New	Low	Short Term	City Funding	City Council, City Finance Officer, Mayor of Vermillion, City Manager, *City Engineer
	Wildfires	**Structures & Infrastructure –** Install fire breaks to reduce fuel load near residences and also thin near roads to create fire breaks.	New	Medium	Short Term	National Volunteer Fire Council Fire Wise DANR HMGP BRIC VFA Grant	City Street Department, *City Fire Department, Parks & Rec Department, City Council, City Finance Officer, Mayor of Vermillion, SECOG

	Wildfires	**Natural Systems Protection –** Reinforce manmade fire breaks to ensure public right of ways remain short.	New	Low	Long Term	National Volunteer Fire Council Fire Wise DANR HMGP BRIC VFA Grant	City Street Department, *City Fire Department, Parks & Recreation Director, City Council, City Finance Officer, Mayor of Vermillion, SECOG, City Manager
	Multi-Hazard (Flooding, Severe Summer Storms, Severe Winter Storms, & Tornadoes)	**Structures & Infrastructure –** Add cameras to substations to ensure electricity is provided throughout the community.	On-Going	Medium	Short Term	HMGP BRIC EDA Public Safety	*City Street Department, City Council, City Finance Officer, Mayor of Vermillion, SECOG, City Manager
Wakonda	Drought	**Education & Awareness Programs** – Mail/text information to residents concerning the effects of drought on water supply and the importance of conserving water during drought season. A brochure could be included in monthly water bills about current drought conditions and about water-wise landscaping options	New	Low	Short Term	Town Funding	Town Board President, *Town Finance Officer, Public Works Director
	Floods	**Education & Awareness –** Request residents help keep storm drains clear of debris during storms (do not rely solely on Public Works), by providing a flyer in water bill to create the awareness.	New	Low	Short Term	Town – No funding required	Town Finance Officer, *Public Works Director
	Earthquakes	**Education & Awareness Programs** – Develop a technical assistance information program for homeowners. Teaching homeowners how to seismically strengthen their houses can be an effective mitigation activity. The Town can distribute copies of existing strengthening and repair information.	New	Low	Long Term	Town – No funding required	Town Board President, *Town Finance Officer, Public Works Director, Town Board

	Landslides	**Local Planning & Regulations** – Define steep slope/high-risk areas in land use section of the Comprehensive Plan to restrict new development in those areas	New	Low	Long Term	Town – No funding required	*SECOG, Town Finance Officer, Public Works Director, Town Board, Town Board President
	Multi-Hazard (Severe Summer Storms & Tornadoes)	**Structures & Infrastructure** – Construct storm shelter in Town Park	On-Going	Medium	Long Term	BRIC HMGP	Town Board President, *Town Finance Officer, SECOG, Public Works Director, Town Council
	Multi-Hazard (Agricultural Pests and Diseases, Drought, Floods, Geological Hazards, Severe Summer Storms, Severe Winter Storms, & Wildfires)	**Local Planning & Regulations –** Develop Wakonda Disaster Operation Plan	New	High	Short Term	EDA HMGP City Funding SD Risk Management	Town Board President, Town Finance Officer, SECOG, *Town Council
	Tornadoes	**Structures & Infrastructure** – Install tornado sirens	New	Medium	Short Term	N/A –Town Expense	Town Board President, Town Finance Officer, SECOG, *Public Works Director
	Severe Winter Storms	**Education and Outreach Awareness –** Identify specific at-risk populations that may be exceptionally vulnerable in the event of long-term power outages.	New	Low	Short Term	Town – No funding required	Town Board President, *Town Finance Officer, SECOG, Public Works Director, Town Council
	Wildfire	**Natural Systems Protection** – Perform maintenance such as pruning and clearing dead vegetation	New	Low	Long Term	BRIC DANR HMGP	*Public Works Director

* = Lead responsible entity
Short Term = Less than 3 years
Long Term = Greater than 3 years

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

FUTURE MITIGATION ACTIONS ACTIVITY

BRIAN ANGLIN – SESDAC
BARB BALLENSKY – VPT

Community/Organization: CLAY COUNTY / CITY
SESDAC / VPT

Mitigation Action:					
Hazard(s): Drought					
Funding Sources:					
Responsible Entities:					
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☐ No	**Priority:** ☐ High	☐ Medium	☐ Low		
Will this action protect lives and prevent injuries?		☐ Yes	☐ No		
Will this action eliminate or reduce damage to structures and infrastructure?		☐ Yes	☐ No		
Does the community or public support this action?		☐ Yes	☐ No		
How do you plan to implement this mitigation action?					

Mitigation Action: IMPROVE STORM DRAINAGE IN AREAS OF TOWN THAT ARE PRONE TO FLOODING, ESP. HIGH TRAFFIC AREAS.					
Hazard(s): Flood					
Funding Sources: DANF, GOED					
Responsible Entities: CITY OF VERMILLION					
Time Frame: ☐ Short Term (Implemented in 3 years) ☒ Long Term (Implemented in > 3 years)					
Ongoing project: ☒ Yes ☐ No	**Priority:** ☒ High	☐ Medium	☐ Low		
Will this action protect lives and prevent injuries?		☒ Yes	☐ No		
Will this action eliminate or reduce damage to structures and infrastructure?		☒ Yes	☐ No		
Does the community or public support this action?		☒ Yes	☐ No		
How do you plan to implement this mitigation action? IDENTIFY PROBLEM AREAS: CHERRY & JEFFERSON, JEFFERSON & MADISON, LINCOLN & JEFFERSON, ROOSEVELT & JEFFERSON, CHERRY ST BETWEEN ROSE ST & UNIVERSITY ST; E. CLARK & ANDERSON, CANBY & THOMAS AS EXAMPLES. ACQUIRE FUNDING REPAIR					

