

Sumner-Fredericksburg Community School District

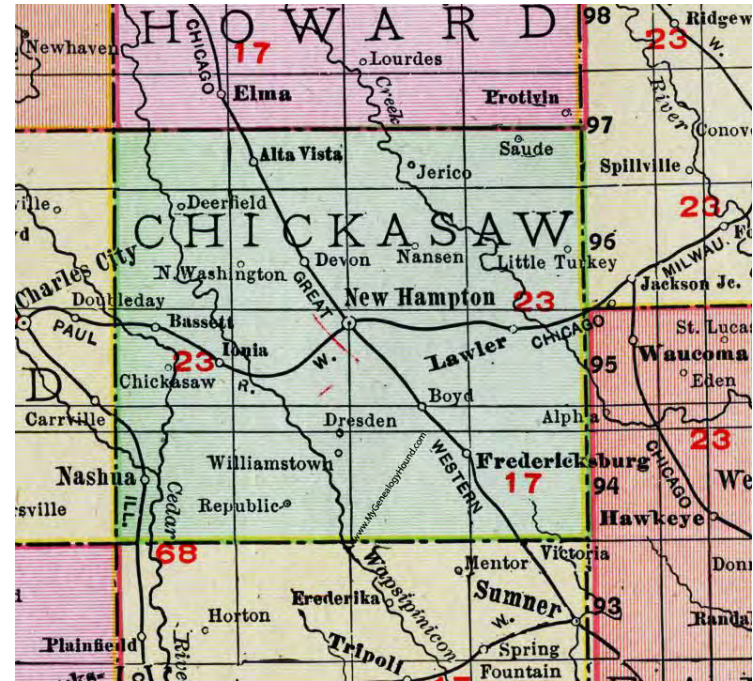
Hazard Mitigation Plan 2023

Appendix L of the Chickasaw County Multi-Jurisdictional Hazard Mitigation Plan

Funded by the Chickasaw County Emergency
Management Agency

Prepared by Iowa Northland Regional Council
of Governments (INRCOG)

May 2024



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About

The Sumner-Fredericksburg Community School District developed a Hazard Mitigation Plan as part of a larger effort to update the 2024 Chickasaw County Multi-Jurisdictional Hazard Mitigation Plan. Federal hazard mitigation grant programs require an updated hazard mitigation plan approved by FEMA to be in good standing and remain eligible for grant funding. The Plan was developed to meet the requirements in Title 44 CFR § 201.6.

Elected officials, city clerks, planners, first responders, and school superintendents were invited to attend planning committee meetings as participants while they completed worksheets that were returned to the Chickasaw County's Emergency Management Agency (EMA) and INRCOG. Chickasaw County's EMA initiated and funded this effort for all participating communities and contracted INRCOG to coordinate a multi-jurisdictional approach to this plan development process.

Participating communities included all nine (9) incorporated jurisdictions in Chickasaw County. Other participating members were representing their respective County departments. The school district superintendents of three public school districts participated and represented their jurisdictions. Four (4) committee meetings were held between March 19th and April 23rd wherein each participant provided data and completed work sheets to develop their hazard mitigation plans.

FEMA's Emergency Management Cycle



What is Hazard Mitigation?

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

The emergency management cycle has 4 phases:

- **Preparedness** is the assessment of potential risks, hazards, and vulnerabilities that a community may face. The development and updating of activities, programs, and systems before an event occurs is included in this phase of the cycle.
- **Response** is the immediate effects after a disaster.
- **Recovery** is a long-term phase that focuses on returning the community to normal after a disaster.
- **Mitigation** is an action that can occur at any phase.

The Benefits of Hazard Mitigation

For local governments, there are benefits in knowing hazards, their risks, and planning for mitigation strategies.

Those include:

- ✓ An increased understanding of natural, technical, and man-made hazards faced by communities.
- ✓ Taking an opportunity to create more sustainable and disaster-resistant communities.
- ✓ Participating in this collaborative intergovernmental effort is cost effective for all participants.
- ✓ Using limited resources on hazards that have the biggest impacts on a community.
- ✓ Reducing or preventing damage to existing structures, subsequently reducing repair costs.
- ✓ Identifying vulnerable populations to establish equitable outcomes.
- ✓ Setting long-term goals that can be compatible with city policies or planning documents.

The Planning Process

In emergency management planning, reducing the community's risk to natural hazards is a multi-step process which involves collaboration among stakeholders, assessing risk and vulnerabilities of hazards facing the community, establishing actions or activities to reduce risk, and assembling an organized strategy to carry out all mitigation activities.

