

2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan Butler County, Iowa

Adopted By: Butler County, Iowa (04/22/2025)

Including: City of Allison (03/10/2025), City of Aplington (02/12/2025), City of Aredale (03/10/2025), City of Bristow (02/13/2025), City of Clarksville (01/06/2025), City of Dumont (03/13/2025), City of Greene (02/10/2025), City of New Hartford (04/02/2025), City of Parkersburg (04/07/2025), City of Shell Rock (04/08/2025), Clarksville Community School District (XX/XX/2025), Dike New Hartford Community School District (04/16/2025), North Butler Community School District (04/14/2025), and Waverly Shell Rock Community School District (02/10/2025)

Adopted By FEMA: July 17, 2025

Funded by:



Prepared by:



INRCOG
Iowa Northland Regional
Council of Governments

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July 17, 2025

John Benson
Director
Iowa Department of Homeland Security and Emergency Management
7900 Hickman Rd. Suite 500
Windsor Heights, IA 50324

Subject: Approval of the Butler County Hazard Mitigation Plan

Director Benson:

In accordance with applicable¹ laws, regulations and policy, the Risk Analysis Branch of the Federal Emergency Management Agency (FEMA) Region 7 has approved the Butler County Hazard Mitigation Plan. The attached Local Mitigation Plan Review Tool lists participants receiving approval that have submitted required adoption documentation.

Mitigation plans may include additional content to meet Element H: Additional State Requirements or content the local government included beyond applicable FEMA mitigation planning requirements. FEMA approval does not include the review or approval of content that exceeds the applicable FEMA mitigation planning requirements.

The approval period for this plan is from June 24, 2025, through June 23, 2030. The same official plan expiration date applies to all participating jurisdictions, regardless of adoption date.

An approved plan is required to maintain eligibility for funding under FEMA's Hazard Mitigation Assistance (HMA) programs. All funding requests will be evaluated individually based on the specific eligibility criteria and requirements of the applicable HMA program.

Based on FEMA's review, the plan did not meet all elements required for the Rehabilitation of High Hazard Potential Dams (HHPD) grant program. Thus, the participating jurisdictions are not eligible for assistance from the HHPD Grant Program at this time. If any participating jurisdictions with HHPDs are interested in this assistance, they should contact the FEMA regional mitigation planner identified below to learn more about how to meet the required mitigation planning elements for this program.

Having an approved mitigation plan does not mean that mitigation grant funding will be awarded. Specific application and eligibility requirements for the programs listed above can be found in each FEMA grant program's respective policies and annual Notice of Funding Opportunities, as applicable.

¹ Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and National Dam Safety Program Act, as amended; 44 CFR Part 201, Mitigation Planning; and Local Mitigation Planning Policy Guide (FP-206-21-0002, April 11, 2025).

To avoid a lapsed plan, the next plan update must be approved before the end of the approval period, including adoption by the participating jurisdictions. Before the end of the approval period, please allow sufficient time to secure funding for the update, including the review and approval process. Please include time for any revisions, if needed, and for the jurisdiction to formally adopt the plan after the review, if not adopted prior to submission. This will enable them to remain eligible to apply for and receive funding from FEMA’s mitigation grant programs with a mitigation plan requirement. Local governments, including special districts, with a plan status of “Approvable Pending Adoption” are not eligible for FEMA’s mitigation grant programs with a mitigation plan requirement.

We look forward to discussing options for implementing this mitigation plan. If you should have any questions or concerns, please contact Bryan Murdie, Risk Analysis Branch Chief, at 202.257.7627 or bryan.murdie@fema.dhs.gov.

Sincerely,

Laurie L. Bestgen, Director
Mitigation Division

Attachment: Local Mitigation Plan Review Tool

2025 Butler County
Hazard Mitigation Plan

ACKNOWLEDGMENTS

BUTLER COUNTY HAZARD MITIGATION PLANNING COMMITTEE

Over the course of the planning process, many individuals donated their time and efforts toward providing information, attending meetings, and providing input for the successful completion of the plan. The following is a list of people who participated in the development of this Butler County Multi-Jurisdictional Hazard Mitigation Plan:

Butler County

Chris Showalter, Emergency Management
Coordinator
John Riherd, Engineer
Jason Johnson, Sheriff
Leslie Groan, Auditor

City of Allison

Schott Henrichs, Mayor

City of Aplington

Jason Mehmen, Mayor

City of Aredale

Deana Hanson, City Clerk

City of Bristow

Trisha Boos, City Clerk

City of Clarksville

Jerald Heuer, Mayor
Matt Behrends, Fire Department
Jennifer Kielman, City Council Member
Jessi Reints, City Council Member

City of Dumont

Rhonda Schmidt, City Clerk

City of Greene

Cory Wiegmann, Public Works Director

City of New Hartford

Tim Woods, City Council Member
Randy Johnson, City Council Member

City of Parkersburg

Tom Manifold, City Council Member
Chris Luhring, City Administrator

City of Shell Rock

Jessica Meyer, City Clerk

**Clarksville
Community School District**

Bryan Boysen, Superintendent

**Dike-New Hartford
Community School District**

Justin Stockdale, Superintendent

**North Buter
Community School District**

Bryan Boysen, Superintendent

**Waverly-Shell Rock
Community School District**

David Hill, Superintendent

**Iowa Northland Regional
Council of Governments
(INRCOG)**

Isaiah Corbin, Director of Development
Vincent Ruggiere, Planner I
Dan Schlichtmann, GIS Coordinator

Adopting Resolution by Butler County Board of Supervisors

RESOLUTION #22-2025

A RESOLUTION OF THE BOARD OF SUPERVISORS, OF BUTLER COUNTY, IOWA, ADOPTING A MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BUTLER COUNTY.


WHEREAS, the Board of Supervisors of Butler County, Iowa has authorized the development of a Multi-Jurisdictional Hazard Mitigation Plan for Butler County; and

WHEREAS, the Multi-Jurisdictional Hazard Mitigation Planning Committee of the Butler County has participated in the formulation of said Plan; and has recommended the adoption of said Multi-Jurisdictional Hazard Mitigation Plan; and

WHEREAS, a Public Hearing has been held in the County Courthouse for the purpose of obtaining citizen input on the Multi-Jurisdictional Hazard Mitigation Plan; and


NOW THEREFORE BE IT RESOLVED THAT the Board of Supervisors of Butler County, Iowa herewith adopts the Butler County Multi-Jurisdictional Hazard Mitigation Plan, incorporating into the Plan citizen comment and future FEMA and IHSEMD recommendations.

Passed and adopted this 22nd day of April 2025.



Chair

ATTEST:



County Auditor

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Section I: Introduction



About

Natural disasters are an ever-present hazard for communities throughout the world. This Multi-Jurisdictional Hazard Mitigation Plan (MJ-HMP) was developed as a broad-based planning effort involving numerous incorporated communities, school districts, and the County in order to plan and mitigate the risks of such hazards. This Plan is a comprehensive county wide strategy to mitigate losses due to natural or man-made hazards. The jurisdictions included in this Plan had representatives that served as participants Butler County's Hazard Mitigation Planning Committee. Representatives from each jurisdiction attended four publicly held meetings and submitted materials that provided necessary information to formulate their local hazard mitigation plans. Those Plans can be found in the Appendices of this Plan.

This Plan is an update to the 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan. This Plan was written and developed to meet the requirements in FEMA's Local Mitigation Policy Guide updated in April 2023, Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), and the regulations in Title 44 CFR § 201.6 relating to Mitigation Planning.

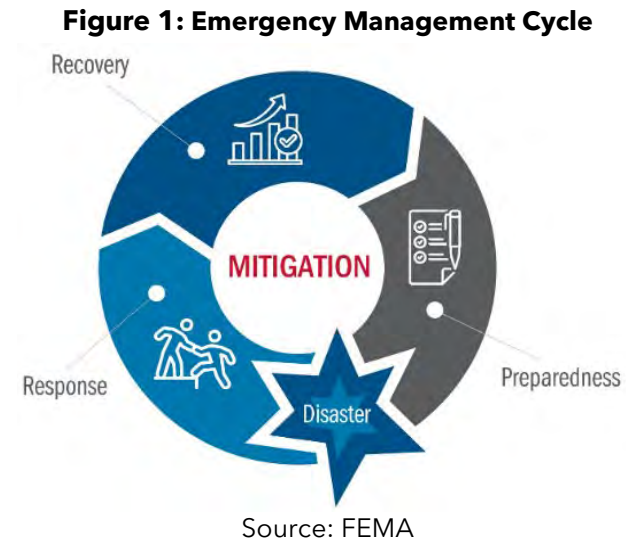
What is Hazard Mitigation?

Hazard mitigation encompasses any proactive measure undertaken to diminish or eradicate the enduring threats posed to both human life and property by hazardous events. It embodies a collective set of actions, policies, or programs to be implemented at the community-level. This whole effort is aimed at fostering a sustained reduction in vulnerability to hazards.

This approach is not only proactive in preparation for natural disasters, but overall reduces enormous costs associated with damage to property and community way of life that incur following being impacted by a natural disaster.

A FEMA approved Plan makes each participating jurisdiction eligible for federal grant funding that becomes available to communities in order to complete hazard mitigation activities or programs. This grant program is a major part of developing this Plan in accordance with FEMA's Hazard Mitigation requirements and federal regulations.

The implementation of this Plan signifies a strategic, risk-informed strategy aimed at curbing long-term risks associated with the wellbeing of individuals, the protection of property, and the preservation of community cohesion across all areas within Butler County.



Purposes of Hazard Mitigation Planning

The following list identifies reasons to conduct hazard mitigation planning:

- To facilitate the protection of the health, safety, and economic security of residents, workers, visitors, and property owners by mitigating the impacts of natural and man-made hazards.
- Influence decision-making in both the public and private sectors.
- Fulfill statutory requirements of Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act such that Butler County and participating jurisdictions remain eligible for federal programs such as the Flood Mitigation Assistance Grant program (FMA), Hazard Mitigation Grant Program (HMGP), Hazard Mitigation Grant Program Post-Fire (HMGP Post Fire) and Building Resilient Infrastructure and Communities (BRIC) program.

For this plan, Butler County's jurisdictions that participated in the process collected data and their approach for their local hazard mitigation plan with assistance from the County EMA and INRCOG. Each jurisdiction fulfilled all requirements in the process for the development of their mitigation strategy.

A Multi-Jurisdictional Approach

This comprehensive document has components informed by the planning committee. Those include mitigation goals, selected mitigation activities/actions/programs, policies and regulations set by each jurisdiction, needs, fiscal level, and local planning

implementation capacity. INRCOG served as the coordinator of this Plan by coordinating meetings with the planning committee, collecting information by each jurisdiction in order to assemble data gathering assignments into a strategic body with details, priorities, and funding sources called out for each associated action item.

The North Butler Community School District is a new participant in this update.

Benefits of Multi-Jurisdictional Mitigation Planning

- ✓ A comprehensive approach to hazard mitigation may have greater positive impacts for participants and others. This process imposes external specialty on the topic of hazard mitigation which is available for rural communities through COGs throughout Iowa.
- ✓ Taking an opportunity to create more sustainable and disaster-resistant communities.
- ✓ Benefiting from a collaborative intergovernmental effort that qualifies participants for pre-disaster mitigation grants.
- ✓ Using limited resources on hazards that have the biggest impact on a community.
- ✓ Reducing or preventing damage to existing structures, subsequently reducing repair costs.
- ✓ Identifying vulnerable populations to establish socially equitable outcomes.
- ✓ Setting long-term goals that will be compatible with existing community plans such as a comprehensive land use plan.

See Table 2 for committee members and participation details.

The Planning Process



OUR APPROACH

1 Gathering Data and Getting Updates on Previous Hazard Mitigation Activities

Representatives from each of the participating jurisdictions attended the first planning committee meeting in which provided community data, information, and shared updates on previous mitigation efforts done by their communities were discussed.

Meetings were held between October 2024 to February 2024 at the Butler County Courthouse in Allison, Iowa. Public notices were published in the *Butler County Tribune-Journal*, the largest and most read local newspaper for the county.

All meetings were open to the public and community members were welcome to attend and observe the committee. We had no guests or members of the public attending these meetings. Copies of notices are located in Appendix S.

Jurisdictions discussed and reviewed communities of people who were most at risk of hazards in their communities. Members of the task force provided outreach to organizations that locally serve those individuals in their community to discuss potential hazards, goals, and mitigation opportunities to be included in the plan.

The previous mitigation activities were drawn from the 2020 Butler County Multi Hazard Mitigation Plan. Communities used such goals to evaluate their progress and build new goals for this plan. The updates took place based upon the previous Plan and with input from plan participants. This focused on helping each jurisdiction be reflective of what they have achieved, what they have still yet to achieve, and what has not worked for better or worse.

Responses are located in Appendix Q.

2 HAZARD IDENTIFICATION & ASSESSMENTS

Identify Hazards

Through the planning process, the hazards that posed a risk to the entire planning area, as well as unique hazards for each jurisdiction, were reviewed and updated. The committee agreed on including all 13 hazards identified in the State of Iowa’s 2023 Hazard Mitigation Plan. Hazard profiles were prepared by the plan coordinator and shared with the committee participants during the hazard risk assessment.

Assessing: Vulnerability, Capability, and Risk

Committee participants evaluated their community’s vulnerabilities by listing critical facilities, vulnerable populations, repetitive loss property history, and any properties located in flood risk zones based on the latest effective flood study.

Next, participants conducted a capability assessment on their community’s abilities to carry out hazard mitigation activities. An inventory of existing policies, practices, programs, regulations, and activities was listed in tables. Responses for the capability assessments are located in Section 4.

A risk assessment was conducted for each hazard based on four risk factors. Historical occurrence, probability of a hazard event occurring in the area, magnitude of a hazard event, and the warning time of an event occurring.

Responses by participants were put on score sheets with each factor given a rating between 1 and 4. Using a hazard risk formula based on the values of the numbered rating given to each factor, a composite score was calculated for each hazard and the list of hazards were organized from highest to lowest risk for each community. The results of this assessment and hazard profiles are in Section 3.



ESTABLISH

3 Mitigation Goals and New Activities

Each community's team or representative in the planning committee consulted with their local government and local planning committees to determine the goals for their local hazard mitigation plan. Those goals were developed from problems statements submitted by committee participants about a specific issue.

Participants were able to list mitigation activities they could accomplish as a community that would help them achieve their goals. Those new mitigation activities were assembled with their updated list of previous mitigation activities, then arranged into five different mitigation action types. These components make up a new strategy by each community to implement their hazard mitigation activities over the next 5 years.

ASSEMBLE

4 Implementation Strategy

A strategic guide for use in the mitigation efforts is presented for each mitigation plan. Each action or activity item in the strategy focuses on hazard mitigation and consists of a time frame, designated person to lead, estimated cost, and funding sources to pursue.

The Plan concludes with recommendations to consider, efforts to keep the public involved, and how to make any future updates or how changes can take place.

When implemented appropriately, mitigation projects can save lives, reduce property damage, be cost-effective, and environmentally sound. This, in turn, can reduce the enormous cost of disasters to property owners and all levels of government. In addition to the approach from this plan, hazard mitigation can

protect critical community facilities, ensure equitable outcomes, reduce exposure to liability, and minimize community disruption.

ADOPT

5 Public Hearing and Adopting Resolution Approving the Updated Hazard Mitigation Plan

Each community produced drafts of their local hazard mitigation plans using the work sheets and assignments from each of the committee meetings. Then participants shared the Plan with their local officials, emergency responders, board members, etc. for feedback. All feedback was addressed, incorporated, and a final plan was sent out for a public hearing at their board's respective meeting. A coordinator from the plan development team (INRCOG or Butler County EMA) was present during public hearings when feasible (non-conflicting meeting times) and presented the planning process, pointed out any changes from existing hazard mitigation plan (if applicable), and the overall benefits of an approved plan for the community (i.e. funding, reduction of risks). All boards voted unanimously to adopt their updated hazard mitigation plan. See Appendix P for signed resolutions.

Planning Committee

Those that participated were administrators or elected officials. County staff included those from the county public health department, engineering department, ambulance services, auditor's office, conservation board, and board of supervisors. These participants helped form county-wide input for hazard mitigation that would focus on unincorporated county areas. The committee members are listed in Table 2.

Representatives from ten incorporated cities located in Butler County included: Allison, Aplington, Aredale, Bristow, Clarksville, Dumont, Greene, New Harford, Parkersburg, and Shell Rock. All the

2025 Butler County Hazard Mitigation Plan

cities that participated in the 2020 Butler County MJ-HMP participated in this 2025 plan update.

All school districts with areas within Butler County were invited to participate in the plan development process and serve on the committee. Those included Aplington-Parkersburg Community School District (CSD), Dike New-Hartford CSD, North Butler CSD, and Waverly-Shell Rock CSD. Most participated in the planning process by attending meetings and/or completing necessary data by meeting with plan coordinator to receive meeting materials. North Butler was new in participating in Butler's Hazard Mitigation Plan.

Requirement 44 CFR §201.6(b)(2): An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process must include an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and nonprofit interests to be involved in the planning process.

Committee Participation

Each respective jurisdiction had at least one representative attend the series of required planning meetings and completed all necessary information for this hazard mitigation plan. If jurisdiction participants were not able to make the meetings due to scheduling conflicts, they were given meeting materials and learned about hazard mitigation topics from our handouts that helped them form their local strategies. See Table 2 for a summary of each committee member's participation.

Data from the information gathering phase of the process included listing critical facilities/sites, local capabilities, identifying critical buildings, updating their 2020 strategies (if they were a previous participant), filled out worksheets with problem statements, and selected new mitigation activities/actions for their updated strategy.

During the risk assessment, committee participants scored factors that would calculate their community's overall risk to each hazard in their local hazard mitigation plans.

Other stakeholders, including organizations and/or individuals, were invited to attend committee meetings to be informed about the process and provide an opportunity to join the committee such as:

- Aplington-Parkersburg Community School District
- Dike-New Hartford Community School District
- North Butler Community School District
- Waverly-Shell Rock Community School District

Jurisdictions discussed and reviewed communities of people who were most at risk of hazards in their communities. Members of the task force provided outreach to organizations that locally serve those individuals in their community to discuss potential hazards, goals, and mitigation opportunities to be included in the plan.

INRCOG organized the meetings in conjunction with the Butler County Emergency Management Coordinator. INRCOG was also responsible for compiling information and writing the final document.

Each participant on the planning committee completed worksheets that would provide the content used to write their local hazard mitigation plan in accordance with requirements for approval by Iowa Department of Homeland Security and FEMA. Changes or updates are documented in the responses by participants (See Appendix Q).

Public Participation

The public was invited to planning committee meetings by public notices published in the weekly local newspaper publication the *Butler County Tribune-Journal*. Outreach efforts by Butler County invited neighboring communities, agencies, businesses, academia, nonprofits, and other interested parties and residents of the planning process. All interested parties to attend and contribute to the development of the plan. No other formal invitations were sent outside of the public notices. Given that much of the information discussed during the public meetings involved departments, agencies, and representatives outside of the expertise of the committee, it was requested the committee members discuss each meeting with various stakeholders to get the most updated information available. Committee members consulted with a variety of stakeholders, including community development partners, public works, emergency departments, local nonprofit organizations, and businesses. Such information was then conveyed back to the committee and discussed at the following meetings.

Vulnerable populations were represented by the various committee members. Given that many of the committee members interact on a day-to-day basis with vulnerable populations in their communities in their day-to-day duties, they were able to describe how hazards could have an impact on those most vulnerable in their community. Moreover, each hazards impact was discussed and during such conversations, particular attention was given to its impact on communities who are elderly, lack resources, have little to no transportation, or are generally considered underserved.

Outside of feedback brought back from individual committee members, no additional public feedback was received.

Public notices and public involvement materials can be found in Appendix S. All public notices for each public hearing held for each jurisdiction’s local hazard mitigation plan are found in Appendix S.

Table 1: Summary of All Public Meetings for the 2025 Butler County M-J HMP

Mtg #	Date	Description of Meeting and Outcomes of Meetings
Meeting 1	Tuesday October 1, 2024	Review the scope of the planning process and schedule meetings for the next committee meetings. Complete worksheets to update community data. Completed worksheets to provide updates to previous mitigation activities.
Meeting 2	Tuesday October 22, 2024	Reviewed hazard profiles to be assessed in this planning process for Butler County's communities. Discussed additional hazards to consider. Completed a hazard assessment using a scoring rubric developed in the plan.
Meeting 3	Tuesday November 12, 2024	Complete vulnerability assessment and completed problem statement work sheet with new mitigation activities. Return previous work items if available.
Meeting 4	Tuesday December 10, 2024	Review drafts of their hazard mitigation plans and send out to boards for review before posting online and at city halls for public hearing.

Committee Meetings

Four public meetings were held at the Butler County Courthouse building at 428 6th Street, Allison, IA 50602. Each meeting was open to all. Attendance for each meeting was documented and can be found in Appendix R. Table 1 provides a list of the public meetings. Public notices were published in the main newspapers for meetings 2, 3, and 4. Notices for meetings #1 did not meet the newspaper notice deadline to publish in the biweekly newspapers.

2025 Butler County
Hazard Mitigation Plan

Table 2: County MJ-HMP Planning Committee Members and Participation						
Name	Jurisdiction or Dept.	Position	Attended Meeting?			
			#1	#2	#3	#4
Chris Showalter	Butler County	Emergency Management Coordinator	X	X	X	X
Rhonda Schmidt	Dumont	City Clerk	X			
Deana Hanson	Aredale	City Clerk	X	X	X	
Jason Mehmen	Aplington	Mayor	X	X	X	
Jason Johnson	Butler County	Sheriff	X			
Tom Manifold	Parkersburg	City Council Member	X	X	X	
Matt Behrends	Clarksville	Fire Department	X			
Jerald Heuer	Clarksville	Mayor	X	X	X	
Jennifer Kielman	Clarksville	City Council Member	X			
John Riherd	Butler County	Engineer	X	X		
David Hill	Waverly-Shell Rock CSD	Superintendent	X			
Jessi Reints	Clarksville	City Council Member	X	X		
Leslie Groen	Butler County	Auditor	X			
Justin Stockdale	Dike-New Hartford CSD	Superintendent		X		
Trisha Boos	Bristow	City Clerk		X		
Scott Henrichs	Allison	Mayor		X		X
Jeff Kolb	Butler-Grundy Development Alliance	Executive Director		X		
Cory Wiegmann	Greene	Public Works Director			X	
Chris Luhring	Parkersburg	City Administrator			X	
Bryan Boysen	North Butler CSD & Clarksville CSD	Superintendent			X	X
Tim Woods	New Hartford	City Council Member				X
Randy Johnson	New Hartford	City Council Member				X
Jessica Meyer	Shell Rock	City Clerk				X

Current & Previous Planning Documents Used

In addition to information obtained through the series of Committee Meetings, INRCOG reviewed existing reports, plans, studies, reports, and historical data. Relevant information and resources were shared with each jurisdiction. These documents and data include:

- 2023 Iowa Hazard Mitigation Plan.
- Plans, studies, reports, maps, and technical information, including updated Flood Insurance Rate Maps (FIRM) and data.
- Documentation of communities' status in the National Flood Insurance Program (NFIP).
- Repetitive Loss Properties and/or Severe Repetitive Loss Properties information from FEMA.
- 2040 RTA Long Range Transportation Plan.
- 2018 National Climate Assessment

The County will continue to support and encourage the integration into other planning documents. Integration of the prior plan took place in various forms through County strategic planning, Emergency Operations Planning, and regionally within the Comprehensive Economic Development Strategy (CEDS). Such integration will continue as described below.

In addition, this plan will be integrated with other jurisdictional plans through a coordinated and collaborative approach. This integration involves aligning goals, strategies, and actions of the hazard mitigation plan with other relevant plans including emergency operations plans of the County. The County is currently undergoing an update to their Comprehensive Plan and has included the Hazard Mitigation Plan as part of that update. Furthermore, the County will ensure that the plan is used in capital improvement plans as well as other necessary plans.

Other jurisdictions plan to follow suit while schools will integrate with their Emergency Operations Plans. Regionally, the plan will be considered alongside the Comprehensive Economic Development Strategy (CEDS). By embedding such principles into other planning processes, the overall resilience of the region will continue to be enhanced, leading to more effective risk reduction and streamlined responses to potential hazards in the future.

Section II: County Profile



Butler County, Iowa

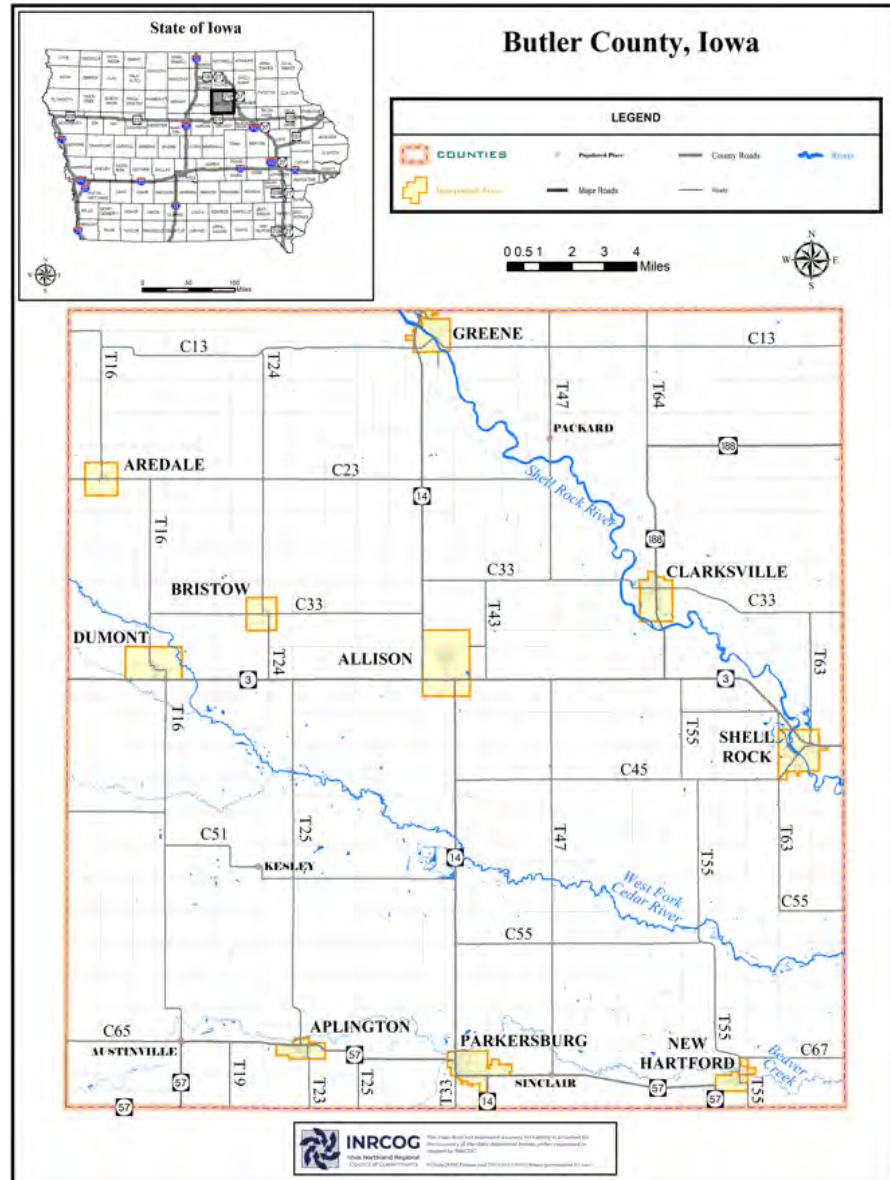
Established: 1851

Population (2020): 14,334

Area: 585 square miles

County Seat: City of Allison

Figure 2: Map and Location of Butler County



Location

Butler County is located in northeastern Iowa. The County is comprised of long, sloping terrain, several state and county parks, wetlands, vast stretches of prime agricultural landscapes that stretch into the distance and flourishing forested landscapes.

Located in the geographic center of the county, the city of Allison serves as the county seat. Based on 2020 Census data, Allison has had a population of 961 people. For this Plan, the communities are evaluated as a whole and not split at the county lines. The city of Aredale is the smallest town in the county with 62 residents while the largest jurisdiction is Parkersburg with 2,015 residents.

Ranking	City	Population (2020 Census)
1	Parkersburg	2,015
2	Clarksville	1,264
3	Shell Rock	1,258
4	Aplington	1,105
5	Greene	990
6	Allison	961
7	Dumont	632
8	New Hartford	572
9	Bristow	144
10	Aredale	88

Most drivers will access Butler County from State Highway 218 at the exit onto State Highway 3 that takes you to the City of Shell Rock, approximately 6.5 miles north of the U.S. Highway 20 corridor and 1 mile west of U.S. Highway 218. State highways 3 & 57 traverse Butler County to the east-west. State highway 14 traverse north-south of Butler County.

There are two main rivers that flow through the County. The first is the Shell Rock River located on the northeast side of the County. Next, the West Fork Cedar River flows directly through middle portion of the County.

Counties Floyd, Bremer, Black Hawk, Grundy, and Franklin lie adjacent to Butler County.

History

Butler County is in lands that were once occupied by the Sauk and Meskwaki (Sac and Fox) tribes, the Ioway tribes, and Sisseton-Wahpeton Oyate tribe (a Dakota Sioux band) (Library of Congress). In the late 1700s/1800s, early French settlers had established sparse hunting settlements in the region for fur trappings. In 1803, the Louisiana Purchase preemptively started westward expansion. In 1825, the Treaty of Prairie Du Chien acquired much land from the Sauk and Meskwaki (Sac and Fox tribes), Ioway, and bands of the Dakota Sioux.

Following the Black Hawk War of 1832, the U.S. relocated all tribes from the state region with the signing of several treaties including land document *Cessions #152* which covered most of Butler County.

Railroads began crossing the continent and brought in settlers who established Butler County in 1851. It was named in honor of General William Orlando Butler (1791-1880), a Kentucky statesman and officer in the Mexican War, and unsuccessful Democratic candidate for Vice President in 1848. In 1860, the population in Butler County was 3,724.

General William Orlando Butler



The county seat of Butler County has switched between multiple towns in its history. From 1854 to 1860, Butler County's seat was in Clarksville. Beginning in 1860 to 1880, the now-nonexistent village of Butler Center was the county seat until residents found it too difficult to access the town simply because it was in the more rural parts of Butler County without any commercial businesses. The power struggle

among Butler's towns to become the next county seat was settled by a new development sweeping across the country. In 1879, the Dubuque and Dakota Railroad Company built their

railroad through Butler County and placed a station in the town of Allison, named for United States Senator William B. Allison (1829-1908). This settled the question of where Butler County's seat was to be located.

The people of Butler County decided to move the county seat to Allison in 1881 with the county records being moved to Allison on January 10, 1881. Allison grew due to its location being centrally located within the county and located along the newly established rail line. From 1880 to 1900, the population of Butler County grew from 14,293 to 17,955 people.

This population growth matched the peak and eventual decline of railway travel in Iowa. Between 1911 to 1917, the railroad industry reached its peak in Iowa, where it is estimated that approximately 10,500 miles of railroad track had been laid throughout the state. During the rest of the 20th century, railroad operators lost their advantage in mass transportation as the rise of automobiles started to shape the United States. Iowa's rail system experienced change and restructuring as many railroad companies went through buyouts, acquisitions, bankruptcy, and liquidation. The population in Butler County remained steadily above 17,500 people until 1970 when the population of Butler County dropped to 16,953.

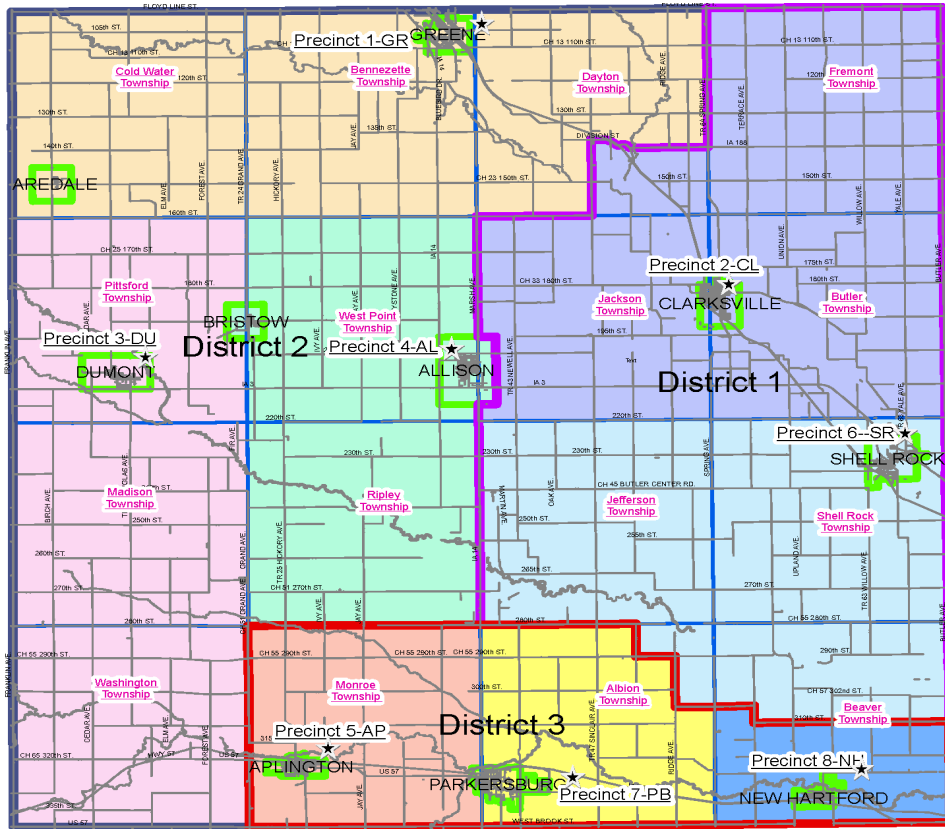
In 1975, Butler County bid farewell to a symbol of their 'pioneer days' and moved into a new courthouse building. This new courthouse was built in the mid-century modern architectural style differing from the previous court house's Italian ornate architecture popular for public and government buildings during the 19th century. The older, then-derelect 94-year-old Butler County Courthouse was demolished the following year in 1976. The cupola, a round window structure topping the

building, was salvaged from the old courthouse and remains on the courthouse grounds as a nod to its storied history. The cupola sits above the Hall of Fame building celebrating notable people of Butler County.

Butler County Hall of Fame Building



Figure 3: County District Map



Source: Butler County Assessor and GIS Services

Government Structure

A three-member board of supervisors comprise the governing body of the County. The board of supervisors is the policy making body of the County, under the laws of Iowa. A map of district boundaries represented by each supervisor is shown here.

- District 1 Supervisor - Greg Barnett
- District 2 Supervisor - Wayne Dralle
- District 3 Supervisor - Rusty Eddy

Each of Butler County's incorporated municipalities has a Mayor-Council government structure. Pursuant to Iowa Code 376.2 city council members may serve either 2- or 4- year terms. Mayors and city council members are each elected to serve a 2-year term.

By state law, city councils appoint a city clerk to fulfill duties that include publishing meeting minutes, completing budget forms, managing city finances, and responding to resident requests, among other duties. For this plan, city clerks, mayors, and first responders were involved to provide information and gather input from their respective communities.

Natural Environment

Topographically, Butler County is a land of relatively flat or long rolling slopes. This is ideal for agricultural production and drives a strong agricultural and farming sector for Butler's economy.

Soils

According to the Butler County Soil Survey, the soil composition reveals a remarkable and valuable natural to support a thriving agriculturally based economy. The soils in the County are grouped into eight (8) soils associations, each of which has different characteristics. The associations, including a brief description of each, are located in Figure 4.