Mitigation Action:	BUILD SAFEROOMS IN DENSELY POPULATED AREAS THAT LACK APPROPRIATE SHELTER FROM HIGH WINDS & TORNADOS
Hazard(s):	Summer Storm (Tornado, Winds, Hail, Lightning)
Funding Sources:	BRIC
Responsible Entities:	COUNTY & CITY GOVT.
Time Frame:	☐ Short Term (Implemented in 3 years) ☒ Long Term (Implemented in > 3 years)
Ongoing project:	☒ Yes ☐ No **Priority:** ☐ High ☒ Medium ☐ Low
Will this action protect lives and prevent injuries?	☒ Yes ☐ No
Will this action eliminate or reduce damage to structures and infrastructure?	☐ Yes ☒ No
Does the community or public support this action?	☒ Yes ☐ No
How do you plan to implement this mitigation action?	FOLLOW CURRENT PLAN

Mitigation Action:	SNOW GATES FOR SNOW PLOWS
Hazard(s):	Winter Storm (Ice, blizzard, extreme cold)
Funding Sources:	CDBG
Responsible Entities:	City Govt.
Time Frame:	☒ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)
Ongoing project:	☐ Yes ☒ No **Priority:** ☒ High ☐ Medium ☐ Low
Will this action protect lives and prevent injuries?	☒ Yes ☐ No
Will this action eliminate or reduce damage to structures and infrastructure?	☒ Yes ☐ No
Does the community or public support this action?	☒ Yes ☐ No
How do you plan to implement this mitigation action?	OBTAIN FUNDING, PURCHASE & INSTALL

Mitigation Action: PUT A WATER HYDRANT AT CLAY COUNTY CAMPGROUND W/ALL THE FIREPITS @ THE CAMPGROUND					
Hazard(s): Wildfires					
Funding Sources: HMGP					
Responsible Entities: CLAY COUNTY					
Time Frame: ☒ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☒ No	**Priority:** ☒ High	☐ Medium	☐ Low		
Will this action protect lives and prevent injuries?			☒ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?			☒ Yes	☐ No	
Does the community or public support this action?			☒ Yes	☐ No	
How do you plan to implement this mitigation action? OBTAIN FUNDING, COMPLETE PROJECT.					

Mitigation Action:					
Hazard(s):					
Funding Sources:					
Responsible Entities:					
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☐ No	**Priority:** ☐ High	☐ Medium	☐ Low		
Will this action protect lives and prevent injuries?			☐ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?			☐ Yes	☐ No	
Does the community or public support this action?			☐ Yes	☐ No	
How do you plan to implement this mitigation action?					

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

FUTURE MITIGATION ACTIONS ACTIVITY

Community/Organization: Irene

Mitigation Action: Mail/text info to residents				
Hazard(s): Drought				
Funding Sources: DANR				
Responsible Entities: City, SECOG,				
Time Frame: ☒ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)				
Ongoing project: ☐ Yes ☒ No	**Priority:** ☒ High	☐ Medium	☐ Low	
Will this action protect lives and prevent injuries?		☒ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?		☐ Yes	☒ No	
Does the community or public support this action?		☒ Yes	☐ No	
How do you plan to implement this mitigation action?				

Mitigation Action: develop best management practices maintenance & rehabilitation plan				
Hazard(s): Flood				
Funding Sources: NA				
Responsible Entities: City, SECOG				
Time Frame: ☒ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)				
Ongoing project: ☐ Yes ☐ No NA	**Priority:** ☒ High	☐ Medium	☐ Low	
Will this action protect lives and prevent injuries?		☒ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?		☒ Yes	☐ No	
Does the community or public support this action?		☒ Yes	☐ No	
How do you plan to implement this mitigation action?				

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Mitigation Action: Improve storm drainage west of town			
Hazard(s): Summer Storm (Tornado, Winds, Hail, Lightning) / severe winter storms / floods			
Funding Sources: DNR / HMGP			
Responsible Entities: City, SECOG			
Time Frame: ☐ Short Term (Implemented in 3 years) ☒ Long Term (Implemented in > 3 years)			
Ongoing project: ☐ Yes ☒ No	**Priority:** ☐ High	☒ Medium	☐ Low
Will this action protect lives and prevent injuries?		☒ Yes	☐ No
Will this action eliminate or reduce damage to structures and infrastructure?		☒ Yes	☐ No
Does the community or public support this action?		☒ Yes	☐ No
How do you plan to implement this mitigation action?			

Mitigation Action: Construct water treatment plant			
Hazard(s): Winter Storm (Ice, blizzard, extreme cold) / severe summer storms			
Funding Sources: City / DNR			
Responsible Entities: Emergency Mgr, City, SECOG			
Time Frame: ☒ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)			
Ongoing project: ☒ Yes ☐ No	**Priority:** ☒ High	☐ Medium	☐ Low
Will this action protect lives and prevent injuries?		☒ Yes	☐ No
Will this action eliminate or reduce damage to structures and infrastructure?		☒ Yes	☐ No
Does the community or public support this action?		☒ Yes	☐ No
How do you plan to implement this mitigation action?			

Mitigation Action: develop disaster operation plan				
Hazard(s): Agricultural Pests and Disease / floods / geological / wildfire, severe summer/ severe winter				
Funding Sources: EOA, HMGP, City,				
Responsible Entities: city, SECOG, city council				
Time Frame: ☒ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)				
Ongoing project: ☐ Yes ☒ No	**Priority:** ☒ High	☐ Medium	☐ Low	
Will this action protect lives and prevent injuries?		☒ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?		☒ Yes	☐ No	
Does the community or public support this action?		☒ Yes	☐ No	
How do you plan to implement this mitigation action?				

Mitigation Action: define steep slope/high risk areas in land use & comprehensive plan to restrict new development in those areas				
Hazard(s): Geological Hazards (Earthquake, Landslide, Avalanche)				
Funding Sources: NA				
Responsible Entities: SECOG, city				
Time Frame: ☐ Short Term (Implemented in 3 years) ☒ Long Term (Implemented in > 3 years)				
Ongoing project: ☐ Yes ☒ No	**Priority:** ☐ High	☐ Medium	☒ Low	
Will this action protect lives and prevent injuries?		☒ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?		☒ Yes	☐ No	
Does the community or public support this action?		☒ Yes	☐ No	
How do you plan to implement this mitigation action?				