Participants in the Chickasaw County Multi-Jurisdictional Hazard Mitigation Planning Committee provided the information in this plan including community profile information, hazard mitigation goals, mitigation activities/action, updates to existing mitigation activities, and elements included in the strategy such as priorities, designated agencies, estimated costs, and overall strategic direction of this plan.

Participants in the Plan Followed This 5 Step Process



School District Profile

Jurisdiction: Sumner-Fredericksburg Community School District
Counties: Chickasaw, Fayette, and Bremer County
Student Enrollment (2023-2024): 771

The Sumner-Fredericksburg Community School District is based in the cities of Sumner and Fredericksburg, Iowa. The district provides pre-kindergarten through 12th grade education to nearly 771 students.

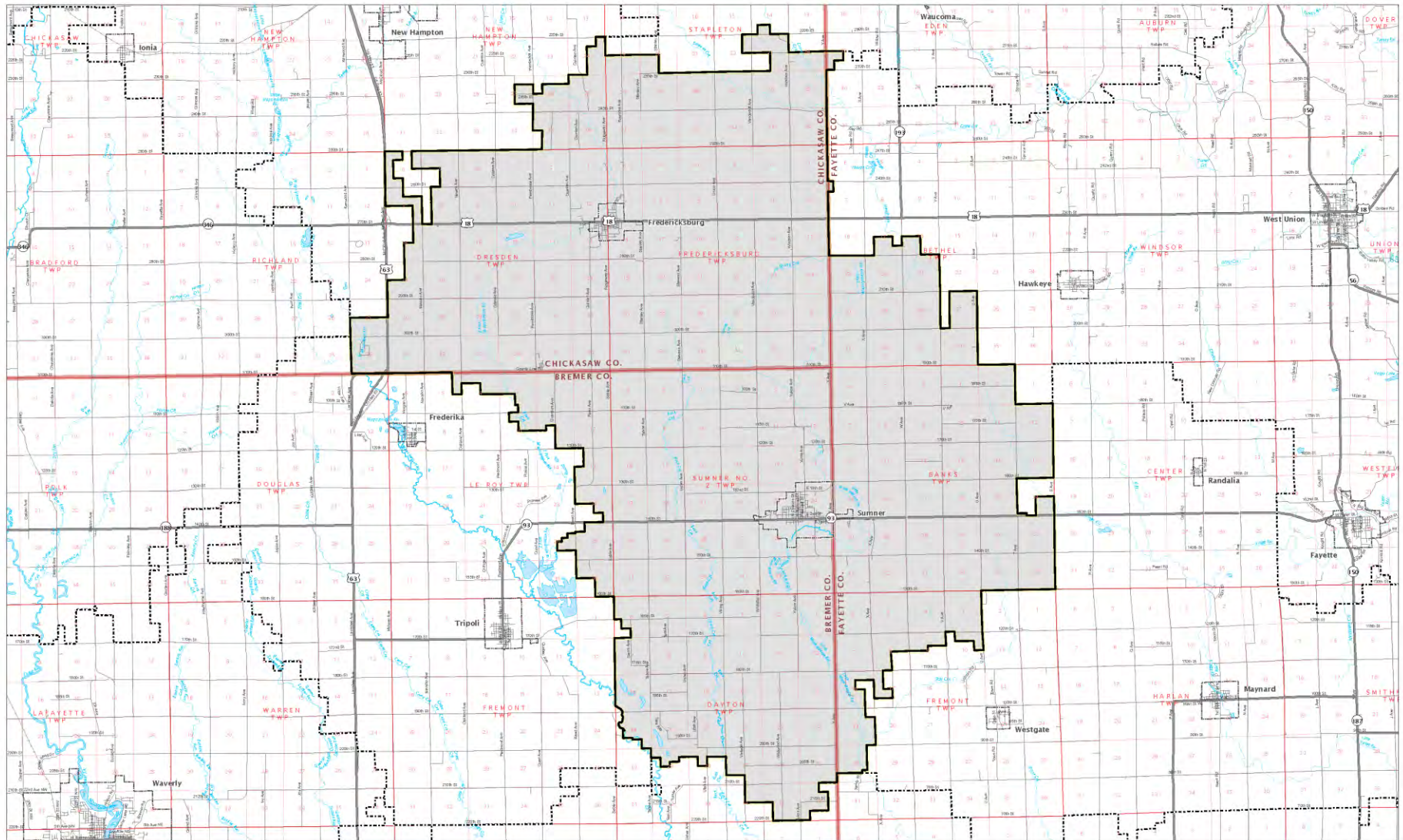
There are 328 students that ride the buses daily. There are 13 buses in the school district fleet. The school district conducts fire drills 4x a year and tornado drill 4x a year. There are 2 active shooter drills, and 2 bus safety drills each year.