Surface Water Systems

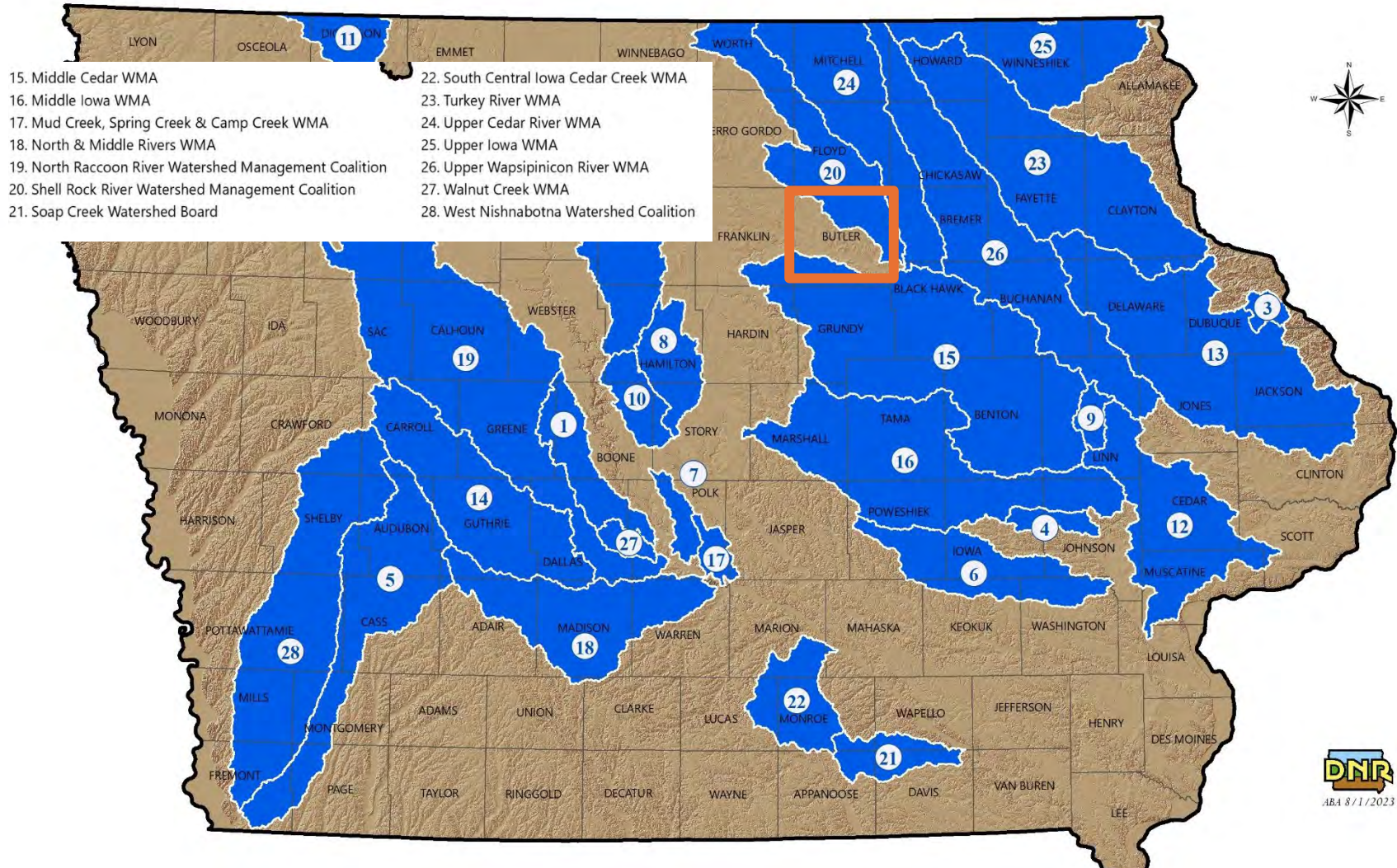
The County lies within the boundaries of two watersheds: #15-Middle Cedar Watershed Management Authority and #20 Shell Rock River Watershed Management Coalition. See the map of watershed management authorities in Figure 5.

The highest point in the county is located in the rural areas near Dumont and lies at approximately 1,190 feet above sea level. The lowest point in the county is located at the southeastern corner of the Shell Rock River and lies at approximately 890 feet above sea level.

Figure 4: Butler County Soil Associations

Readlyn-Tripoli Association	• Nearly level, somewhat poorly drained to poorly drained soils formed in loamy erosional sediments and underlying firm, loamy glacial till; on uplands.
Oran-Bassett-Clyde Association	• Nearly level to moderately sloping, moderately well drained to poorly drained, moderately dark and dark soils formed in loamy
Kenyon-Clyde-Floyd Association	• Nearly level and moderately sloping, moderately well drained to poorly drained, dark soils formed in loamy erosional sediments and the underlying firm, loamy glacial till; on uplands.
Ostrander-Lilah Association	• Gently sloping to strongly sloping, excessively drained and well drained soils formed in loamy erosional sediments and the underlying friable, loamy glacial till and the underlying gravelly and sandy glacial outwash; on uplands and high benches.
Dickinson-Rockton Association	• Gently sloping and moderately sloping, somewhat excessively drained and well drained soils formed in loamy eolian or erosional sediments over sand or the underlying residuum and limestone; on uplands.
Cresco-Protovin-Jamestown Association	• Nearly level to moderately sloping, moderately well drained to poorly drained soils formed in loamy erosional sediments and the underlying firm, loamy glacial till; on uplands.
Coland-Marshan-Hayfield Association	• Nearly level, poorly drained and somewhat poorly drained soils formed in loamy alluvial deposits and in the underlying sandy and gravelly glacial outwash; on floodplains and stream terraces.
Spillville-Wapsie Association	• Nearly level to gently sloping, somewhat poorly drained and well-drained soils formed in loamy alluvium; on floodplains and stream terraces.

Figure 5: Map of Watershed Management Authorities in Iowa



Source: Iowa DNR

Climate

Butler County experiences a temperate climate with significant seasonal contrasts. Winters bring occasional heavy snow, ice, and frequent cloudiness, with about four winter storms per season. True blizzards are uncommon, but arctic cold snaps can cause extreme cold and hazardous wind chills. Spring and summer see 30 to 50 thunderstorms annually, some of which may spawn tornadoes, large hail, or damaging winds. The area is also prone to river and flash flooding. Heat waves and high humidity occur sporadically during the summer months. Autumn typically brings calmer weather, though high winds can arise in spring and fall.

Historical climate data for the County is summarized in the tables below. Using the 30-year average, the maximum, mean, and minimum temperatures are shown for each month and then the annual averages are computed by taking the average of all 12 months.

Precipitation and snowfall average are shown monthly based on the 30-year average. Precipitation and snowfall is shown in inches. Annual precipitation and snowfall seasonal averages are shown as well.

30-year Average Monthly Temperatures and Annual Average (in degrees F)													
	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Max Temp.	27	32	45	60	72	81	85	83	75	62	45	31	58
Mean Temp.	18	23	35	49	61	70	74	72	64	51	36	23	47
Min. Temp.	9	13	24	37	50	59	63	61	51	40	27	15	36
<i>Source: NOAA Online Weather Data (NOWData)</i>													

30-year Average Monthly Precipitation and Snow Fall (in inches)													
	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Precipitation (in.)	0.88	0.94	1.93	3.23	4.31	4.83	4.36	4.24	3.32	2.36	1.56	1.02	33.98
													Seasonally
Snowfall (in.)	7.8	6.7	4.4	0.8	-	-	-	-	-	0.4	3.0	7.0	30.1
<i>Source: NOAA Online Weather Data (NOWData)</i>													

Forest and Vegetation

According to the Iowa Dept. of Natural Resources, Butler County has approximately 9,000 forested acres. This is nearly 6% of the county’s land mass. Butler County ranks in the lower third among Iowa’s counties in remaining forested areas. Butler County was a glaciated region. Glaciers once covered the region and scrapped up the earth as it melted and retreated northward during the thawing of the last Ice Age. Forests are sparse and this has been a good topography for agriculture.

The Butler County Conservation Board manages 16 areas including parks, boat launches, easements, and habitats.

Infrastructure

Butler County is served by Iowa Highway 3, which runs east-west through the middle of the county. It links the county with U.S. Highway 218 approximately three miles east of the county line. On the west side of the county, Highway 3 intersects U.S. Highway 65 eight miles past the county line. In addition, Highway 14 runs through the county in a north-south direction,

joining U.S. Highway 20 on the southern edge of the county, at Parkersburg.

State Highways present in Butler County include: Iowa 3, 14, 57, and 346. In addition to the State Highway systems, the County maintains a total of 204 miles of paved roads, 735 miles of granular surfaced roads, 16 miles of unpaved roads, and 245 bridges greater than 20 feet long.

Due to the county’s large road system, the current maintenance work plan consists of asphalt resurfacing 8-10 miles, rock surfacing on 350-400 miles of roads, and replacement of several culverts annually.

Air travel is an important form of transportation. The county has one airport, which is the Allison Municipal Airport. The airport provides services to private aircraft only. There are several airports with different service levels within one hour outside the county.

Railway throughout the county includes routes owned by the Chicago Northwestern Railroad and the Iowa Northern Railroad. The Chicago Northwestern route runs east and west through Aplington and New Hartford while the Chicago Northwestern route runs north to south through Clarksville and Shell Rock.

In Iowa, there are 13,033 miles of gas and liquid pipelines and 45 pipeline suppliers. Iowa’s pipeline system provides the state with liquid petroleum, natural gas, and anhydrous ammonia. In Butler County, there are 275 miles of gas pipelines and 75 miles of liquid pipelines. The County also has the possibility

Roadway Lane Miles by Federal Functional Classification							
Location	Road Type Classification Miles						Total
	Interstate	Principle Arterial	Minor Arterial	Major Collector	Minor Collector	Local	
Butler County	0	45	60	130	95	630	960

Source: Iowa DOT, Open Data Portal, Road Network Info

Secondary Road Centerline Mileage, by Surface Type						
Location	Surface Type					Total
	Earth	Gravel	Bituminous	Asphalt	PCC	
Butler County	0	730	40	110	25	905

Source: Iowa DOT, Iowa Miles of Secondary Roads

of having a future CO2 pipeline that could be developed in its future.

There are no major commercial watercraft routes in Butler County. The Shell Rock and West Fork Cedar Rivers offer a location for recreational watercraft use by the public.

The Iowa Northland Regional Transit Commission (RTC) offers transit service to residents of Butler County. Demand response service, which requires 24-hour notice, is offered. The remainder of the County is served by RTC on a case-by-case basis depending on space and service timing considerations.

Utilities

Butler County is serviced by multiple utility providers. Table 3 on the next page shows the utility providers for each jurisdiction's utilities.

Potable Water Systems

In Butler County there are over 1,200 wells that draw water from aquifers that serve residential, commercial, and industrial uses. These wells draw from the Cambrian-Ordovician, Alluvial, Pleistocene, and Silurian-Devonian aquifers.

There are 10 water towers in Butler County with known storage capacity. Typical storage capacities range from 50,00 to 500,000 gallons. In total, there is approximately 1.5 to 2 million gallons of total storage capacity within the County.

Wastewater Treatment Systems

In Butler County, there are 7 wastewater treatment facilities with lagoons. They are located in Allison, Clarksville, Greene, Shell Rock, Parkersburg, Aplington, and Dumont. In rural, unincorporated areas, the disposal of wastewater and sewage is done primarily through individual, on-site septic systems. Septic systems consist of tanks and septic fields. Butler County

Environmental Health regulates on-site sewage systems through ordinances, inspections, and its Board of Health.

Table 3: Utility Providers

Jurisdiction	<i>Electric</i>	<i>Natural Gas</i>	<i>Telephone/ Internet</i>	<i>Cable TV</i>	<i>Water Services</i>	<i>Sewer Services</i>	<i>Sanitation</i>
Allison	MidAmerican Energy	MidAmerican Energy	Dumont Telephone	Dumont Telephone	City of Allison	City of Allison	City of Allison
Aplington	City of Aplington	MidAmerican Energy	Windstream	Windstream	City of Aplington	City of Aplington	City Sanitary Service
Aredale	MidAmerican Energy	N/A	Rockwell Telephone	Rockwell Telephone	Individual Wells	Individual Septic	Jendro Sanitation
Bristow	MidAmerican Energy	MidAmerican Energy	Rockwell Telephone	Rockwell Telephone	City of Bristow	Individual Septic	City Sanitary Service
Clarksville	MidAmerican Energy	MidAmerican Energy	Butler-Bremer Communications	Butler-Bremer Communications	City of Clarksville	City of Clarksville	City of Clarksville
Dumont	MidAmerican Energy	MidAmerican Energy	Dumont Telephone	Dumont Telephone	City of Dumont	City of Dumont	Jendro Sanitation
Greene	Alliant Energy	Black Hills Energy	Omnitel & Windstream	Omnitel	City of Greene	City of Greene	Jendro Sanitation
New Hartford	MidAmerican Energy	MidAmerican Energy	Mediacom & Qwest	Mediacom	City of New Hartford	City of New Hartford	City Sanitary Service
Parkersburg	MidAmerican Energy	MidAmerican Energy	CenturyLink & Mediacom	CenturyLink & Mediacom	City of Parkersburg	City of Parkersburg	City Sanitary Service
Shell Rock	MidAmerican Energy	MidAmerican Energy	Butler-Bremer Communications	Mediacom & Butler-Bremer Communications	City of Shell Rock	City of Shell Rock	Jendro Sanitation
Unincorporated	Butler County REC, MidAmerican Energy, Alliant Energy	Black Hills Energy, MidAmerican Energy	All services listed above	All services listed above	Individual Wells, Iowa Regional Utilities Association	Individual Septic	Butler County Transfer Station

Demographics

Population

In the table below, population changes across the last decade from 2010 to 2020 are shown for Butler County and the county's municipalities. These population trends show a pattern of population decline across most cities. Overall, Butler County had a population loss of 3.6%. The city with the highest change in population was Clarksville with a population loss of 175 people. New Hartford and Parkersburg were the only cities that gained population from 2010 to 2020 (56, 145 respectively).

City	2010	2020	Change in Persons	% Change
Allison	1,029	961	-68	-6.6
Aplington	1,128	1,105	-23	-2.0
Aredale	74	62	-12	-16.2
Bristow	160	144	-16	-10.0
Clarksville	1,439	1,264	-175	-12.2
Dumont	637	632	-5	-0.8
Greene	1,130	990	-140	-12.4
New Hartford	516	572	56	10.9
Parkersburg	1,870	2,015	145	7.8
Shell Rock	1,296	1,258	-38	-2.9
Butler County	14,867	14,333	-534	-3.6

Source: U.S. Census Bureau

Year	Butler County	State of Iowa
2030	13,896	3,328,308
2040	13,459	3,487,942

Source: U.S. Census Bureau and Woods & Poole Economics

Historically, the population in Butler County has been on a steady decline over the last 50 years. In 1980, it peaked at over 15,400 people.

Year	Population	% Change from 10 years
1980	17,668	4.2%
1990	15,731	-11.0%
2000	15,305	-2.7%
2010	14,867	-2.9%
2020	14,333	-3.6%

Population Projections

Projections are only estimates of future population and many factors influence the future population, such as employment, housing, and educational opportunities. While some projections use some of this data in order to estimate future population, they cannot plan for unknown events, such as drastic changes in employment opportunities or the perilous effects of natural disasters.

Figure 6: Historical Population Trends in Butler County



In the Population Projections for Butler County, Iowa, projections are based on linear and geometric methods, which assume that future population will continue to change based on past trends. The linear method adds or subtracts from the population the average number from each ten-year period since 1950, while the geometric method uses an average growth or decline rate. The table shows the actual number change and the growth or decline rate for each decade and their averages.

Vulnerable populations

Some of the vulnerable populations are listed for the County in the Table 7. Nearly 7% of households in Butler County live below the poverty line. About 13% of households have at least 1 person with a disability. About 5% of households receive SNAP food benefits.

For people in group quarters, this may include older adults in a nursing home, over 1% of the population are in group quarters housing units.

Households with 1 or more children under 18 make up 27% of occupied households. Nearly 14% of households have householders living alone that are 65 years and over. There are 123 mobile homes estimated in Butler County (1.9% of occupied households).

Table 7: Vulnerable Population Characteristics for Butler County		
	Total	%
Total Households in Butler County	6,101	100%
Below poverty level	425	6.9%
1 or more persons with a disability	800	13.1%
Receiving SNAP food benefits	300	4.9%
Median household Income	\$454,822	-
Population in group quarters	174	1.2%

Table 8: Housing Characteristics for Occupied Houses in Butler County (2022)

	Value	%
Occupied housing units	6,545	100%
Average Household Size	2.34 persons	-
Owner Occupied Units	4,691	80.3%
Renter-Occupied Units	1,148	19.7%
UNITS IN STRUCTURE		
1, detached	5,793	88.5%
1, attached	35	0.5%
2 apartments	72	1.1%
3 or 4 apartments	241	3.7%
5 to 9 apartments	121	1.8%
10 or more apartments	160	2.4%
Mobile home or other type of housing	123	1.9%
VEHICLES AVAILABLE		
No vehicle available	196	3.4%
1 vehicle available	1,296	22.2%
2 vehicles available	2,200	37.7%
3 or more vehicles available	2,147	36.8%
HOUSE HEATING FUEL		
Utility gas	3,000	51.4%
Bottled, tank, or LP gas	1,203	20.6%
Electricity	1,339	22.9%
Fuel oil, kerosene, etc.	52	0.9%
Coal or coke	0	0.0%
All other fuels	228	3.9%
No fuel used	17	0.3%

Housing Trends

According to 2022 American Community Survey 5-year estimates, there are approximately 6,545 occupied housing units in Butler County. Of these housing units, 4,691 are owner-occupied and 1,148 are renter-occupied. The average household size for Butler County is 2.34 people.

About 89% of homes are single family type houses. There is very little multi-family housing (9%) in Butler County. About 2% of the housing stock in Butler County includes mobile homes (or other types of housing).

Table 9: Median Value of Owner-occupied Housing (2022 dollars)

Jurisdiction	Median Value of Homes (2022 dollars)
City of Allison	\$101,200
City of Aplington	\$127,200
City of Aredale	\$54,200
City of Bristow	\$53,300
City of Clarksville	\$118,800
City of Dumont	\$64,500
City of Greene	\$122,800
City of New Hartford	\$93,800
City of Parkersburg	\$190,600
City of Shell Rock	\$159,100
Butler County	\$146,300
State of Iowa	\$181,600

The median value of homes in Butler County is estimated at \$146,300 which is less than the average value of homes for the state of Iowa at \$181,600. Parkersburg has the highest median value of homes at \$190,600. Bristow has the lowest median value at \$53,300.

Over the last decade from 2010 to 2020, Butler County’s housing supply reduced by 137 units from 2010 to 2020. This trend follows the state of Iowa’s decline in housing units for the same period. Almost all municipalities saw a loss in the number of housing units in their communities.

In 2020, most owner-occupied homes were valued at and above \$100,000. About 22% (1,041) of homes in the county were between \$50K and \$99K.

Most of the county’s housing stock are pre-war (WWII) structures. About 37.8% of houses were built before 1940. In the 60s and 70s, 23.7% of the housing stock was built. Since 2000, 13.2% of the housing stock has been built since then.

Table 10: Age of Butler County’s Housing Supply

Year Built	Butler County 2022		Iowa 2022
	Number	Percent (%)	%
2020 or later	9	0.1	0.5%
2010-2019	243	3.7%	8.2%
2000-2009	614	9.4%	10.6%
1990- 1999	390	6.0%	10.3%
1980-1989	316	4.8%	7.2%
1970-1979	774	11.8%	14.2%
1960-1969	586	9.0%	9.8%
1950 1959	685	10.5%	9.9%
1940-1959	453	6.9%	4.8%
1939 or earlier	2,475	37.8%	24.5%
Total	6,545	100%	100%

Source: U.S. Census Bureau American Community Survey, 2022

Table 11: Historical Median Value of Owner-Occupied Units

Community	2000	2010	2022
City of Allison	\$53,900	\$86,800	\$101,200
City of Aplington	\$65,200	\$97,400	\$127,200
City of Aredale	\$13,800	\$22,500	\$54,200
City of Bristow	\$27,300	\$36,500	\$53,300
City of Clarksville	\$52,200	\$91,300	\$118,800
City of Dumont	\$33,300	\$59,500	\$64,500
City of Greene	\$52,800	\$76,700	\$122,800
City of New Hartford	\$50,000	\$82,900	\$93,800
City of Parkersburg	\$71,500	\$126,000	\$190,600
City of Shell Rock	\$73,300	\$112,100	\$159,100
Butler County	\$62,200	\$107,400	\$146,300
State of Iowa	\$82,500	\$129,200	\$181,600

Source: U.S. Census Bureau American Community Survey

Economy

The median income for the county and its communities is listed in Table 12. The values in Table 12 are adjusted for inflation and shown in 2022 dollars. The median household income for the entire county, in 2022, was \$54,822. The City of Parkersburg had the highest median income of \$69,038; and the City of Aredale had the lowest median household income, \$28,750.

Table 13: Median Income of Select Communities in 2022

Jurisdiction	Median income (dollars)
City of Allison	\$61,458
City of Aplington	\$66,625
City of Aredale	\$28,750
City of Bristow	-
City of Clarksville	\$58,523
City of Dumont	\$49,625
City of Greene	\$51,756
City of New Hartford	\$64,583
City of Parkersburg	\$69,038
City of Shell Rock	\$68,125
Butler County (Total)	\$54,822
State of Iowa	\$69,588

A summary of 2022 data for employment for Butler County:

Table 12: Employment Data for Butler County (2022)

INDUSTRY	Workers	% of Workforce
Civilian employed population 16 years and over	6,831	100%
Agriculture, Forestry, Fishing, Hunting, and Mining	542	7.9%
Construction	1,089	15.9%
Manufacturing	242	3.5%
Wholesale Trade	743	10.9%
Retail Trade	360	5.3%
Transportation & Warehousing, and Utilities	79	1.2%
Information	306	4.5%
Finance, Insurance, Real Estate, and Rental & Leasing	338	4.9%
Professional, Scientific, Management, Administrative, and Waste Management Services	1,769	25.9%
Education, Health and Social Services	348	5.1%
Arts, Entertainment, Recreation, Accommodations and Food Services	358	5.2%
Other Services (except public administration)	179	2.6%
Public Administration	478	7.0%

The top three economic sectors with the largest share of the county's workforce are 1) professional services, 2) construction, and 3) wholesale trade.

Section III: Risk Assessment & Hazard Profiles

For this section, the risk assessment draws from the requirements in Requirement §201.6(c)(2)(i). The 3 components of this section are as follows:

1. Hazard Identification

- Hazard selection process
- Disaster Declaration History

2. Hazard Profiles

- Description, historical occurrence, probability, magnitude, warning time, and duration of hazards.

3. Vulnerability Assessment

- Risk Assessment
- Risk Score Summary
- Inventory of critical facilities and other community assets at risk

Hazards that vary geographically across the planning area are addressed in greater detail. If the hazard is not explicitly identified for a localized specific area only, hazards are assumed to potentially occur in the entire county area.

Hazard Identification

There are two hazard types in this plan: natural hazards and human-caused hazards.

Natural hazards are defined as environmental phenomena that have the potential to impact societies and the human environment. These are meteorological or geological events that occur in nature. For example, widespread flooding due to natural changes in the river flow due to snow melt or heavy rains is a natural hazard.

Human-caused hazards are events that may be unexpected events that cause harm to the environment due to technological failure in materials that make up our infrastructure systems. For example, widespread flooding from a sudden change in the river flow due to a dam failure is a human caused hazard.

Biological hazards, such as disease, are not classified as natural hazards. This plan assumes this hazard occurred due to conditions that were human-caused such as contamination in industrial food processing or diseases among herds of livestock kept in close containment by farmers.

Hazards listed in the 2023 Iowa Hazard Mitigation Plan in the Iowa Comprehensive Emergency Plan Part B section were considered by the planning committee and adopted into the plan development process.

Disaster Declaration History

Table 14: Iowa Governor’s Disaster Proclamation History for Butler County, Iowa

Proclamation Date	Incident	Proclamation #
05/22/2024	Severe Weather	2024-13
12/16/2021	Severe Storm System	2021-18
03/14/2019	Flooding and Flash Flooding	2019-01
March 09, 2020- February 03, 2022	State Public Health Emergency Declaration for COVID-19 Virus	2020-01 & 2022-03

Table 15: Major Presidential Disaster Declarations for Butler County, Iowa

Declaration Date	Incident	Proclamation #
July 1993	Great Midwest Flood	DR-996-IA
May 1999	Tornadoes and Severe Storms	DR-1277-IA
May 2004	Severe Storms and Flooding	DR-1518-IA
June 2008	Midwest Floods	DR-1763-IA
April 2013	Severe Storms and Flooding	DR-4126-IA
September 2016	Severe Storms, Flooding, and Tornadoes	DR-4289-IA
June 2018	Severe Storms and Tornadoes	DR-4386-IA
August 2020	Derecho	DR-4557-IA

Federal and/or state declarations may be granted when the severity and magnitude of an event surpasses the ability of the local government to respond and recover. Disaster assistance is supplemental and sequential.

When the local government’s capacity has been surpassed, a state disaster declaration may be issued, allowing for the provision of state assistance. Should the disaster be so severe that both the local and state governments’ capacities are exceeded; a federal emergency or disaster declaration may be issued allowing for the provision of federal assistance.

The federal government may issue a disaster declaration through FEMA, the U.S. Department of Agriculture (USDA), and/or the Small Business Administration (SBA). FEMA also issues emergency declarations, which are more limited in scope and without the long-term federal recovery programs of major disaster declarations. The amount and types of damage are the determining factors.

There have been three Iowa Governor disaster state declarations since 2019. Two were for severe storms and one was the COVID-19 pandemic.

Since 1999, Butler County has had 11 major presidential disaster declarations. Most of these disaster declarations were due to severe storms and flooding. Butler County has many waterways that traverse county lands that flow southeasterly. This allows more probable ways for river flooding.

Methodology of Hazard Risk Assessment

Factors of Hazard Risk

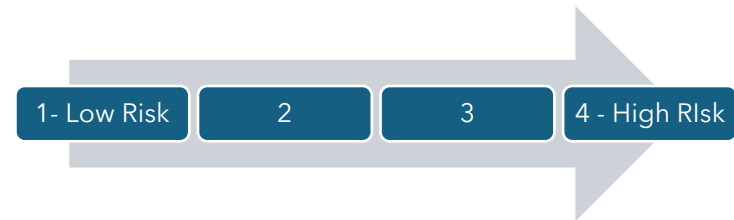
Risks to a hazard event may differ across geographical locations or even differ based on certain times of year. For example, tornado season in Iowa is usually in May and tornados have the highest risk during this time due to change in weather patterns from the western and central Gulf of Mexico causing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

For this analysis, four risk factors are rated on a scale between 1 and 4 by committee participants after reviewing hazard profiles. Information on each hazard included its description, occurrences within Butler County from recent history, potential negative impacts, duration of a hazard event, and potential warning time. Participants used this information to strengthen their understanding to rate each hazard factor.

Hazard Risk Score Formula

$$\begin{aligned}
 &[\text{Probability}] \times 45\% + [\text{Magnitude or Severity}] \times 30\% \\
 &+ [\text{Warning Time}] \times 15\% + [\text{Duration}] \times 10\% \\
 &= \text{Final Hazard Assessment [1 to 4]}
 \end{aligned}$$

What does a hazard risk score mean?



Score	Hazard Risk	Description
1	<u>Low Risk</u>	Hazard is not likely to affect people or property because the likelihood is minimal.
2	<u>Moderate Risk</u>	Hazard may occur infrequently. Impacts to property is limited because the magnitude or severity is typically low.
3	<u>Elevated Risk</u>	Hazard may occur more frequently than in recent history. Negative impacts on property are higher than normal because the magnitude or severity is higher.
4	<u>High Risk</u>	The hazard has significant negative impacts on people and property. Magnitude or severity may be higher than normal and/or occur slightly more frequently in urban areas.

Probability

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

Table 16: Probability Score Definitions		
Score	Description	
1	Unlikely	< 10% probability in any given year (up to 1 in 10 chances of occurring)
2	Occasional	10% - 20% prob. in any given year (up to 1 in 5 chances of occurring),
3	Likely	20% - 33% prob. in any given year (up to 1 in 3 chances of occurring)
4	Highly Likely	> 33% probability in any given year (1 in 1 chance of occurring)

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.

Table 17: Magnitude or Severity Score Definitions		
Score	Description	
1	Negligible	< 10% of property severely damaged, facilities and services shutdown 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.

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 18 displays rated risk scores for each associated hazard. This assessment was completed by the county.

Table 18: 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

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).

Table 19: 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)

Hazard Profiles

The identified hazards are discussed at length on the following pages and arranged in alphabetical order. Each hazard profile is summarized by the following parts:

1. Definition and Description
2. Historical Occurrence
3. Probability
4. Magnitude
5. Warning Time
6. Duration

The hazard description for each profile in this plan features an overall summary including a definition. Each summary features notable impacts on Butler County with past events from 1990 to 2022.

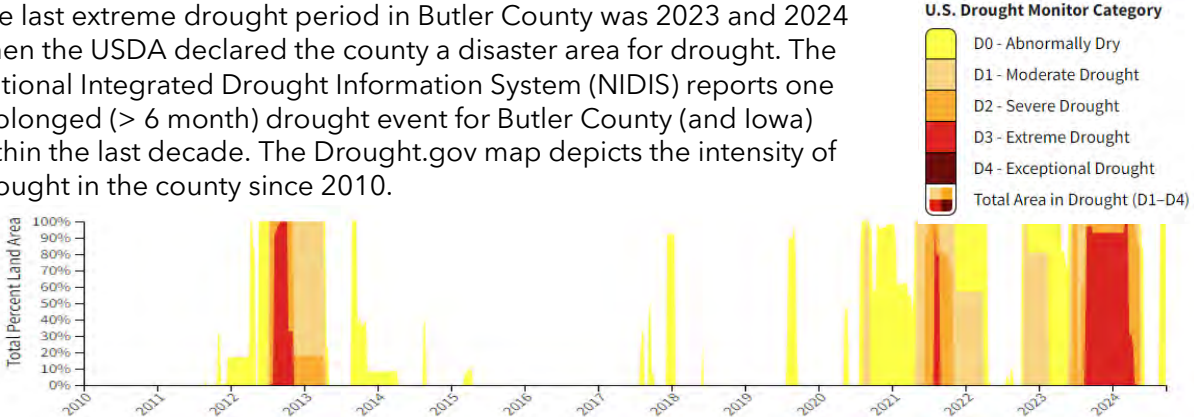
Requirement 44 CFR §201.6(c)(2)(i): [The risk assessment must include a] description of the type, location, and extent of all natural hazards that can affect the jurisdiction. The plan must include information on previous occurrences of hazard events and on the probability of future hazard events.