Mitigation Action: perform maintanance such as pruning dead vegetation				
Hazard(s): Wildfires				
Funding Sources: BRIC, DMAF, HMGP				
Responsible Entities: Public Works				
Time Frame: ☐ Short Term (Implemented in 3 years) ☒ Long Term (Implemented in > 3 years)				
Ongoing project: ☐ Yes ☒ No	**Priority:** ☐ High	☐ Medium	☒ Low	
Will this action protect lives and prevent injuries?		☒ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?		☒ Yes	☐ No	
Does the community or public support this action?		☒ Yes	☐ No	
How do you plan to implement this mitigation action?				

Mitigation Action:				
Hazard(s):				
Funding Sources:				
Responsible Entities:				
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)				
Ongoing project: ☐ Yes ☐ No	**Priority:** ☐ High	☐ Medium	☐ Low	
Will this action protect lives and prevent injuries?		☐ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?		☐ Yes	☐ No	
Does the community or public support this action?		☐ Yes	☐ No	
How do you plan to implement this mitigation action?				

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

FUTURE MITIGATION ACTIONS ACTIVITY

Community/Organization: Vermillion

Mitigation Action: Service Center generator					
Hazard(s): ~~Drought~~ Winter & summer storms					
Funding Sources: FEMA, EDA					
Responsible Entities: Fin					
Time Frame: ☒ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☒ Yes ☐ No	**Priority:**	☐ High	☒ Medium		☐ Low
Will this action protect lives and prevent injuries?			☐ Yes		☒ No
Will this action eliminate or reduce damage to structures and infrastructure?			☐ Yes		☒ No
Does the community or public support this action?			☒ Yes		☐ No
How do you plan to implement this mitigation action? The majority of heavy equipment for public works, Light & Power, and Parks are housed in this building. Cold storage of equipment and heated equipment storage is in this building. No generator to open doors or support staff who would utilize this building as base of field operations/response. Important for continuity of operations and disaster recovery response.					

Mitigation Action: Vermillion River bank					
Hazard(s): Flood					
Funding Sources: FEMA					
Responsible Entities: City Council, Finance Officer, City Manager, Parks & Rec Director					
Time Frame: ☐ Short Term (Implemented in 3 years) ☒ Long Term (Implemented in > 3 years)					
Ongoing project: ☒ Yes ☐ No	**Priority:**	☐ High	☒ Medium		☐ Low
Will this action protect lives and prevent injuries?			☒ Yes		☐ No
Will this action eliminate or reduce damage to structures and infrastructure?			☒ Yes		☐ No
Does the community or public support this action?			☒ Yes		☐ No
How do you plan to implement this mitigation action? The Vermillion River bank has eroded during flood years and removed sections of a trail, damaged a fishing pier, and created other hazards. The City's main sanitary sewer lift #2 is located close to the river and may be impacted. Storm sewer outfalls are also located close to the bank. Would help reduce debris in river.					

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

FUTURE MITIGATION ACTIONS ACTIVITY

Community/Organization: Vermillion

Mitigation Action: Tree line					
Hazard(s): ~~Drought~~ Winter Storm					
Funding Sources: FEMA, DANR					
Responsible Entities: City Council, Finance Officer, City Mgr, Police Chief, Sheriff					
Time Frame: ☐ Short Term (Implemented in 3 years) ☒ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☒ No		**Priority:** ☐ High		☒ Medium	☐ Low
Will this action protect lives and prevent injuries?			☐ Yes		☒ No
Will this action eliminate or reduce damage to structures and infrastructure?			☒ Yes		☐ No
Does the community or public support this action?			☒ Yes		☐ No
How do you plan to implement this mitigation action? The new law enforcement center is being constructed on a 7 acre site which is part of a 40+ acre site that has always been crop farmed and abutting a 5-lane highway. There is no vegetation or development to reduce or block the drifting of snow which limits the use of the law enforcement center which is also where the EOC would be located.					

Mitigation Action: City Hall generator					
Hazard(s): ~~Flood~~ Winter & Summer storms					
Funding Sources: FEMA, EDA					
Responsible Entities: City Council, Finance Officer, City Manager					
Time Frame: ☒ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☒ Yes ☐ No		**Priority:** ☐ High		☒ Medium	☐ Low
Will this action protect lives and prevent injuries?			☐ Yes		☒ No
Will this action eliminate or reduce damage to structures and infrastructure?			☐ Yes		☒ No
Does the community or public support this action?			☒ Yes		☐ No
How do you plan to implement this mitigation action? City Hall holds City Council Chambers, government administration offices, main city server, meeting rooms and is used for press conferences. Important for continuity of operations, financial and historical records, and is where the public goes to conduct business and interact with local government. Currently have no generator.					

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Vermillion

Mitigation Action: Storm shelter building				
Hazard(s): Summer Storm (Tornado, Winds, Hail, Lightning)				
Funding Sources: FEMA, CDBG				
Responsible Entities: City Council, Finance Officer, City Manager, Park & Rec Director				
Time Frame: ☐ Short Term (Implemented in 3 years) ☒ Long Term (Implemented in > 3 years)				
Ongoing project: ☒ Yes ☐ No	**Priority:** ☐ High	☒ Medium	☐ Low	
Will this action protect lives and prevent injuries?		☒ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?		☐ Yes	☒ No	
Does the community or public support this action?		☒ Yes	☐ No	
How do you plan to implement this mitigation action? Constructing a new park next to a mobile home park with no storm shelter. Park program users and mobile home park residents need a place for shelter during summer storms. A shelter avoids placing residents in the position of fleeing or staying in place during a storm.				

Mitigation Action: Golf Course fuel tank replacement				
Hazard(s): Winter Storm ~~(Ice, blizzard, extreme cold)~~ Summer and				
Funding Sources: FEMA				
Responsible Entities: City Council, Finance Officer, City Manager, Park & Rec Directo				
Time Frame: ☒ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)				
Ongoing project: ☒ Yes ☐ No	**Priority:** ☐ High	☒ Medium	☐ Low	
Will this action protect lives and prevent injuries?		☒ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?		☐ Yes	☒ No	
Does the community or public support this action?		☒ Yes	☐ No	
How do you plan to implement this mitigation action? The golf course fuel tanks are the only muncipally owned fuel system in city limits separate from the main fuel tank at the Service Center. The 500 gallon unleaded & diesel tanks would serve as a vital backup source should the Service Center be unavailable. Geographical separation and redundancy for the continuity of operations.				