The school district does not have tornado safe rooms or wind resistant retrofits in their buildings. The school district sends out information to households for fire, police, and emergency preparedness.

The district has ESL (English as a Second Language) resources available to students as needed.

Table 1: District Schools			
Sumner-Fredericksburg High School	Sumner Fredericksburg Middle School	Durant Elementary School	Fredericksburg Elementary School
802 W. 6 th Street Sumner, IA	300 E. Main Street Fredericksburg, IA	601 W. 5 th Street Sumner, IA	401 E. High Street Fredericksburg, IA

Figure 1: District Map (Source: Iowa Dept. of Education)



Iowa Department of Education School District Boundary Verification 2021 - 2022

SUMNER-FREDERICKSBURG

- SUMNER-FREDERICKSBURG
- Other School District Boundary
- City
- Township
- Section
- County



The school district boundaries represented on this map were downloaded by the Iowa Department of Education and are a product of the 2021-2022 School District Review Program (SDRP) with the U.S. Census Bureau. Legal boundary information was compiled from locally sourced GIS data and verified legal street centers where available. If the location representing the district is incorrect, you should contact the Department or its agents in the event of any of such flow-through. The Department or its agents make no warranty of the accuracy of the information represented herein.

Map Produced: 1/24/2022

0 0.75 1.5 3 Miles

Critical Facilities

Table 2: Critical Facilities	
Sumner-Fredericksburg Middle School	300 E Main Street Fredericksburg, IA
Fredericksburg Elementary School	401 E High Street Fredericksburg, IA
Bus barn	Located at Fredericksburg E.S.
ICN Fibre	Located at S-F Middle School building

The school district has 4 critical buildings. Shown in the table above, the facilities include Sumner Fredericksburg Middle School, Fredericksburg Elementary School, district bus yard, and ICN fibre. All facilities are in Fredericksburg, Iowa.

Community Utility Providers

Table 3: Utility Providers		
	City of Fredericksburg	City of Sumner
<i>Electric</i>	Fredericksburg Municipal	Sumner Municipal
<i>Natural Gas</i>	Black Hills	Black Hills
<i>Telephone/Internet</i>	Windstream/ICN	Windstream/ICN
<i>Cable TV</i>	Mediacom	Mediacom
<i>Water Services</i>	City of Fredericksburg	City of Sumner
<i>Sewer Services</i>	City of Fredericksburg	City of Sumner
<i>Sanitation</i>	City of Fredericksburg	City of Sumner

Future Development

Recent updates in Title 44 CFR §201.6 (c) (2) (i) require this risk assessment include a section with future conditions on the type, location, and range of anticipated intensities of natural hazards.

Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section.¹ The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use, transportation, and human health.

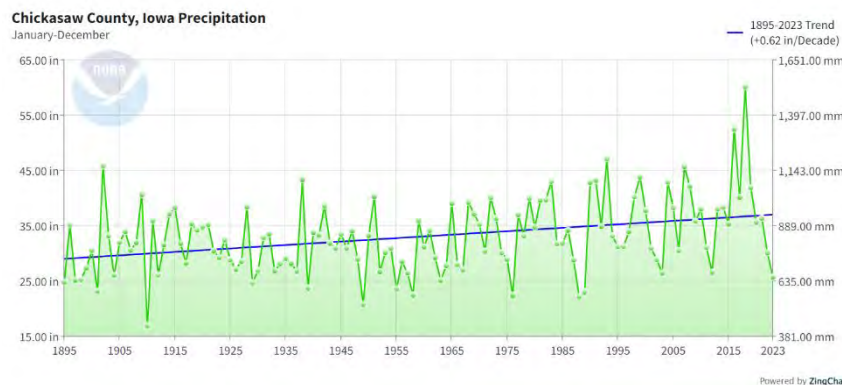
Yearly precipitation levels and annual average temperatures offer insights into future conditions of our climate system.

Annual Precipitation Levels in Chickasaw County

Taking the monthly precipitation records from January to December between 1895 and 2023 is shown in Figure 6. The values hover between 25 - 35 inches of precipitation levels recorded. The average precipitation level for the year is plotted and a linear trend of those values is shown in Figure 2. The trend shows a growing level of annual precipitation on average of 0.62 in more than the decade before. Based on this historical trend, precipitation is likely to continue to increase in the coming years.

¹ USGCRP, 2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 1515 pp. doi: 10.7930/NCA4.2018.