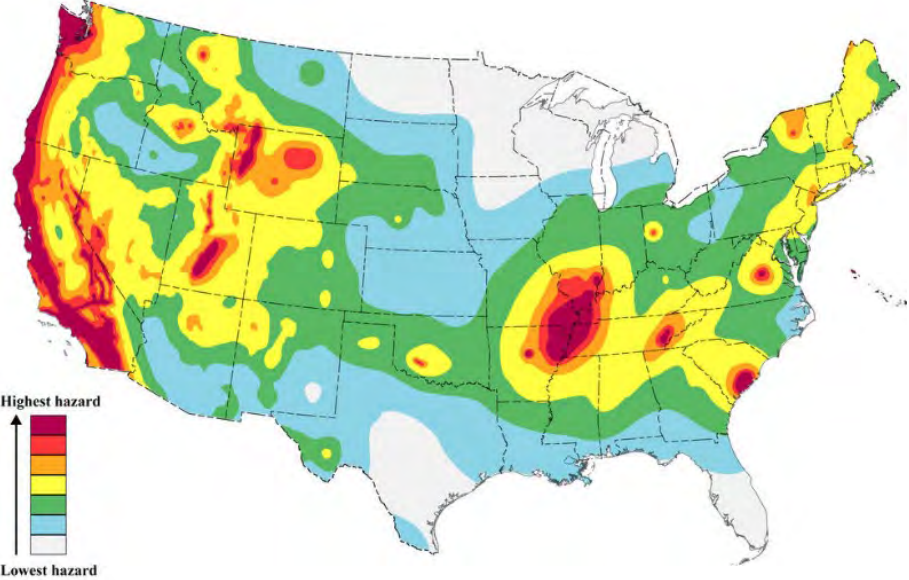
Natural Hazards:

- Animal/ Plant/ Crop Disease
- Dam/ Levee Failure
- Drought
- Earthquake
- Expansive Soils
- Extreme Heat
- Flash Flooding
- River Flooding
- Grass or Wildland Fire
- Landslides
- Severe Winter Storms
- Thunderstorm with Hail and Lighting
- Tornado/ Windstorm

Human-Caused Hazards:

- Hazardous Materials Incident
- Sinkholes (Also occurs naturally)
- Terrorism
- Transportation Incident
- Radiological Incident
- Pandemic/ Endemic Human Disease
- Infrastructure Failure

<p>Table 20 Drought</p>	<p>Definition: a period of prolonged abnormally low precipitation producing severe dry conditions.</p>
<p>Historical Occurrences in Butler County</p>	<p>The last extreme drought period in Butler County was 2023 and 2024 when the USDA declared the county a disaster area for drought. The National Integrated Drought Information System (NIDIS) reports one prolonged (> 6 month) drought event for Butler County (and Iowa) within the last decade. The Drought.gov map depicts the intensity of drought in the county since 2010.</p> 
<p>Location</p>	<p>Droughts have the potential to occur throughout the county with the greatest impacts being realized on agricultural lands as well as on water supplies for cities within the county. The occurrence of a drought within the county would likely impact the entirety of the planning area.</p>
<p>Probability and Extent</p>	<p>Butler County is likely to see moderate drought conditions at some point within the next 5 years. According to the NIDIS estimates, the northern portion of the county is most likely to see dry conditions or droughts conditions. It is also unlikely to see extreme drought conditions in Northeast Iowa. Droughts are observed by its impacts on agriculture, food production, and energy production when there is a lack of soil moisture due to low precipitation levels. Butler County is not susceptible to severe drought that has had impacts on agriculture, response, or the local economy. Droughts directly affect agricultural crops, livestock, wildlife, and stream habitats (fish). Economic and environmental impacts are more critical for agricultural economies like Butler County's own. According to the U.S. Drought Monitor, the intensity of the drought is rated on a scale of D0 to D4 with D0 being abnormally dry and D4 being exceptional drought conditions. The extent can range as indicated by the county's historical report from the last decade.</p>
<p>Duration</p>	<p>Droughts occur over prolonged, consecutive time periods (days, week, months).</p>
<p>Warning Time</p>	<p>Conditions predicting a drought are often not known. Most droughts are declared until a period of low precipitation has occurred, and the effects are significant on agriculture, wildlife, and farming economies. No warning time, but forecasts are tracked daily and often change by the day.</p>

<p>Table 21 Earthquakes</p>	<p>Definition: Sudden, rapid shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface. This shaking can cause buildings and bridges to collapse; disrupt gas, electric, and phone service; it sometimes triggers other hazards including landslides, flash floods, and fires. The three (3) general classes of earthquakes are tectonic, volcanic, and induced.</p>	
<p>Historical Occurrences in Butler County</p>	<p>None in Butler County</p> <p>Iowa has experienced the effects of only three earthquakes in the past 175 years. The most recent occurrence was a 2.7 magnitude earthquake located east of Rembrandt, Iowa in June 2021.</p>	
<p>Probability and Extent</p>	<p>It is unlikely that an earthquake will occur in Butler County within the next 50 years that could be of damaging magnitude. The Mercalli scale rates the intensity of earthquakes on a scale of I to X with I being not felt and X being extreme. In Iowa and Butler County, the extent is likely to be I or II if an earthquake were to occur.</p>	
		<p>The National Seismic Hazard Map is a U.S. Geological Survey hazard planning tool.</p> <p>To the left is the probabilistic map which illustrates the probability of a damaging earthquake occurring in Iowa within the next 50 years.</p>
<p>Magnitude</p>	<p>Relatively low damage based on historical data. The entire county is likely to feel an earthquake.</p>	
<p>Duration</p>	<p>A couple seconds to a minute. Smaller intensity aftershocks occur sparingly over the next few hours.</p>	
<p>Warning Time</p>	<p>Minimal or no warning time</p>	




<p>Table 22 Expansive Soils</p>	<p>Definition: Expansive clay soils, also known as shrink-swell soils or swelling clays, are types of soil that undergo significant changes in volume as their moisture content varies. They may cause damage to infrastructure, roadways, foundations, and create costly repairs.</p>
<p>Historical Occurrences in Butler County</p>	<p>No record keeping of this hazard in Butler County</p> <p>There have been no recorded disaster declarations or major incidences of this hazard occurring in Iowa. Expansive soils are still a significant concern, particularly in regions where clay-rich soils are prevalent. Expansive soils in Iowa pose challenges for construction, agriculture, and infrastructure development.</p>
<p>Probability and Extent</p>	<p>Expansive soils events are unlikely given their historical occurrence. The extent of expansive soils is measured using the clay content of soils to determine the potential of swelling. The Atterberg limit test is a lab test used to determine at what moisture content different soils transition between liquid and solid. As the map below shows, the higher the clay content the more likely swelling is to occur.</p>
<p>Based on part of a swelling clays map produced by the U.S. Geological Survey, most of Butler County has soils that have little or no swelling clay or soils with a composition of less than 50% with swelling potential. Some rural locations in the southern portion of the county have slightly higher clay contents and may see occasional cases of expansive soils.</p> <div style="text-align: center;"> <p>COLOR-CODE EXPLANATION FOR SWELLING-CLAY MAP</p> <ul style="list-style-type: none"> Unit contains abundant clay having high swelling potential Part of unit, generally less than 50 percent, consists of clay having high swelling potential Unit contains abundant clay having slight to moderate swelling potential Part of unit, generally less than 50 percent, consists of clay having slight to moderate swelling potential Unit contains little or no swelling clay Data insufficient to indicate clay content of unit and (or) swelling potential of clay. Shown in westernmost States only </div> 	
<p>Warning Time</p>	<p>Varies/Unknown</p> <p>Expansive soils occur on a geologic time scale. This means that the consistent duration to observe the effects of expansive soils occurring is unknown.</p>
<p>Duration</p>	<p>Varies, the specific duration required to observe the effects of expansive soils varies depending on various factors such as climate, soil composition, and geological conditions.</p>

Table 23																																												
Extreme Heat (Heat Wave)	Definition: Conditions for extreme heat are defined by summertime weather that is substantially hotter and/or more humid than average for a location at that time of year.																																											
Historical Occurrences in Butler County	Butler County issued an excessive heat warning on August 22-24, 2023, for heat indices exceeding 100 degrees F each day. No deaths, injuries, or crop damages were reported. USDA’s RMA data show \$1.8 million in damages from heat from 1989 to 2022 while NCEI Storm events Database shows three excessive heat events since 1990.																																											
Location	The occurrence of a heat wave would likely impact the entire planning area, especially individuals and agricultural livestock.																																											
Probability and Extent	Based on historical occurrences, the probability of extreme heat occurring is likely. It will likely last for a few days. As occurrences have grown, people are becoming more familiar with heat exhaustion, heat stroke, and remaining hydrated/indoors, and its severity. The National Weather Service uses Heat Index to determine what the temperature feels like and the likelihood of heat disorders. The scale uses temperature and humidity to determine the danger. Below shows Butler County’s historical and estimated future Heat Index and the NWS classifications.																																											
<table border="1"> <thead> <tr> <th>Heat Index</th> <th>Historical</th> <th>Mid-Century</th> <th>End-of-Century</th> </tr> </thead> <tbody> <tr> <td colspan="4">SUMMER</td> </tr> <tr> <td>Maximum Avg Temperature (Degrees F)</td> <td>80.91</td> <td>85.33</td> <td>90.57</td> </tr> <tr> <td>Minimum Avg Temperature (Degrees F)</td> <td>59.51</td> <td>64.14</td> <td>69.8</td> </tr> <tr> <td>Days with Max Heat Index Over 105 (Days)</td> <td>1.31</td> <td>7.01</td> <td>17.41</td> </tr> <tr> <td>Days with Max Heat Index Over 115 (Days)</td> <td>0.13</td> <td>3.57</td> <td>7.96</td> </tr> <tr> <td>Days with Max Heat Index Over 125 (Days)</td> <td>0.03</td> <td>2.86</td> <td>4.91</td> </tr> </tbody> </table> <p>According to the Center for Climate Resilience and Decision Science’s CLIMRR statistics, Butler County has a Maximum Average Temperature of 80.91 Degrees F. By the Mid Century, that is expected to rise to 85.33 and by the End-of-Century, it will be 95.56 Degrees F. Days with Max Heat Index over 115 Degrees F will increase from 0.13 historically to 3.57 and 7.96 days in the Mid-Century and End-of-Century, respectively.</p> <table border="1"> <thead> <tr> <th>Classification</th> <th>Heat Index</th> <th>Effect on the body</th> </tr> </thead> <tbody> <tr> <td>Caution</td> <td>80°F - 90°F</td> <td>Fatigue possible with prolonged exposure and/or physical activity</td> </tr> <tr> <td>Extreme Caution</td> <td>90°F - 103°F</td> <td>Heat stroke, heat cramps, or heat exhaustion possible with prolonged exposure and/or physical activity</td> </tr> <tr> <td>Danger</td> <td>103°F - 124°F</td> <td>Heat cramps or heat exhaustion likely, and heat stroke possible with prolonged exposure and/or physical activity</td> </tr> <tr> <td>Extreme Danger</td> <td>125°F or higher</td> <td>Heat stroke highly likely</td> </tr> </tbody> </table>		Heat Index	Historical	Mid-Century	End-of-Century	SUMMER				Maximum Avg Temperature (Degrees F)	80.91	85.33	90.57	Minimum Avg Temperature (Degrees F)	59.51	64.14	69.8	Days with Max Heat Index Over 105 (Days)	1.31	7.01	17.41	Days with Max Heat Index Over 115 (Days)	0.13	3.57	7.96	Days with Max Heat Index Over 125 (Days)	0.03	2.86	4.91	Classification	Heat Index	Effect on the body	Caution	80°F - 90°F	Fatigue possible with prolonged exposure and/or physical activity	Extreme Caution	90°F - 103°F	Heat stroke, heat cramps, or heat exhaustion possible with prolonged exposure and/or physical activity	Danger	103°F - 124°F	Heat cramps or heat exhaustion likely, and heat stroke possible with prolonged exposure and/or physical activity	Extreme Danger	125°F or higher	Heat stroke highly likely
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Warning Time	The National Weather Service can issue a Heat Advisory or Excessive Heat Warning roughly 10-14 days in advance.																																											
Duration	Multiple days; excessive heat events occur when the temperatures are over the 95 th percentile of the region’s historical weather data for at least 2 days.																																											

<p>Table 24 Flash Flooding</p>	<p>Definition: A flash flood is an event that occurs with little or no warning where water levels rise at an extremely fast rate. Flash flooding results from intense rainfall over a brief period, sometimes combined with rapid snowmelt, ice jam release, frozen ground, saturated soil, or impermeable surfaces. Most flash flooding is caused by slow-moving thunderstorms or thunderstorms repeatedly moving over the same area.</p>	
<p>Historical Occurrences of Flash Flooding in Butler County</p> <p><i>Source: NOAA National Centers for Environmental Information</i></p>		<p>According to the NOAA Storm Events Database Explorer, there have been a total of 166 events between 1997 and 2021. The map includes the locations in which those events took place. As part of three watersheds (Middle Cedar, Upper Iowa, and Middle Iowa), areas adjacent to the rivers and creeks, and its main tributaries are at significantly higher risk. Flash flooding has the potential to occur throughout the planning area, especially in cities that lack sufficient infrastructure to handle heavy rain events. Allison, Aplington, Aredale, Bristow, Clarksville, Dumont, Greene, and Parkersburg are located next to rivers and streams are especially prone to flash flooding events</p>
<p>Probability and Extent</p>	<p>Flash flooding is likely to occur in the planning area with June being the most common month for flash floods, but they can occur from May through September. Flooding extent is categorized by the annual probability. The Iowa Flood Center has high resolution maps providing flood depths for 2, 5, 10, 25, 50, 100, 200, and 500-year scenarios representing 50,20,10, 4,2, 1, 0.5, and 0.2 percent annual probabilities respectively.</p>	
<p>Warning Time</p>	<p>Usually a sudden event during an unusually heavy rainfall. Warnings are issued from the National Weather Service, IAWAS, and local officials.</p>	
<p>Duration</p>	<p>The duration of flash flooding events is dependent on the severity of the event with the duration likely being less than one day. However, cleanup from an event may take several days.</p>	

<p>Table 25 River Flooding</p>	<p>Definition: Waterways such as streams and rivers exceed the capacity of their natural or constructed channels to accommodate a sudden increase in flow before the river overflows the banks, spilling out into adjacent low-lying, dry land.</p>	
<p>Historical Occurrences in Butler County</p>		<p>According to data from the National Climatic Data Center Storm Events Database, there have been 81 reported flood events in Butler County between 1996 and 2021. The image displays the location of each flood event that has occurred since 1996.</p>
<p>Probability and Extent</p>	<p>Based on historical data of the last 25 years, the probability of river flooding occurring is likely. The annualized frequency is 3.68 flooding events occurring each year given the historical recordings coming from multiple sources and more accurately capture the frequency of flooding within the planning area. Flooding extent is categorized by the annual probability. The Iowa Flood Center has high resolution maps providing flood depths for 2, 5, 10, 25, 50, 100, 200, and 500-year scenarios representing 50,20,10, 4,2, 1, 0.5, and 0.2 percent annual probabilities respectively.</p>	
<p>Warning Time</p>	<p>River flooding can be forecasted to allow for at least 24 hours or more notice.</p>	
<p>Duration</p>	<p>The duration of a flooding event varies based on the severity and location of the flooding event. Duration can range from a few hours to several days or longer.</p>	
<p>Butler County's Risk Index Score for Hazard:</p>	<p>22.09 out of 100 (Relatively Moderate)</p>	
<p>Annualized Frequency of Hazard Occurring</p>	<p>3.68 events</p>	
<p>Expected Annualized Loss:</p>	<p>\$2,011,627 (Relatively High)</p>	
<p><i>Source: FEMA Risk Index by County (2024)</i></p>		

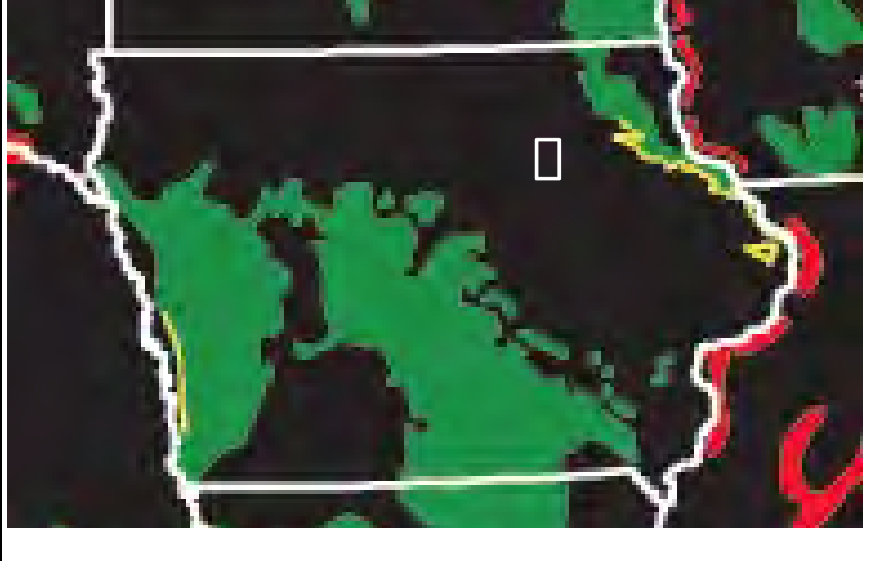
<p>Table 26</p> <p>Grass/Wildland Fire</p>		<p>Definition: A grass or wild-land fire is an uncontrolled fire that threatens life and property in a rural or a wooded area. Dry weather can also lead to a wildfire threat, especially in the spring before foliage has emerged (i.e. before green up) or in the fall after vegetation has started to die off.</p>
<p>Historical Occurrences in Butler County</p>	<p>A grass fire or wildland fire is an uncontrolled fire that threatens life and property in a rural or wooded area. This is not the same as a cropland fire. Damage to crops from fire is often covered by insurance and occurs in human-made environments. Wildland or grassfires occur in natural, wild areas.</p>	
		<p>No deaths or injuries reported.</p>
<p>Probability and Extent</p>	<p>Grass/Wildland Fires are unlikely in Butler County. However, wildland fires are more likely to occur when conditions are favorable, such as during early spring before vegetation has grown or periods of drought when natural vegetation is drier and more combustible. Most of Butler County is classified as non-burnable lands (including agricultural fields) by the USDA. High hazard wildland fires are unlikely and when they occur will likely be of little extent.</p>	
<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>2023 Wildfire Hazard Potential - WHP (Source: U.S. Forest Service)</p> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Butler County 2023 WHP (Source: U.S. Forest Service)</p> </div> </div>		

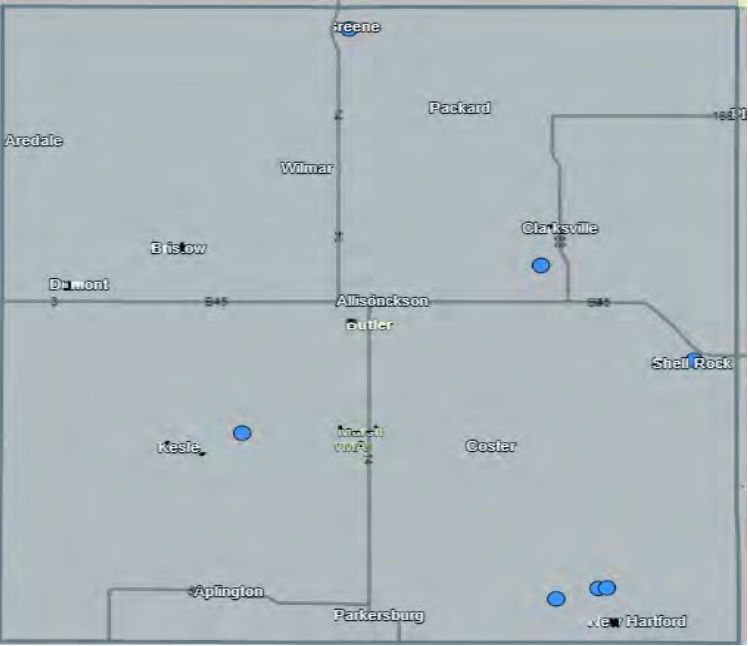
<p>WHP is an index that quantifies the relative potential for wildfire that may be difficult to control, used as a measure to help prioritize where fuel treatments may be needed. WHP does not measure the threat or risk of wildland fires but can be valuable for recognizing areas with abundant fuels for fires to spread.</p> <p>The map indicates that given the conditions of vegetation in Butler County, the potential hazard of wildfires that are difficult to control is unlikely for the entire county. According to the Wildfire Risk To Communities database, Butler County has a low risk of wildfire - lower than 83% of counties in the U.S. There have been two recent wildfires in the county. One occurred in April 2015 northwest of Parkersburg and the other occurred April 2019 south of Aplington.</p> <p>Source: https://datacentral.press-citizen.com/wildfire-history/?page=1&query=Iowa&anc=active#ftbl</p>	
Warning Time	<p>The wildfire history map indicates that Iowa possesses few areas with significant wildfire potential, with the majority classified as "Non-burnable Lands," primarily agricultural fields. Furthermore, the vast majority of the state exhibits a "Very Low" wildfire hazard potential, indicating minimal risk of extreme fire behavior. Consequently, wildfires in Iowa tend to be limited in scope and severity due to the absence of areas conducive to significant fire spread or extreme behavior. The warning signs for high fire risk will be forecasted in advance.</p>
Duration	Usually contained in a few hours. Less than 24 hours.
<p>Butler County's Risk Index Score for Hazard: Expected Annualized Loss: <i>Source: FEMA Risk Index by County (2024)</i></p>	<p>2.33 out of 100 (Very Low)</p> <p>\$1,357</p>

<p style="text-align: center;">Table 27</p> <p style="text-align: center;">Hazardous Materials Incidents</p>	<p>Definition: A HAZMAT (hazardous materials) incident is the accidental release of chemical substances or mixtures which presents a danger to the public health or safety during production or handling at a fixed facility. Fixed hazardous material incidents usually affect a localized area, and the use of planning and zoning can minimize the area of impact.</p> <p>This hazard includes fixed hazardous materials, pipeline transportation, and transportation of hazardous materials. A HAZMAT or Radiological Transportation Incident is the accidental release of chemical substances or mixtures that presents danger to the public health or safety during transportation. A hazardous substance is one that may cause damage to persons, property, or the environment when released to soil, water, or air. Chemicals that are manufactured and used in ever increasing types and quantities. As many as 500,000 products pose physical or health hazards and can be defined as “hazardous chemicals.” Each year, over 1,000 new synthetic chemicals are introduced and transported across the country via semi-trucks and trains. Hazardous substances are categorized as toxic, corrosive, flammable, irritant, or explosive.</p> <p>A pipeline transportation incident occurs when a break in a pipeline creates the potential for an explosion or leak of a dangerous substance (oil, gas, etc.) possibly requiring evacuation. A pipeline incident can be caused by environmental disruption, accidental damage, or sabotage. Incidents can range from a small, slow leak to a large rupture where an explosion is possible. Inspection and maintenance of the pipeline system along with marked gas line locations and an early warning and response procedure can lessen the risk to those near the pipelines.</p>
<p>Historical Occurrences in Butler County</p>	<p>According to the Iowa Department of Natural Resources, there were 17 incidents of hazardous material spills in Butler County from 2017-2023 (see below for a list of occurrences). There are no known occurrences of transportation incidents involving radiological materials.</p>
<p>Probability and Extent</p>	<p>Large quantities of hazardous materials are transported daily throughout the county on various highways. Freight transportation transports hazardous materials across these roadways across the county. The U.S. Department of Transportation regulates U.S. routes and speed limits are used by carriers and monitors the types of hazardous materials crossing state lines. Despite increasing safeguards, more and more potentially hazardous materials are being used in commercial, agricultural, and domestic uses and are being transported on neighboring roads, highways, and railways. Based on the information, the likelihood of this occurring is more than 33% probability in any given year, making it highly likely.</p>

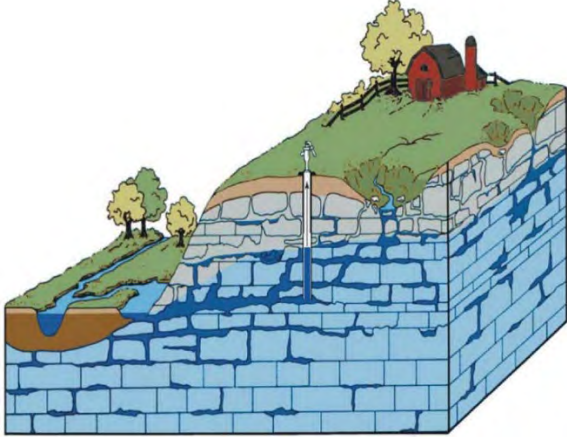
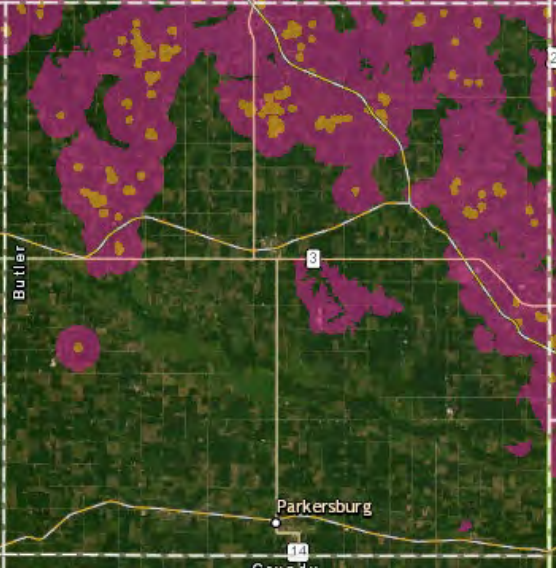
<p>Historical Occurrences of Hazardous Incidents that have caused occurred in Butler County from 2017-2023</p> <p><i>Source: Iowa DNR Hazardous Material Release Database (10/08/2024)</i></p>	Date	Incident Report #	Hazardous Substance	Amount	Responsible Party
	01/04/14	052223-JDD-1817	Callisto Herbicide (mesotrione)	2 gal	Koopas, Steve
06/12/14	101022-CEB-1115	Atrazine	75 lbs	Cornbelt Power Cooperative	
01/27/15	082822-JGK-0029	Ammonium sulfate	102 lbs	MidAmerican Energy	
02/18/16	121621-DAK-1235	TripleFLEX Herbicide	20 gal	American Colloid Blending	
09/01/16	121621-CEB-0520	Roundup Herbicide	20 gal	MidAmerican Energy	
09/22/16	071521-DHB-0810	Diesel Fuel	Unknown	MidAmerican Energy	
05/02/17	070321-DAK-1359	Transformer Oil (Non PCB)	1300 gal	Rambling Wheels M.C.	
07/26/17	021021-DAK-1456	Transformer Oil (Non PCB)	153 gal	Flint Hills Resources	
10/31/17	110619-CEB-0840	Hydraulic Oil	15 gal	Agvantage FS	
01/12/18	042419-CEB-1724	Transformer oil (PCB)	81 gal	Agvantage FS	
12/06/18	020719-JLC-0242	Transformer oil (PCB)	27 gal	Iowa Northern Railway Company	
04/06/20	102718-CEB-1612	Hydraulic Fluid	2 gal	SJB	
04/19/20	102618-CEB-1530	Ethanol (denatured alcohol)	20 gal	Tres M	
05/24/20	092618-TRL-1136	N-Serve Nitrogen Stabilizer	25 gal	Iowa Select Farms	
07/23/20	022118-SJW-1030	Urea Ammonium Nitrate (UAN)	200 gal	Kwik Star, Inc	
04/16/21	111717-RMG-0920	Diesel Fuel	890 gal	Landus Cooperative	
08/27/21	110317-DWW-2138	Manure	6200 gal	Jefferson Finisher	

Magnitude or Severity	<p>Most of the hazardous materials are localized and contained by trained first responders that work with hazardous materials teams. Depending on the type of hazardous material or the volume spill in the incident, an affected area is likely to include a 5-mile radius.</p> <p>Immediate dangers from hazardous materials include fires and explosions. The release of some toxic gases may cause immediate death, disablement, or sickness if absorbed through the skin, injected, ingested, or inhaled. Contaminated water resources may be unsafe and unusable, depending on the amount of contamination. Contamination of air, ground, or water may result in harm to fish, wildlife, livestock, and crops. The occurrence of a hazmat incident often shuts down transportation corridors for hours at a time while the scene is stabilized.</p>
Warning Time	<p>The warning time is minimal. When accidents do occur, response time is crucial since hazardous materials can pose a significant risk to the population. Hazardous material incidents usually occur very rapidly with little or no warning.</p>
Duration	<p>The duration of a hazardous materials event will vary upon the amount of hazardous material released and location of the incident. Typical incidents last under a day but could last for days or weeks.</p>

<p>Table 28 Landslide</p>	<p>Definition: Occur when susceptible rock, earth, or debris moves down a slope under the force of gravity and water. Landslides may be very small or very large and can move at slow to very high speeds. A natural phenomenon, landslides have been occurring in slide-prone areas of Iowa since long before the state was created. Landslides can occur due to rainstorms, fires, or human activities that modify slope and drainage</p>	
<p>Historical Occurrences in Butler County</p>	<p>There have been no occurrences of landslides in Butler County.</p>	
<p>Probability and Extent</p>	<p>There are no large slopes in Butler County thus the extent of impact is negligible.</p>	
<p>Map of Landslide Potential Red = Very High Potential; Yellow = High Potential; Green = Moderate Potential; Black = Low Potential Source: US Geological Survey</p>		
<p>Warning Time</p>	<p>Great amounts of precipitation and moisture over time will greatly increase the warning time of a landslide event; however, there is no official warning system in place, thus the warning time would be short.</p>	
<p>Duration</p>	<p>Usually contained landslides are typically over within hours of occurring. Less than 24 hours.</p>	
<p>Butler County's Risk Index Score for Hazard Source: FEMA Risk Index</p>	<p>17.93 out of 100 (Relatively Low) Expected Annualized Loss: \$69,987</p>	

<p align="center">Table 29 Levee/Dam Failure</p>	<p>Definition: Dam/Levee failure is the uncontrolled release of water resulting from a structural failure in a dam, wall, dike, berm, or area of elevated soil that causes flooding. Possible causes of the breach could include flooding, earthquakes, blockages, landslides, lack of maintenance, improper operation, poor construction, vandalism, terrorism, erosion, piping, saturation, or under seepage.</p>
<p>Historical Information on Butler County</p>	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>There is no record of a Dam or Levee failure in Butler County. According to the National Inventory of Dams, there are 7 total dams in Butler County. They include the Koop, Winkowitsch, Holm, Wedeking, Hunemiller, Greene Mill, and Shell Rock Dams. Each dam is classified as a low hazard potential. The Greene Mill dam is used for hydroelectric purposes and the Shell Rock Dam is used for recreation purposes. The others are for fire protection, stock, or small fish pond usage. None of the dams require an emergency action plan. According to the National Levee Database, there are no federally registered levees.</p> </div> </div>
<p>Probability and Extent</p>	<p>The probability and extent of a dam failure due to a breach in the structural integrity of the system is also minimal. The hazard risk for the dams in unincorporated Butler County was removed due to no hazard dams or levees being in the county. The probability and extent of a catastrophic dam failure or other dam-related hazard was determined to be unlikely. If failure were to occur, the extent has is likely to be insignificant.</p>
<p>Warning Time and Duration</p>	<p>A sudden failure of a portion of the levee may send floodwaters gushing from this break within seconds. Normally, occupants of the floodplain can be warned about potential levee breaches or breaks when high water encroaches upon the levee. The length of time that a dam or levee failure would impact the surrounding area depends largely on the amount of water the specific dam or levee held back. The duration of a failure's impact could feasibly range from hours to months.</p>

<p>Table 30 Severe Winter Storm</p>	<p>Severe winter weather conditions that can affect day-to-day activities include blizzard conditions, heavy snow, blowing snow, freezing rain, heavy sleet, and extreme cold. Winter storms are common during the months of October through April in Iowa.</p>																																																																								
<p>Historical Occurrences and Location</p>	<p>According to data from the National Climatic Data Center, there have been 28 reported winter storm events in Butler County between 2004 and 2024. Severe Winter Storms are likely to occur throughout the entire planning area. The table below displays the date, location, and impact of storms that caused damage.</p>																																																																								
<p>Probability and Extent</p>	<p>No fatalities or injuries reported. Estimates of damage is \$410,000 since 2004.</p> <p>Based on historical occurrences it is highly likely a severe winter storm will affect Butler County on an annual basis, likely multiple times in a year. The extent of such a storm can be evaluated using the Northeast Snowfall Impact Scale (NESIS). The scale takes into consideration population and storm extent to categorize a storm's impact on the region. The five categories include notable, significant, major, crippling, and extreme (rated on a scale of 1-5) depending on the event. Butler County and its jurisdictions have the potential to see any extent of winter storm in any year. It has an annualized frequency of 5.6 events per year, indicating a high probability.</p>																																																																								
<p>Historical Occurrences of Winter Storms that have caused damage in Butler County 2000-2023 Source: NOAA Storm Event Database</p>		<table border="1"> <thead> <tr> <th>Location</th> <th>Date</th> <th>Deaths</th> <th>Injuries</th> <th>Property Damage</th> <th>Crop Damage</th> </tr> </thead> <tbody> <tr> <td>Butler County</td> <td>02/01/2015</td> <td>0</td> <td>0</td> <td>\$50,000</td> <td>\$0</td> </tr> <tr> <td>Butler County</td> <td>01/30/2013</td> <td>0</td> <td>0</td> <td>\$25,000</td> <td>\$0</td> </tr> <tr> <td>Butler County</td> <td>12/19/2012</td> <td>0</td> <td>0</td> <td>\$25,000</td> <td>\$0</td> </tr> <tr> <td>Butler County</td> <td>02/08/2010</td> <td>0</td> <td>0</td> <td>\$10,000</td> <td>\$0</td> </tr> <tr> <td>Butler County</td> <td>01/06/2010</td> <td>0</td> <td>0</td> <td>\$25,000</td> <td>\$0</td> </tr> <tr> <td>Butler County</td> <td>04/05/2009</td> <td>0</td> <td>0</td> <td>\$10,000</td> <td>\$0</td> </tr> <tr> <td>Butler County</td> <td>12/18/2008</td> <td>0</td> <td>0</td> <td>\$5,000</td> <td>\$0</td> </tr> <tr> <td>Butler County</td> <td>12/08/2008</td> <td>0</td> <td>0</td> <td>\$10,000</td> <td>\$0</td> </tr> <tr> <td>Butler County</td> <td>02/24/2007</td> <td>0</td> <td>0</td> <td>\$250,000</td> <td>\$0</td> </tr> <tr> <td>Total</td> <td></td> <td>0</td> <td>0</td> <td>\$410,000</td> <td>\$0</td> </tr> </tbody> </table>	Location	Date	Deaths	Injuries	Property Damage	Crop Damage	Butler County	02/01/2015	0	0	\$50,000	\$0	Butler County	01/30/2013	0	0	\$25,000	\$0	Butler County	12/19/2012	0	0	\$25,000	\$0	Butler County	02/08/2010	0	0	\$10,000	\$0	Butler County	01/06/2010	0	0	\$25,000	\$0	Butler County	04/05/2009	0	0	\$10,000	\$0	Butler County	12/18/2008	0	0	\$5,000	\$0	Butler County	12/08/2008	0	0	\$10,000	\$0	Butler County	02/24/2007	0	0	\$250,000	\$0	Total		0	0	\$410,000	\$0					
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<p>Warning Time</p>	<p>The National Weather Service has developed effective weather advisories, which are promptly and widely distributed. There are several notifications made by the National Weather Service. These include winter storm watch, winter storm warning, blizzard warning, winter weather advisory, and a frost/freeze advisory.</p>																																																																								
<p>Duration</p>	<p>Depending on the type, duration, and the size of the event the entire population could feel the effect of a winter storm. Generally, due to existing snow removal services and other community services the effects of winter storms on incorporated communities in Butler County are short term; however, the more rural, unincorporated areas tend to be impacted longer due to rural nature of the county. Although more of an inconvenience, and somewhat more dangerous, travel and communication are usually an option in less than 24 hours of any given event.</p>																																																																								
<p>Butler County's Risk Index Score for Hazard Source: FEMA Risk Index</p>	<p>81.5 out of 100 (Relatively Moderate) Expected Annualized Loss: \$231,053 Source: FEMA Risk Index by County (2024)</p>																																																																								

<p>Table 31 Sinkholes</p>	<p>Definition: A sinkhole is the loss of surface elevation due to the removal of subsurface support. Sinkholes range from broad, regional lowering of the land surface to abrupt localized collapse. The primary causes of most subsidence are human activities such as underground mining of coal, groundwater/petroleum withdraw, or drainage of organic soils. Sinkholes can aggravate flooding potential, collapse of an abandoned mine may destroy buildings, roads, and utilities.</p>	
<p>Historical Occurrences in Butler County</p>	<p>According to Iowa DNR AFO siting maps, there are approximately 15-30 sinkholes located within Butler County (See below). These mainly occur over Karst formations in the ground. There is no data on historical/annual losses, and it is not in FEMA Risk Index. No fatalities or injuries reported. No damage to property or crops. No fatalities or injuries reported. No damage to property or crops.</p>	
<p>Probability and Extent</p>	<p>This hazard affects less than 2% of land in the County. Given the lack of historical occurrences, the severity of future events is likely to be negligible and unlikely to occur.</p>	
 <p>The diagram illustrates a cross-section of a karst landscape. On the surface, there is a green hillside with a red barn and trees. A stream flows down the slope. Below the surface, a blue well is shown tapping into a porous bedrock layer. The bedrock is depicted as a blue, blocky structure with visible cracks and cavities. A stream bed is shown directly above the bedrock, illustrating the direct interface between surface water and the subsurface aquifer.</p>	<p>The dark blue areas denote groundwater stored within the bedrock's crevices, constituting the shallow aquifer and accessible to the depicted well. The diagram illustrates the porous nature of the bedrock, facilitating groundwater storage and movement. It also shows how the land surface and visible stream directly interface with the bedrock-stored water. In Karst systems, soil infiltration, surface runoff, and streams can directly feed into the shallow bedrock, contributing to the shallow groundwater and aquifer, potentially carrying contaminants from the surface to wells drawing from this source.</p>	 <p>The map shows a satellite-style view of Butler County, Iowa. The county boundary is labeled 'Butler' on the left. Major roads are marked with numbers 8 and 14. The town of Parkersburg is labeled at the bottom. Numerous purple and yellow spots are scattered across the landscape, representing the locations of sinkholes. The purple spots are more numerous and larger, while the yellow spots are smaller and less frequent.</p>
<p>Warning Time and Duration</p>	<p>Sink holes growing in mass is a slow yet gradual process. Land use practices in the area, soil type in addition to a number of other factors will impact the speed of onset. By identifying these areas city agencies and property owners will be able to implement the necessary precautions to slow and potentially eliminate the development of a sink hole. Catastrophic sinkholes can provide little visible warning, setting in in as little as a few minutes. A sinkhole can affect the location in which it occurred for weeks.</p>	


<p>Table 32 Thunderstorm with Lightning or Hail</p>	<p>Definition: Thunderstorms are created from a combination of moisture, rapidly raising warm air, and the lifting mechanism such as that caused when warm and cold air masses collide. Thunderstorms occur in the community on an annual basis. Lightning is an electrical discharge that results from the buildup of positive and negative charges within a thunderstorm. Hailstorms are a product of a severe thunderstorm in which pellets or lumps of ice (of most concern when greater than 1 inch in diameter) fall with rain.</p>																																		
<p>Historical Occurrences in Butler County</p>	<p>According to the NOAA Storm Events Database Explorer, from 2004 to 2024, there have been 80 thunderstorm wind events, 105 hail events, and 3 lightning events reported. One fatality and one injury were reported for this hazard. The reported damage over that time is \$3,010,000 from thunderstorm wind, \$813,000 from hail, and \$175,000 from lightning.</p>																																		
<p>Probability and Extent</p>	<p>Hail and thunderstorms have the potential to impact all of Butler County. According to the Lightning Risk Index score, Butler County has a very low risk of thunderstorms occurring when compared to the rest of the United States in regard to the severity of such an event. As such, it is likely to occur on a yearly basis. The National Weather Service (NWS) uses objects to describe the size of hail. They range from pea-sized (0.25 in) to DVD-sized (4.75 in). Hail extent can range throughout the scale.</p>																																		
<p>Historical Occurrences of Lightening, Hail, and Wind during a Thunderstorm in Butler County 2004-2024 <i>Source: NOAA Storm Events Database</i></p>	<table border="1"> <thead> <tr> <th>Hazard</th> <th>Occurrences</th> <th>Deaths</th> <th>Injuries</th> <th>Property Damage</th> <th>Crop Damage</th> <th>Total Damage</th> </tr> </thead> <tbody> <tr> <td>Hail</td> <td>105</td> <td>0</td> <td>0</td> <td>\$387,000</td> <td>\$426,000</td> <td>\$813,000</td> </tr> <tr> <td>Lightning</td> <td>3</td> <td>0</td> <td>0</td> <td>\$175,000</td> <td>\$0</td> <td>\$175,000</td> </tr> <tr> <td>Thunderstorm Wind</td> <td>80</td> <td>1</td> <td>1</td> <td>\$2,784,000</td> <td>\$226,000</td> <td>\$3,010,000</td> </tr> </tbody> </table>							Hazard	Occurrences	Deaths	Injuries	Property Damage	Crop Damage	Total Damage	Hail	105	0	0	\$387,000	\$426,000	\$813,000	Lightning	3	0	0	\$175,000	\$0	\$175,000	Thunderstorm Wind	80	1	1	\$2,784,000	\$226,000	\$3,010,000
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<p>Duration</p>	<p>Less than 24 hours.</p>																																		
<p>Butler County's Risk Index Score for Hazard</p>	<p>Hail: 80.1 out of 100 (Relatively Low) Lighting: 17.4 out of 100 (Very Low) Strong Wind: 83.7 out of 100 (Relatively Moderate)</p> <p>Expected Annualized Loss Hail: \$504,985 Expected Annualized Loss Lightning: \$30,844 Expected Annualized Loss Strong Wind: \$1,211,400 <i>Source: FEMA Risk Index by County (2024)</i></p>																																		