Vermillion

Mitigation Action: Well field study, Alternate Source water, Leak detection/Repair				
Hazard(s): Drought				
Funding Sources: SRF, CDBG, VBWDD Grants				
Responsible Entities:				
Time Frame: ☐ Short Term (Implemented in 3 years) ☒ Long Term (Implemented in > 3 years)				
Ongoing project: ☒ Yes ☐ No	**Priority:** ☐ High	☐ Medium	☐ Low	
Will this action protect lives and prevent injuries?		☐ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?		☐ Yes	☐ No	
Does the community or public support this action?		☐ Yes	☐ No	
How do you plan to implement this mitigation action? Well field Study - 2026 Dakota Mainstem - Initial Member Leak detection.				

Mitigation Action: Raising WW Infrastructure, MH Rehab, smoke testing				
Hazard(s): Flooding				
Funding Sources: SRF, CDBG, EDA,				
Responsible Entities:				
Time Frame: ☐ Short Term (Implemented in 3 years) ☒ Long Term (Implemented in > 3 years)				
Ongoing project: ☒ Yes ☐ No	**Priority:** ☐ High	☐ Medium	☐ Low	
Will this action protect lives and prevent injuries?		☐ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?		☐ Yes	☐ No	
Does the community or public support this action?		☐ Yes	☐ No	
How do you plan to implement this mitigation action? On going projects already implemented.				

Vermillion

Mitigation Action: Back up Generators, Tree trimming				
Hazard(s): Summer Storm (Tornado, Winds, Hail, Lightning)				
Funding Sources:				
Responsible Entities:				
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)				
Ongoing project: ☐ Yes ☐ No	**Priority:**	☐ High	☐ Medium	☐ Low
Will this action protect lives and prevent injuries?			☐ Yes	☐ No
Will this action eliminate or reduce damage to structures and infrastructure?			☐ Yes	☐ No
Does the community or public support this action?			☐ Yes	☐ No
How do you plan to implement this mitigation action?				

Mitigation Action: Tower mixers, hydrant markers				
Hazard(s): Winter Storm (Ice, blizzard, cold)				
Funding Sources: Annual budget				
Responsible Entities:				
Time Frame: ☒ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)				
Ongoing project: ☐ Yes ☐ No	**Priority:**	☐ High	☐ Medium	☐ Low
Will this action protect lives and prevent injuries?			☐ Yes	☐ No
Will this action eliminate or reduce damage to structures and infrastructure?			☐ Yes	☐ No
Does the community or public support this action?			☐ Yes	☐ No
How do you plan to implement this mitigation action? hydrant markers short term, Mixers are a possibility in longer range.				

Vermillion

Mitigation Action: Install fire breaks					
Hazard(s): Wildfires					
Funding Sources: NVFC, Fire Wise, DNR, FEMA, VFA Grant					
Responsible Entities: Streaty Fire, Parks & Rec					
Time Frame: ☒ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☐ No	**Priority:** ☐ High	☒ Medium	☐ Low		
Will this action protect lives and prevent injuries?		☒ Yes	☐ No		
Will this action eliminate or reduce damage to structures and infrastructure?		☒ Yes	☐ No		
Does the community or public support this action?		☒ Yes	☐ No		
How do you plan to implement this mitigation action? By thinning and installing asfetire fire breaks to reduce fuel load near residences. Thining near roads to enhance fire breaks • Thinning projects of parks (Cotton Park)					

Mitigation Action: reinforce man made fire breaks - i.e. ensure public right of ways remain short → near township hubs.					
Hazard(s): Wild fire - County					
Funding Sources: Fire Wise, NVFC, NRCS, DNR, FEMA, VFA grant					
Responsible Entities: Highway dept..					
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☐ No	**Priority:** ☐ High	☐ Medium	☐ Low		
Will this action protect lives and prevent injuries?		☐ Yes	☐ No		
Will this action eliminate or reduce damage to structures and infrastructure?		☐ Yes	☐ No		
Does the community or public support this action?		☐ Yes	☐ No		
How do you plan to implement this mitigation action? • Thinning projects - i.e. High lines					

Vermillion

Mitigation Action:	Substation cameras				
Hazard(s):	~~Wildfires~~				
Funding Sources:	FEMA, EDA				
Responsible Entities:	Light & Power Supt, City Manager, Finance Officer				
Time Frame:	☒ Short Term (Implemented in 3 years)	☐ Long Term (Implemented in > 3 years)			
Ongoing project:	☒ Yes ☐ No	**Priority:**	☐ High	☒ Medium	☐ Low
Will this action protect lives and prevent injuries?				☒ Yes	☐ No
Will this action eliminate or reduce damage to structures and infrastructure?				☒ Yes	☐ No
Does the community or public support this action?				☒ Yes	☐ No
How do you plan to implement this mitigation action?	Cameras at substations will provide for continuity of operations to ensure electricity is provided throughout community. In the event a substation is down, cameras will provide information whether damaged or sabotaged. The stations are unmanned but vital to community. Information will help solo lineman responding have an idea of what to expect.				

Mitigation Action:					
Hazard(s):					
Funding Sources:					
Responsible Entities:					
Time Frame:	☐ Short Term (Implemented in 3 years)	☐ Long Term (Implemented in > 3 years)			
Ongoing project:	☐ Yes ☐ No	**Priority:**	☐ High	☐ Medium	☐ Low
Will this action protect lives and prevent injuries?				☐ Yes	☐ No
Will this action eliminate or reduce damage to structures and infrastructure?				☐ Yes	☐ No
Does the community or public support this action?				☐ Yes	☐ No
How do you plan to implement this mitigation action?					