Figure 2: Historical Precipitation Data and Trend for Chickasaw County, Iowa²

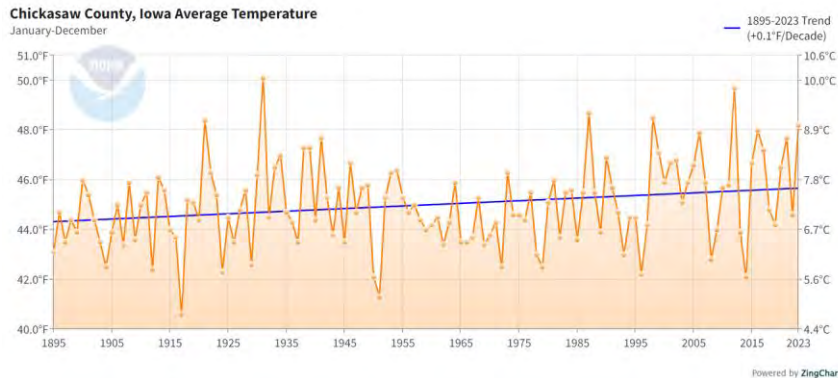


Average Annual Temperatures in Chickasaw County

The monthly average temperature is plotted over a 12-month period from 1885 to 2023 in Figure 3. The annual average temperature is also shown with a linear trend in Figure 7. This trend shows the average temperature in Chickasaw County increasing at a rate of +0.1° F every 10 years.

² NOAA National Centers for Environmental information, Climate at a Glance: County Time Series, published February 2024, retrieved on April 15, 2024 from <https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/county/time-series>

Figure 3: Historical Temperature Data and Trend for Chickasaw County, Iowa²



Climate Patterns from Increasing Precipitation and Higher Temperatures

Drought

The relationship between increasing precipitation, temperature, and drought is complex, and often counterintuitive at first thinking about it. While increasing precipitation may seem like it would mitigate drought conditions, higher temperatures can exacerbate the situation in several ways:

1. **Evapotranspiration:** Higher temperatures lead to increased evaporation rates from soil, bodies of water, and plants. This means that even if there is more precipitation, it may quickly be evaporated before it can effectively replenish soil moisture or water sources.
2. **Changes in precipitation patterns:** Increasing temperatures can alter precipitation patterns, leading

to more intense rainfall events but also longer periods of drought between these events. This pattern can result in rapid runoff and soil erosion during heavy rain, followed by extended dry periods that contribute to drought conditions.

Overall, while increasing precipitation may provide temporary relief from drought, the combined effects of rising temperatures can outweigh this benefit, leading to more frequent and severe drought events in certain regions.

Pest Infestation

With more humidity, the daily minimum temperature may increase across all seasons. Warming winters can increase the survival and reproduction of existing insect pests which allow new insect pests and crop pathogens to move into the Midwest region.

Extreme Heat Domes

A heat dome is a weather phenomenon characterized by a high-pressure system that traps hot air beneath it, leading to prolonged periods of extremely high temperatures and often causing heatwaves. Extreme heat events during the summers may occur with more frequency in the Midwest.

The human impacts of extreme heat affect socially and economically vulnerable populations the most. The higher costs of energy during heat waves disproportionately impact cost-burdened households. Heat related illness may be more severe among infants, elderly populations, and those with chronic health conditions.

Projected Trends of Natural Hazards in Chickasaw County

- Prologued drought is probably as the atmosphere holds more moisture (even pulling moisture from plants) as the temperature increases. Longer periods between weather events means there are dryer and longer periods in between these events.
- Floods (flash or major types) will increase in intensity as the atmosphere holds more moisture to drive stronger storms and drop heavier rainfall over a shorter period during an event.
- Extreme heat may occur more frequently. The human health impacts are higher among socially vulnerable populations (the elderly, infants, those with chronic health issues, cost burdened households).
- Agricultural pests and pathogens may increase in growing plants and stored grain. Warming temperatures in the spring and summer have led to rising humidity. Higher dew and moisture conditions may increase the presence of these pests or crop diseases.

Hazard Risk Assessment

The top three hazards from the risk assessment are:

1. River Flooding
2. Tornado/ Windstorm
3. Thunderstorm with Lightning/Hail

Methodology

This risk assessment identifies how people, property, and structures would be harmed or damaged by one of the listed hazard events. Iowa Homeland Security and Emergency Management Department (Iowa H.E.S.M.D.) provided the hazard risk score formula for determining the level of risk used in this analysis.

Factors of Hazard Risk

Risks to a hazard event may differ across geographical locations or even differ based on certain times of year. For example, tornado season in Iowa is usually in May and tornados have the highest risk during this time due to change in weather patterns from the western and central Gulf of Mexico causing higher chances of extreme weather.