<p>Table 33 Tornados</p>	<p>Definition: A tornado is a violent whirling wind characteristically accompanied by a funnel shaped cloud extending down from a cumulonimbus cloud that progresses in a narrow, erratic path. a severe thunderstorm in which pellets or lumps of ice (most concern when greater than 1 inch in diameter) fall with rain.</p>																																																																																																																														
<p>Historical Occurrences and Location of Impact</p>	<p>According to the NOAA Storm Events Database, 16 tornados have been reported between 2004 and 2024. There was \$76,128,000 in reported property damage and \$96,700 in reported crop damage from these tornados. Nine fatalities and 50 injuries were reported.</p>																																																																																																																														
<p>Probability and Extent</p>	<p>It is likely greater than 25% likelihood for a tornado occurring in any given year. According to the NOAA National Risk Index, the annualized frequency over 72 years is 0.6 events per year. Butler County has a relatively low risk rating regarding the severity of such an event. The Enhanced Fujita tornado scale ranges from EF0 to EF5, depending on the damage and estimated wind speeds. The extent in Butler can potentially range throughout the scale.</p>																																																																																																																														
<p>Historical Occurrences of Tornados in Butler County 2004-2024 Source: NOAA Storm Events Database</p>	<table border="1"> <thead> <tr> <th>Starting Location</th> <th>Date</th> <th>Magnitude</th> <th>Deaths</th> <th>Injuries</th> <th>Property Damage</th> <th>Crop Damage</th> </tr> </thead> <tbody> <tr> <td>Greene</td> <td>12/15/2021</td> <td>EF0</td> <td>0</td> <td>0</td> <td>\$5,000</td> <td>\$0</td> </tr> <tr> <td>Buttler Center</td> <td>7/14/2021</td> <td>EFU</td> <td>0</td> <td>0</td> <td>\$0</td> <td>\$700</td> </tr> <tr> <td>Shell Rock</td> <td>7/14/2021</td> <td>EF1</td> <td>0</td> <td>0</td> <td>\$300,000</td> <td>\$1,000</td> </tr> <tr> <td>Parkersburg</td> <td>11/28/2016</td> <td>EF0</td> <td>0</td> <td>0</td> <td>\$3,000</td> <td>\$0</td> </tr> <tr> <td>Aplington</td> <td>8/31/2014</td> <td>EF0</td> <td>0</td> <td>0</td> <td>\$20,000</td> <td>\$2,000</td> </tr> <tr> <td>Parkersburg</td> <td>8/31/2014</td> <td>EF0</td> <td>0</td> <td>0</td> <td>\$0</td> <td>\$3,000</td> </tr> <tr> <td>New Albion</td> <td>8/31/2014</td> <td>EF0</td> <td>0</td> <td>0</td> <td>\$0</td> <td>\$2,000</td> </tr> <tr> <td>Shell Rock</td> <td>8/31/2014</td> <td>EF0</td> <td>0</td> <td>0</td> <td>\$0</td> <td>\$1,000</td> </tr> <tr> <td>Eleanor</td> <td>7/6/2014</td> <td>EF0</td> <td>0</td> <td>0</td> <td>\$0</td> <td>\$1,000</td> </tr> <tr> <td>Allison Muni Airport</td> <td>6/16/2014</td> <td>EF1</td> <td>0</td> <td>0</td> <td>\$200,000</td> <td>\$5,000</td> </tr> <tr> <td>Allison Muni Airport</td> <td>6/16/2014</td> <td>EF0</td> <td>0</td> <td>0</td> <td>\$400,000</td> <td>\$1,000</td> </tr> <tr> <td>Clarksville</td> <td>6/16/2014</td> <td>EF1</td> <td>0</td> <td>0</td> <td>\$200,000</td> <td>\$2,000</td> </tr> <tr> <td>Aplington</td> <td>5/25/2008</td> <td>EF5</td> <td>9</td> <td>50</td> <td>\$75,000,000</td> <td>\$75,000</td> </tr> <tr> <td>Kesley</td> <td>6/21/2007</td> <td>EF0</td> <td>0</td> <td>0</td> <td>\$0</td> <td>\$1,000</td> </tr> <tr> <td>Shell Rock</td> <td>6/21/2007</td> <td>EF0</td> <td>0</td> <td>0</td> <td>\$0</td> <td>\$2,000</td> </tr> <tr> <td>Greene</td> <td>5/26/2005</td> <td>F0</td> <td>0</td> <td>0</td> <td>\$0</td> <td>\$0</td> </tr> <tr> <td>Total</td> <td></td> <td></td> <td>9</td> <td>50</td> <td>\$76,128,000</td> <td>\$96,700</td> </tr> </tbody> </table>	Starting Location	Date	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Greene	12/15/2021	EF0	0	0	\$5,000	\$0	Buttler Center	7/14/2021	EFU	0	0	\$0	\$700	Shell Rock	7/14/2021	EF1	0	0	\$300,000	\$1,000	Parkersburg	11/28/2016	EF0	0	0	\$3,000	\$0	Aplington	8/31/2014	EF0	0	0	\$20,000	\$2,000	Parkersburg	8/31/2014	EF0	0	0	\$0	\$3,000	New Albion	8/31/2014	EF0	0	0	\$0	\$2,000	Shell Rock	8/31/2014	EF0	0	0	\$0	\$1,000	Eleanor	7/6/2014	EF0	0	0	\$0	\$1,000	Allison Muni Airport	6/16/2014	EF1	0	0	\$200,000	\$5,000	Allison Muni Airport	6/16/2014	EF0	0	0	\$400,000	\$1,000	Clarksville	6/16/2014	EF1	0	0	\$200,000	\$2,000	Aplington	5/25/2008	EF5	9	50	\$75,000,000	\$75,000	Kesley	6/21/2007	EF0	0	0	\$0	\$1,000	Shell Rock	6/21/2007	EF0	0	0	\$0	\$2,000	Greene	5/26/2005	F0	0	0	\$0	\$0	Total			9	50	\$76,128,000	\$96,700
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Total			9	50	\$76,128,000	\$96,700																																																																																																																									
<p>Warning Time</p>	<p>Tornado and thunderstorm watches can warn of likely conditions hours in advance of an upcoming storm. Although an imminent tornado warning may occur with 95% accuracy and those can be issued at least 15 minutes.</p>																																																																																																																														
<p>Duration</p>	<p>Less than 24 hours.</p>																																																																																																																														
<p>Butler County's Risk Index Score for Hazard</p>	<p>59.2 out of 100 (Relatively Low) Expected Annual Loss: \$1,628,623 <i>Source: FEMA Risk Index by County (2024)</i></p>																																																																																																																														

<p>Table 34 Animal/Plant/Crop Disease</p>	<p>Definition: A pathogen that may cause stress, infection, illness, and death. Communicable among livestock flocks, interactions with wild animals, crops, and bug infestations. Naturally occurring but the hazard is not in the natural hazard section because of human induced causes such as tiling in agriculture and largescale livestock farming may induce more of a hazard.</p>
<p>Historical Occurrences in Butler County</p>	<p>Instances of plant, crop, or animal disease are common across Iowa and Butler County. However, according to available data and input, there have been no widespread recorded occurrences of plant, crop, or animal diseases having a long-term significant impact in the planning area. No fatalities or injuries reported for this hazard.</p>
<p>Probability and Extent</p>	<p>Plant and livestock diseases occur regularly. Iowa DNR tracks and notifies the public of any new or confirmed cases of a pathogen. Butler County has an agricultural crop value of \$291,478,000. This is all potentially at risk of infestation and loss.</p>
<p>In the past decade, there have been confirmed infestations of tar spot in corn crops in the County (2018). Emerald Ash borer insects infested the region in 2014 and have caused the widespread decline of ash trees. Tree removal of dying trees with falling limb hazards has been a top concern for many rural Iowan communities. Highly pathogenic avian flu cases have been confirmed in Butler County and across the State of Iowa throughout the past decade. Hog numbers remained relatively stable without major outbreaks of swine flu reported.</p>	
<p>Warning Time</p>	<p>With the reporting systems set up among agricultural stakeholders, the warning time is likely a few days ahead of time, but this is set to change and varies depending on the specific contagion. Quarantines are often too late to contain pest and insect infestations or migratory bird diseases.</p>
<p>Duration</p>	<p>Weeks or months. Impacts can be years.</p>

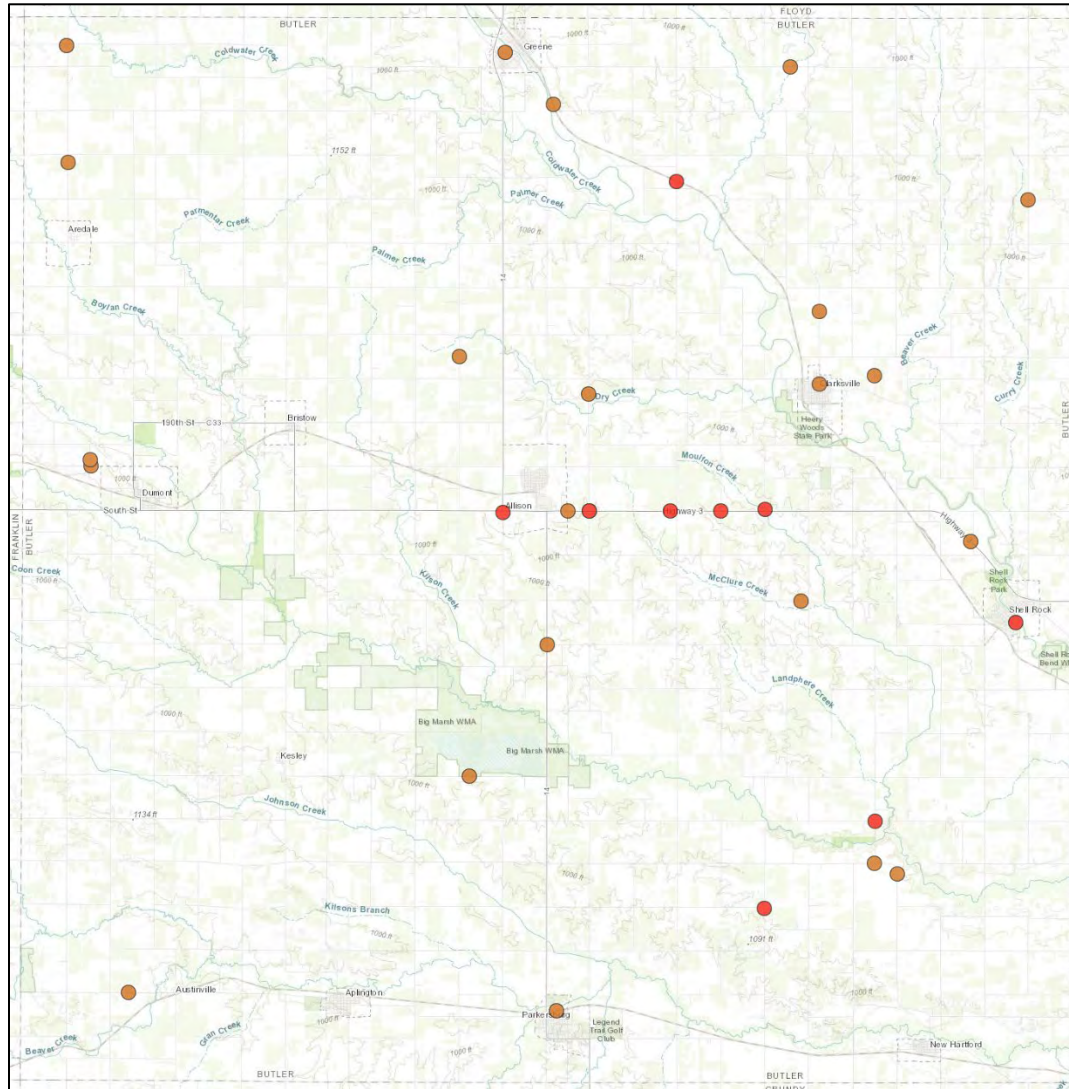
<p>Table 35 Pandemic/Endemic Human Disease</p>	<p>Definition: An epidemic as an unexpected increase in the number of disease cases in a specific geographical area. Yellow fever, smallpox, measles, and polio are prime examples of epidemics. A pandemic is an unexpected increase in disease across multiple continents where the contagion is often a virus. Often for new diseases, populations have no immunity and severity of the disease is dependent on the virus characteristics, spreading factors, and efficacy of any existing vaccines to control the spread.</p>
<p>Historical Occurrences in Butler County</p>	<p>Pandemic human disease has long been a known threat, but it was catapulted to the forefront of public thought in 2020 as the multi-year, COVID-19 pandemic caused by the novel SARS-COV2 virus swept across the globe, causing massive disruptions to public health and healthcare systems, public life and society, and economies at every scale. The reverberations from this pandemic are ongoing. Endemics of flu are regular and occur on an annual basis. Rates of infection have remained normal. Lyme Disease, Cryptosporidiosis, E-Coli, Latent tuberculosis are typical infections tracked by County public health officials that occur mostly from an environmental source (contaminated meats, water). Total reported deaths from COVID-19 in Butler County were 61. Most occurring during the 2020 outbreak.</p>
<p>Probability and Extent</p>	<p>Population of Butler County was 14,334 (2020 Census) As of Dec 2022, 57.41% are fully vaccinated for COVID 19. Rise in COVID-19 cases occur annually in the colder months making this an endemic that is likely to stay in the population.</p>
<p>In the last 20 years, 10 events occurred where contagions have occurred as pandemics or major endemics (H1N1, SARS, MERS, Polio, Ebola (2), Malaria, Zika, COVID-19). The scale and impact of each one was dependent on the contagion characteristics, vaccine efficacy, and cooperation of worldwide systems to contain these outbreaks. Based on past events, the probability is likely greater than 20% of major endemics or pandemics occurring within 10 years. However, the scale and magnitude can vary depending upon multiple factors primarily in the early weeks of appearance.</p>	
<p>Warning Time</p>	<p>Typically, a few weeks ahead of time.</p>
<p>Duration</p>	<p>Weeks or months. If not contained, pandemics can become endemics and stay in the human population indefinitely.</p>

<p>Table 36 Terrorism</p>	<p>Definition: Domestic terrorism is the focus on terrorism in this assessment. This is defined as violent, criminal acts committed by individuals and/or groups to further ideological goals stemming from domestic influences, such as those of a political, religious, social, racial, or environmental nature.</p>
<p>Historical Occurrences in Butler County</p>	<p>None in Butler County.</p>
<p>Probability and Extent</p>	<p>No injuries or deaths reported.</p>
<p>Probability and Extent</p>	<p>Population of Butler County was 14,334 (2020 Census) The 2024 Homeland Threat Assessment expects domestic terrorism to remain unchanged in the coming years.</p>
<p>Rural areas are not prone to foreign born terrorism attacks. Domestic terrorism is far more likely for rural areas and the likelihood increases with a variety of factors. Radicalization online and the availability of accessing weapons can make any spot prone to attack. Attacks have largely targeted schools, churches, and mass gatherings such as shopping centers.</p>	
<p>Warning Time</p>	<p>None.</p>
<p>Duration</p>	<p>Usually occurs in less than an hour. Depending on the attack.</p>

<p>Table 37 Radiological Incidents</p>	<p>Definition: A radiological incident is an occurrence resulting in a release of radiological material at a fixed facility or in transit. An incident resulting in a release of radiological material at a fixed facility includes, but is not limited to, power plants, hospitals, and laboratories. Although the term "nuclear accident" has no strict technical definition, it generally refers to events involving the release of significant levels of radiation.</p>	
<p>Historical Occurrences in Butler County</p>	<p>No occurrences recorded in Butler County No deaths or injuries reported due to this hazard in County.</p>	
<p>Probability and Extent</p>	<p>Butler County is located far beyond the 50-mile hazard radius from a nuclear powerplant. Beyond a nuclear bomb attack which would likely impact only large metro areas, Butler County has no vulnerability to radiological hazard.</p>	
<p>There are two nuclear power plants that operate close to Iowa's borders: the Quad Cities Generating Station near Cordova, Illinois, and the Cooper Nuclear Station near Brownsville, Nebraska. The map below identifies the location of each facility as well as the 10-mile and 50-mile planning buffers.</p>		<p>Nuclear Power Plants Impacting Iowa (2021).</p>  <p>Source: Iowa HSEMD</p>
<p>Warning Time</p>	<p>Usually no warning time.</p>	
<p>Duration</p>	<p>A nuclear event is likely over in a few seconds. The fallout is likely to last for decades. For a meltdown at a power plant, this can occur over a period of hours or days. If left uncontained, the radioactivity would devastate the region, and winds could carry the fallout and drop hazardous fallout a vast area for hundreds of miles.</p>	

<p>Table 38 Transportation Incidents</p>	<p>Definition: This hazard encompasses air transportation, highway transportation, railway transportation, and waterway incidents. A transportation incident is described as an accident involving any mode of transportation that directly threatens life, property damage, injury, or adversely impacts a community's capabilities to provide emergency services.</p>																																											
<p>Historical occurrences and Location of Impact</p>	<p>There have been 447 total crashes from 2020 to 2024 that have resulted in 10 deaths and 22 serious injuries throughout the county according to the Iowa DOT. It involved 808 total occupants. Of those incidents, 6 involved rail. The major cause of 140 incidents was an animal. There were no reported aviation incidents from 2020 to 2024.</p>																																											
<p>Probability and Extent</p>	<p>Car crashes are likely to occur. Based on historical data, 15% probability of serious car accidents each year (not many confirmed involving drugs or alcohol). Most accidents involve 2 vehicles. Railway and aviation accidents are not likely and there is less than 10% chance of occurring annually.</p>																																											
<p>Historical Occurrences of Car Crashes in Butler County 2020-2024 <i>Source: Iowa DOT Crash Analysis</i></p>	<table border="1"> <tr> <td>Total Crashes</td> <td>447</td> <td></td> <td>Total Injury Status</td> <td>336</td> </tr> <tr> <td>Crash Severity</td> <td></td> <td></td> <td>Injury Severity</td> <td></td> </tr> <tr> <td>Fatal</td> <td>10</td> <td></td> <td>Fatalities</td> <td>11</td> </tr> <tr> <td>Suspected Serious Injury</td> <td>22</td> <td></td> <td>Suspected Serious</td> <td>23</td> </tr> <tr> <td>Suspected Minor Injury</td> <td>48</td> <td></td> <td>Suspected Minor</td> <td>68</td> </tr> <tr> <td>Unknown</td> <td>50</td> <td></td> <td>Possible (complaints of pain)</td> <td>71</td> </tr> <tr> <td>Property Damage Only</td> <td>317</td> <td></td> <td>Uninjured/Unknown</td> <td>0</td> </tr> <tr> <td>Property Damage Total</td> <td>\$5,400,588</td> <td></td> <td>Not Reported</td> <td>160</td> </tr> </table>				Total Crashes	447		Total Injury Status	336	Crash Severity			Injury Severity		Fatal	10		Fatalities	11	Suspected Serious Injury	22		Suspected Serious	23	Suspected Minor Injury	48		Suspected Minor	68	Unknown	50		Possible (complaints of pain)	71	Property Damage Only	317		Uninjured/Unknown	0	Property Damage Total	\$5,400,588		Not Reported	160
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<p>Warning Time</p>	<p>None</p>																																											
<p>Duration</p>	<p>Most transportation incidents are of short duration and have limited impact.</p>																																											

Fatal and Suspected Serious Injury Crashes in Butler County (2020-2024)



Vulnerability Assessment

Hazard Risk for Urban Areas of Butler County

This risk assessment identifies how people, property, and structures would be harmed or damaged by one of the listed hazard events. Potential impacts from hazard events will be different between rural and urban areas of the county.

Urban areas are likely to experience greater structural damage/losses because there are more buildings, houses, infrastructure, etc.

The values under each hazard’s risk factor (probability, magnitude, etc.) were determined by averaging the scores provided by all the teams representing each municipality within Butler County. The final risk score is calculated according to the hazard risk score formula. See methodology.

Top 3 Hazards for Cities in Butler County



Thunderstorm/
Lightning/Hail



Severe Winter
Storm



Hazardous
Materials

Table 39 : Hazard Risk Assessment Results for Urban Areas of Butler County						
Rank	Hazard	Probability Score	Magnitude Score	Warning Time Score	Duration Score	Risk Score for Urban Areas
1	Thunderstorm/Lightning/Hail	3.5	2.1	3	1.4	2.80
2	Severe Winter Storm	3.6	2	2	2.7	2.79
3	Hazardous Materials	2.7	1.9	3.7	2.8	2.62
4	Pandemic Human Disease	2.4	2.6	2.2	3.4	2.53
5	Extreme Heat	3.1	1.9	1.3	3.4	2.5
6	Drought	2.8	2	1	4	2.41
7	Animal/Crop/Plant Disease	2.5	2.1	1.7	3.9	2.4
8	Flash Flood	2.5	1.9	3	2	2.35
9	Tornado/Windstorm	2.2	2	3.8	1.8	2.34
10	Transportation Incident	2.5	1.4	3.1	1.3	2.14
11	Grass/Wild Land Fire	2.1	1.3	3.6	1.3	2.01
12	River Flood	2.2	1.6	1.5	2.4	1.94
13	Infrastructure Failure	1.2	1.2	2.2	1.7	1.4
14	Sinkholes	0.9	1	2.7	1.5	1.26
15	Expansive Soils	1	1.1	1.3	1	1.08
16	Levee/Dam Failure	0.7	1.1	1.4	1.3	0.99
17	Radiological Incident	0.6	1	1.5	0.8	0.88
18	Terrorism	0.5	0.8	1.4	1	0.78
19	Landslides	0.2	0.3	0.8	0.2	0.32
20	Earthquake*	0	0	0	0	0

*No urban area of Butler County has taken this hazard into consideration for community specific mitigation

Hazard Risk for Rural Areas of Butler County

Top 3 Hazards for Rural Areas in Butler County



Tornados/
Windstorms



Flash Flooding



Severe Winter
Storms

Planning committee participants from county departments or agencies contributed to the scores used in this assessment. County departments/agencies included emergency management, public health, and administration.

This risk assessment will be used in a risk informed approach to deciding which hazard mitigation activities or tasks the County will include in this Plan.

Table 40 : Hazard Risk Assessment Results for Rural Areas of Butler County						
Rank	Hazard	Probability Score (County)	Magnitude Score (County)	Warning Time Score (County)	Duration Score (County)	Risk Score for Rural Areas
1	Tornado/Windstorm	3	4	4	1	3.25
2	Flash Flood	3	2	2	3	2.55
3	Severe Winter Storm	3	2	2	3	2.55
4	Drought	3	2	1	4	2.5
5	Grass/Wild Land Fire	3	1	4	2	2.45
6	Transportation Incident	3	1	4	2	2.45
7	River Flood	3	2	1	3	2.4
8	Terrorism	2	2	4	3	2.4
9	Thunderstorm/Lightning/Hail	3	2	2	1	2.35
10	Animal/Crop/Plant Disease	2	2	1	4	2.05
11	Hazardous Materials	2	2	1	4	2.05
12	Pandemic Human Disease	2	2	1	4	2.05
13	Infrastructure Failure	1	2	4	3	1.95
14	Radiological Incident	1	1	4	4	1.75
15	Extreme Heat	2	1	1	3	1.65
16	Levee/Dam Failure	1	1	4	2	1.55
17	Sinkholes	1	1	4	2	1.55
18	Earthquake	1	1	4	1	1.45
19	Expansive Soils	1	1	4	1	1.45
20	Landslides	1	1	4	1	1.45

Critical Facilities

Incorporated Areas - Urban

The critical facilities for each community are listed on the table on the next page. See appendices for maps of critical facilities in each jurisdiction's local hazard mitigation plan.

It is important to know the threats that each hazard poses to the built environment. The facilities were chosen based on their importance to the operation of local government, community way of life, and disaster recovery.

- Critical facilities may include buildings that would be used for emergency shelters, planned locations for post disaster operations, and buildings with auxiliary power supply such as emergency power generators.
- Public infrastructure and utilities which are crucial to provide necessities included public potable water wells, water towers, communication towers, WWTP lagoons, sewer lift stations, fuel stations, and electrical substations.
- Facilities needed for post disaster recovery and emergency responses services include hospitals, police stations, fire, and ambulance stations.
- Critical sites include important historical cultural sites which provide value to the community. Those included in this Plan are churches and historical sites.
- Buildings where concentrations of vulnerable populations are located are included in the list of critical facilities. Those include schools, daycares, and nursing homes.

Unincorporated Areas - Rural

A map of all the critical sites located in unincorporated county land is shown in Figure 7. The map illustrates an inventory of facilities such as electrical substations or fuel storage facilities so that strategies to implement mitigation activities are risk informed. The map can help visualize important corridors, locations where there are concentrations of hazardous storage facilities, and critical areas for emergency planning.

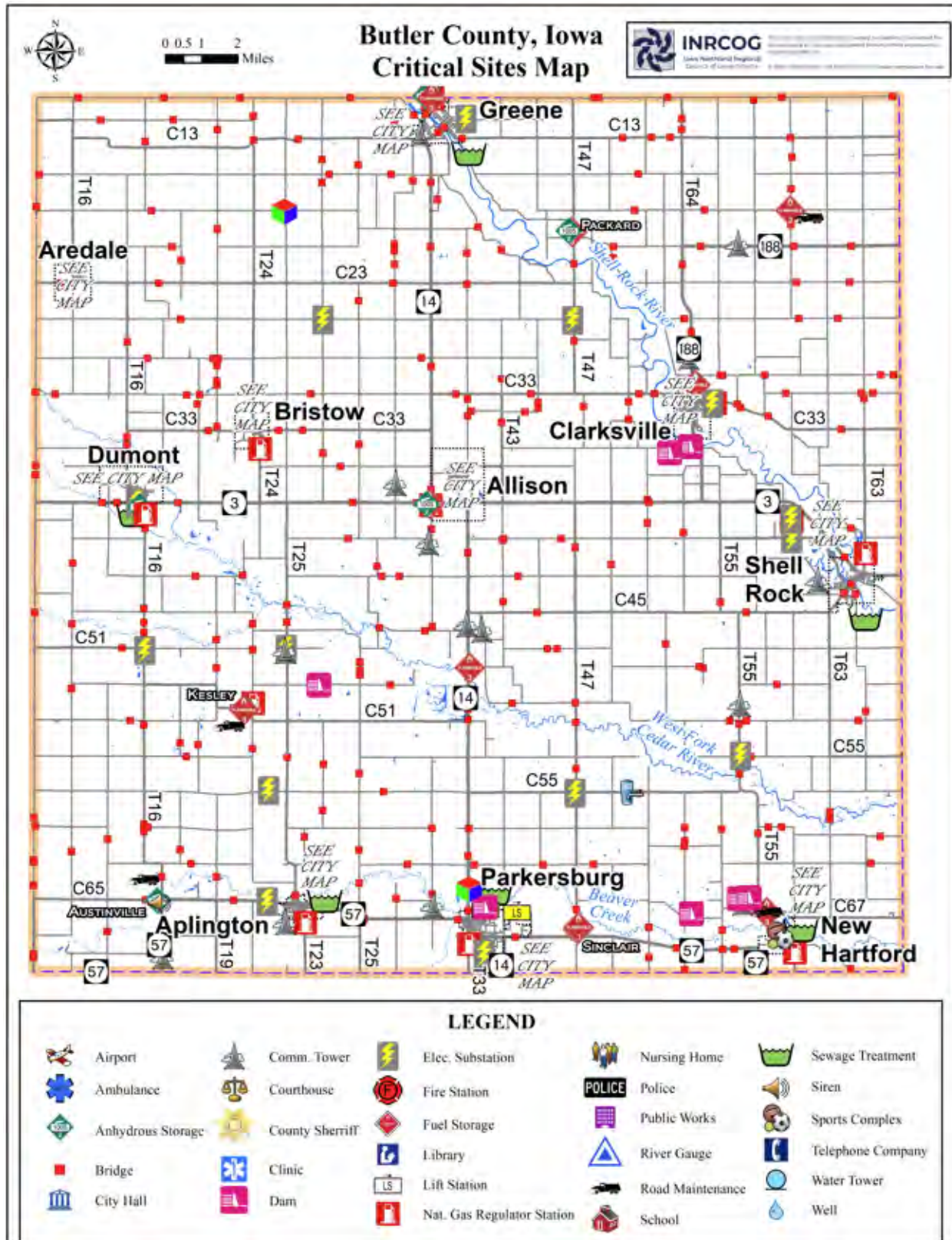
Requirement 44 CFR §201.6(c)(2)(ii): The plan should describe vulnerability in terms of (A) the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas.

Table 371: Critical Facilities in Select Communities for Butler County

Critical Facilities in Allison	Critical Facilities in Aplington	Critical Facilities in Clarksville	Critical Facilities in Parkersburg
City Hall	City Hall	City Hall	Emergency Services Building
Emergency Services Building	Fire Station	Fire Station	Fire Station
EMS Building	Public Works Facility	Nursing Home	Police Station
Butler County Courthouse	Water Treatment Plant	Public Library	Aplington-Parkersburg High School
Public Library	Wastewater Treatment Plant	Clarksville Community School	Parkersburg Elementary School
North Butler Elementary School	Old Water Tower	Critical Facilities in Dumont	Civic Center
AMVET Post 88	New Water Tower	City Hall	Veterans' Memorial Building
Rehabilitation Center	Aplington-Parkersburg School	Emergency Center	First Congregational Church
St. James Lutheran Church	Recreation Complex	Dumont Community Library	St. Patrick's Church
Trinity Reform Church	Maple Manor Village	Dumont United Methodist Church	Bethel Lutheran Church
United Church of Christ	Kidquest Day Care Center	Dumont Reformed Church	United Methodist church
	First Reformed Church	Critical Facilities in Greene	Christian Reformed Church
	Evangelical Presbyterian Church	City Hall/Community Center	Critical Facilities in Shell Rock
	Baptist Church	Emergency Services Building	City Hall
	Critical Facilities in Aredale	Public Works Facility	Fire Station
	City Hall	Water Treatment Facility	Community Center
	Fire Station	Waste Water Treatment Facility	Waverly-Shell Rock Elem. School
	United Methodist Church	North Butler Community School	Jehovah's Witness Church
	Landus	St. Peter's Church	First United Methodist Church
	Back Road Bar & Grill	St. Mary's Church	Faith Lutheran Church
	Critical Facilities in Bristow	Critical Facilities in New Hartford	
	City Hall	Community Building	
		Fire Station	
		New Hartford Community School	
		United Methodist Church	
		First Baptist Church	
		Co-op Elevator	

Regulation 44 CFR § 201.6(c)(2)(ii)(a): The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;

Figure 7: Map of Critical Sites in Butler County



Measuring Vulnerability to Selected Hazards

Property Valuation for Butler County

Property valuation is a metric of measuring the potential losses that may occur in any hazard event. The table to the right summarizes the values of property in Butler County by land type. This data is used in the vulnerability analysis to determine the potential losses.

For residential, \$482,708,108 is the total assessed value for a potential loss. Agricultural land is assessed at \$423,933,412 and commercial land is assessed at \$99,619,315. All industrial land is assessed at \$84,608,438. Utilities without gas or electric valuations are assessed at \$2,846,982. The entire county's valuation without gas and electric valuations is approximately \$1,125,060,630. If we consider gas and electric valuations, the county is valued at a total assessed dollar value of \$1,181,105,081. This is the total vulnerability in terms of cost for Butler County.

Table 38: Total Assessed Valuations of Property in Butler County by Land Type (2023)

Land Type	Assessed Value (2022)
Residential	\$482,708,108
Agricultural Land	\$423,933,412
Agricultural Buildings	\$26,376,667
Commercial	\$99,619,315
Industrial	\$84,608,438
Utilities W/O Gas & Electric (G&E)	\$2,846,982
Total Valuation W/O G&E Utilities	\$1,125,060,630
Gas & Electric Utility Valuation	\$56,044,451
Total Valuation With G&E Utilities	\$1,181,105,081
Source: Iowa Dept. of Management	

Requirement 44 CFR §201.6(c)(2)(ii): The plan should describe vulnerability in terms of...(B) An estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii)(A) of this section and a description of the methodology used to prepare the estimate.

Estimating Potential Property Losses from a 100-Year Flooding Scenario

A flood scenario was modeled across the county using the 1% annual chance flood hazard zone from FEMA’s flood insurance rate maps (FIRM). For this analysis, the impact of flooding for the planning area was calculated with parcel valuation data from the county assessor’s office and effective FIRM data. See Appendix T for the flood scenario maps of each city and the affected parcels in that city from a 100-year annual chance flood event.

The effective FIRM data is dated 09/16/2011. Since the 2020 Butler County MJ-HMP there have been no major changes in flood boundaries nor development within city boundaries. No levees or dams or changes in water ways have impacted the planning area nor have any infrastructure projects out of the county changed waterways throughout the County. No development changes have affected the vulnerability of the County. Assuming a similar impact from the 2020 analysis, the values from the 2020 Butler County’s MJ-HMP were adjusted for inflation to 2023 dollars. Cumulative inflation was calculated using the BLS inflation calculator.

The total cost of a 100-year annual chance flood occurring is summarized in the table on this page. The next table lists the number properties in the entire county that are located within the 100-year floodplain.

For rural areas of Butler County (unincorporated), the following table displays the value of 3,418 parcels within the 100-year floodplain. Land values make up nearly 24% of this value. For city parcels, the table shows a total cost for all cities in 2024 dollars for a 100-year annual chance flood event occurring.

Table 39: Butler County - Entire Planning Area: 100-Year Flood Impacted Properties (2019 and 2023)		
	2013	2023
Number of Parcels	4,497	4,497
Total Value of Land Building, and Dwelling	\$497,131,086	\$603,236,214

Source: INRCOG & Butler County Assessor 2018
Note: 2023 Dollars calculated with 34.6% cumulative rate of inflation.

Table 40: Butler County -Incorporated Planning Area: 100-Year Floodplain Properties		
	2013	2023
Number of Parcels	1,079	1,079
Total Value of Land Building, and Dwelling	\$47,794,796	\$57,995,873

Source: INRCOG & Butler County Assessor 2018
Note: 2023 Dollars calculated with 34.6% cumulative rate of inflation.

Table 41: Butler County- Rural Unincorporated Planning Area: 100-Year Flood Impacted Properties		
	2013	2023
Number of Parcels	3,418	3,418
Total Value of Land Building, and Dwelling	\$449,336,290	\$545,240,340

Source: INRCOG & Butler County Assessor 2018
Note: 2023 Dollars calculated with 34.6% cumulative rate of inflation.