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

FUTURE MITIGATION ACTIONS ACTIVITY

Community/Organization: Wakonda

Mitigation Action: mail info to residents about drought, water usage					
Hazard(s): Drought					
Funding Sources: City					
Responsible Entities: Town, SECOG,					
Time Frame: ☑ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☑ Yes ☐ No	**Priority:**	☐ High	☑ Medium		☐ Low
Will this action protect lives and prevent injuries?			☑ Yes		☐ No
Will this action eliminate or reduce damage to structures and infrastructure?			☐ Yes		☑ No
Does the community or public support this action?			☑ Yes		☐ No
How do you plan to implement this mitigation action?					

Mitigation Action: Educate property owners on freezing pipes					
Hazard(s): Flood					
Funding Sources: NA					
Responsible Entities: Town					
Time Frame: ☑ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)					
Ongoing project: ☐ Yes ☑ No	**Priority:**	☐ High	☐ Medium		☑ Low
Will this action protect lives and prevent injuries?			☑ Yes		☐ No
Will this action eliminate or reduce damage to structures and infrastructure?			☑ Yes		☐ No
Does the community or public support this action?			☑ Yes		☐ No
How do you plan to implement this mitigation action?					

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Mitigation Action: Construct Storm Shelter in Town Park				
Hazard(s): Summer Storm (Tornado, Winds, Hail, Lightning)				
Funding Sources: BRIC, HMGP				
Responsible Entities: Town, SECOG,				
Time Frame: ☐ Short Term (Implemented in 3 years) ☑ Long Term (Implemented in > 3 years)				
Ongoing project: ☑ Yes ☐ No	**Priority:** ☐ High	☑ Medium	☐ Low	
Will this action protect lives and prevent injuries?		☑ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?		☑ Yes	☐ No	
Does the community or public support this action?		☑ Yes	☐ No	
How do you plan to implement this mitigation action?				

Mitigation Action: develop disaster operation plan				
Hazard(s): Winter Storm (Ice, blizzard, extreme cold) / all other hazards				
Funding Sources: EDA, HMGP				
Responsible Entities: Town, SECOG				
Time Frame: ☑ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)				
Ongoing project: ☐ Yes ☑ No	**Priority:** ☑ High	☐ Medium	☐ Low	
Will this action protect lives and prevent injuries?		☑ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?		☑ Yes	☐ No	
Does the community or public support this action?		☑ Yes	☐ No	
How do you plan to implement this mitigation action?				

Mitigation Action:				
Hazard(s): Agricultural Pests and Disease				
Funding Sources:				
Responsible Entities:				
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)				
Ongoing project: ☐ Yes ☐ No	**Priority:** ☐ High	☐ Medium	☐ Low	
Will this action protect lives and prevent injuries?		☐ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?		☐ Yes	☐ No	
Does the community or public support this action?		☐ Yes	☐ No	
How do you plan to implement this mitigation action?				

Mitigation Action: define steep high risk areas in comprehensive plan				
Hazard(s): Geological Hazards (Earthquake, Landslide, Avalanche)				
Funding Sources: NA				
Responsible Entities: SECOG, Town				
Time Frame: ☐ Short Term (Implemented in 3 years) ☑ Long Term (Implemented in > 3 years)				
Ongoing project: ☐ Yes ☑ No	**Priority:** ☐ High	☐ Medium	☑ Low	
Will this action protect lives and prevent injuries?		☑ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?		☑ Yes	☐ No	
Does the community or public support this action?		☑ Yes	☐ No	
How do you plan to implement this mitigation action?				

Mitigation Action: Prune dead trees				
Hazard(s): Wildfires				
Funding Sources: BRIC, DANR, HMGP				
Responsible Entities: Public Works				
Time Frame: ☐ Short Term (Implemented in 3 years) ☑ Long Term (Implemented in > 3 years)				
Ongoing project: ☐ Yes ☑ No	**Priority:** ☐ High	☐ Medium	☑ Low	
Will this action protect lives and prevent injuries?		☐ Yes	☑ No	
Will this action eliminate or reduce damage to structures and infrastructure?		☑ Yes	☐ No	
Does the community or public support this action?		☑ Yes	☐ No	
How do you plan to implement this mitigation action?				

Mitigation Action:				
Hazard(s):				
Funding Sources:				
Responsible Entities:				
Time Frame: ☐ Short Term (Implemented in 3 years) ☐ Long Term (Implemented in > 3 years)				
Ongoing project: ☐ Yes ☐ No	**Priority:** ☐ High	☐ Medium	☐ Low	
Will this action protect lives and prevent injuries?		☐ Yes	☐ No	
Will this action eliminate or reduce damage to structures and infrastructure?		☐ Yes	☐ No	
Does the community or public support this action?		☐ Yes	☐ No	
How do you plan to implement this mitigation action?				

Appendix R
Hazard Integration Activity

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazard Information Integration Activity (Part 1)

Clay County Drew Gunderson

OVERVIEW

Making sure that your local hazard mitigation plan aligns with other existing plans is vital. Such alignment can help you make sure policies and programs do not conflict. It can also help you make sure policies and programs complement and support each other. This can serve to create a more hazard-resistant and resilient community.

STEP 1: IDENTIFY RELEVANT PLANS AND POTENTIAL PARTNER AGENCIES

SECOG staff have already identified relevant plans and potential partner agencies.

STEP 2: IDENTIFY GAPS AND OVERLAPS

The next step is to look at each plan and check if the proposed policies or actions align or conflict with those in the local hazard mitigation plan. Please provide notes/explanations as necessary.

STEP 3: IDENTIFY ACTIONS TO ADDRESS GAPS AND LEVERAGE OVERLAPS

This step will be discussed in the next meeting.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Table 2. Matrix of plans and agencies.