For this analysis, four hazard risk factors are rated on a scale between 1 and 4 by committee participants after reviewing profiles of each hazard with the planning coordinator. Information was shared with the committee which described the hazard, historical occurrences, impact, duration, and warning time. Participants used this information to strengthen their understanding to rate each hazard factor.

Hazard Risk Score Formula

$$\begin{aligned}
 &[\text{Probability}] \times 45\% + [\text{Magnitude or Severity}] \times 30\% \\
 &+ [\text{Warning Time}] \times 15\% + [\text{Duration}] \times 10\% \\
 &= \text{Final Hazard Assessment}
 \end{aligned}$$

Source: Provided by Iowa H.S.E.M.D.

Hazard scores were collected during the 2nd county committee meeting. INRCOG planners calculated the hazard risk score for each hazard based on the formula in this section. Results for Sumner-Fredericksburg are on page 21.

Score Value vs. Hazard Risk Level	Description of hazard with this rating
Scores with a value closer to 1: <u>Low risk hazard</u>	Hazard is not likely to affect people or property because the likelihood is minimal.
Scores with a value closer to 4: <u>High risk hazard</u>	The hazard has historically occurred and may have significant impacts to people and property.

The factors in the hazard risk calculation are defined and the score values for each part is summarized in the following sections:

Probability

The probability score reflects the likelihood of the hazard occurring in the near future. Historical data of the hazard event occurring in Chickasaw County or Iowa informed the likelihood of future occurrence.

Probability Score Definitions		
Score	Description	
1	Unlikely	<i>Less than 10%</i> probability in any given year (up to 1 in 10 chance of occurring), a history of events is less than 10% likely or the event is unlikely but there is a possibility of its occurrence.
2	Occasional	<i>Between 10% and 20%</i> probability in any given year (up to 1 in 5 chance of occurring), history of events is greater than 10% but less than 20% or the event could possibly occur.
3	Likely	<i>Between 20% and 33%</i> probability in any given year (up to 1 in 3 chance of occurring), history of events if greater than 20% but less than 33% or the event is likely to occur.
4	Highly Likely	<i>More than 33%</i> probability in any given year (event has up to a 1 in 1 chance of occurring), history of events is greater than 33% likely or the event is highly likely to occur.

Magnitude or Severity

The magnitude or severity of the hazard event is measured by the level of impact on the human environment. Property damage is assessed by the whole planning area.

Magnitude or Severity Score Definitions		
Score	Description	
1	Negligible	Less than 10% of property severely damaged, the shutdown of facilities and services for less than 24 hours, and/or injuries/illnesses treatable with first aid
2	Limited	10% to 25% of property severely damaged, shutdown of facilities and service for more than a week, and/or injuries/illnesses that do not result in permanent disability.
3	Critical	25% to 50% of property severely damaged, shutdown of facilities and services for at least two weeks, and/or injuries/illnesses that result in permanent disability.
4	Catastrophic	More than 50% of property severely damaged, shutdown of facilities and services for more than 30 days, and/or multiple deaths.

Warning Time

This should be taken as an anticipated warning time.

The warning time score assesses the ability to warn a population before the hazard occurs. The values of the score range from 1 (at least 24 hours) to 4 (minimal or no warning time).

For many of the climate hazards, there is a considerable amount of warning time as opposed to the human-caused hazards (transportation and hazardous materials incidents) that occur instantaneously or without any significant warning time.

Warning Time Score Definitions		
Score	Description	
1	Forecasted	More than 24 hours warning time.
2	Likely	12 to 24 hours warning time.
3	High Chance	6 to 12 hours warning time
4	Imminent	Minimal or no warning time (up to 6 hours warning)

Duration

The duration is the time of a typical or expected hazard event to occur. For an earthquake or traffic accident that is a score of 1. For infrastructure failure, it is likely a 4.

Table 6 displays rated risk scores for each associated hazard. This assessment was completed by school district representatives based on hazard profiles prepared for the planning committee.