Figure 8: FIRM Data Flood Risk Areas in Butler County

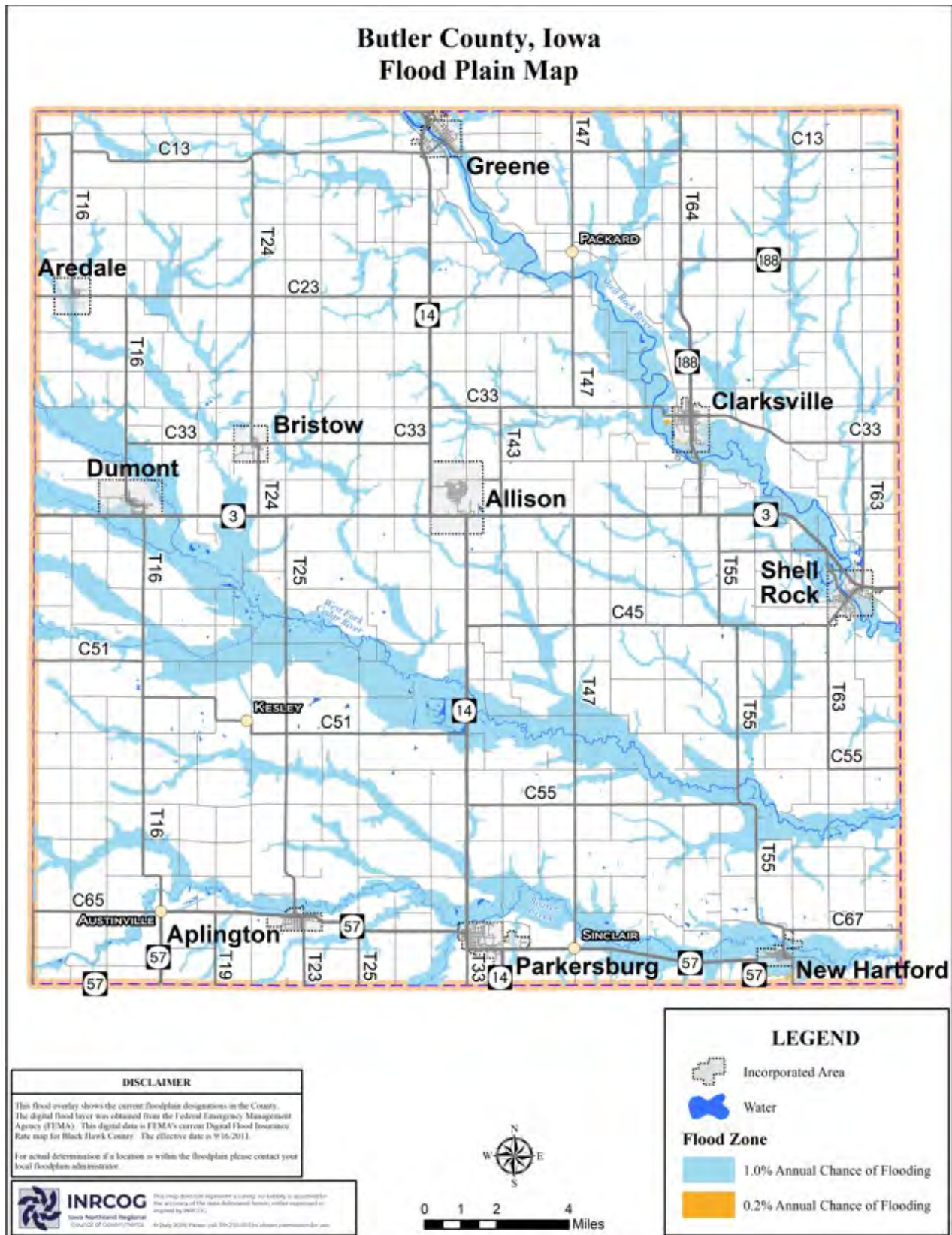
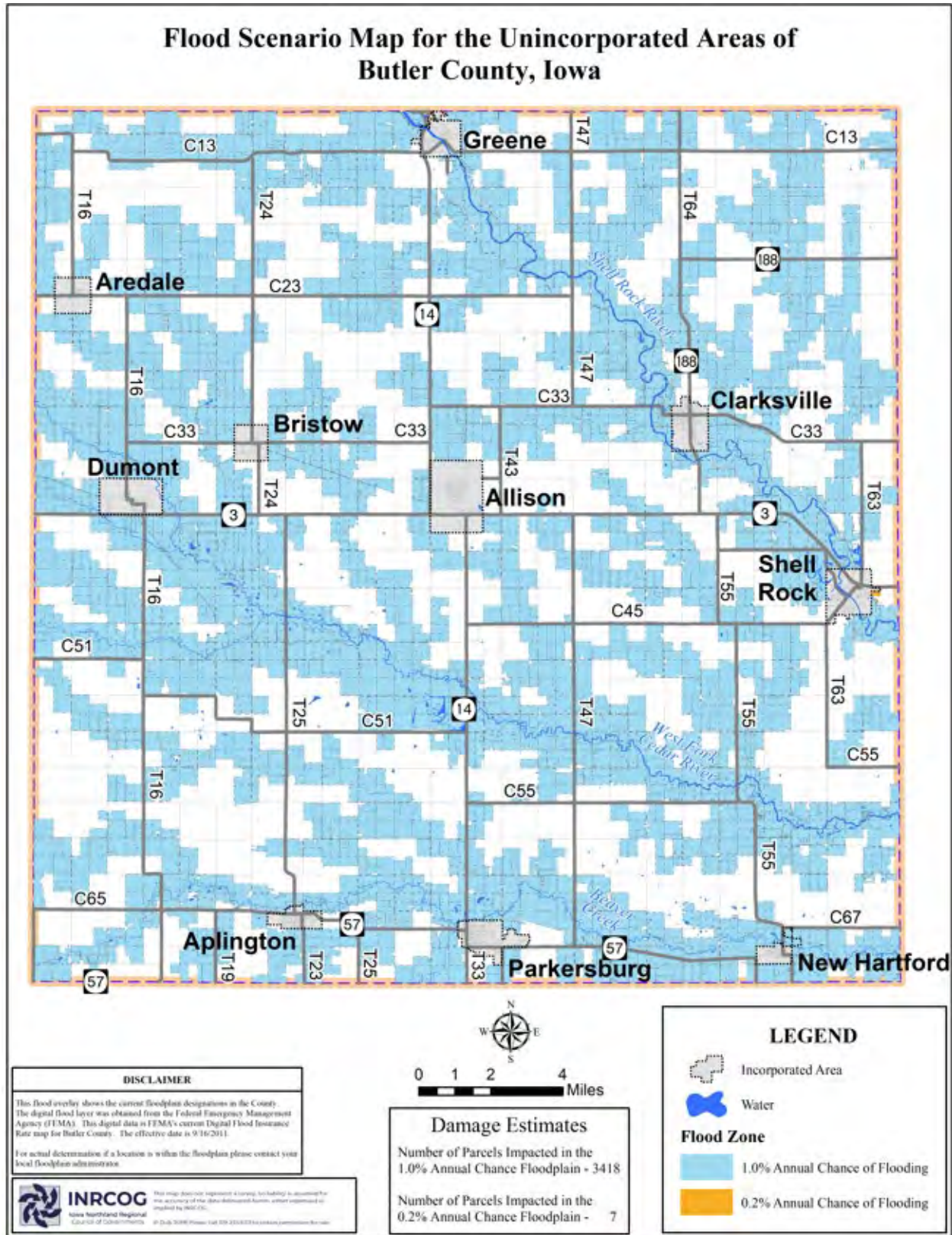


Figure 9: Flood Impacted Parcels in Butler County



Tornado Scenario

In a 1989 study¹ of deaths and injuries due to tornados, risk factors for injury and death were identified. Poor building anchoring, locations without a basement, people outdoors, and those over the age of 70. The findings in this study are supported by later studies that point to sheltering in buildings with adequate anchoring in an interior building or basement offer better protection during a tornado.

Vulnerable structures in a tornado are mobile homes. Although a mobile home may be structurally “tied down” to withstand strong winds, a mobile home will offer less protection from tornadoes than conventional wood frame structures on concrete footing.

According to data from the 2023 ACS data, there are an estimated 123 mobile homes in the county. The average household size is 2.32 people. An estimated 382 people reside in mobile homes in the county. A potential tornado may affect the entire county. This puts 285 people at a greater risk than others during a tornado event.

Vulnerable populations in a tornado are those over 70 years of age. For the elderly population, there are an estimated 3,118 adults greater than 65 years old which is 22% of the population in the county. Nearly 14% of the population are older adults (65 years or older) living alone. This is estimated at 1,984.

From this assessment, nearly 3,403 people in the county are at greater risk than others in a tornado. This accounts for older

adults 65 years and older and people living in mobile homes. Both these measures account for nearly 25% of the population.

The maps below show a historical map of tornados for Butler County. See Appendix T for individual community’s tornado scenario maps.

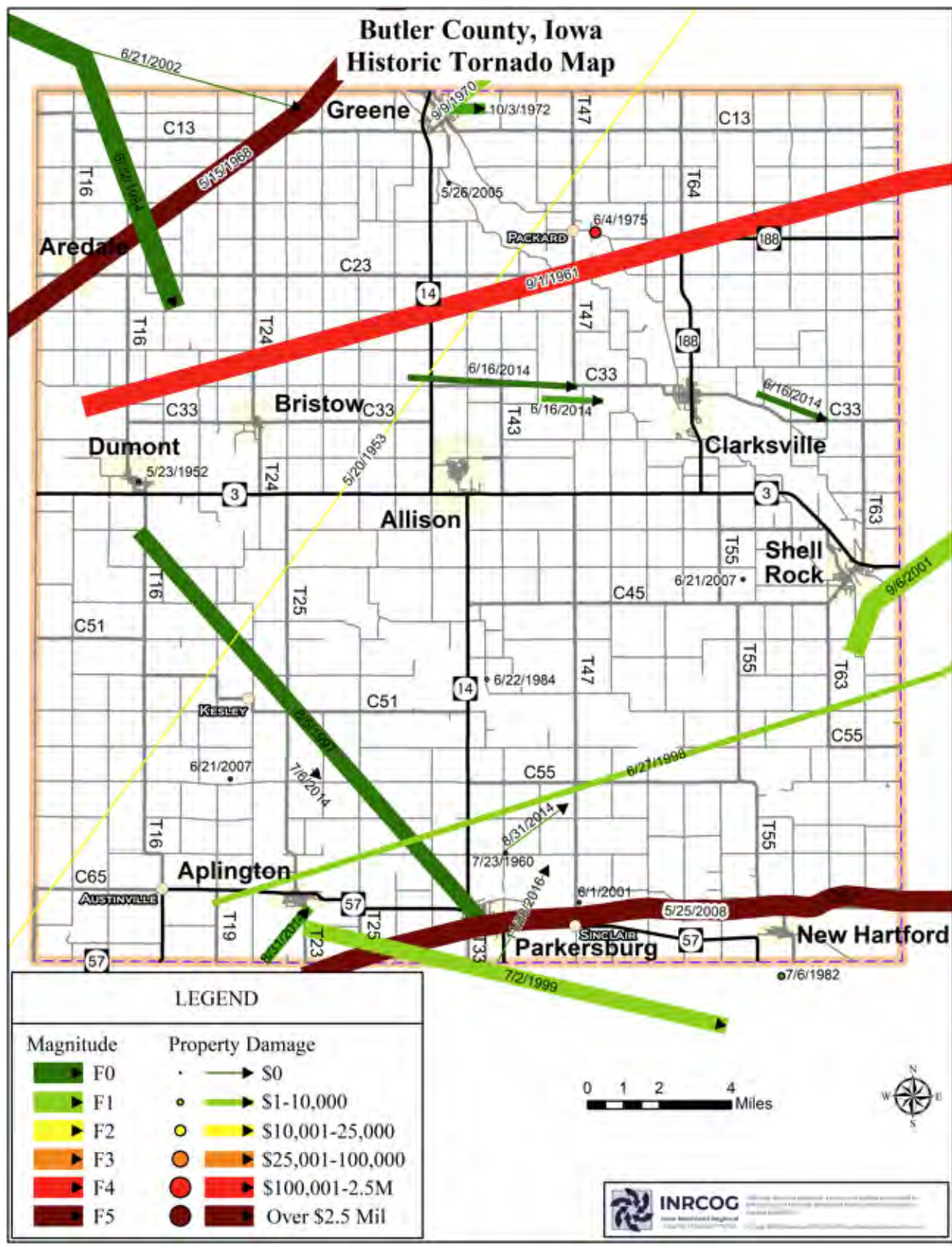
¹ Carter AO, Millson ME, Allen DE. Epidemiologic study of deaths and injuries due to tornadoes. Am J Epidemiol. 1989 Dec;130(6):1209-18.

Other Hazards

Any hazard included in this plan can have consequences and impact assets within Butler County and the participating jurisdictions. Many of the critical site and assets listed in the property valuations above are at risk of hazards in this plan. The loss of life is possible during any hazardous event.

- Thunderstorms/Lightning/Hail can result in similar losses as tornados. The entire region is susceptible to this hazard. Structures and properties may be damaged. Electrical components may fail during power outages. Vehicles and structures may be damaged by both small and large hail.
- Drought, Extreme Heat, and Animal/Crop/Plant disease can impact the entire region. Communities and School Districts can see the impact within parks and outdoor grass playing fields that need to be watered and maintained. The agricultural assets throughout the participating area are especially susceptible to these hazards. These hazards can directly result in the loss of crops and livestock. And drought conditions can be accelerated by the further demand for water resources for agriculture.
- Severe Winter Storms can impact the entire area making travel and communication difficult. Extreme cold can damage infrastructure, including underground utilities.
- Grass and Wild Land Fires within the planning region will often be contained. However, fires can result in loss of structures and land throughout the region. Agricultural land is not considered when analyzing the assets at risk of Grass and Wild Land Fire.
- Transportation Incidents will occur throughout the region. Vehicle accidents are the most likely to occur. The severity and impact may be larger along major highways that impact more commuters and industrial/agricultural transportation. Transportation Incidents can result in the loss of structures, vehicles, and life.
- Infrastructure Failures can be felt throughout the region and can be a result of other hazards. The impacts can be the loss of important utilities and transportation disruptions.
- Pandemic and Human Disease can impact the entire region. Seasonal impacts from endemic diseases can be felt yearly throughout the population. In extreme cases the loss of life is possible and is most likely in vulnerable populations. Pandemics can result in limited time shutdowns and a heavier reliance on the internet and other infrastructure.
- Hazardous Material Incidents can occur throughout the region but are more likely to occur in locations that handle or move hazardous materials. Spills into natural landscapes, waterways, or transportation corridors can cause health issues or limit transportation.
- Terrorism can happen throughout the region and can result in the loss of important utilities and make communication difficult. Community School Districts and Medical Clinics files and records are susceptible to terrorism through cyber-attacks.
- Radiological Incidents are unlikely throughout the participating area. Radiological Incidents can result in the loss of property and life, and if uncontained it can make the region unlivable for the foreseeable future.
- Levee/Dam Failure, Sinkholes, Earthquakes, Expansive Soils, and Landslides are unlikely in the participating area but can result in the loss of life, infrastructures (including roads and utilities), and structures.

Figure 10: Historical Tornado Map in Butler County



Future Development

Future development within identified hazard areas can change the threat level of an area by placing critical facilities, businesses, transportation networks, utilities, and populations within areas prone to risk from hazards such as floods. Such patterns in city development are curbed to mitigate predicted future hazards using mitigation tools such as state building codes and local land use regulations (zoning, subdivision, floodplain management, etc.). These tools will help to mitigate the impacts of hazards on new and 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.

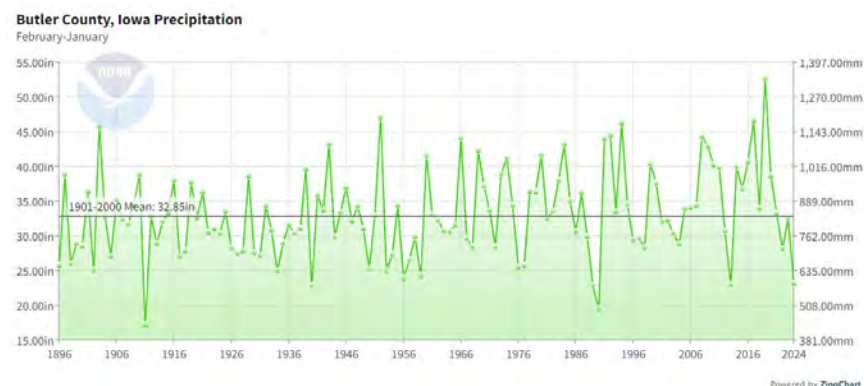
Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section. The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use,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

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

Annual Precipitation Levels in Butler County

Taking the monthly precipitation records from January to December between 1895 and 2024 is shown in Figure 6. The values hover between 20 - 50 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 6. The trend shows a growing level of annual precipitation on average of 32.80 inches. Based on this historical trend, precipitation is likely to continue to increase in the coming years.

Figure 11: Historical Precipitation Data and Trend for Butler County, Iowa²



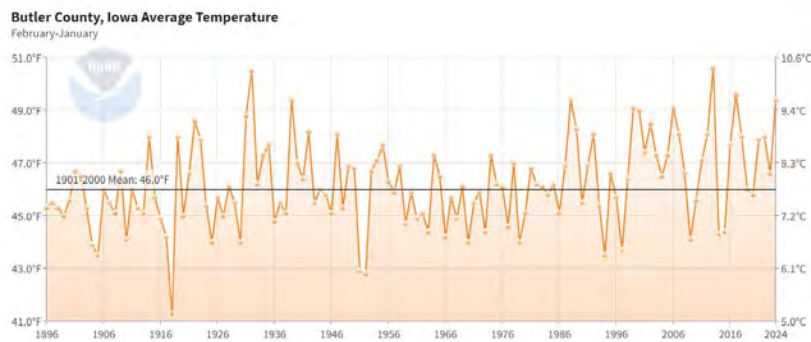
² NOAA National Centers for Environmental information, *Climate at a Glance: County Time Series*, published February 2024, retrieved on February 28, 2024 from <https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/county/time-series>

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Average Annual Temperatures in Butler County

The monthly average temperature is plotted over a 12-month period from 1885 to 2023 in Figure 7. The annual average temperature is also shown with a linear trend in Figure 7. This trend shows the average temperature in Butler County increasing at a rate of $+0.1^{\circ}\text{F}$ every 10 years.

Figure 12: Historical Temperature Data and Trend for Butler 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 evaporate 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 Butler County

- Prologued drought may occur 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.

NFIP and Repetitive Loss Properties

This hazard mitigation plan is an attempt to reduce loss by identifying potential natural or man-made hazards. Following a natural disaster or hazard event, rebuilding the impacted area without making or addressing necessary changes or improvements to reduce future impacts from future events is not a sustainable or reasonable method for rebuilding communities. Returning to pre-disaster conditions will not improve or reduce the hazard risk for the area.

FEMA defines a repetitive loss structure as an NFIP-insured building that has experienced two paid flood losses in a 10-year period in which each loss is \$1,000 or more. Reconstructing a structure to its pre-disaster condition sets the building to the same risk of damage as before. Investments in rebuilding communities after the disaster will consider this history of damage and loss. There are 8 repetitive loss properties in unincorporated Butler County. Each repetitive loss property was a single-family residence.

Planning with hazard mitigation activities breaks this cycle of continuous and costly reinvestment for an area facing the same or greater risk to damage and losses. Redevelopment ensures investments can reduce future losses that protect life, property, and community life. Table 46 shows which jurisdictions participate in the National Flood Insurance Program (NFIP). Each participating jurisdiction is responsible for implementing and enforcing the NFIP related regulations where applicable by an appropriate designee of the jurisdiction. The designee for rural Butler County is the County Zoning Office. For each participating jurisdiction within Butler County that designee is the City Clerk.

When structures in the Special Flood Hazard Area (SFHA) are damaged or improved, National Flood Insurance Program (NFIP) participating communities have a responsibility to assess impacts before repairs can be made, no matter the cause of damage or reason for improvements. If the cost to repair or improve is 50% or more of the market value, the activity is considered "Substantial" and the structure must be brought into compliance with current local floodplain management standards per NFIP, 2023.

Table 46: NFIP Status of Jurisdictions in Butler County (2023)

Jurisdiction	NFIP	Initial FHBM Identified	Current Effective Map Date	Total Policy Count	Total Net Dollars Paid	Total Loss
Butler County	Yes	9/6/77	12/17/20	39	\$1,213,570	46
Allison	No	7/16/76	12/17/20	-	-	-
Aplington	Yes	7/16/76	12/17/20	1	-	-
Aredale	Yes	1/17/75	12/17/20	1	\$2,363	1
Bristow	No	7/2/76	12/17/20	-	-	-
Clarksville	Yes	9/17/75	12/17/20	15	\$572,059	12
Dumont	Yes	5/24/74	12/17/20	1	\$62,566	9
Greene	Yes	5/17/74	12/17/20	20	\$1,244,885	49
New Hartford	Yes	5/31/74	12/17/20	70	\$3,666,537	174
Parkersburg	Yes	7/2/76	12/17/20	-	-	-
Shell Rock	Yes	12/17/76	12/17/20	9	\$682,042	23

Section IV: Mitigation Strategy



Goals for Reducing Hazard Risk

The planning committee reviewed the County’s Hazard Mitigation Plan Goals from the 2020 plan. The planning committee elected to continue forward with the same set of goals from the plan update (Goals 1 through 7). Goals 1 through 7 were approved by Butler County’s Board of Supervisors in 2020. No additional goals were added.

Butler County’s emergency management planning coordinator and the county hazard mitigation participants contributed to the formation of these goals. These goals focus on either eliminating or reducing county wide risk to hazards through actions, activities, or programs that will focus on lessening the impact of hazards on people, property, community life, and the local economy. These broad-based goals were developed to address a multitude of hazards and encompass a variety of mitigation activities.

This updated multi-jurisdictional hazard mitigation plan includes the following goals for Butler County’s hazard mitigation efforts are:

- Goal 1:** Minimize to the greatest possible extent the number of injuries and/or loss of life associated with all identified hazards.
- Goal 2:** Reduce or eliminate property damage due to the occurrence of disasters.
- Goal 3:** Identify ways that response operations, in the event of a disaster, can be improved.
- Goal 4:** Return the community to either pre-disaster or improved conditions in a timely manner in the wake of a disaster.
- Goal 5:** Develop strategies that can be used to reduce the community’s overall risk to the negative effects of natural, technological, and man-made disasters.

- Goal 6:** Reconvene the planning committee on an annual basis to review plan documents, check for compliance with the plan goals, and track progress in achieving the mitigation strategies.
- Goal 7:** Maintain the Countywide Multi-Jurisdictional format for future plan updates.

Requirement 44 CFR §201.6(c)(3)(i) [The mitigation strategy] must include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

Capability Assessment

The County Emergency Management Agency Coordinator and team completed a capability assessment of county resources. The assessment includes an inventory of available or existing documents, personnel, funding, or outreach activity. The personnel, regulatory, administrative, technical, financial, and communication abilities which the county has at its disposal are shown below. Recommendations by the county staff and EMA coordinator are shown for the regulatory Using the definition of a mitigation action (i.e. any activity that is carried out to reduce risk to a hazard), the ability of the organization (County) to carry out an activity is divided into 5 different categories. No participating jurisdictions are expected to grow or expand in the near future. Given this, there is little ability to expand capabilities beyond their current capacities.

Requirement 44 CFR §201.6(c)(3): The plan must include a mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.

Local Plans and Regulations

These are tools for the county to enact policy and enable the necessary powers to regulate development such that proposed or existing activities conform to adequate standards, procedures, or practices.

How can these capabilities be expanded and improved to reduce risk? The county's existing emergency plans are I.T. specific. The county may consider the development of a comprehensive Continuity of Operations Plan (COOP) as a mitigation activity to reduce risk and prepare. These capabilities may be expanded to include more comprehensive planning disaster response steps based on the type of disaster or damage to the county's capabilities (i.e. offices, I.T. servers).

Table 47: Inventory of County Programs/Plans/Strategy in Emergency Management

Document	In Place? (Yes, No, or In Progress)	Does the plan address hazards in this plan?	Can the plan be used to implement mitigation actions?	Last Update	Agency Responsible
<i>Previous Hazard Mitigation Plan</i>	Yes	Yes	Yes	2019	County EMA
<i>IT/ GIS Disaster Plan</i>	Yes	No	No	2023	County I.T. Dept.
<i>County Basic Plan and supporting Emergency Support Functions</i>	Yes	Yes	Yes	Revolving on a 5-year rotation	County EMA
<i>County Recovery Plan and supporting Recovery Support Functions</i>	Yes	No	Yes, in a rebuilding capacity post disaster	2023	County EMA

Administrative and Technical Capabilities

Administrative and technical capabilities include staff and their skills. They also include tools that can help you carry out mitigation actions. Outside entities/organizations were considered during this assessment. Each administrative position was assessed whether the position was employed in-house at the county organization or outsourced to another agency. Next, the position was assessed whether the current person in this position has participated in hazard mitigation planning. Next, the positions in the assessment were rated on a Yes/No scale whether effective tools of communication exist with the department or agency that employs the administrative position.

Table 48: Administrative Capabilities

Position	Employed with County?	If not, position outsourced to whom?	Trained in Hazard Mitigation?	Primary Agency for Communication?
Chief Building Official	No	-	-	-
Civil Engineer	Yes		Yes	Engineering Dept.
Community Planner	No	INRCOG	Yes	INRCOG
Emergency Manager	Yes		Yes	County EMA
Floodplain Manager	Yes		Yes	Coordinates with Iowa DNR
GIS Coordinator	Yes		Yes	GIS Dept
Planning Commission	Yes		Yes	Zoning Dept.

Table 49: Technical Capabilities

Capability Type	In Place?	Resources Regularly Used or Updated by Technical Resource
Grant Writing	Yes	INRCOG
Hazard Data and Information	Yes	Hazard Mitigation Plans, Safety Meetings, MSDS hazard training for employees
GIS Analysis	Yes	
Mutual Aid Agreements	Yes	Emergency service coverage maps, emergency response plans, county dispatch office

Financial Capabilities

This part of the capability assessment is where the county reviewed whether the organization utilizes funds available to them to implement hazard mitigation activities.

Emergency Management and Mitigation Funding Sources In Place	Description of Current Funds Utilized for Hazard Mitigation In County
Capital Improvement Project Funding	<ul style="list-style-type: none"> • Availability of funding is based on need or projects related to buildings, roads, land development, or trail improvement.
Non-FEMA Federal Funding Programs	<ul style="list-style-type: none"> • Secondary Road Department is a DOT agency that has access to limited bridge and road federal funds. • ARPA funds - security lighting/locked doors/cameras for county buildings, county law enforcement center building, radios for roadway crews in DOT • CDC Public Health Emergency Preparedness Program and Guidance - federal grant offered to Region 6 for preparedness planning, activities available to work with EMA on preparedness plans, updates, meetings, etc. CANNOT be used for emergency responses.
Local Public Health Services	<ul style="list-style-type: none"> • State grants to all county health departments to work with EMA on preparedness plans, updates, meetings, etc.

Education and Outreach Capabilities

In this capability, educational and outreach activities or programs were identified by jurisdiction. These education and outreach capabilities would be used to carry out mitigation activities and communicate information about hazards.

Program or Outreach Activity In Place	Description
County Newsletter	The county prepares and sends out a newsletter for all county employees and the general public. With prior notice, the newsletter is a good way to provide information for public events.
Awareness Campaigns	The county has two annual hazard awareness activities: Extreme Weather Week and Public Health Programming for Schools. These are highly successful events/campaigns. The County is looking into pursuing StormReady® recognition and implementing programming for Butler County.
Local News TV or Radio	Public Safety Radio Station for the County. This is used primarily to help friends and families of first responders to hear them responding to calls to better inform them and the public of response activities. Waterloo Area NOAA Weather Radio WXL94 - National Weather Service broadcasting serving Black Hawk, Bremer, Buchanan, Butler, Chickasaw, Franklin, Fayette, Floyd, Grundy, Howard, Mitchell, and Winneshiek counties. These are somewhat effective since news stations decide on what to broadcast. Submissions are considered but not promised or guaranteed.
Organizations that represent/advocate for/interact with underserved or vulnerable communities	Some organizations are reached out to on an as needed basis. The results are somewhat successful.
Social Media Pages	The county has a Facebook that is highly shared across multiple platforms. This is a successful resource to get out information.
Email Listservs	This is very successful at reaching a targeted audience and getting participation in county activities/events.

Current Hazard Mitigation Actions and Updates

For this plan, all the activities or actions to be implemented can be categorized into 5 broad types:

1. **Emergency services**
2. **Education and awareness programs**
3. **Natural system protection and nature-based solutions**
4. **Structure and infrastructure projects**
5. **Local plans and regulations**

See Table 50 for definitions and examples of each category. Detailed information for each incorporated community can be found in their respective Appendix.

Each category of hazard mitigation activities is in the associated sections which includes a summary of the county’s capabilities to implement these efforts such as existing departments or organizations, emergency response vehicles, and what kind of services they provide.

Table 50: Categories of Action Types in Hazard Mitigation Strategy

Mitigation Action Category	Description	Examples	
EMERGENCY SERVICES	Actions that protect people and property during and immediately after a disaster or hazard event.	<ul style="list-style-type: none"> • <i>Warning Systems</i> • <i>Emergency response services</i> • <i>Protection of critical facilities</i> 	
EDUCATION AND AWARENESS PROGRAM	These types of actions keep residents informed about potential natural disasters.	<ul style="list-style-type: none"> • <i>Alert Iowa</i> • <i>Radio or television ads</i> • <i>Social media outreach</i> 	<ul style="list-style-type: none"> • <i>Websites</i> • <i>Real estate disclosures,</i> • <i>Outreach to underserved or vulnerable communities</i>
NATURAL SYSTEM PROTECTION AND NATURE-BASED SOLUTIONS	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.	<ul style="list-style-type: none"> • <i>Sediment/erosion control</i> • <i>Stream restoration</i> • <i>Greenways</i> 	<ul style="list-style-type: none"> • <i>Source water protection plans</i> • <i>Wetland preservation</i> • <i>Prairie land-controlled burns</i>
STRUCTURES AND INFRASTRUCTURE PROJECTS	Actions that either modify existing buildings or structures to protect them from a hazard, or removal from a hazard area.	<ul style="list-style-type: none"> • <i>Acquisition of flood prone properties</i> • <i>Installing utilities underground</i> 	<ul style="list-style-type: none"> • <i>Safe rooms</i> • <i>Storm drain infrastructure such as concrete culverts</i> • <i>Structural retrofits</i>
LOCAL PLANS AND REGULATIONS	Actions by administrative or regulatory processes which direct how land and buildings are developed and built. These actions include regulations by public entities to reduce hazard losses.	<ul style="list-style-type: none"> • <i>Comprehensive land use plans</i> • <i>Land use ordinances</i> • <i>Development review procedures a</i> 	<ul style="list-style-type: none"> • <i>Building codes and enforcement</i> • <i>Open space preservation</i> • <i>Storm water management regulations</i>

Emergency Services Activities

Emergency Management Agency

Allison works with the Butler County Emergency Management Coordinator, based out of the City of Allison, 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 Butler County Emergency Management Coordinator is Chris Showalter.

Chris Showalter, Emergency Management Coordinator
610 Oak Street, Allison, IA 5062
Phone: (319) 346-6557
Email: ButlercoEMA@butlercounty.iowa.gov

Law Enforcement

The Butler County Sheriff's Office provides law enforcement for all the unincorporated areas of the County along with providing assistance to the cities that have their own police force. The Butler County Sheriff's Office has service contracts to provide law enforcement patrols with a number of smaller communities in the County.

Fire Protection

There are eight independent fire departments (Allison, Aplington, Clarksville, Dumont, Green, New Hartford, Parkersburg, and Shell Rock). Each department is responsible for providing fire protection services to a particular area within the county.

By law, every township must provide fire protection services to those citizens living within its borders. Every department within Butler County has signed a mutual aid agreement with one

another. This document is on file with Butler County Emergency Management and can be viewed as a portion of the Butler County Contingency Plan.

Ambulance Services

Butler County EMS represents all 8 of the EMS service in the County. Butler County Board of Supervisors deemed EMS an Essential Service for the County according to Iowa Code Chapter 422D and recently hired an EMS Coordinator to provide coverage and support for EMS services within the county.



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Medical Facilities

Butler County does not have a hospital located within the county. The Waverly Health Center in Waverly and Franklin General Hospital in Hampton are located east and west of the county. The county is home to several medical clinics throughout the county.

In addition to the medical health field, Butler County has services available to deal with those who require mental health assistance. Butler - Pathways Behavioral Services Inc., out of Allison, provides psychiatric and counseling services to citizens who need support.

HAZMAT

All Butler County jurisdictions contract 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. This center 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 hazard 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.

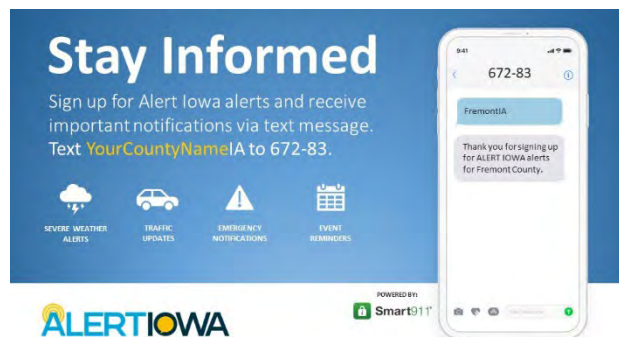
The jurisdiction also partners with the Northeast Iowa Response Group for assistance in responding to any methamphetamine labs located in the city limits. The Response Group assists the Police Departments in the containment of the site and disposal of hazardous chemicals.

Warning Systems

Alert Iowa

Butler County uses the Alert Iowa notification system that is utilized statewide. Alert Iowa serves as the statewide mass notification and emergency messaging system and is operated by Iowa Homeland Security and Emergency Management. Alert Iowa's features are controlled through the Butler County Emergency Management Agency and are available to all county residents. 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 of the following events: **blizzards, flash flooding, severe thunderstorms, and tornadoes.** There is an optional way to receive the same alert for events such as: excessive heat warnings, hazardous materials warnings, heavy snow warning, high wind warnings, ice storm warnings, law enforcement warnings, shelter in place warnings, sleet warnings, wind chill warnings, and winter storm warnings.



Tornado Sirens

Each city in Butler County has tornado sirens that are operated and maintained by a local committee/body of people who schedule monthly tests. The activation systems of warning systems vary by city. Some cities have a digital system that activates according to wind speeds and atmospheric readings in the area that detects strong conditions for tornados. Other cities operate from a single source by a user.

Education and Awareness Programs Activities

Information regarding how to protect oneself in the event of a tornado is largely publicized in the form of flyers, radio, newspaper, and television announcements. The County provides basic safety information for various hazard events (i.e., tornados) and what to do before, during, and after an event.

Structure and Infrastructure Projects Activities

County Engineer and Secondary Roads Department

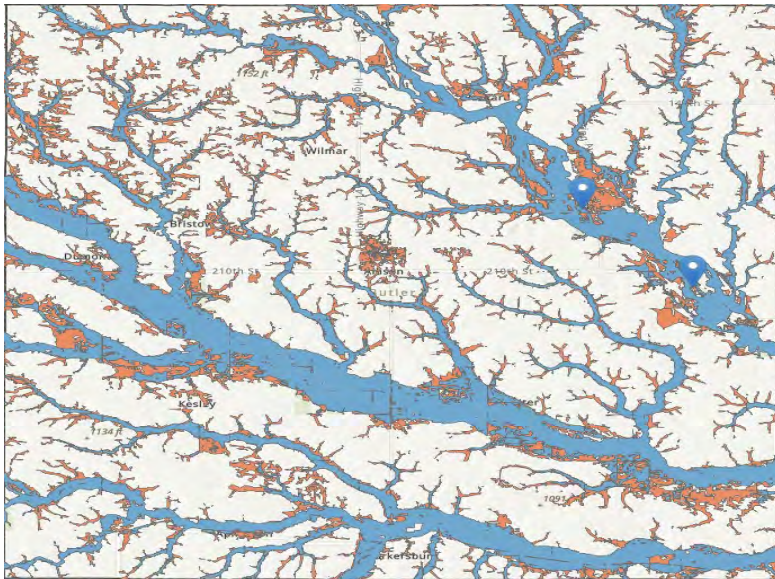
The Butler County Engineer's Office is tasked with the maintenance of all roads within Butler County. The Code of Iowa requires that the Board of Supervisors appoint a Registered Professional Engineer as department head. The Engineer, along with the Assistant to the Engineer and Technician, Road Superintendent and Office Manager, directs both the construction and maintenance activities.