Plan	Agency/Agencies Responsible	Question	Y/N	Align or Conflict	Explanation/Notes
Comprehensive Plan	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board	Does the future land-use map clearly identify natural hazard areas?	Y		
		Do the land use policies discourage development or redevelopment within natural hazard areas?	Y	Conflict	Should be in the floodplain ord
		Does the plan leave enough space for expected future growth in areas outside natural hazard areas?	Y		
Transportation Plan	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board, Highway Superintendent, City Engineer, Contracted Engineers	Does the transportation plan limit access to hazard areas?	N		
		Is transportation policy used to guide growth to safe locations?	N		
		Are movement systems designed to function under disaster conditions (e.g., evacuation)?	Y		
		Does the transportation plan promote compact, mixed-use development near high hazard areas? (e.g. floodplain?)	N		

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Plan	Agency/Agencies Responsible	Question	Y/N	Align or Conflict	Explanation/Notes
Zoning Ordinances	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board	Does the zoning ordinance conform to the comprehensive plan in terms of discouraging development or redevelopment within natural hazard areas?	Y		
		Does the ordinance contain natural hazard overlay zones that set conditions for land use within such zones?	Y		NRC
		Does the ordinance prohibit development within, or filling of, wetlands, floodways, and floodplains?	Y		Should be in The floodplain ord
		Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use?	N		
Overlay Districts	Water Development District, SD Department of Agriculture and Natural Resources, City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board, City Engineer, Contracted Engineer	Is a Conservation Overlay Zoning District in place to help protect environmentally sensitive areas?	Y		

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Plan	Agency/Agencies Responsible	Question	Y/N	Align or Conflict	Explanation/Notes
Subdivision Regulations	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board	Do the subdivision regulations restrict the subdivision of land within or next to natural hazard areas?	N		
		Do the regulations provide for conservation subdivisions or cluster subdivisions to conserve environmental resources?	N		
Stormwater Master Plan	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board, Utility Department, City Engineer, Contracted Engineer	Does the stormwater master plan promote the use of porous building materials through incentive programs?	N/A		
		Does the stormwater master plan include green stormwater infrastructure in impaired watersheds?	N/A		
		Does the placement of stormwater management projects prioritize socially vulnerable communities?	N/A		

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Plan	Agency/Agencies Responsible	Question	Y/N	Align or Conflict	Explanation/Notes
Emergency Action Plan	Office of Emergency Management, City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board	Is there an adopted evacuation and shelter plan to deal with emergencies from natural hazards?	Y		
		Are evacuation routes located outside of floodplains or liquefaction zones?	Y		there is an operation plan
		Are there emergency communication systems in place? Are those systems deployed in areas with the highest potential hazard exposure?	Y		
Integrated Watershed Management Plan	Water Development District, SD Department of Agriculture and Natural Resources, City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board, City Engineer, Contracted Engineer	Does the plan include policies that restrict development that would increase downstream flooding?	Y		
		Does the plan include policies that restrict development that would increase sedimentation or erosion?	Y		

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Plan	Agency/Agencies Responsible	Question	Y/N	Align or Conflict	Explanation/Notes
Resilience Plan	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board, Office of Emergency Management	Does the plan identify areas at high risk of natural disaster impacts?			
		Does the plan develop actions to recover from natural hazard events? Do those actions align with those the local hazard mitigation plan identifies?			
		Does the plan identify areas in which socially vulnerable populations and underserved communities have a high risk of exposure to natural hazards? If so, do the actions identified to address that risk align with those in the local hazard mitigation plan?			
Parks and Recreation Plan	Parks and Recreation Department, SD Game, Fish & Parks, City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board	Does the plan prioritize open green spaces? Are such spaces planned in areas with high impervious surface coverage?			

Vermillion

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazard Information Integration Activity (Part 1)

OVERVIEW

Making sure that your local hazard mitigation plan aligns with other existing plans is vital. Such alignment can help you make sure policies and programs do not conflict. It can also help you make sure policies and programs complement and support each other. This can serve to create a more hazard-resistant and resilient community.

STEP 1: IDENTIFY RELEVANT PLANS AND POTENTIAL PARTNER AGENCIES

SECOG staff have already identified relevant plans and potential partner agencies.

STEP 2: IDENTIFY GAPS AND OVERLAPS

The next step is to look at each plan and check if the proposed policies or actions align or conflict with those in the local hazard mitigation plan. Please provide notes/explanations as necessary.

STEP 3: IDENTIFY ACTIONS TO ADDRESS GAPS AND LEVERAGE OVERLAPS

This step will be discussed in the next meeting.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Table 2. Matrix of plans and agencies.

Plan	Agency/Agencies Responsible	Question	Y/N	Align or Conflict	Explanation/Notes
Comprehensive Plan	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board	Does the future land-use map clearly identify natural hazard areas?	Y	Bluff Align	Bluff & flood zones
		Do the land use policies discourage development or redevelopment within natural hazard areas?	Y	Align	~~variances are possible~~
		Does the plan leave enough space for expected future growth in areas outside natural hazard areas?	Y	Align	variances are possible
Transportation Plan	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board, Highway Superintendent, City Engineer, Contracted Engineers	Does the transportation plan limit access to hazard areas?	Y	Align	professionally done by 3rd party
		Is transportation policy used to guide growth to safe locations?	Y	Align	
		Are movement systems designed to function under disaster conditions (e.g., evacuation)?	Y	Align	
		Does the transportation plan promote compact, mixed-use development near high hazard areas? (e.g. floodplain?)	N	Align	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Plan	Agency/Agencies Responsible	Question	Y/N	Align or Conflict	Explanation/Notes
Zoning Ordinances	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board	Does the zoning ordinance conform to the comprehensive plan in terms of discouraging development or redevelopment within natural hazard areas?	Y	Align	
		Does the ordinance contain natural hazard overlay zones that set conditions for land use within such zones?	Y	Align	
		Does the ordinance prohibit development within, or filling of, wetlands, floodways, and floodplains?	Y	Align	variances are possible
		Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use?	Y	Align	
Overlay Districts	Water Development District, SD Department of Agriculture and Natural Resources, City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board, City Engineer, Contracted Engineer	Is a Conservation Overlay Zoning District in place to help protect environmentally sensitive areas?	Y	Align	NRC