Duration Score Definitions	
Score	Description
1	Less than 6 hours
2	Less than 1 day
3	Less than 1 week
4	More than 1 week

Source: Completed by School District Representative. Calculated score completed by INRCOG

Table 4: Hazard Risk Assessment					
Hazards	Probability	Magnitude	Warning Time	Duration	Score
Flooding - Riverine	4	3	2	3	3.3
Tornado/ Windstorm	4	2	4	1	3.1
Thunderstorm/ Lightning/ Hail	4	1	3	1	2.7
Drought	4	1	1	4	2.7
Extreme Heat	3	2	1	4	2.5
Severe Winter Storm	4	1	1	2	2.5
Grass/Wildland Fire	2	2	4	2	2.3
Infrastructure Failure	2	2	4	2	2.3
Hazardous Materials	2	3	2	1	2.2
Flooding - Flash	2	2	2	3	2.1
Pandemic/ Endemic Human Disease	2	2	1	4	2.1
Transportation Incidents	2	1	4	1	1.9
Expansive Soils	1	1	4	3	1.7
Radiological Incident	1	1	4	2	1.6
Earthquake	1	1	4	1	1.5
Landslide	1	1	4	1	1.5
Levee/ Dam Failure	1	1	2	4	1.5
Sinkholes	1	1	4	1	1.5
Terrorism	1	1	4	1	1.5
Animal/ Crop/ Plant Disease	1	1	1	4	1.3

Hazard Mitigation Goals

The following list of goals was developed by planning committee participants from the associated jurisdiction. Goals 1 through 6 were adopted to this Plan. Goals 7 were created by problem statements provided by the school superintendent during the plan development process. This process included updated and additional mitigation goals and activities.

- Goal #1** Maintain emergency services during hazard events, or if this is not possible, return to pre-disaster service levels as soon as possible.
- Goal #2** Protect the health and welfare of students and staff by utilizing pre-disaster planning and constructing mitigation projects.
- Goal #3** Take steps to mitigate or minimize the impact of natural, technological, and/or man-made disasters.
- Goal #4** Take measures to minimize the occurrence of injuries and loss of life due to hazards.
- Goal #5** Take measures to minimize or eliminate damages that may occur as a result of hazards.
- Goal #6** Return to similar or improved pre-event conditions as quickly as possible following a disaster event.
- Goal #7** Support city mitigation initiatives to offset impacts of extreme weather and seek collaboration between the school district and City of Fredericksburg.

Mitigation Activities by Type

Mitigation actions and activities in this Plan will be organized according to these 5 categories: Emergency Services, Education and Outreach Projects, Natural Resource Protection or Natural Based Solutions, Structural Projects, or Local Plans and Regulations.

Emergency Services in the City of Fredericksburg

Chickasaw County Emergency Management Agency

The City of Fredericksburg works with the Chickasaw County Emergency Management Coordinator, based out of the City of New Hampton, on various safety and emergency events. The Emergency Management Coordinator works in conjunction with local fire, rescue, police, and government officials to draft and implement workable emergency action plans in the community. The Chickasaw County Emergency Management Coordinator is Jeff Bernatz.

Law Enforcement

Fredericksburg has a 28E agreement with the Chickasaw County Sheriff's Office for law enforcement services. The sheriff and deputies serve as- needed. The Sheriff's Office is located out of New Hampton at 116 N. Chestnut.

Fire Protection and EMS Services

Fire protection is provided by the Fredericksburg Fire Department. The station is located at 100 Falcon Drive Fredericksburg, IA 50630. There are 27 volunteer fire fighters that serve in the department currently. The members of the department meet monthly and take training in fire

suppression, hazardous materials, and emergency medical services.

Dispatch is provided via a paging system through the Chickasaw County Sheriff's Office.

The Fredericksburg Fire Department maintains 28E agreements with the following communities: Deerfield and Washington Townships. Sumner, Frederika, Waucoma, Alta Vista, Bassett, Ionia, Lawler, Nashua, New Hampton, and North Washington.

Equipment used by the North Washington Fire Department includes the following:

- 1991 Pumper Truck
- 1998 Rescue Truck
- 2023 UTV
- 1995 Tanker Truck
- 2018 Freightliner Tanker w/ pump
- 1999 Pickup/ Brush Truck
- 2012 Freightliner Pumper
- 2024 Brush/Rescue Truck
- 3 Drones for Search and Rescue with night vision

EMS Services

Chickasaw County EMS provides ambulance service to area hospitals. The company is based out of New Hampton. There is one ambulance stationed in Fredericksburg at the Fire Station.

Chickasaw County Rescue Squad also provides service in Fredericksburg. There are 42 EMT certified individuals who

volunteer to respond to emergency calls on an as-need basis.

Medical Facilities

Fredericksburg Medical Clinic is located at 115 Schult Ridge Road in Fredericksburg. The facility is open 8am to 5pm M-Th and 8am to 12pm on Fridays only.

The closest ER facility is the MercyOne New Hampton Medical Center in New Hampton, IA. This is the only medical facility with an ER unit located in the county. MercyOne has 11 private inpatient rooms and cares for over 20,000 outpatients each year.

MercyOne New Hampton offers a full range of services in an inpatient and outpatient setting as well as 24-hour emergency care, surgical services, primary care clinic, therapy and rehabilitation, diagnostic services, speech and occupational therapy, Senior Life Solutions, and specialty clinics.