Tornado Safe Rooms

Safe rooms are designed according to FEMA standards. They can withstand wind gusts of up to 250 mph and resist the impact of a 15-pound 2-by-4 board traveling horizontally at 100 miles per hour.

Natural Resource Protection Mitigation Activities

Floodplain Management in Butler County



Butler County is an active member in the National Flood Insurance Program (NFIP) by adopting its initial floodplain ordinance. The Federal Insurance Administration manages the insurance component of the NFIP and works closely with FEMA's Mitigation Directorate, which oversees the floodplain management aspect of the program.

Watershed Management Authority

Butler County has two watersheds that run through its county. They include the Shell Rock River Watershed Manamgnet Coalition and Middle Cedar WMA. The Watershed Management Authority to perform all the following duties:

1. Assess the flood risks in the watershed.
2. Assess the water quality in the watershed.
3. Assess the options for reducing flood risk and improving water quality in the watershed.
4. Monitor federal flood risk planning and activities.
5. Educate residents of the watershed area regarding water quality and flood risks.
6. Allocate money made available to the watershed for the purposes of flood mitigation.
7. The watershed management authority does not have the authority to acquire property by eminent domain.

Each Watershed has a Management Plan which outlines recommendations for municipalities within the watershed region.

Butler County has been working to acquire and restore wetlands. Butler County's Conservation Board is working on implementing and meeting the goals in the watershed management plan.

Planning and Regulation Activities

Flood Protection Mitigation Actions

Butler County currently has a Floodplain Management Ordinance. Inquiries pertaining to construction areas in a floodplain are directed to the respective county or city and follow NFIP guidelines. Inquiries regarding flood insurance are directed toward the Federal Insurance and Mitigation Administration. The Federal Government completed new FIRM maps, as of September 2020 for Butler County. Butler County has and

enforces Zoning Ordinances. Butler County issue building permits for the unincorporated areas only.

Planning And Regulatory Documents

The cities in Butler County also use several zoning and ordinance tools. The table below provides a compilation of the current planning regulatory documents in place for each city in Butler County.

Requirement 44 CFR §201.6(c)(3): A mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.

Table 51: Current Planning and Regulatory Documents for Selected Communities

Jurisdiction Planning and Regulation Documents	Allison	Aplington	Aredale	Bristow	Clarksville	Dumont	New Hartford	Parkersburg	Shell Rock	Unincorporated Butler County
Previous Hazard Mitigation Plan Participant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Comprehensive Plan	Yes	Yes	No	No	No	No	Yes	Yes	Yes	Yes
Building Code	No	Yes (2015 IBC/IRC)	No	No	No	No	Yes (2015 IBC/IRC)	Yes (2015 IBC/IRC)	No	No
Zoning Ordinance	RR	RR	No	RR	RR	RR	RR	Yes	Yes	Yes
Subdivision Regulations	No	Yes	No	No	No	No	Yes	Yes	Yes	Yes
Floodplain Management Ordinance	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Tree-Trimming Ordinance	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No
Storm Water Ordinance	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No
Snow Removal Ordinance	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes

Source: Community Representatives
Participants with Building Codes Follow the State of Iowa Building Code Bureau Adoption Year

Hazard Mitigation Strategy for Butler County

Each participating jurisdiction in this plan update created their own local hazard mitigation strategy when this plan was initially developed. The local hazard mitigation for each city and school district is in the appendices and each plan contains the associated action plan strategy for implementation.

The planning committee for this plan developed a strategy within this document which would prioritize mitigation actions based on the number of hazards address, estimated costs, timeline for completing or implementing the action or program, and priority level determined from a cost-benefit approach. Fire chiefs and ambulance services directors have a valuable understanding of existing capabilities of their local emergency response units in Butler County. City leaders and staff responded to these contributing factors of their existing and new hazard mitigation activities.

Priority Level

Committee representatives determined the priority level of all mitigation actions within this strategy based on resources and capabilities. 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.

The priority ranking for each identified mitigation activity is:

- **High**
- **Medium**
- **Low**

Requirement 44 CFR §201.6(c)(3)(iv): For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

Timeline

The planning committee determined the length of time that it would take to carry out initiating the action, policy, or program. The timeframe designations describe the length of time to carry out implementing the mitigation activity. For mitigation actions that describe preparing a plan or deploying a program, the timeframe would describe the implementation process of writing the plan or starting the program such as planning, assembling staff, and gathering funding. The timeframe does not describe the length of time the program is to be administered. For example, the timeframe for developing a response plan to assist vulnerable populations needing evacuation during a flooding event would describe the time it would take to prepare an actual planning document and not carry out the specific response during said emergency.

Table 52: Mitigation Action Timeline	Timeframe Description
Immediate	1-6 Months
Short Term	1-3 Years
Mid-Term	3-5 Years
Long-Term	More than 5 Years
Completed or Active	Action Item Has Been Completed (and/or implemented as a regular, ongoing service/program/policy)

If the action item was updated as completed, then the action item has been implemented. This may be a one-time action item or a regular, ongoing service/program/policy. The implementation strategy in this plan is focused solely on implementing any necessary mitigation measures or implementing the program/policy, etc. to be maintained and regulated by the designated agency.

Estimated Cost

Although in the long-term hazard mitigation actions will save money by avoiding the loss of lives or property damages, in the short-term each action will have an associated cost. The County will rely heavily on local funding sources to fulfill most of the plan obligations; however, they will also seek funds from State and Federal agencies for both pre- and post-disaster mitigation activities. Federal funds such as FEMA’s Hazard Mitigation Assistance Program (HMGP), Building Resilient Infrastructure and Communities (BRIC), and Flood Mitigation Assistance (FMA) would be considered. State funds to help mitigate could include the State Revolving Loan fund as well as working with additional State agencies on the various grants available.

Requirement 44 CFR §201.6(c)(3)(iii): An action plan describing how the actions identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented, and administered by the local jurisdiction. Prioritization will include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

The estimated cost(s) for each mitigation action, program, or project is either: Minimal, Low, Moderate, or High depending upon various factors.

Table 53: Estimated Cost Level	Description
Minimal	Cost estimate is \$10,000 or less based on using current staff, time commitment, continuous of current duties, proposed action/program/ project, and funding sources.
Low	Cost estimate for the project range from \$10,001 - \$99,999 based on existing proposed treatment, time commitment, any further study that is needed, and level of engineering, and project components (permits, acquisition, coordination, etc.).
Moderate	Cost estimate for the project range from \$100,000 - \$299,999 based on existing conditions, time commitment, proposed action/ program/project, any further study that is needed, and level of engineering, and project components (permits, acquisition, coordination, etc.), and funding sources.
High	Cost estimate for project range is \$300,000 or higher based on existing conditions, time commitment, proposed action/program/project, any further study that is needed, level of engineering, project components (permits, acquisition, coordination, etc.), and funding sources.

Requirement 44 CFR §201.6(c)(3)(ii): A section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. All plans approved by FEMA after October 1, 2008, must also address the jurisdiction's participation in the NFIP, and continued compliance with NFIP requirements, as appropriate.

2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan
Hazard Mitigation Action Implementation Plan

Table 54: Hazard Mitigation Category Descriptions and Examples

Mitigation Category	Description	Examples
Emergency Services	Actions that protect people and property during and immediately after a disaster or hazard event.	Warning Systems, emergency response services, protection of critical facilities
Education and Awareness Program	These types of actions keep residents informed about potential natural disasters.	Alert Iowa, Radio or television ads, social media outreach, websites, real estate disclosures, outreach to underserved or vulnerable communities
Natural system protection and nature-based solutions	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.	Sediment and erosion control, stream restoration, greenways, source water protection plans, wetland preservation, prairie land-controlled burns
Structures and Infrastructure Projects	Actions that either modify existing buildings or structures to protect them from a hazard, or removal from a hazard area.	Acquisitions of flood prone properties, undergrounding utilities, structural retrofits, safe rooms, storm drain infrastructure such as culverts
Local Plans and Regulations	Actions by administrative or regulatory processes which direct how land and buildings are developed and built. These actions include regulations by public entities to reduce hazard losses.	Comprehensive land use plans, land use ordinances, development review procedures, building codes and enforcement, open space preservation, storm water management regulations

Notes for Mitigation action Tables

- ALL** = All Hazards
- A/P/CD** = Animal/Plant/Crop Disease
- D/L** = Dam/Levee Failure
- D** = Drought
- E** = Earthquake
- ES** = Expansive Soils
- EH** = Extreme Heat
- GWF** = Grass/Wildland Fire
- HMI** = Hazard Materials Incident
- IF** = Infrastructure Failure
- FF** = Flash Flooding
- FR** = Flooding- River
- L** = Landslides
- PHD** = Pandemic Human Disease
- RI** = Radiological Incident
- S** = Sinkholes
- SWS** = Severe Winter Storm
- T** = Terrorism
- TI** = Transportation Incident
- T/H/L** = Thunderstorm/ Hai/ Lightning
- T/W** = Tornado/Windstorm
- * Denotes primary agency responsible

Requirement 44 CFR §201.6(c)(3)(ii): A section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

Table 55: Emergency Services Mitigation Actions

Actions that protect people and property during and immediately after a disaster or hazard event.

Priority	Mitigation Action/Program/Project	Associated Hazard	Primary Agency Responsible for Implementation	Timeline	Estimated Cost(s)	Possible Funding Source	Hazard Mitigation Goal(s) #
High	Maintain well-trained personnel (fire, first responders, police, EMS, weather spotters, and other critical services: includes multi-jurisdictional training and cooperation for all hazards).	FF, FR, T/H/L, T/W, HMI, T, GWF	Individual Departments*, County EMA, Ambulance Service, Police Departments	Active	Minimal	County General Fund	1, 2, 3, 4, 5, 7
High	Establish and maintain an emergency notification system and conduct drills.	All	County EMA*	Short-Term	Minimal	County General Fund	1, 2, 3, 5
	Develop a NOAA Weather Radio Awareness program.	All	County EMA*	Short-Term	Minimal	County General Fund	1, 2, 3, 5
Low	Complete and maintain a secondary off-site dispatch center.	All	County EMA*	Short-Term	Low	County General Fund	1, 2, 3, 5
Medium	Maintain plans/procedures to assist at-risk populations during an event (transport to shelters, home visits, etc).	EH, FF, RF, SWS, T/H/L, T/W, HMI, D/L	County EMA*, Public Health	Active	Minimal	County General Fund	1, 5
High	Update the outdoor siren in Kelsey.	T/H/L, T/W	County EMA, County Board of Supervisors	Mid-Term	High	County General Fund	1, 2, 3, 5
High	Update the outdoor siren in Austinville.	T/H/L, T/W	County EMA, County Board of Supervisors	Mid-Term	High	County General Fund	1, 2, 3, 5
High	Add river gauge upstream of Dumont.	FF, RF	County EMA*	Immediate	Minimal	County General Fund	1, 2, 3, 5
High	Add river gauge upstream of Clarksville.	FF, RF	County EMA*	Immediate	Minimal	County General Fund	1, 2, 3, 5

2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan

Table 56: Education and Awareness Programs Mitigation Actions

These types of actions keep residents informed about potential natural disasters.

Priority	Mitigation Action/Program/Project	Associated Hazard	Primary Agency Responsible for Implementation	Timeline	Estimated Cost(s)	Possible Funding Sources	Hazard Mitigation Goal(s) #
High	Promote the Alert Iowa notification system.	All	County EMA*	Immediate	Minimal	County General Fund	1, 2, 3, 5
High	Engage in community outreach to inform the public of floodplain permit requirements.	FF, FR	County Zoning*	Short-Term	Minimal	County General Fund	1, 2, 3, 5, 7
High	Establish and conduct a Public Awareness & Education Program (notices, newsletters, brochures, websites, warnings, shelter information, importance of vaccinations, hazard information, and at-home improvements).	D, EH, FF, FR, GWF, PHD, SWS, T/H/L, T/W, HMI< IF, D/L, ES, S	County EMA*, Public Health	Short-Term	Minimal	County General Fund	1, 2, 4, 5, 6
High	Educate the public about the importance of protecting their wells and annual water testing that is provided by the county for free.	D, FF, RF, S	County Environmental Health	Immediate	Minimal	County General Fund	1, 2, 5

Table 57: Natural System Protection and Nature-Based Solutions Mitigation Actions

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	Mitigation Action/Program/Project	Associated Hazard	Primary Agency Responsible for Implementation	Timeline	Estimated Cost(s)	Possible Funding Sources	Hazard Mitigation Goal(s) #
Low	Develop and maintain a Roadside Vegetation Management program.	L, A/P/CD, GWF	County Engineer*	Short-Term	Minimal	County General Fund	5
Low	Develop Groundwater Protection Plan or Drinkable Water Distribution Plan.	D, FF, FR, PHD, HMI, TI, T	County Environmental Health	Short-Term	Minimal	County General Fund	1, 5
Medium	Adopt a stormwater management ordinance to protect natural water sources, water flows, and surface water.	D, FF, FR, HMI, T/H/L	County EMA, County Conservation	Mid-Term	Moderate	County General Fund	2, 4, 5
High	Maintain membership in National Flood Insurance Program	FF, FR	County Board of Supervisors*	Active	Minimal	County General Fund	5
Low	Maintain a county-wide household hazardous waste disposal site.	HMI, PHD	County Board of Supervisors*	Active	Moderate	County General Fund, Solid Waste Commission	4
High	Establish regular communication between county and cities regarding floodplain regulations	All	County EMA*, City Clerks, City Councils	Active	Minimal	County General Fund	1, 2, 3, 4, 5, 6, 7

2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan

Table 58: Structure and Infrastructure Projects Mitigation Actions

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

Priority	Mitigation Action/Program/Project	Associated Hazard	Primary Agency Responsible for Implementation	Timeline	Estimated Cost(s)	Possible Funding Sources	Hazard Mitigation Goal #
High	Encourage well owners to raise well heads about flood levels and promote cost-share program related to these renovations.	D, FF, FR	County Environmental Health*	Immediate	Minimal	County General Fund	1, 2, 5
Medium	Install signage at critical transportation sites, including railroad crossing signs and lights.	FF, FR, GWR, SWS, T/H/L, T/W, HMI, D/L, TI	County Engineer*	Mid-Term	Minimal	County General Fund	1, 5
Low	Develop and Enforce an Inspection & Repair Program for public infrastructure.	E, EH, FF, FR, T/W, D/L, TI	County Engineer*	Short-Term	Moderate	County General Fund	1, 2, 5
Medium	Establish a groundwater protection ordinance for newly constructed wells in Karst to prevent contamination.	D, FF, FR	County Environmental Health*	Mid-Term	Moderate	County General Fund	1, 2, 4, 5
Low	Either purchase and/or remove structures in 100-YR Floodplain or elevate structures to at least 1-FT above 100-YR Floodplain.	FF, FR, D/L	County EMA, County Board of Supervisors, Floodplain/Zoning Administrator	Mid-Term	Moderate	County General Fund, Flood Mitigation Grant	1, 2, 5
Low	Conduct necessary studies, engineering, construction, etc. on existing infrastructure.	D/L, E, EH, HMI, IF, FF, FR, SWS, TI, T/H/L, T/W	County EMA, County Engineer	Short-Term	Moderate	County General Fund	1, 2, 5

Table 59: Local Plans and Regulations Mitigation Actions

Actions by administrative or regulatory processes which direct how land and buildings are developed and built. These actions also include regulations by public entities to reduce hazard losses.

Priority	Mitigation Action/Program/Project	Associated Hazard	Primary Agency Responsible for Implementation	Timeline	Estimated Cost (s)	Possible Funding Sources	Hazard Mitigation Goal #
Medium	Establish an annual review of plans and ordinances to ensure goals are being met and still appropriate.	All	County Zoning*	Annual	Minimal	County General Fund	6
Low	Maintain wellness clinics and Public Health Department	PHD	County Public Health*	Ongoing	Minimal	County General Fund	1
Medium	Establish building codes to ensure basements and/or safe rooms are constructed to protect from and withstand a tornado and other weather events.	T/H/L, T/W	County Zoning*	Short-Term	Low	County General Fund	1, 5
Medium	Update County Comprehensive Plan, Zoning & Subdivision Ordinances to help guide land use and development outside of hazard areas.	FF, FR, D/L,	County Zoning*	Mid-Term	Moderate	County General Fund	1, 2, 4, 5
Medium	Ensure schools and other buildings/structures with large populations have evacuation plans.	FF, FR, T/H/L, T/W, HMI, T	County EMA*	Short-Term	Minimal	County General Fund	1, 2
Low	Develop and maintain command procedures & center	All	County EMA*	Short-Term	Minimal	County General Fund	1, 5
Low	Develop and maintain Continuity of Operations Plan (COOP)	PHD, T/H/L, T/W, HMI, T	County Board of Supervisors*	Mid-Term	High	County General Fund	4, 6
Low	Develop and maintain a Clean Up/Recovery Procedure Plan.	FF, FR, SWS, T/H/L, T/W, HMI, D/L, T	County EMA*	Short-Term	Minimal	County General Fund, Hazard Mitigation Grant	4

Section V – Plan Maintenance



Future Amendments and Updates

This is an update to the 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan. A plan update is to occur every five (5) years. This 2025 plan is to be commenced upon FEMA Certification.

Future Amendments:

Any future amendments to the plan shall occur only after an official Public Notice has been posted in a local publication announcing a Public Hearing on the matter.

After the public has had the opportunity to review the proposed amendments the City Council, School Board, and/or Board of Supervisors may, by resolution, choose to accept any amendment to the plan. Once a City Council and/or Board of Supervisors has adopted the amendment, the remaining elected board of each participating municipality shall hold a public hearing to receive public input on the amendment prior to local adoption.

All amendments made to this plan should be shared with each participating

jurisdiction, the Butler County Emergency Management Agency and the Iowa Department of Homeland Security and Emergency Management Division.

Future Updates:

At a minimum, this Plan will be evaluated for consistency with FEMA and IHSEMD requirements and formally updated every five (5) years. However, it is strongly encouraged that the mitigation strategies for each community be reviewed and revised (if necessary) following disasters to determine if the recommended actions are still appropriate given the impacts of an event.

Requirement 44 CFR §201.6(c)(4)(ii): [The plan content must include] a plan maintenance process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.

The Implementation Process & Funding Recommendations

This set of recommendations is intended to provide options for local governments to incorporate hazard mitigation actions from their prospective strategies developed in this planning process. Using the capability assessments conducted for each jurisdiction. These recommendations are to support and inform city or county stakeholders with hazard mitigation planning.

1. Phasing Projects Over Budget Cycles

In the implementation strategies in this plan, the estimated costs varied from minimal to high costs for each action item created by the planning committee and their representatives. Phasing is a process by which the completion of a project occurs over several budget cycles. Distributing the estimated costs of each mitigation action will make each action item more attainable over time.

2. Capital Improvement Programs

It is recommended that this updated hazard mitigation plan be incorporated into the City's or County's annual Capital Improvements Program update procedure.

3. Local Match Commitments

For most grants, there are commitments required or encouraged by funders which may allow your grant applications/requests to be considered. For projects that require a local match commitment, the Council or Board of Supervisors should begin setting aside appropriate resources to meet their match liability.

4. Strategic Planning and Prioritization

It is recommended that projects created by each city's and/or county's planning committee participants be shared with city clerks, managers, boards, and department heads so that

projects or programs in each jurisdiction's implementation strategy may be prioritized for funding through the jurisdiction's budgeting process.

5. Hazard Mitigation Grant Program

The information presented in the Plan may be used as documentation for grant applications for FEMA's Hazard Mitigation Grant Program (HMGP). This grant funding is available after a presidentially declared disaster. In this program, homeowners and businesses cannot apply for a grant. However, a local community may apply for funding on their behalf. All participating jurisdictions must complete the development of each of their respective local hazard mitigation plans found in the Appendices of this plan and adopt hazard mitigation plans through resolutions to receive funding for a hazard mitigation project application. All resolutions are in the Appendices of this plan.

For more information on the HMGP application and program, visit <https://www.fema.gov/grants/mitigation/hazard-mitigation>

Evaluation & Review Process

The Butler County Emergency Management Coordinator and governing bodies from all jurisdictions are responsible for the Hazard Mitigation Plan and implementation of the goals and actions contained herein and may seek assistance from other city or county staff, Council of Governments, and consultants to accomplish mitigation projects.

Requirement 44 CFR §201.6(c)(4)(i): [The plan maintenance process shall include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

Reconvene Annually

The plan should be reviewed annually to determine program effectiveness or at a minimum, shall be reviewed and updated within five years of the FEMA approval date. To assist in the review process, the Hazard Mitigation Committee may reconvene annually upon the request of the Butler County Emergency Management Coordinator. The planning committee would be comprised of representatives from each participating jurisdiction as well as from neighboring communities, schools, businesses, nonprofits, agencies, and other interested parties. Together they will be charged with reviewing and evaluating implementation progress of the mitigation plan. A public notice should be posted at all city and county government buildings and in the local newspapers inviting the public to participate as members of the Committee and/or to review the Plan and provide comments. Following the committee's completion of the annual review process, the findings of the review and recommended changes, if applicable, will be presented during a City Council and Board of Supervisors meeting.

Evaluation Tools

The Butler County Hazard Mitigation Plan Review Tool in Appendix U provides a public meeting evaluation form to assist in the review, evaluation, and updating process. In Appendix Q, the details on the updates or progress by each jurisdiction are provided. The updates in that appendix were provided by participants from the previous plan before this updated plan. Previous participants of the 2020 Butler County MJ-HMP participated and developed an updated to their local hazard mitigation plan per FEMA requirements to qualify for pre-disaster mitigation funding. Since many activities fall under the normal duties of most city governments (e.g. funding and maintaining emergency services), not many activities were deleted.

Several communities in Butler County are limited both in size and capacity to implement mitigation programs. Under the confines of these limited resources, some jurisdictions chose to drop a variety of previously defined mitigation actions, as they were determined to longer be a priority or were not feasible.

Continued Public Participation

Butler County's emergency management coordinator has been proactive in creating working relationships among all communities and the county's emergency management resources. Cities had not typically been tasked to initiate meetings with the public to discuss hazard mitigation issues. This has been the purview of the Emergency Management Office's activities among cities to conduct meetings whereby the cities and public are invited to cover disaster response and recovery issues. Common issues discussed included tornado sirens, tornado safe rooms, emergency generators, storm spotter training, and other training needs. The coordinator ensures each jurisdiction regularly refers to their HMP in their assistance to cities. The coordinator also encourages cities to actively participate in any HMP development meetings and continue or maintain the monitoring of implementation strategy created by their participating members to their respective hazard mitigation plans.

Cities can expect Butler County's EMA coordinator to reach each jurisdiction for updates in the mail and email and to check for regular updates on the county website. To ensure that the public remains involved in the future implementation of this Plan, it shall remain available at all participating city halls, school districts, and

the county courthouse. An electronic PDF copy of this plan will be posted on the Iowa Northland Regional Council of Government's website as well, at www.inrcog.org/pub.

Requirement 44 CFR §201.6(c)(4)(iii): Discussion on how the community will continue public participation in the plan maintenance process.

This plan shall be made available to any party who requests to see it. In the event the Hazard Mitigation Committee is reconvened by the County Emergency Management Coordinator, the process of which has been previously discussed, the public will be notified and provided an opportunity to participate in planning meetings and submit comments. The public will be notified in accordance with Iowa's Open Meeting and Records Laws (Iowa Code Chapters 21 and 22), said meetings will be open to the public and all records shall be available for inspection. The coordinator will continue to work with each participating jurisdiction in ensuring the plan goals are followed and that these jurisdictions are properly prepared for any disaster that may come.

2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan

Required Five (5) Year Update

All local jurisdictions seeking to remain eligible for mitigation project grant funding are required to review and revise their hazard mitigation plans to reflect changes in development and progress in their local mitigation efforts. All plans must be resubmitted to the State Hazard Mitigation Officer for initial review and coordination. Per the goals in this county hazard mitigation plan, future hazard mitigation plans should seek conformity to the multi-jurisdictional process. In this multi-jurisdictional hazard mitigation planning process, the Butler County Emergency Management coordinator was the plan lead for effort. Designating the county EMA coordinator for future updates begins with the grant application.

Integrating the MJ-HMP Plan into other Planning Documents

Each jurisdiction should consider the findings from this document when updating or writing new planning documents. As deemed appropriate by the community government, this plan should be incorporated into existing or proposed development of Comprehensive Plans, Land-Use Plans and other appropriate plans or programs. Each jurisdiction should integrate and consider their goals as well as their current and future mitigation action steps with existing and future jurisdictional plans. INRCOG incorporates the hazard mitigation plans with each jurisdiction's comprehensive land use plan, housing needs assessment, long term transportation plans, urban renewal plans, existing and future zoning, and subdivision ordinances, as well as building code. Schools will work to incorporate their plans within their Emergency Operations Plans through the Iowa Department of Education while also integrating into other relevant plans including capital improvement plans and facility plans

Regulation 44 CFR §201.6(c)(4)(ii): [The plan shall include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive plans or capital improvement plans, when appropriate.

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City of Allison, Iowa

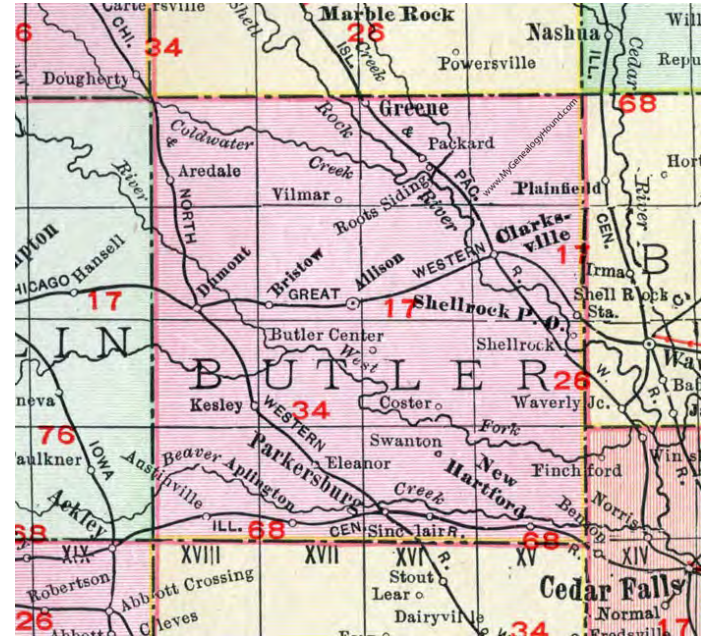
Hazard Mitigation Plan 2025 Update

Appendix A of Butler County Multi-Jurisdictional Hazard Mitigation Plan

Funded by the Butler County Emergency
Management Agency

Prepared by Iowa Northland Regional Council
of Governments (INRCOG)

January 2025



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Adopting Resolution by Allison City Council

#25-03.4

Resolution

A RESOLUTION OF THE CITY COUNCIL OF ALLISON, IOWA, ADOPTING THE CITY OF ALLISON, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Allison City Council recognizes the threat that natural hazards pose to people and property within Allison; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Allison served and participated in the formulation of the Plan, hereby known as the City of Allison, Iowa Hazard Mitigation Plan 2025 Update, as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Allison from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of Allison demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF ALLISON, IOWA, THAT:

Section 1: In accordance with local regulations, the Council adopts the City of Allison, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Allison may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Allison to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 10th day of March 2025.
Motioned by Heuer
Seconded by Henning
AYES: Bangaster, Gairy, Henning, Heuer, Mayor
ATTEST: MANS-NOVSE
Adrian M. Wegmann
City Clerk

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About

The City of Allison developed this Plan as part of the 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan update process. The 2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan is a sequential 5-year update to the previous document. Federal regulations regarding how local governments may receive funding from FEMA require that the specified jurisdiction (city, school district, county) have an approved hazard mitigation plan that is in good standing (updated and FEMA approved) to remain eligible for grant funding. This Plan was developed to meet the requirements in Title 44 CFR § 201.6.

Elected officials, city clerks, planners, first responders, and other stakeholders were invited to attend planning committee meetings as participants to learn about hazard mitigation and complete data gathering assignments. These assignments were submitted to the plan development coordinators: Butler County Emergency Management Agency (EMA) and Iowa Northland Regional Council of Government (INRCOG). Butler County's EMA initiated and funded this effort for all participating communities and contracted INRCOG to coordinate the plan development process with a multi-jurisdictional approach.

Participating communities included all ten (10) incorporated municipalities of Butler County. County staff participating in the committee were representing their respective County departments. School district superintendents for the public school districts attended and completed the data gathering assignments for their district communities. Four (4) committee

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.

meetings were held between October 1st and December 12th wherein each participant provided data and completed work sheets to develop their hazard mitigation plans.

The Benefits of Hazard Mitigation for Local Governments

For local governments, there are benefits in knowing how specific hazards may affect their communities, its potential to cause negative impacts, and develop pre-disaster actions or activities to lessen or avoid those anticipated negative impacts. Benefits include:

- ✓ An increased understanding of how natural and human caused hazards develop under certain conditions which may inform a level of magnitude or intensity.
- ✓ Take advantage of the opportunity to create more sustainable and disaster-resistant communities.
- ✓ Participating in this collaborative intergovernmental effort is cost effective for all participants.
- ✓ Using limited resources to address the threat from hazard events that may have the biggest impact on the community.
- ✓ Reducing or preventing damage to existing structures and reducing their subsequent repair costs.
- ✓ Identifying vulnerable populations to establish equitable outcomes.

- ✓ Hazard mitigation involves a commitment to long-term goals that focus on lessening or reducing negative impacts of natural, and human caused hazards.

The Planning Process

In order to reduce the threat of negative impacts from natural hazards, a risk informed approach was used in this planning process. A risk informed approach is a multi-step process. This Plan also involves collaboration among participants in the planning committee. The process involved learning the historical occurrence of when such hazards may have occurred in Butler County.

Participants in the Butler County Multi-Jurisdictional Hazard Mitigation Plan Planning Committee determined the level of risk facing their communities by completing a risk assessment. Data gathering by committee participants involved giving updates to existing mitigation activities by the local government.

Participants in the Plan followed a general 5 step process. (below)



Community Data Sources

Population data is based on 2020 decennial Census data. The 2022 American Community Survey 5-year estimates are the latest and most reliable survey data sets to understand what is taking place in the county and each city. Most counties, cities, and towns rely on 5-year estimates. Employment, workforce, and industry figures in this Plan are estimates that have a margin of error.

It is important to note that the ACS estimates used for rural communities will have a degree of uncertainty associated with them, called sampling error, because they are based on a sample. In general, the larger the sample, the smaller the level of sampling error. Rural communities tend to have smaller samples than larger cities, so the “margin of error”—a measure of the precision of an estimate at a given level of confidence—likely will be larger for rural areas.

Crash data along roadways within each jurisdiction is collected between the period of 2019 and 2023. Using a map tool interface, the data was taken at a city level and presented to understand incident severity, casualties, and property damage from reported accidents. Accident data is added to the site daily and accessible through an online website, <https://icat.iowadot.gov/>.

In the risk analysis section of this Plan, estimates of property loss are measured using mapping of hazardous zones. For the vulnerability risk assessment, flood prone homes were determined using the boundaries of the 100 year (1%) annual chance flood zone. The value of potential property loss was derived from the 2023 assessed dollar value of

structures and dwellings on affected parcels provided by the Butler County Assessor’s Office.



Allison Public Library, located just off Main Street

City Profile

Jurisdiction: City of Allison

County: Butler County

Population (2020): 966

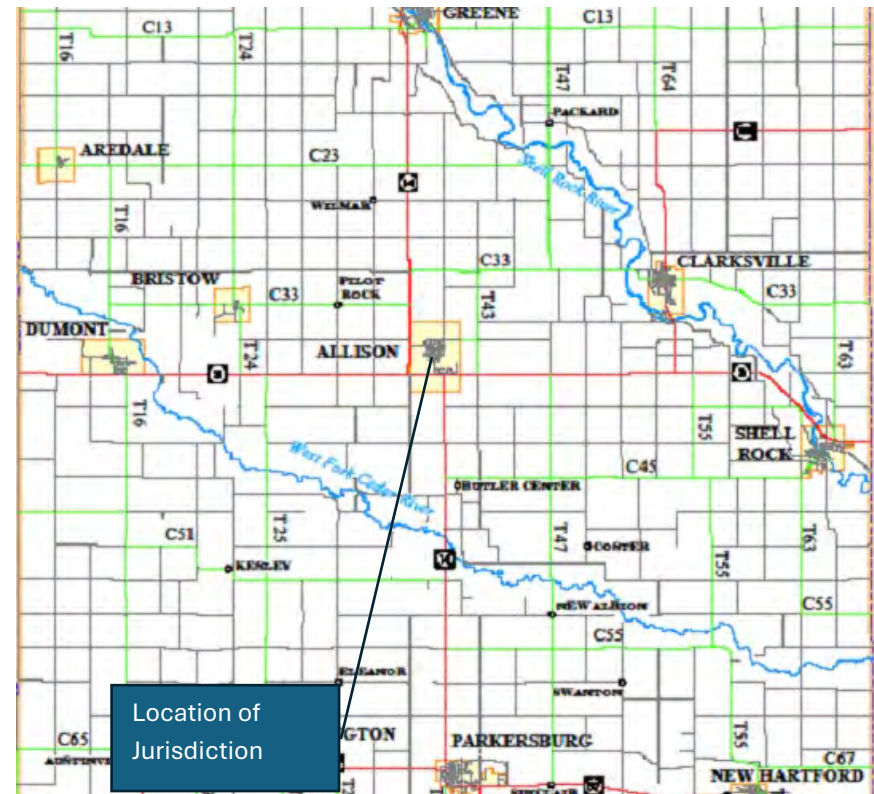
The City of Allison is in the center of Butler County. State Highway 3 and Highway 14 both run along Allison.

The following data presented in tables on the following page include population, employment, and industry sector data for the community based on 2020 Census data and 2022 American Community Survey 5-year Estimates.

In 2020, the city's population was 966 and 99% were White with the median age is 45.3. Working aged residents (15-60 years) made up 58% of the population. Children and teens (younger than 15 years) made up 10.7% of Allison's population while older adults (older than 65 years) made up 26.1%.

The median household income in 2022 was \$61,458. The unemployment rate was 0.4%. Most people commute to work, and 10 people, or 2% of the workforce, work from home. The top three largest industry sectors in Allison are as follows (in order from highest to lowest): 1) Manufacturing; 2) Construction, and 3) Retail Trade.