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Plan	Agency/Agencies Responsible	Question	Y/N	Align or Conflict	Explanation/Notes
Subdivision Regulations	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board	Do the subdivision regulations restrict the subdivision of land within or next to natural hazard areas?	Y	Align	
		Do the regulations provide for conservation subdivisions or cluster subdivisions to conserve environmental resources?	N	Neither	
Stormwater Master Plan	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board, Utility Department, City Engineer, Contracted Engineer	Does the stormwater master plan promote the use of porous building materials through incentive programs?	N	Neither	
		Does the stormwater master plan include green stormwater infrastructure in impaired watersheds?	N	Neither	
		Does the placement of stormwater management projects prioritize socially vulnerable communities?	N	Neither	We have no socially vulnerable communities

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Plan	Agency/Agencies Responsible	Question	Y/N	Align or Conflict	Explanation/Notes
Resilience Plan	City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board, Office of Emergency Management	Does the plan identify areas at high risk of natural disaster impacts?	Y	Align	
		Does the plan develop actions to recover from natural hazard events? Do those actions align with those the local hazard mitigation plan identifies?	Y	Align	
		Does the plan identify areas in which socially vulnerable populations and underserved communities have a high risk of exposure to natural hazards? If so, do the actions identified to address that risk align with those in the local hazard mitigation plan?	N	Align	we do not have socially vulnerable communities Risk a Resiliance Plan
Parks and Recreation Plan	Parks and Recreation Department, SD Game, Fish & Parks, City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board	Does the plan prioritize open green spaces? Are such spaces planned in areas with high impervious surface coverage?	Y + Y	Align	

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Plan	Agency/Agencies Responsible	Question	Y/N	Align or Conflict	Explanation/Notes
Emergency Action Plan	Office of Emergency Management, City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board	Is there an adopted evacuation and shelter plan to deal with emergencies from natural hazards?	N		USD does have a plan
		Are evacuation routes located outside of floodplains or liquefaction zones?	N		
		Are there emergency communication systems in place? Are those systems deployed in areas with the highest potential hazard exposure?	Y	Align	all of the sirens are above the bluff
Integrated Watershed Management Plan	Water Development District, SD Department of Agriculture and Natural Resources, City Planning Commission, County Planning Commission, City Council, County Commission, SECOG, Planning and Zoning Director, Planning and Zoning Board, City Engineer, Contracted Engineer	Does the plan include policies that restrict development that would increase downstream flooding?	N/A		
		Does the plan include policies that restrict development that would increase sedimentation or erosion?	N/A		

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazard Information Integration (Part 2)

OVERVIEW
Making sure that your local hazard mitigation plan aligns with other existing plans is vital. Such alignment can help you make sure policies and programs do not conflict. It can also help you make sure policies and programs complement and support each other. This can serve to create a more hazard-resistant and resilient community.

STEP 1: IDENTIFY RELEVANT PLANS AND POTENTIAL PARTNER AGENCIES

STEP 2: IDENTIFY GAPS AND OVERLAPS

STEP 3: IDENTIFY ACTIONS TO ADDRESS GAPS AND LEVERAGE OVERLAPS
Other local plans, the agencies responsible for those plans, and specific elements of those plans that conflict with or complement those developed in the local hazard mitigation plan have been identified. Now, you are ready to develop actions to address gaps or leverage points of commonality. To do this, work with agencies responsible for other relevant plans throughout the planning cycle. This helps to make sure that the local hazard mitigation plan and other local plans align appropriately. Methods for aligning plans could include:

- Hold regular meetings with other local agencies to talk about potential areas for alignment or improvement.
- Invite other local agencies to be part of your hazard mitigation planning team. This will let them stay up to date with actions and strategies that you develop. It can also help them develop actions that align with those of the local hazard mitigation plan.
- Send regular email updates to other local agencies to keep them up to date with your planning process and proposed actions, strategies, and projects.
- Send a copy of the first draft of the local hazard mitigation plan to other planning agencies to review early and often in the planning process.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Plan	Question	Answer	Actions to Address Gaps
Stormwater Master Plan	Does the stormwater master plan include green stormwater infrastructure in impaired watersheds?	No	**Does the City have a stormwater Master Plan? If not, what would be the benefits of procuring one? How could the City go about obtaining one?** (1) (2) (3) (1) No (2) Would help w/ CIP and budgetting. (3) Either hire a consultant to do one or Staff puts together a multi-year CIP.
	Does the placement of stormwater management projects prioritize socially vulnerable communities?	No	
Resilience Plan	Does the plan identify areas in which socially vulnerable populations and underserved communities have a high risk of exposure to natural hazards? If so, do the actions identified to address that risk align with those in the local hazard mitigation plan?	No - "We do not have socially vulnerable communities"	**Could lower Vermillion residents be considered a vulnerable population with a high risk of exposure to natural hazards? Trailer court residents? Students? How does the Resilience Plan address these populations? If it doesn't address these populations, what steps could the City take to reconsider these populations in the Resilience Plan?** (1) (2) (3) (4) (5) (1)→(3) None of these are more succeptible to natural hazards. I can not discuss their vulnerability to any other external or human heath stressors. (4) We do not have a plan. (5) We address ALL populations in the community.
Emergency Action Plan	Is there an adopted evacuation and shelter plan to deal with emergencies from natural hazards?	No	**If the City was interested in adopting an evacuation and shelter plan to deal with emergencies from natural hazards, what steps would it need to take?** (1) (1) Create a plan, acquire any necessary funding for possible capital projects, and implement the plan (eg. public meetings, construction, education, communication, etc...)

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Hazard Information Integration (Part 2)

OVERVIEW
Making sure that your local hazard mitigation plan aligns with other existing plans is vital. Such alignment can help you make sure policies and programs do not conflict. It can also help you make sure policies and programs complement and support each other. This can serve to create a more hazard-resistant and resilient community.

STEP 1: IDENTIFY RELEVANT PLANS AND POTENTIAL PARTNER AGENCIES

STEP 2: IDENTIFY GAPS AND OVERLAPS

STEP 3: IDENTIFY ACTIONS TO ADDRESS GAPS AND LEVERAGE OVERLAPS
Other local plans, the agencies responsible for those plans, and specific elements of those plans that conflict with or complement those developed in the local hazard mitigation plan have been identified. Now, you are ready to develop actions to address gaps or leverage points of commonality. To do this, work with agencies responsible for other relevant plans throughout the planning cycle. This helps to make sure that the local hazard mitigation plan and other local plans align appropriately. Methods for aligning plans could include:

- Hold regular meetings with other local agencies to talk about potential areas for alignment or improvement.
- Invite other local agencies to be part of your hazard mitigation planning team. This will let them stay up to date with actions and strategies that you develop. It can also help them develop actions that align with those of the local hazard mitigation plan.
- Send regular email updates to other local agencies to keep them up to date with your planning process and proposed actions, strategies, and projects.
- Send a copy of the first draft of the local hazard mitigation plan to other planning agencies to review early and often in the planning process.