HAZMAT Response Teams

Fredericksburg contracts with Northeast Iowa Response Group for response to hazardous material spills. The Northeast Iowa Response Group is a division of Waterloo Fire Rescue as is the Hazardous Materials Regional Training Center. The Training Center provides training to fire departments and companies from around the state and country. Not only is this a training center, but it also serves as a hazardous materials quick response unit to Black Hawk County, surrounding counties, and many municipalities in a ten county region. The Unit provides local fire departments

with hazardous materials emergency procedures thus reducing additional contamination. An evacuation plan is also in place in conjunction with the activities of the local department. Contact information for the facility is as follows: Hazardous Materials Regional Training Center, 1925 Newell Street, Waterloo, Iowa 50707, Phone: (319) 291-4275, Toll Free: (800) 291-4682, Fax: (319) 291-4285

The jurisdiction also partners with the Northeast Iowa Response Group for assistance in responding to any methamphetamine labs located in the city limits. The Response Group assists the Police Departments in containment of the site and disposal of hazardous chemicals.

Warning Systems in Fredericksburg

1) Tornado Sirens

Fredericksburg has a tornado warning siren.

The activation systems of warning systems are activated and operated by a central command system operated by the Chickasaw County Rescue Squad in New Hampton, IA.

2) Alert Iowa Mass Communication System

Chickasaw County has implemented the use of Alert Iowa, a mass communication notification system. The system features are controlled through the Chickasaw County Emergency Management Agency. Residents can customize their alert settings including the type of alerts they would get.

Alert Iowa allows for emergency notifications via landline telephones, cell phones, email, text messages, and social media. This is useful for communities that may not have an operating warning siren or may not hear the sirens. The County will use its emergency notification network for all the following events: blizzards, flash flooding, severe thunderstorms, and tornadoes. Through the options on Alert Iowa, residents can set it up so they may receive alerts for all the hazards in this Plan.

Education and Outreach Projects Mitigation Activities

The district participates in the annual emergency preparedness awareness week. Fire and weather are the two hazards that are prepared for during this time.

The school district holds emergency management training for administrators and staff annually through the Bremer County Emergency Management Agency.

The City of Fredericksburg has a public awareness plan for natural gas. Citizens receive a detailed letter regarding what to do in case of a gas emergency. The City also informs citizens of Iowa One Call.

The school district would like to assist the City and County EMA with getting the word out on Alert Iowa. Using existing feeds from the school district including social media, emails, and newsletters, the school district can reach a significant portion of the population.

Natural Resource Protection Mitigation Activities

There have been no recent natural resource protection projects.

The school district can plant trees, shrubs, and grasses to help slow or mitigate the flow of water on the south and west side of Fredericksburg Elementary School. This will assist the city with their retention pond to the west of the school campus. As the trees grow, this will serve as a natural windbreak for the school building.

Following recommendations from the 2014 Urban Forest Management Plan for Fredericksburg, Iowa prepared by Iowa DNR, tree planting efforts will ensure to plant a diverse mix of trees that does NOT include: ash, maple, cottonwood, poplar, box elder, Chinese elm, evergreen, willow or black walnut. Over the next five years, most tree removal in Fredericksburg can be offset by planting 1.2 trees for each one removed, considering that not all newly planted trees may survive. While it's not mandatory for replacement trees to be situated in the exact locations of those removed, maintaining the overall number of trees is crucial for sustaining the ecological benefits provided by Fredericksburg's existing forest.

Structural Projects Mitigation Activities

There have been no recent structural projects.

The school district needs a saferoom for tornados and other natural disasters. Efforts to place or site the shelter will be done in communication with the City of Fredericksburg. It is the goal of this mitigation activity that both the city and

school district may have access to this shelter in times of need.

Local Plans and Regulations in Fredericksburg

The City of Fredericksburg completed a capability assessment. The results are show in the table below. The capability assessment measures how well a municipality may implement mitigation activities in their jurisdiction. For Fredericksburg, the City has regulatory mechanisms to mitigate potential hazards which reflects well on the school district’s safety.

The school district prepares a school safety plan annually in June. This is sent to the state department of education per their requirements.

Table 5: Local Capability Assessment	
Community	City of Fredericksburg
Comprehensive Plan?	Yes
Building Code?	No
Zoning Ordinance? RR=restricted residential	Yes
Subdivision Regulations?	No
Floodplain Management Ordinance?	Yes
Tree-Trimming Ordinance?	Yes
Storm Water Ordinance?	Yes
Snow Removal Ordinance?	Yes

Components of the Implementation Strategy

The end of this section has strategic implementation information prepared in consultation with the school district’s superintendent and INRCOG. This is a guide for a strategic approach when implementing the school district’s efforts in hazard mitigation. The tasks in these tables are drawn from problems statements and new mitigation activity worksheets.