Figure 1: Map of Butler County



2025 Allison Hazard Mitigation Plan

Table 1: Population Data (2020)		
City of Allison		
	Total	% of Population
Total population	966	100%
AGE		
Under 5 years	37	3.8%
5 to 9 years	11	1.1%
10 to 14 years	57	5.8%
15 to 19 years	75	7.7%
20 to 24 years	58	5.9%
25 to 29 years	67	6.8%
30 to 34 years	57	5.8%
35 to 39 years	64	6.5%
40 to 44 years	62	6.3%
45 to 49 years	76	7.8%
50 to 54 years	48	4.9%
55 to 59 years	60	6.1%
60 to 64 years	52	5.3%
65 to 69 years	53	5.4%
70 to 74 years	57	5.8%
75 to 79 years	49	5.0%
80 to 84 years	35	3.6%
85 years and over	62	6.3%
Median Age	45.3	-
RACE		
White	946	99.6%
Black or African American	4	0.4%
Hispanic or Latino (of any race)	0	0.0%
American Indian and Alaska Native	1	0.1%
Asian	0	0.0%
Native Hawaiian/Other Pacific Islander	0	0.0%
Some Other Race	0	0.0%
Two or More Races	1	0.1%

Source: 2020 Census, 2022 ACS 5-Yr Estimates

Table 2: Employment Data (2022)		
City of Allison		
	Value	% of Population
Median Household Income	\$61,458	-
Unemployment Rate (2022)	0.40%	-
Workers that commute to work	487	99%
Workforce that works from home	10	2%

Source: 2022 American Community Survey 5-Yr Estimates

Table 3: Employment Industry Data (2022)		
City of Allison		
Workforce Industry	# of Workers	% of Workforce
Workforce	500	100%
Agriculture, forestry, fishing and hunting, and mining	31	6.2%
Construction	76	15.3%
Manufacturing	100	20.1%
Wholesale trade	22	4.4%
Retail trade	54	10.9%
Transportation -warehousing, utilities	14	2.8%
Information	3	0.6%
Finance and insurance, and real estate and rental and leasing	32	6.4%
Professional, scientific, and management, and administrative and waste management services	16	3.2%
Educational services, and health care and social assistance	107	21.5%
Arts, entertainment, and recreation, and accommodation and food services	9	1.8%
Other services, except public administration	10	2.0%
Public administration	23	4.6%

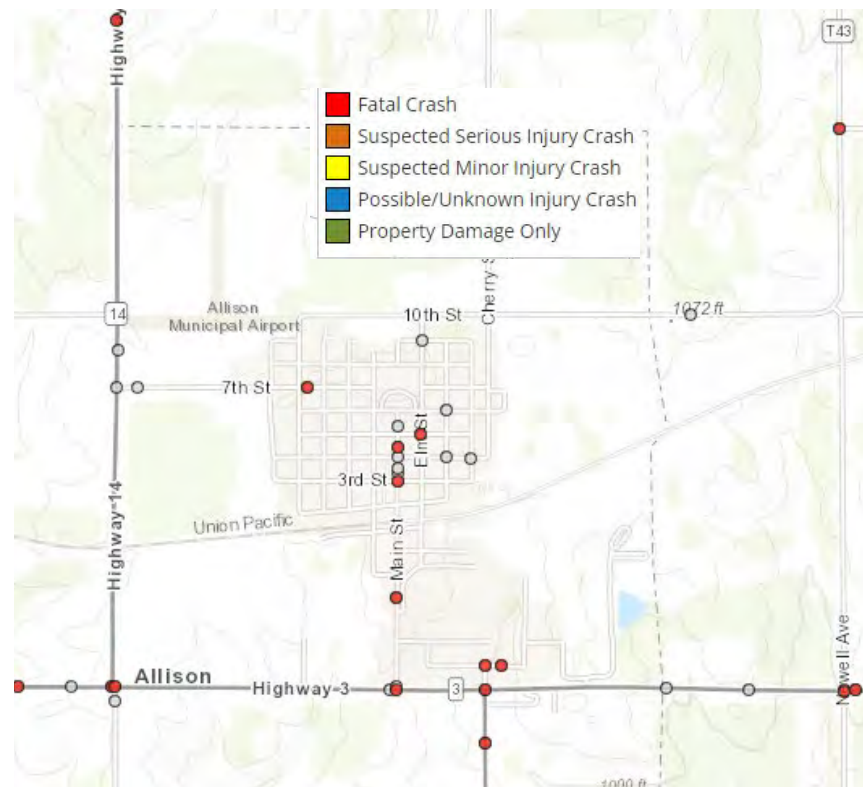
Source: 2022 American Community Survey 5-Yr Estimates

Highway Traffic and Crash Data

Based on Iowa DOT crash data, between 2019 and 2024 there have been 6 incidents. Of those incidents, 5 incidents were property damage only, resulting in \$45,000 in total damages. No fatalities or crashes with severely injured persons were reported.

Table 4: Crash Data from 2019-2024	
Total Crashes	6
Crash Severity	
Fatal	0
Suspected Serious Injury	0
Suspected Minor Injury	1
Unknown	0
Property Damage Only	5
Property Damage Total	\$45,000
<i>Source: Iowa DOT Crash Data</i>	

Figure 2: Iowa Crash Analysis for All Traffic Incidents (2019-2024)



Source: Iowa DOT

Housing Data

The City of Allison has 437 occupied housing units. Nearly 83% of them are single family detaching housing. There are 0 housing units that are mobile homes or other types of housing. There are no duplex apartments. 16.5% are multifamily (greater than 2 units).

A large portion of the housing stock was built between 1960-79 (28.4%). About 71.4% of the housing stock was built prior to 1980. Most homes heat their units with gas (66.4%).

Community Utility Providers

MidAmerican Energy provides utility electric services and natural gas service. Dumont Telephone provides telephone services and broadband internet services. Residents receive water, sewer, and recycling collection services from the city.

Table 6: Utility Providers	
City of Allison	
Electric	MidAmerican Energy
Natural Gas	MidAmerican Energy
Telephone/Internet	Dumont Telephone
Cable TV	Dumont Telephone
Water Services	City of Allison
Sewer Services	City of Allison
Sanitation	City of Allison

Table 5: Housing Data (2022)		
City of Allison		
	Total	% of Occupied Units
Occupied housing units	437	100%
Housing Unit Type		
1, detached	362	82.8%
1, attached	3	0.7%
2 apartments	0	0.0%
3 or more apartments	72	16.5%
Mobile home or other type of housing	0	2%
Year Structure Built		
2020 or later	0	0%
2010 to 2019	7	1.6%
2000 to 2009	59	13.5%
1980 to 1999	59	13.5%
1960 to 1979	124	28.4%
1940 to 1959	90	20.6%
1939 or earlier	98	22.4%
House Heating Fuel		
	Total	% of Occupied Units
Utility gas	289	66.1%
Bottled, tank, or LP gas	14	3.2%
Electricity	128	29.3%
Fuel oil, kerosene, etc.	0	0%
Coal or coke	0	0%
All other fuels	4	0.9%
No fuel used	2	0.5%

Source: 2022 American Community Survey 5-Year Estimates

Vulnerable Assets

People

Vulnerability to hazard losses increases where there are larger concentrations of people. In towns where population density increases, the number of people that can be harmed during a hazard event (tornado, flood, etc.) increases. In addition, there are segments of the population that may be more susceptible to impacts and/or harm from a hazard depending on their location within the area (i.e. flood zone or near industrial plants with hazardous materials). This includes underserved or socially vulnerable populations.

Vulnerable Age Groups

Both younger and older aged groups are likely to require assistance with physically moving to shelters or finding safety. Elderly residents may not have a personal vehicle to move away from a hazard quickly. Cognitive impairments among older adults may cause some to get easily confused.

Households Facing Poverty or With Limited Income

Families or older adults living at, near, or below poverty are more likely to be impacted by hazards than other households with higher incomes. The costly repairs from a tornado or derecho for a low-income household may be more adversely affected than another household that has the same damage but may be able to afford the repairs without much change to their lifestyles or needs. That disparity is also different during extreme weather events such as heat waves. Low-income households may not be able to afford the electricity to run air conditioning and many may face

complications that involve heat stroke, fatigue, or death due to their age (infants or the infirm) and health conditions (obesity, heart conditions, diabetes).

Allison's Vulnerable Populations

In Allison, 14.7% (or 137 out of 932) of individuals are below the poverty level. About 38.2% (697) of occupied households have elderly occupants (60 years and over). About 12.1% of occupied households have elderly residents (65 years and over) living alone.

Most residents have access to a vehicle, however an estimate of 6.7% (28) households have no access to a vehicle. Nearly 28 of those households without a vehicle are renters. Nearly 15% of households have a person living with a disability. This is broadly defined from the data estimates for Allison. However, persons with mobility disabilities may be at a higher risk than others especially during unexpected natural disasters where accessibility is not always guaranteed to shelter.

Manufactured homes are unsafe in a tornado. Fatality rates are significantly higher than sturdy buildings. An alternative shelter should be identified prior to a tornado watch or warning. In 2022, there are about 0 mobile homes estimated in Allison.

Allison has none of its population in institutionalized quarters.

Critical Facilities

Water Supply

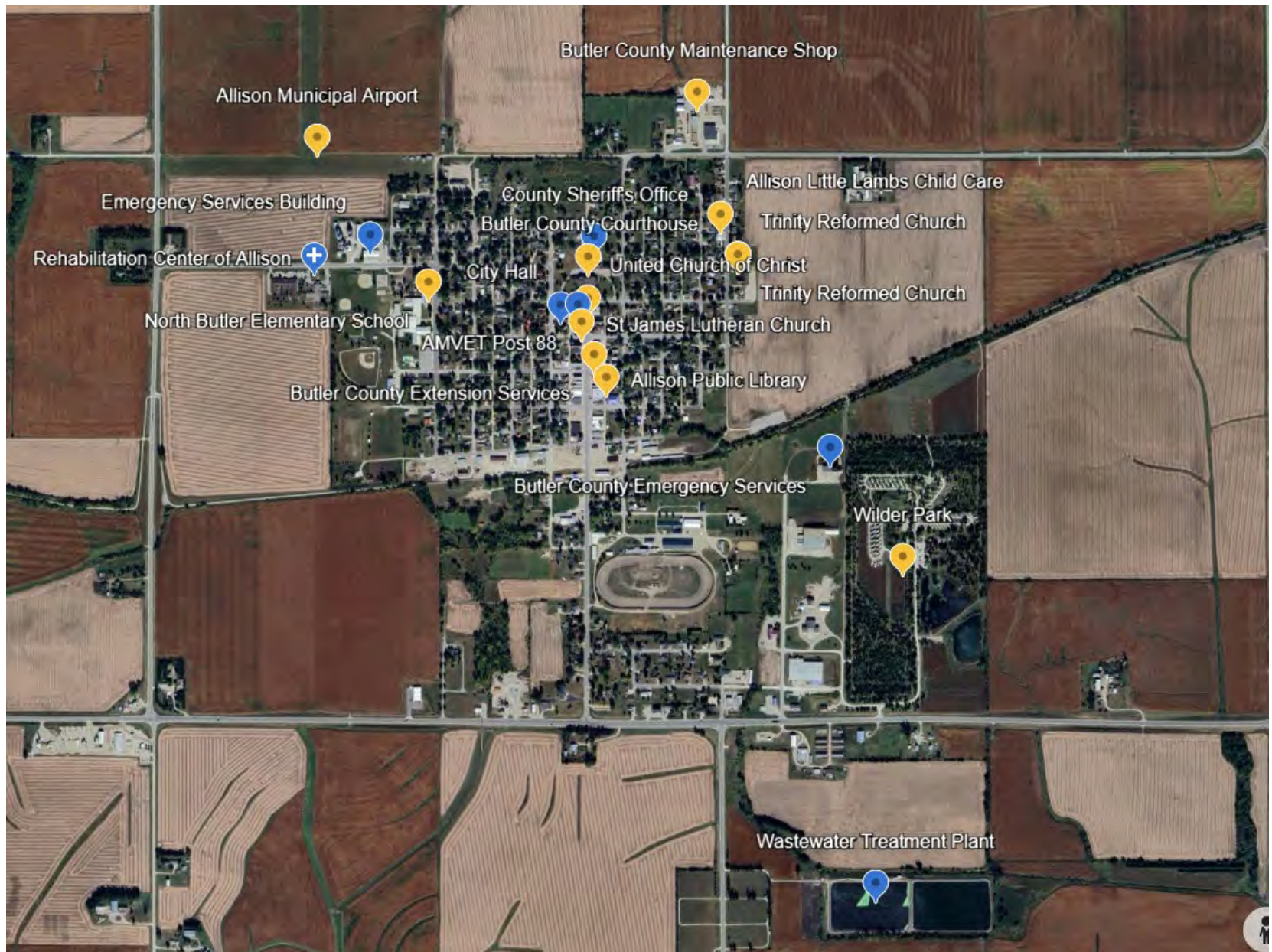
The City of Allison has a municipal water supply that services approximately 406 water meters. The community's water is sourced from two wells located within the city. These wells have a combined production capacity of approximately 500 gallons of water per minute. In addition to structures that use the municipal water supply, there are some housing units that obtain their water from individually drilled wells. The City has an elevated water tower with a total capacity of 400,000 gallons. Typical daily water usage is around 115,000 gallons per day, with just over 40 million gallons used annually. The water is treated with chlorine at well sites to ensure its quality.

Wastewater Treatment Plant and Lift Stations

The City of Allison operates a Wastewater Treatment Facility designed to treat municipal wastewater. The wastewater is collected through approximately 10 miles of sewer lines and two lift stations. The current wastewater treatment plant was constructed in the early 1980s and utilizes a lagoon-based treatment system. Allison continues to maintain and upgrade the system to meet environmental standards and ensure it can support the needs of residents and future economic development. The city periodically reviews its wastewater infrastructure to ensure long-term efficiency and compliance with regulatory requirements.

In the next 20 years, Allison is likely to see a steady population. The existing water plant and wastewater treatment lagoons have the capacity to manage slow steady growth. Future hazard mitigation efforts will note additional facilities related to the assets here shown within the vulnerability assessment.

Figure 3: Critical Facilities



Measuring Vulnerability to Selected Hazards

Tornado Hazard

Although there is no recent history of tornadoes in Allison, the city remains vulnerable.

All buildings in Allison are prone to being damaged by a tornado. Therefore, the vulnerability of the community was determined by the assessed valuation of all buildings and dwellings on all parcels within the city’s limits.

Using the assessed value from December 2023, the valuation of all 679 parcels in the City of Allison is \$67,363,530 based on Butler County assessor data. The City of Allison has a potential property loss of \$58,331,420 from a tornado disaster.

Table 7: Valuation of All Parcels in City of Allison (2023)	
Percent of City at Risk of a Tornado	100%
# of Parcels	679
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$58,331,420
Source: Butler County Assessor’s Office	

Flood Prone Areas

The potential property losses of structures prone to flooding was calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

Assessing the community’s vulnerability to losses from tornado and flood hazards is determined with county assessor data. The potential property losses of structures prone to flooding was calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

In Figures 4 and 5, the flood plain map shows the 1% annual chance of flooding in and around the City of Allison. The river basin is depicted in the topography shown on the map.

The parcels that are impacted with the 1% annual chance of flood are highlighted in Figure 6. There are 2 parcels within Allison that are potentially affected. The value of all buildings and dwellings on the affected parcels is \$0 based on the latest Butler County assessor information. This covers 0.28% of the city’s total parcels.

Table 8: Potential Property Losses from the 1% Annual Chance Flood	
Percent of City Affected	0.28%
# of Parcels	2
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$0
Source: Butler County Assessor’s Office	

Figure 4: Flood Plain Map

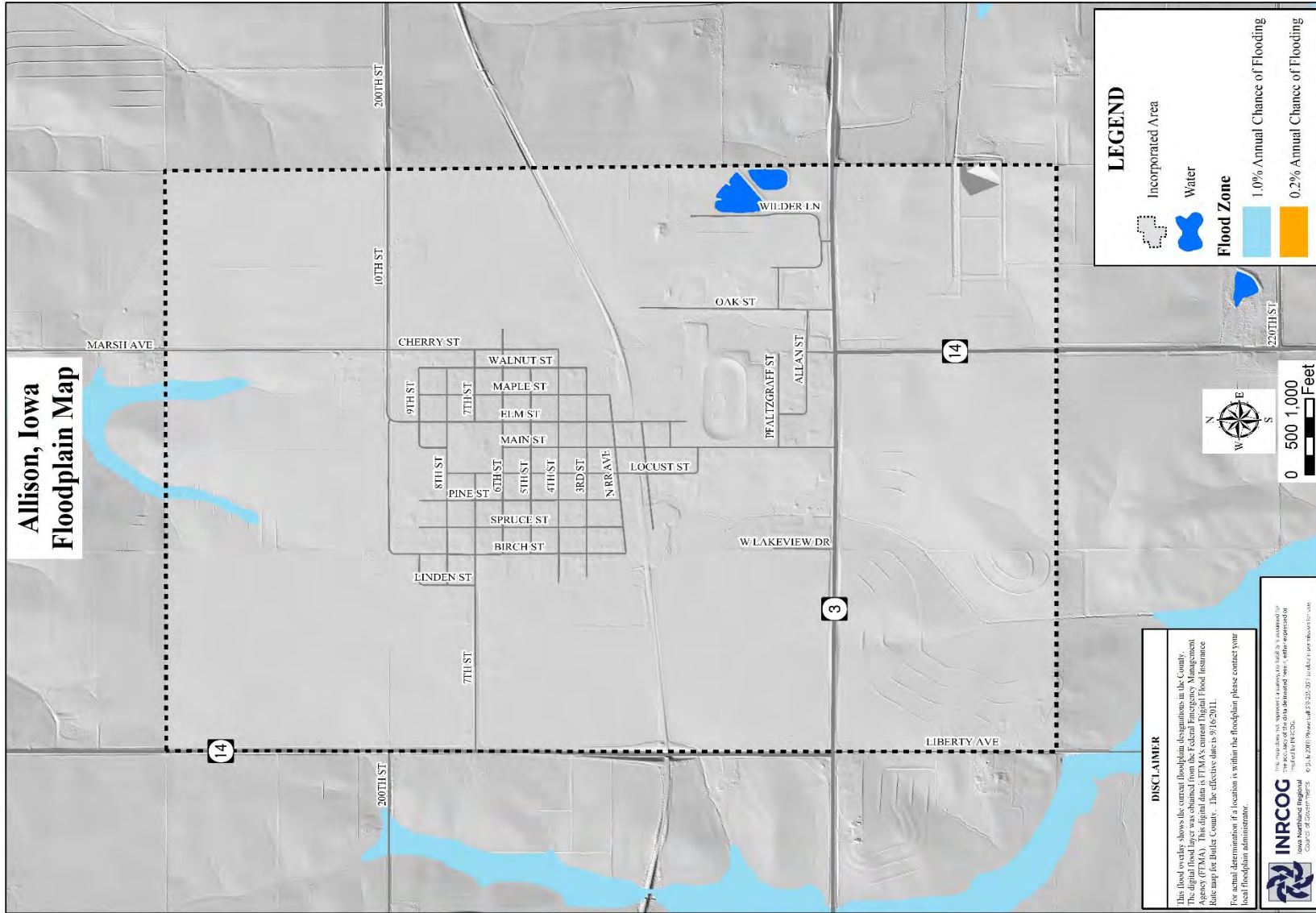
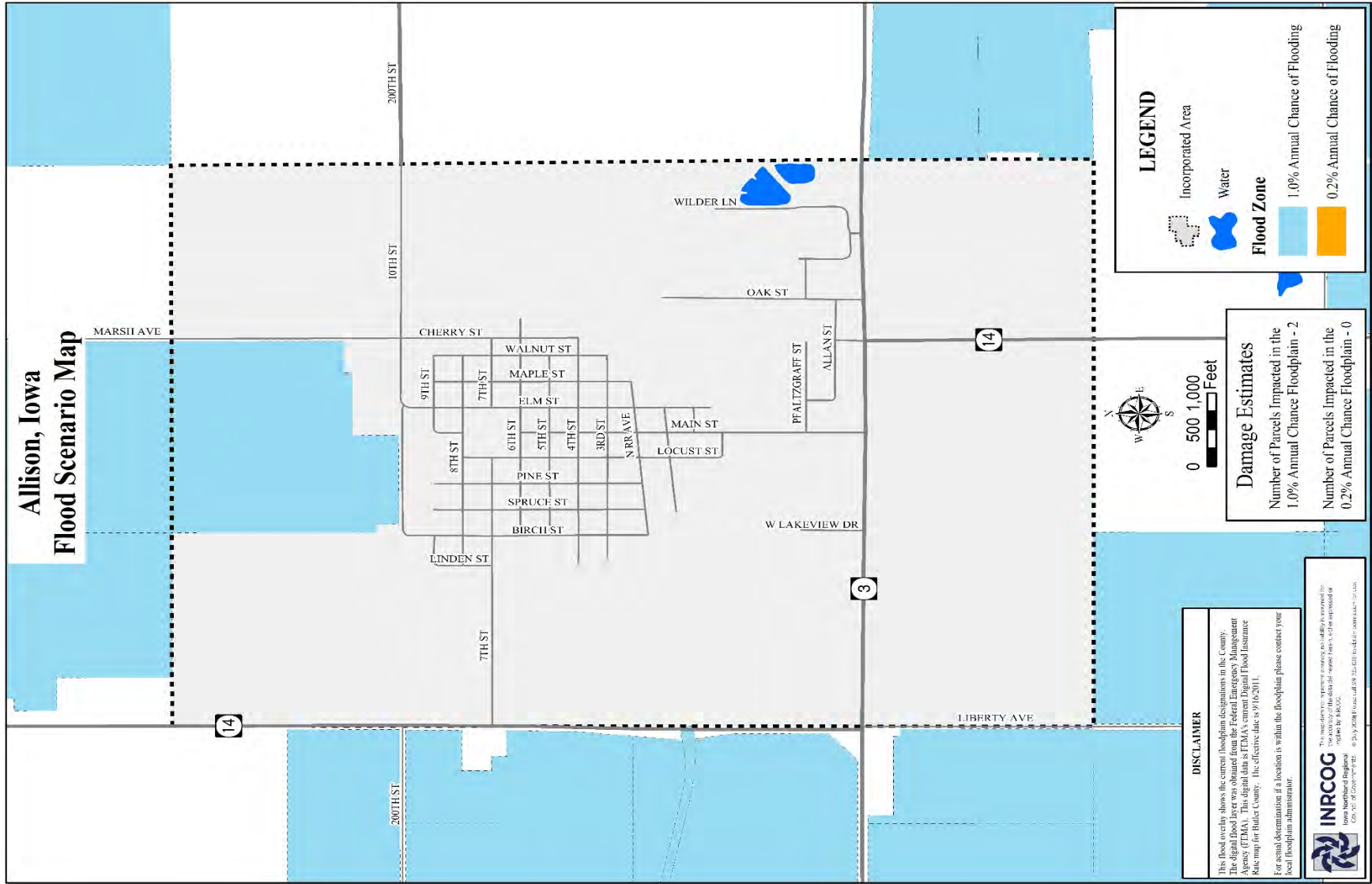


Figure 5: Flood Scenario Map



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.

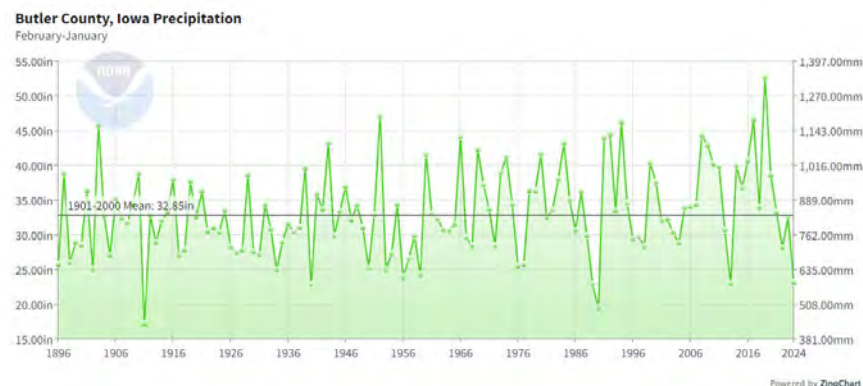
Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section.¹ The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use,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

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

Annual Precipitation Levels in Butler County

Taking the monthly precipitation records from January to December between 1895 and 2024 is shown in Figure 6. The values hover between 20 - 50 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 6. The trend shows a growing level of annual precipitation on average of 32.80 inches. Based on this historical trend, precipitation is likely to continue to increase in the coming years.

Figure 6: Historical Precipitation Data and Trend for Butler County, Iowa²



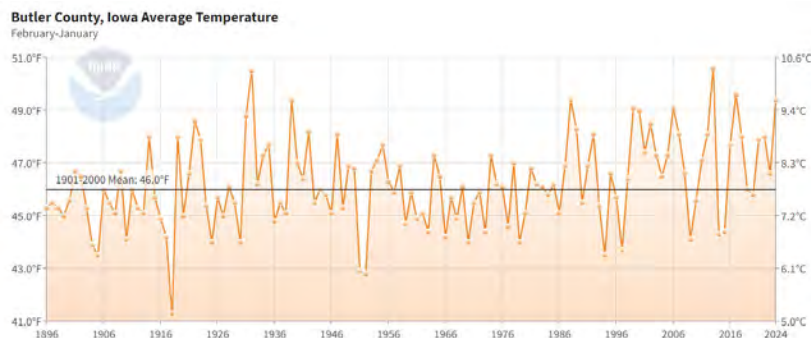
Average Annual Temperatures in Butler County

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

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 7: Historical Temperature Data and Trend for Butler 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 evaporate 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 more frequently 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 Butler County

- Prologued drought may occur as the atmosphere holds more moisture (even pulling moisture from plants) as the temperature increases. Longer periods between weather events mean 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. 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.

National Flood Insurance Program

The City of Allison does not actively participate in the National Flood Insurance Program (NFIP). The City does not participate in the NFIP because there are no structures within the city that fall into the Special Flood Hazard Area. The current effective FIRM map date is December 17, 2020. Butler County participates in the NFIP and its effective map date is December 17, 2020.

FEMA defines a repetitive loss property as an insurable building that has experienced two losses in a 10-year period in which each loss is \$1,000 or more. There are 0 reported repetitive loss properties.

Hazard Risk Assessment

The top three hazards from the risk assessment are:

1. Extreme Heat
2. Severe Winter Storms
3. Drought



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 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 Allison are located below.

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.
Scores with a value Of 0 <u>No Presumed Risk</u>	The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

2025 Allison Hazard Mitigation Plan

Probability

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

Probability Score Definitions		
Score	Description	
1	Unlikely	<i>Less than 10% 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.</i>
2	Occasional	<i>Between 10% and 20% 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.</i>
3	Likely	<i>Between 20% and 33% 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.</i>
4	Highly Likely	<i>More than 33% 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.</i>

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.

2025 Allison Hazard Mitigation Plan

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 city 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

Table 10: Hazard Risk Assessment					
Hazards	Probability	Magnitude	Warning Time	Duration	Score
Extreme Heat	3	3	4	4	3.25
Severe Winter Storm	4	2	1	3	2.85
Drought	3	2	1	4	2.5
Thunderstorm/Lightning/Hail	4	1	1	1	2.35
Grass/Wild Land Fire	2	1	4	2	2
Animal/Crop/Plant Disease	1	1	4	4	1.75
Pandemic Human Disease	1	1	4	4	1.75
Sinkholes	1	1	4	1	1.45
Tornado/Windstorm	1	1	4	1	1.45
Hazardous Materials	1	1	4	1	1.45
Infrastructure Failure	1	1	4	1	1.45
Radiological Incident	1	1	4	1	1.45
Terrorism	1	1	4	1	1.45
Transportation Incident	1	1	4	1	1.45
Flash Flood	1	1	3	1	1.3
Expansive Soils	1	1	1	1	1
Earthquake*	0	0	0	0	0
Landslides*	0	0	0	0	0
Levee/Dam Failure*	0	0	0	0	0
River Flood*	0	0	0	0	0

Source: Completed by City Representative. Calculated score completed by INRCOG.

* The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

Hazard Mitigation Goals

in Allison, Iowa

The following list of goals was developed by planning committee participants from the associated jurisdiction. Goals 1 through 7 were developed in the previous 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan. The planning committee participants chose to adopt the same goals and add additional goals after review.

- Goal #1** Minimize to the greatest possible extent the number of injuries and/or loss of life associated with all identified hazards.
- Goal #2** Reduce or eliminate property damage due to the occurrence of disasters.
- Goal #3** Improve response operations in the event of a disaster.
- Goal #4** Return the community to either a pre-disaster or improved conditions in a timely manner in the wake of a disaster.
- Goal #5** Develop strategies that can be used to reduce the community's overall risk to the negative effects of natural, technological, and man-made disasters.
- Goal #6** Reconvene the planning committee annually to review the plan document, check for compliance with the plan goals, and track progress in achieving the mitigation strategies.
- Goal #7** Maintain the Countywide Multi-Jurisdictional format for future updates.

Previous 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 Allison

Butler County Emergency Management Agency

Allison works with the Butler County Emergency Management Coordinator, based out of the City of Allison, 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 Butler County Emergency Management Coordinator is Chris Showalter.

Law Enforcement

Allison contracts with the Butler County Sheriff's Department to provide law enforcement services. The Sheriff's Department is located in Allison at 428 6th Street. They handle a range of essential services, including routine patrols, emergency response, and criminal investigations.

Fire Protection and EMS Services

Fire protection for the City of Allison is provided by the Allison Fire Department. The station is located at 1002 7th Street in Allison, IA. There are 23 volunteer fire fighters that serve in the department currently. Each of the members is

HAZMAT certified Firefighter 1 trained. There are several members that have Firefighter 2 training, and others with driver/operator training. Dispatch is provided via a paging system called I Am Responding app that is accessible through a phone app.

The Allison Fire Department maintains 28E agreements with surrounding communities to provide additional support when needed and required.

Equipment used by the Allison Fire Department includes the following:

- Jaws of life
- Hydraulic pumps
- Fire trucks
- Rescue pumper
- Top Kick

EMS Services

Butler County EMS represents all 8 of the EMS service in the County. Butler County Board of Supervisors deemed EMS an Essential Service for the County according to Iowa Code Chapter 422D and recently hired an EMS Coordinator to provide coverage and support for EMS services within the county.

2025 Allison Hazard Mitigation Plan

Medical Facilities

The City of Allison does not have any medical clinics.

The Waverly Health Center in Waverly is located approximately 18 miles east and the Franklin General Hospital in Hampton is located approximately 21 miles west.

HAZMAT Response Teams

Allison 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 hazard 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 the containment of the site and disposal of hazardous chemicals.

Warning Systems in Allison

1. Tornado Sirens

Allison has purchased a new tornado warning siren system as of 2022 with a 30-year life use.

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

2) Alert Iowa Mass Communication System

Butler County has implemented the use of Alert Iowa, a mass communication notification system. The system features are controlled through the Butler 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. There is an optional way to receive the same alert for events such as: excessive heat warnings, hazardous materials warnings, heavy snow warning, high wind warnings, ice storm warnings, law enforcement warnings, shelter in place

2025 Allison Hazard Mitigation Plan

warnings, sleet warnings, wind chill warnings, and winter storm warnings.

Public Works/Street Department

The Public Works Department is located at City Hall at 410 N Main Street.

Education and Outreach Projects in Allison

Allison currently has in place E911 Emergency Assistance. Other communications used by city personnel include pagers, radios, and cellular telephones. Radio, television, cellular telephones, landline telephones, newspapers, warning sirens, and NOAA Radio Service are available to the public at large. The City has developed a website in order to keep its citizens, and other interested parties, aware of local and government affairs. The website address is <https://www.cityofallisonia.gov/>. The City also has a social media account for local notifications and updates.

The City partners with KLMJ 104.9 for radio announcements.

Natural Resource Protection in Allison

Allsion does not have any natural resources protection actions.

Structural Projects in Allison

The City has been in the process of upgrading its wastewater treatment plant. It is currently under construction and is expected to be completed shortly.

Local Plans and Regulations in Allison

Allison completed a local plan and regulation assessment. The results are shown in the following table.

Table 11: Local Regulatory Capability Assessment	
Community	City of Allison
Previous HMP Participant?	Yes
Comprehensive Plan?	Yes
Building Code?	No
Zoning Ordinance? RR=restricted residential	Yes - RR
Subdivision Regulations?	No
Floodplain Management Ordinance?	No
Tree-Trimming Ordinance?	Yes
Storm Water Ordinance?	Yes
Snow Removal Ordinance?	Yes

Timeframe	Description
Immediate	1 - 6 months
Short Term	1-3 years
Mid-Term	3-5 Years
Long-Term	More than 5 Years

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

How to Use the Implementation Guide in this Plan

Notes about the tasks (listed as line items) on the tables on the following pages.

- 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 the City’s 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 & 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. The time frame to complete the column is based on four designations (see table to the left).

Strategic Implementation Guide for Hazard Mitigation Activities

Table 12: '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	Update City Website to include disaster mitigation and preparedness resources and education for citizens.	All	City Clerk, Website Consultant	Mid-Term	Minimal	City General Fund
Medium	Educate the public on the use of water during extreme heat and drought conditions.	Extreme Heat, Drought	City Clerk, Public Works	Mid-Term	Minimal	City General Fund
Medium	Encourage citizens to conduct hazard vulnerability assessments.	All	City Clerk	Mid-Term	Minimal	City General Fund

Table 13: 'Emergency Services' Type Mitigation Activities						
Description: Actions that protect people and property during and immediately after a disaster or hazard event.						
<i>Priority</i>	<i>Tasks</i>	<i>Hazard(s)</i>	<i>Primary Agency Responsible for Implementation</i>	<i>Time Frame to Complete</i>	<i>Estimated Cost (s)</i>	<i>Funding Source</i>
High	Increase support, training, and recruitment for emergency services volunteers.	All	City Council, Emergency Services, Butler EMS	Short-Term	Moderate	City General Fund
High	Update aging Fire and EMS equipment as necessary.	All	City Council	Mid-Term	High	City General Fund; FEMA AFG Grants
Medium	Identify the most at-risk critical facilities and evaluate potential mitigation techniques.	All, Radiological Incidents	City Council, Emergency Services, Butler EMS	Short-Term	Moderate	City General Fund

Table 14: 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	Replace and repair storm sewer systems including curb and gutters to ensure proper flow and discharge.	Flash Flooding, Thunderstorm, Severe Winter Storms	City Council	Mid-Term	High	City General Fund, SRF, Stormwater Improvement Grants
High	Add additional safe rooms for public use.	Tornado/Windstorm	City Council	Mid-Term	High	City General Fund, Hazard Mitigation Grant
Low	Partner with local utilities to bury utilities to ensure continued service in the event of a hazard.	Tornado/Windstorm, Thunderstorm, Severe Winter Storm	City Council, Local Utilities	Mid-Term	High	City General Fund, Hazard Mitigation Grant

Table 15: 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	Maintain native vegetation and seeding to prevent and reduce soil erosion, improve stormwater management, and support ecosystem stability.	Sinkholes, Expansive Soils, Crop Disease, Grass/Wildfire	City Council, Park Conservation	Immediate	Minimal	City General Fund
Medium	Ensure native prairie system is maintained through controlled management processes.	Wildfire, Crop Disease	City Council, Park Conservation	Immediate	Minimal	City General Fund
High	Maintain mosquito spraying program to prevent disease.	Pandemic Human Disease	City Council, Public Works	Immediate	Minimal	City General Fund

Table 16: Local Plans and Regulations Mitigation Activities						
Description: Actions by administrative or regulatory processes which direct how land and buildings are developed and built. These actions include regulations by public entities to reduce hazard losses.						
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	Update Urban Renewal Plan to increase funding for infrastructure improvements.	Drought, Infrastructure Failure	City Council, City Clerk	Immediate	Moderate	City General Fund
High	Develop, enforce, and update (as needed) local ordinances and regulations to prevent the impact of hazards.	Drought, Extreme Heat, Severe Winter Storms, Thunderstorms, Hazardous Materials, Windstorms, Transportation Incidents	City Council	Mid-Term	Moderate	City General Fund

City of Aplington, Iowa

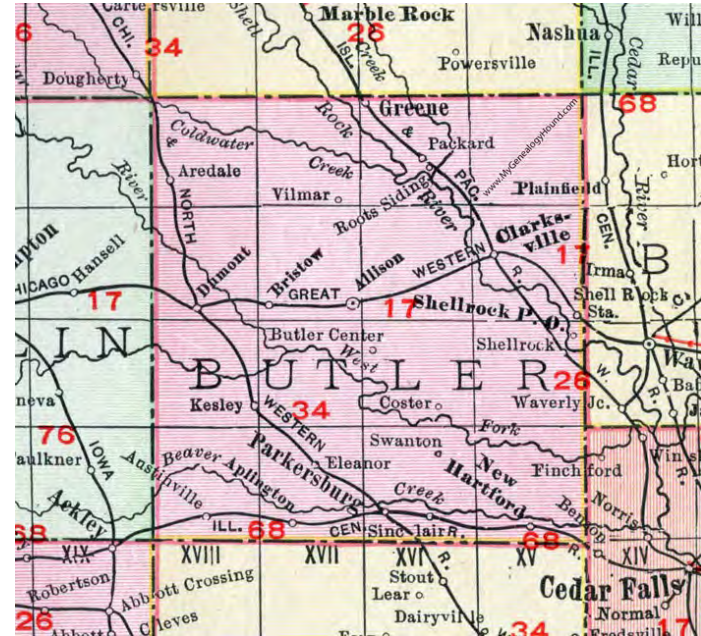
Hazard Mitigation Plan 2025 Update

Appendix B of Butler County Multi-Jurisdictional Hazard Mitigation Plan

Funded by the Butler County Emergency
Management Agency

Prepared by Iowa Northland Regional Council
of Governments (INRCOG)

January 2025



INRCOG
Iowa Northland Regional
Council of Governments

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Adopting Resolution by Aplington City Council

Resolution 548-25

A RESOLUTION OF THE CITY COUNCIL OF APLINGTON, IOWA, ADOPTING THE CITY OF APLINGTON, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Aplington City Council recognizes the threat that natural hazards pose to people and property within Aplington; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Aplington served and participated in the formulation of the Plan, hereby known as the City of Aplington, Iowa Hazard Mitigation Plan 2025 Update, as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Aplington from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of Aplington demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF APLINGTON, IOWA, THAT:

Section 1: In accordance with local regulations, the Council adopts the City of Aplington, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Aplington may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Aplington to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 12th day of February 2025.