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS

Clay County
Pre-Disaster Hazard Mitigation

Plan	Question	Answer	Actions to Address Gaps
Stormwater Master Plan	Does the stormwater master plan include green stormwater infrastructure in impaired watersheds?	No	**Does the City have a stormwater Master Plan? If not, what would be the benefits of procuring one? How could the City go about obtaining one?** (1) (2) (3) (1) No (2) Would help w/ CIP and budgetting. (3) Either hire a consultant to do one or Staff puts together a multi-year CIP.
	Does the placement of stormwater management projects prioritize socially vulnerable communities?	No	
Resilience Plan	Does the plan identify areas in which socially vulnerable populations and underserved communities have a high risk of exposure to natural hazards? If so, do the actions identified to address that risk align with those in the local hazard mitigation plan?	No - "We do not have socially vulnerable communities"	**Could lower Vermillion residents be considered a vulnerable population with a high risk of exposure to natural hazards? Trailer court residents? Students? How does the Resilience Plan address these populations? If it doesn't address these populations, what steps could the City take to reconsider these populations in the Resilience Plan?** (1) (2) (3) (4) (5) (1)→(3) None of these are more succeptible to natural hazards. I can not discuss their vulnerability to any other external or human heath stressors. (4) We do not have a plan. (5) We address ALL populations in the community.
Emergency Action Plan	Is there an adopted evacuation and shelter plan to deal with emergencies from natural hazards?	No	**If the City was interested in adopting an evacuation and shelter plan to deal with emergencies from natural hazards, what steps would it need to take?** (1) (1) Create a plan, acquire any necessary funding for possible capital projects, and implement the plan (eg. public meetings, construction, education, communication, etc...)

Appendix S
Resolutions

RESOLUTION #2024-17

SUPPORT FOR AND ADOPTION OF THE *2024 PRE-DIASTER MITIGATION PLAN FOR CLAY COUNTY, SOUTH DAKOTA*

WHEREAS, the Clay County Commission supports the contents of the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*; and

WHEREAS, the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota,* will be utilized as a guide for planning related to the Federal Emergency Management Agency's (FEMA) Hazard Mitigation and other purposes as deemed appropriate by the Clay County Commission.

BE IT FURTHER RESOLVED that the Clay County Commission hereby adopts, supports, and will facilitate the implementation of the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota.*

Vote of Commission: Mockler Aye, Gray-Lobe Aye, Smith Aye, Thiesse Aye, Hammond Aye.

Dated at Vermillion, South Dakota the 16th day of July, 2024.

Board of County Commissioners
Clay County, South Dakota

ATTEST:

Carri R. Crum, County Auditor

RESOLUTION NO. 2024-04

RESOLUTION DECLARING SUPPORT FOR AND ADOPTION OF THE *2024 PRE-DISASTER MITIGATION PLAN FOR CLAY COUNTY, SOUTH DAKOTA*

WHEREAS, the City of Irene supports the contents of the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*; and

WHEREAS, the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota,* will be utilized as a guide for planning related to the Federal Emergency Management Agency's (FEMA) Hazard Mitigation and other purposes as deemed appropriate by the City of Irene.

NOW, THEREFORE BE IT RESOLVED, by the Governing Body of the City of Irene, South Dakota, that the City of Irene hereby adopts, supports, and will facilitate the implementation of the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota.*

Dated this 8th day of July, 2024.

Bryce Johnke, Mayor

ATTEST:

Casey Van Beek, Finance Officer

RESOLUTION DECLARING SUPPORT FOR AND ADOPTION OF THE *2024 PRE-DISASTER MITIGATION PLAN FOR CLAY COUNTY, SOUTH DAKOTA*

WHEREAS, the City of Vermillion supports the contents of the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*; and

WHEREAS, the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota,* will be utilized as a guide for planning related to the Federal Emergency Management Agency's (FEMA) Hazard Mitigation and other purposes as deemed appropriate by the City of Vermillion.

NOW, THEREFORE BE IT RESOLVED, by the Governing Body of the City of Vermillion, South Dakota, that the City of Vermillion hereby adopts, supports, and will facilitate the implementation of the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota.*

Dated at Vermillion, South Dakota this 15th day of July, 2024.

FOR THE GOVERNING BODY OF THE CITY OF VERMILLION, SOUTH DAKOTA

By _____
Jonathan D. Cole, Mayor

ATTEST:

By _____
Katie E. Redden, Finance Officer

CITY OF VERMILLION • SOUTH DAKOTA • 1859 •

RESOLUTION NO. _____

RESOLUTION DECLARING SUPPORT FOR AND ADOPTION OF THE *2024 PRE-DIASTER MITIGATION PLAN FOR CLAY COUNTY, SOUTH DAKOTA*

WHEREAS, the Town of Wakonda supports the contents of the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*; and

WHEREAS, the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota,* will be utilized as a guide for planning related to the Federal Emergency Management Agency's (FEMA) Hazard Mitigation and other purposes as deemed appropriate by the Town of Wakonda.

NOW, THEREFORE BE IT RESOLVED, by the Governing Body of the Town of Wakonda, South Dakota, that the Town of Wakonda hereby adopts, supports, and will facilitate the implementation of the *2024 Pre-Disaster Mitigation Plan for Clay County, South Dakota*.

Dated this 5th day of August, 2024.

FOR THE GOVERNING BODY OF THE TOWN OF WAKONDA, SOUTH DAKOTA

By _____
Adam Nelson, Town Board President

ATTEST:

By _____
Michelle Carpenter, Finance Officer