Notes about the tasks (listed as line items) in each table.

- Each task (line item) stands on its own so it can be completed whenever possible.
- Each action item is not limited to the details presented below and may change based on future conditions.
- The tasks were categorized based on mitigation type. The mitigation types are not shown in any order (no priority over the other).

This implementation strategy is presented to help with the general understanding of how hazard mitigation may feed into existing or future priorities.

Priority Level

The priority level was informed through discussions among planning committee members who considered potential benefits of implementing the activity, some hurdles that the city may face in implementing the action step, and the drawbacks of implementation. *Committee representatives considered a cost-benefit approach.*

Timeframe

Timeframe	Description
Immediate	1-6 months
Short Term	1-5 years
Mid-Term	5-10 Years
Long-Term	More than 10 Years

Estimated Costs

Cost estimates are based on the associated costs of additional staffing that may or may not be needed, time for planning/meetings/coordinating, and cost of the proposed action/program/ project.

Cost	Estimated Cost Range
Minimal	Less than \$10,000
Low	\$10K to \$99K
Moderate	\$100K to \$299K
High	Greater than \$300K

Strategic Implementation Plan by Mitigation Activity Type

Table 6: 'Education and Awareness' Type Mitigation Activities						
Description: These types of actions keep residents informed about potential natural disasters.						
Priority	Tasks	Hazard(s)	Primary Agency Responsible for Implementation	Time Frame to Complete	Estimated Cost (s)	Funding Source
Medium	Share information through school website and school social media	All	Superintendent and tech director	Immediate 1-6 months	Minimal \$0	None needed
Medium	Collect outreach information from Jeff Bernatz (Chickasaw County EMA) for Alert Iowa	All	Superintendent	Immediate 1-6 Months	Minimal \$0	None needed

Table 7: 'Emergency Services' Type Mitigation Activities						
Description: Actions that protect people and property during and immediately after a disaster or hazard event.						
Priority	Tasks	Hazard(s)	Primary Agency Responsible for Implementation	Time Frame to Complete	Estimated Cost (s)	Funding Source
High	Meet with local and county EMS to share ideas and concern	All	Chickasaw County EMS, Superintendent, Principal	Short 1-3 years	Minimal 0-\$10K	School general fund
High	Prepare and sign an agreement for EMS services to be provided to the school district	All	Chickasaw County EMA, Superintendent	Short 1-3 years	Minimal 0-\$10K	School general fund

Table 8: Structure and Infrastructure Project Type Mitigation Activities

Description: Actions that either modify existing buildings or structures to protect them from a hazard, or removal from the hazard area.

Priority	Action/Activity	Hazard(s) Addressed by Action	Primary Agency Responsible for Implementation	Time Frame to Complete Action	Estimated Cost(s) to Implement	Funding Source
High	Work with ISG to prepare cost estimate and potential location for a tornado safe room	Thunderstorm and Lightning, Tornado, Windstorm,	Superintendent, School Board, City Council	Short term 1-3 years	Minimal 0-\$10K	School general fund, city general fund
High	Apply for grants and set aside fund to cover costs	Thunderstorm with lightning/hail, tornado/windstorm	Superintendent, School Board, City Council	Long Term 5-10 Years	High \$300K+	School general fund, city general fund, hazard mitigation grant program

Table 9: Natural System Protection and Nature-Based Mitigation Type

Description: Actions that minimize damage and losses by preserving or restoring the functions of natural systems. This type of action can include green infrastructure and low impact development, nature-based solutions

Priority	Action/Activity	Hazard(s) Addressed by Action	Primary Agency Responsible for Implementation	Time Frame to Complete	Estimated Cost (s)	Funding Source
Medium	Solicit donation and grants to plant trees and replace the tree shade canopy from cut ash trees.	Thunderstorm w/ lightning/hail, Tornado/ Windstorm, Winterstorm	Building and ground superintendent, School Board	Short Term 1-3 years	Minimal 0-\$10K	School general fund, Community Forestry Grant Program, Black Hills Energy Power of Trees
Medium	Plant trees, shrubs, and grasses on the south and west side of Fredericksburg Elementary School campus	Windstorm, Thunderstorm, Extreme Heat, Flash Flooding	Building and ground superintendent, School Board	Short Term 1-3 Years	Minimal 0-\$10K	School general fund, Community Forestry Grant Program, Black Hills Energy Power of Trees