ATTEST:

City Clerk


Mayor

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2025 Aplington Hazard Mitigation Plan

About

The City of Aplington developed this Plan as part of the 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan update process. The 2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan is a sequential 5-year update to the previous document. Federal regulations regarding how local governments may receive funding from FEMA require that the specified jurisdiction (city, school district, county) have an approved hazard mitigation plan that is in good standing (updated and FEMA approved) to remain eligible for grant funding. This Plan was developed to meet the requirements in Title 44 CFR § 201.6.

Elected officials, city clerks, planners, first responders, and other stakeholders were invited to attend planning committee meetings as participants to learn about hazard mitigation and complete data gathering assignments. These assignments were submitted to the plan development coordinators: Butler County Emergency Management Agency (EMA) and Iowa Northland Regional Council of Government (INRCOG). Butler County's EMA initiated and funded this effort for all participating communities and contracted INRCOG to coordinate the plan development process with a multi-jurisdictional approach.

Participating communities included all ten (10) incorporated municipalities of Butler County. County staff participating in the committee were representing their respective County departments. School district superintendents for five public school districts attended and completed the data gathering assignments for their district communities. Four (4) committee

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.

meetings were held between October 1st and December 12th wherein each participant provided data and completed work sheets to develop their hazard mitigation plans.

The Benefits of Hazard Mitigation for Local Governments

For local governments, there are benefits in knowing how specific hazards may affect their communities, their potential to cause negative impacts, and developing pre-disaster actions or activities to lessen or avoid those anticipated negative impacts. Benefits include:

- ✓ An increased understanding of how natural and human caused hazards develop under certain conditions which may inform a level of magnitude or intensity.
- ✓ Take advantage of the opportunity to create more sustainable and disaster-resistant communities.
- ✓ Participating in this collaborative intergovernmental effort is cost effective for all participants.
- ✓ Using limited resources to address the threat from hazard events that may have the biggest impact on the community.
- ✓ Reducing or preventing damage to existing structures and reducing their subsequent repair costs.
- ✓ Identifying vulnerable populations to establish equitable outcomes.

- ✓ Hazard mitigation involves a commitment to long-term goals that focus on lessening or reducing negative impacts of natural, and human caused hazards.

The Planning Process

In order to reduce the threat of negative impacts from natural hazards, a risk informed approach was used in this planning process. A risk informed approach is a multi-step process. This Plan also involves collaboration among participants in the planning committee. The process involved learning the historical occurrence of when such hazards may have occurred in Butler County.

Participants in the Butler County Multi-Jurisdictional Hazard Mitigation Plan Planning Committee determined the level of risk facing their communities by completing a risk assessment. Data gathering by committee participants involved giving updates to existing mitigation activities by the local government.

Participants in the Plan followed a general 5 step process. (below)



2025 Aplington Hazard Mitigation Plan

Community Data Sources

Population data is based on 2020 decennial Census data. The 2022 American Community Survey 5-year estimates are the latest and most reliable survey data sets to understand what is taking place in the county and each city. Most counties, cities, and towns rely on 5-year estimates. Employment, workforce, and industry figures in this Plan are estimates that have a margin of error.

It is important to note that the ACS estimates used for rural communities will have a degree of uncertainty associated with them, called sampling error, because they are based on a sample. In general, the larger the sample, the smaller the level of sampling error. Rural communities tend to have smaller samples than larger cities, so the “margin of error”—a measure of the precision of an estimate at a given level of confidence—likely will be larger for rural areas.

Crash data along roadways within each jurisdiction is collected between the period of 2019 and 2023. Using a map tool interface, the data was taken at a city level and presented to understand incident severity, casualties, and property damage from reported accidents. Accident data is added to the site daily and accessible through an online website, <https://icat.iowadot.gov/>.

In the risk analysis section of this Plan, estimates of property loss are measured using mapping of hazardous zones. For the vulnerability risk assessment, flood prone homes were determined using the boundaries of the 100 year (1%) annual chance flood zone. The value of potential property loss was derived from the 2023 assessed dollar value of

structures and dwellings on affected parcels provided by the Butler County Assessor’s Office.



Downtown Aplington

City Profile

Jurisdiction: City of Aplington

County: Butler County

Population (2020): 1,116

The City of Aplington is located in the southwest corner of Butler County. State Highway 57 runs east to west through Aplington.

The following data presented in tables on the following page include population, employment, and industry sector data for the community based on 2020 Census data and 2022 American Community Survey 5-year Estimates.

In 2020, the city's population was 1,116 and 99% were White with the median age is 37.4. Working aged residents (15-60 years) made up 49% of the population. Children and teens (younger than 15 years) made up 23% of Aplington's population while older adults (older than 65 years) made up 20.6%.

The median household income in 2022 was \$66,625. The unemployment rate was 1.1%. Most people commute to work, and 34 people, or 7.6% of the workforce, work from home. The top three largest industry sectors in Aplington are as follows (in order from highest to lowest): 1) Education services, and health care and social assistance; 2) Manufacturing, and 3) Retail Trade.

Figure 1: Map of Butler County



2025 Aplington Hazard Mitigation Plan

Table 1: Population Data (2020)		
City of Aplington		
	Total	% of Population
Total population	907	100%
AGE		
Under 5 years	99	10.9%
5 to 9 years	42	4.6%
10 to 14 years	68	7.5%
15 to 19 years	50	5.5%
20 to 24 years	34	3.7%
25 to 29 years	45	5.0%
30 to 34 years	87	9.6%
35 to 39 years	34	3.7%
40 to 44 years	49	5.4%
45 to 49 years	20	2.2%
50 to 54 years	49	5.4%
55 to 59 years	79	8.7%
60 to 64 years	64	7.1%
65 to 69 years	32	3.5%
70 to 74 years	46	5.1%
75 to 79 years	56	6.2%
80 to 84 years	15	1.7%
85 years and over	38	4.2%
Median Age	37.4	-
RACE		
White	901	99.3%
Black or African American	1	0.1%
Hispanic or Latino (of any race)	8	0.9%
American Indian and Alaska Native	29	3.2%
Asian	5	0.6%
Native Hawaiian/Other Pacific Islander	0	0.0%
Some Other Race	0	0.0%
Two or More Races	29	3.2%

Source: 2020 Census, 2022 ACS 5-Yr Estimates

Table 2: Employment Data (2022)		
City of Aplington		
	Value	% of Population
Median Household Income	\$66,625	-
Unemployment Rate (2022)	1.1%	-
Workers that commute to work	446	86.1%
Workforce that works from home	34	7.6%

Source: 2022 American Community Survey 5-Yr Estimates

Table 3: Employment Industry Data (2022)		
City of Aplington		
Workforce Industry	# of Workers	% of Workforce
Workforce	449	100%
Agriculture, forestry, fishing and hunting, and mining	24	5.3%
Construction	24	5.3%
Manufacturing	82	18.3%
Wholesale trade	11	2.4%
Retail trade	55	12.2%
Transportation -warehousing, utilities	15	3.3%
Information	10	2.2%
Finance and insurance, and real estate and rental and leasing	38	8.5%
Professional, scientific, and management, and administrative and waste management services	9	2.0%
Educational services, and health care and social assistance	130	29.0%
Arts, entertainment, and recreation, and accommodation and food services	22	4.9%
Other services, except public administration	26	5.8%
Public administration	3	0.7%

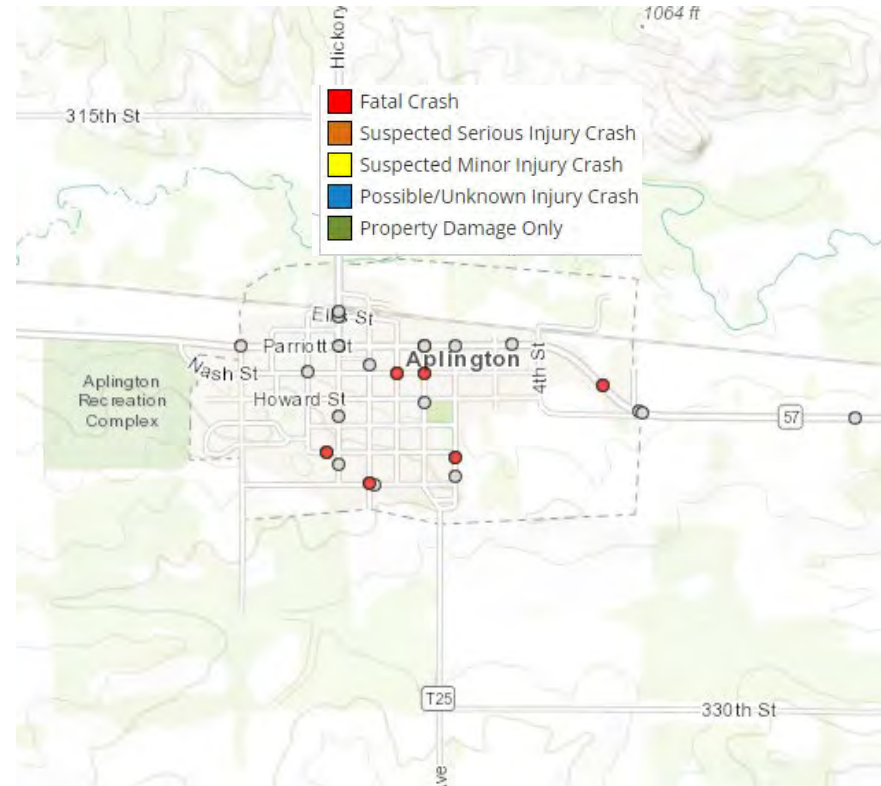
Source: 2022 American Community Survey 5-Yr Estimates

Highway Traffic and Crash Data

Based on Iowa DOT crash data, between 2019 and 2024 there have been 6 incidents. Of those incidents, 6 incidents were property damage only, resulting in \$33,500 in total damages. No fatalities or crashes with severely injured persons were reported.

Table 4: Crash Data from 2019-2024	
Total Crashes	6
Crash Severity	
Fatal	0
Suspected Serious Injury	0
Suspected Minor Injury	0
Unknown	0
Property Damage Only	6
Property Damage Total	\$33,500
<i>Source: Iowa DOT Crash Data</i>	

Figure 2: Iowa Crash Analysis for All Traffic Incidents (2019-2024)



Source: Iowa DOT

Housing Data

The City of Aplington has 359 occupied housing units. Nearly 82% of them are single family detaching housing. There are 0 housing units that are mobile homes or other types of housing. There are 5 duplex apartments. 7.0% are multifamily (greater than 2 units).

A large portion of the housing stock was built between 1960-79 (37.6%). About 96.4% of the housing stock was built prior to 1980. Most homes heat their units with gas (78.3%).

Community Utility Providers

The City of Aplington provides utility electric services and natural gas services. Mediacom and Windstream provide telephone services and broadband internet services. Residents receive water, sewer, and recycling collection services from the city.

Table 6: Utility Providers	
City of Aplington	
Electric	City of Aplington
Natural Gas	MidAmerican Energy
Telephone/Internet	Windstream, Mediacom
Cable TV	Mediacom
Water Services	City of Aplington
Sewer Services	City of Aplington
Sanitation	City of Aplington

Table 5: Housing Data (2022)		
City of Aplington		
	Total	% of Occupied Units
Occupied housing units	359	100%
Housing Unit Type		
1, detached	329	91.6%
1, attached	0	0.0%
2 apartments	5	1.4%
3 or more apartments	25	7.0%
Mobile home or other type of housing	0	0%
Year Structure Built		
2020 or later	0	0%
2010 to 2019	3	0.8%
2000 to 2009	13	3.6%
1980 to 1999	46	12.8%
1960 to 1979	135	37.6%
1940 to 1959	86	24.8%
1939 or earlier	76	21.2%
House Heating Fuel		
Utility gas	281	78.3%
Bottled, tank, or LP gas	5	1.4%
Electricity	73	20.3%
Fuel oil, kerosene, etc.	0	0%
Coal or coke	0	0%
All other fuels	0	0.0%
No fuel used	0	0.0%

Source: 2022 American Community Survey 5-Year Estimates

Vulnerable Assets

People

Vulnerability to hazard losses increases where there are larger concentrations of people. In towns where population density increases, the number of people that can be harmed during a hazard event (tornado, flood, etc.) increases. In addition, there are segments of the population that may be more susceptible to impacts and/or harm from a hazard depending on their location within the area (i.e. flood zone or near industrial plants with hazardous materials). This includes underserved or socially vulnerable populations.

Vulnerable Age Groups

Both younger and older aged groups are likely to require assistance with physically moving to shelters or finding safety. Elderly residents may not have a personal vehicle to move away from a hazard quickly. Cognitive impairments among older adults may cause some to get easily confused.

Households Facing Poverty or With Limited Income

Families or older adults living at, near, or below poverty are more likely to be impacted by hazards than other households with higher incomes. The costly repairs from a tornado or derecho for a low-income household may be more adversely affected than another household that has the same damage but may be able to afford the repairs without much change to their lifestyles or needs. That disparity is also different during extreme weather events such as heat waves. Low-income households may not be able to afford the electricity to run air conditioning and many may face

complications that involve heat stroke, fatigue, or death due to their age (infants or the infirm) and health conditions (obesity, heart conditions, diabetes).

Aplington's Vulnerable Populations

In Aplington, 7.9% (or 70 out of 881) of individuals are below the poverty level. About 38.2% (697) of occupied households have elderly occupants (60 years and over). About 12.1% of occupied households have elderly residents (65 years and over) living alone.

Most residents have access to vehicles. There are no households that lack access to a vehicle. Nearly 8% of households have a person living with a disability. This is broadly defined from the data estimates for Aplington. However, persons with mobility disabilities may be at a higher risk than others especially during unexpected natural disasters where accessibility is not always guaranteed to shelter.

Manufactured homes are unsafe in a tornado. Fatality rates are significantly higher than sturdy buildings. An alternative shelter should be identified prior to a tornado watch or warning. In 2022, there are 0 mobile homes estimated in Aplington.

Aplington has none of its population in institutionalized quarters.

Critical Facilities

Water Supply

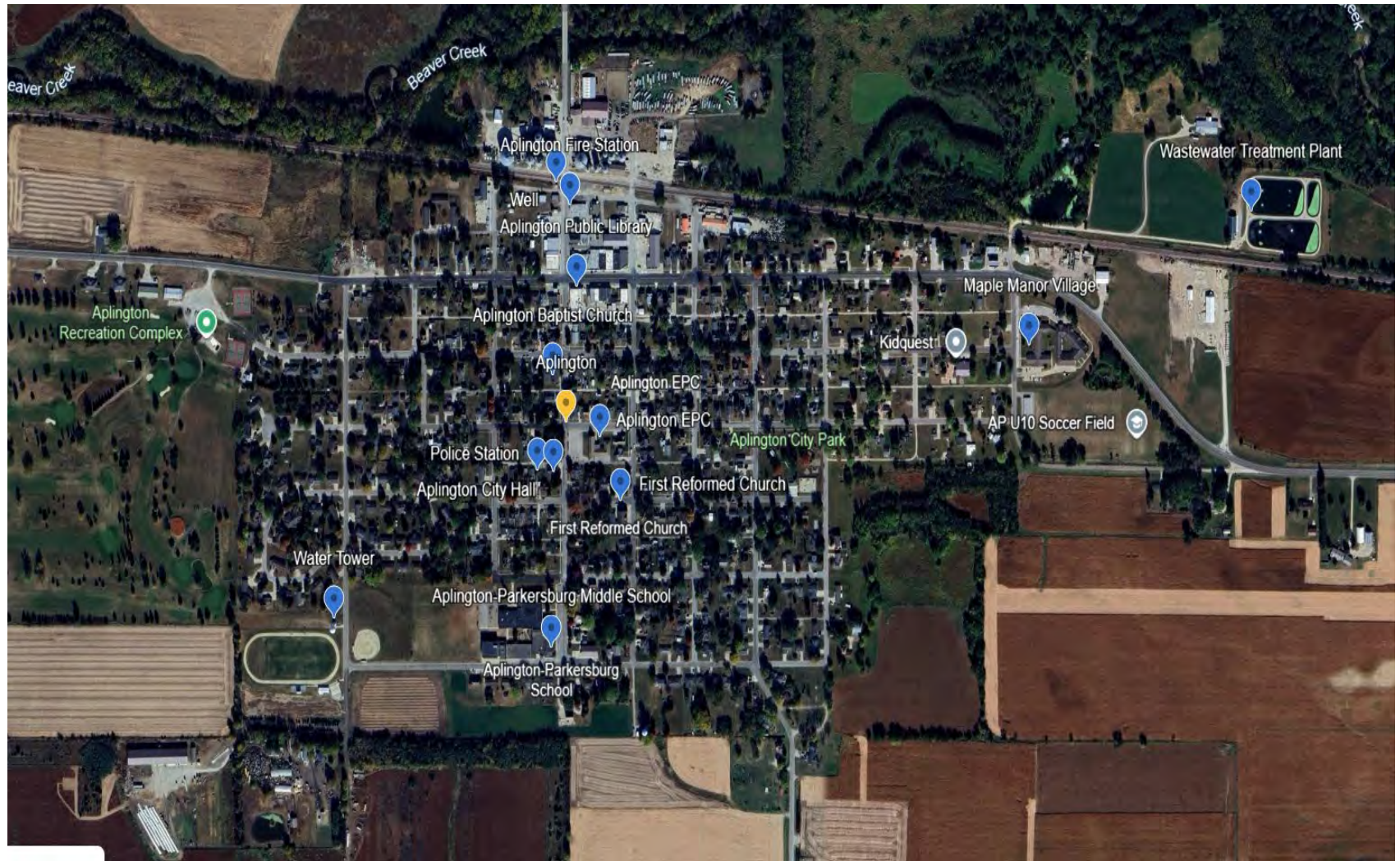
The City of Aplington has a municipal water supply that services approximately 400 water meters. The community's water is sourced from two wells located within the city. In addition to structures that use the municipal water supply, there are some housing units that obtain their water from individually drilled wells. The City has an elevated water tower with a total capacity of 150,000 gallons. There are approximately 30,000 ft. of water mains in the community. Water treatment equipment includes one softener, one aerator, and two sand filters.

Wastewater Treatment Plant and Lift Stations

The City of Aplington's wastewater treatment infrastructure includes a modern system designed to effectively manage and treat the community's wastewater. The system consists of a network of sanitary sewer lines that transport wastewater from residential, commercial, and public properties to the city's wastewater treatment facility. This facility utilizes a combination of primary and secondary treatment processes to remove contaminants and ensure that treated water meets environmental standards before being discharged. The facility is regularly monitored to maintain compliance with state and federal regulations, and the city conducts routine maintenance and upgrades to optimize system efficiency, manage capacity, and protect local water resources. Additionally, Aplington encourages residents to practice responsible wastewater disposal to support the longevity and functionality of the infrastructure.

In the next 20 years, Aplington is likely to see a steady population. The existing water plant and wastewater treatment lagoons have the capacity to manage slow steady growth. Future hazard mitigation efforts will note additional facilities related to the assets here shown within the vulnerability assessment.

Figure 3: Critical Facilities



Measuring Vulnerability to Selected Hazards

Tornado Hazard

Although there is no recent history of tornadoes in Aplington, the city remains vulnerable. In 2008, an EF5 touched down two miles south of Aplington. While Aplington was spared the most severe damage, the tornado’s proximity highlighted the area’s vulnerability.

All buildings in Aplington are prone to being damaged by a tornado. Therefore, the vulnerability of the community was determined by the assessed valuation of all buildings and dwellings on all parcels within the city’s limits.

Using the assessed value from December 2023, the valuation of all 604 parcels in the City of Aplington is \$66,920,720 based on Butler County assessor data. The City of Aplington has a potential property loss of \$59,828,880 from a tornado disaster.

Table 7: Valuation of All Parcels in City of Aplington (2023)	
Percent of City at Risk of a Tornado	100%
# of Parcels	604
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$59,828,880
Source: Butler County Assessor’s Office	

Flood Prone Areas

The potential property losses of structures prone to flooding were calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

Assessing the community’s vulnerability to losses from tornado and flood hazards is determined with county assessor data. The potential property losses of structures prone to flooding were calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

In Figures 4 and 5, the flood plain map shows the 1% annual chance of flooding in and around the City of Aplington. The river basin is depicted in the topography shown on the map.

The parcels that are impacted by the 1% annual chance of flood are highlighted in Figure 6. There are 21 parcels within Aplington that are potentially affected. The value of all buildings and dwellings on the affected parcels is \$390,920 based on the latest Butler County assessor information. This covers 3.5% of the city’s total parcels.

Table 8: Potential Property Losses from the 1% Annual Chance Flood	
Percent of City Affected	3.5%
# of Parcels	21
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$390,920
Source: Butler County Assessor’s Office	

Figure 4: Flood Plain Map

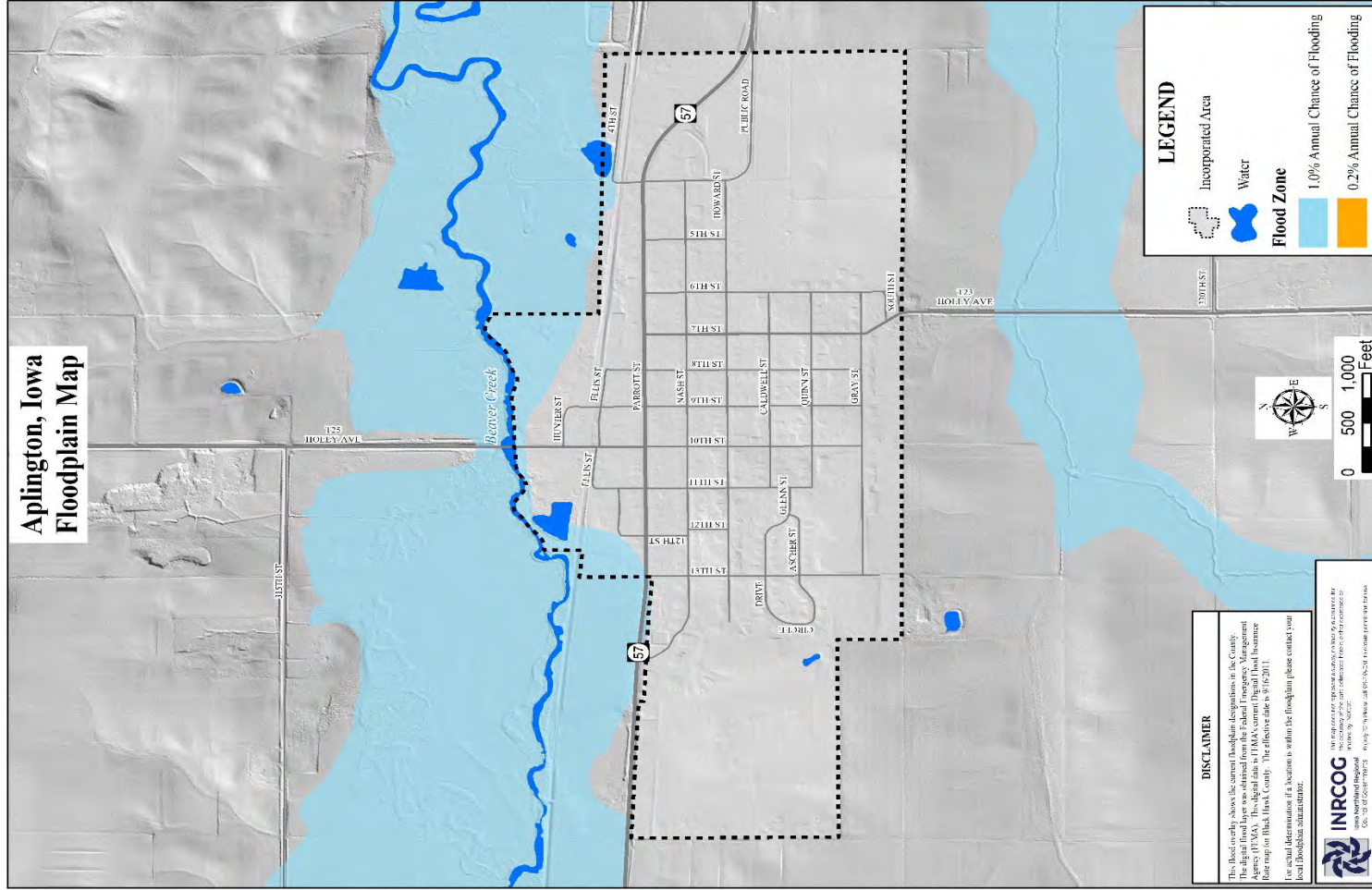
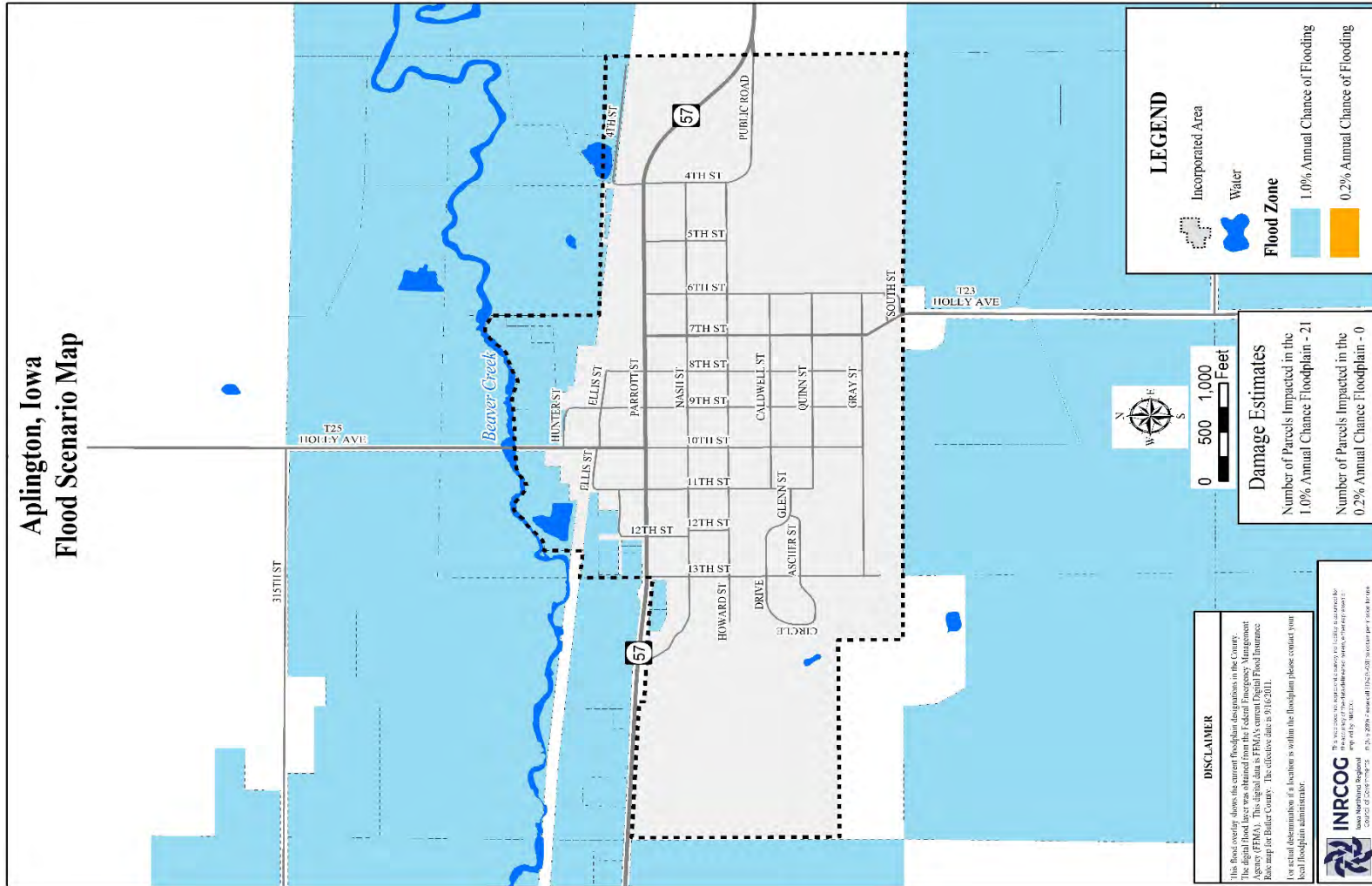


Figure 5: Flood Scenario Map



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.

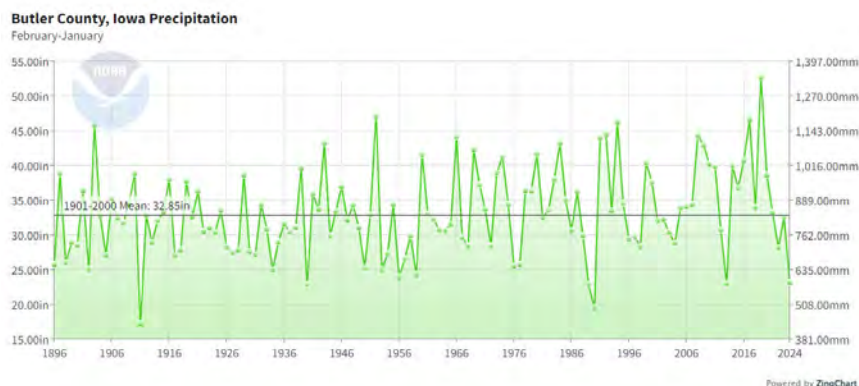
Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section.¹ The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use,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

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

Annual Precipitation Levels in Butler County

Taking the monthly precipitation records from January to December between 1895 and 2024 is shown in Figure 6. The values hover between 20 - 50 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 6. The trend shows a growing level of annual precipitation on average of 32.80 inches. Based on this historical trend, precipitation is likely to continue to increase in the coming years.

Figure 6: Historical Precipitation Data and Trend for Butler County, Iowa²



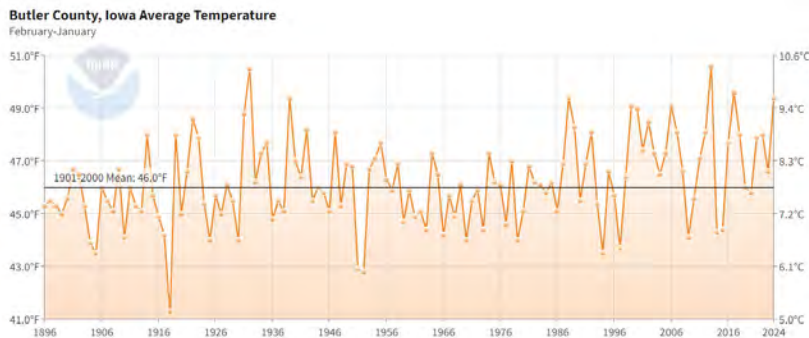
Average Annual Temperatures in Butler County

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

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 7: Historical Temperature Data and Trend for Butler 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 evaporate 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 more frequently 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 Butler County

- Prologued drought may occur as the atmosphere holds more moisture (even pulling moisture from plants) as the temperature increases. Longer periods between weather events mean there are drier 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. 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.

National Flood Insurance Program

The City of Aplington participates in the National Flood Insurance Program. The current effective FIRM map date is December 17, 2020. Butler County participates in the NFIP, and its effective map date is December 17, 2020.

FEMA defines a repetitive loss property as an insurable building that has experienced two losses in a 10-year period in which each loss is \$1,000 or more. There are 0 reported repetitive loss properties. The City has 1 total policy with a total net dollars paid value of \$0.

The designee for the implementation of NFIP requirements within Aplington is the City Clerk.

Hazard Risk Assessment

The top three hazards from the risk assessment are:

1. Pandemic Human Disease
2. Thunderstorm/Lightning/Hail
3. Extreme Heat



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 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 Aplington are located below.

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.
Scores with a value Of 0 <u>No Presumed Risk</u>	The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

2025 Aplington Hazard Mitigation Plan

Probability

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

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

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.

2025 Aplington Hazard Mitigation Plan

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.

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

Table 10 displays rated risk scores for each associated hazard. This assessment was completed by city representatives based on hazard profiles prepared for the planning committee.

Table 10: Hazard Risk Assessment					
Hazards	Probability	Magnitude	Warning Time	Duration	Score
Pandemic Human Disease	3	3	4	2	3.05
Thunderstorm/Lightning/Hail	3	2	4	1	2.65
Extreme Heat	3	2	1	3	2.4
Grass/Wild Land Fire	2	2	4	1	2.2
Tornado/Windstorm	2	2	4	1	2.2
Flash Flood	2	2	3	2	2.15
Drought	2	2	1	4	2.05
Animal/Crop/Plant Disease	2	2	1	4	2.05
Severe Winter Storm	2	2	1	3	1.95
Hazardous Materials	2	1	1	4	1.75
River Flood	2	1	1	3	1.65
Expansive Soils	1	1	1	1	1
Sinkholes	1	1	1	1	1
Infrastructure Failure	1	1	1	1	1
Radiological Incident	1	1	1	1	1
Transportation Incident	1	1	1	1	1
Earthquake*	0	0	0	0	0
Landslides*	0	0	0	0	0
Levee/Dam Failure*	0	0	0	0	0
Terrorism*	0	0	0	0	0

Source: Completed by City Representative. Calculated score completed by INRCOG.

* The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

Hazard Mitigation Goals

in Aplington, Iowa

The following list of goals was developed by planning committee participants from the associated jurisdiction. Goals 1 through 7 were developed in the previous 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan. The planning committee participants chose to adopt the same goals and add additional goals after review.

- Goal #1** Minimize to the greatest possible extent the number of injuries and/or loss of life associated with all identified hazards.
- Goal #2** Reduce or eliminate property damage due to the occurrence of disasters.
- Goal #3** Improve response operations in the event of a disaster.
- Goal #4** Return the community to either a pre-disaster or improved conditions in a timely manner in the wake of a disaster.
- Goal #5** Develop strategies that can be used to reduce the community's overall risk to the negative effects of natural, technological, and man-made disasters.
- Goal #6** Reconvene the planning committee annually to review the plan document, check for compliance with the plan goals, and track progress in achieving the mitigation strategies.
- Goal #7** Maintain the Countywide Multi-Jurisdictional format for future updates.

Previous 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 Aplington

Butler County Emergency Management Agency

Aplington works with the Butler County Emergency Management Coordinator, based out of the City of Aplington, 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 Butler County Emergency Management Coordinator is Chris Showalter.

Law Enforcement

Aplington provides police services for the community. Matt Lind serves as the Police Chief, and they have 2 full-time officers. They are located at 409 10th Street in Aplington.

Fire Protection and EMS Services

Fire protection for the City of Aplington is provided by the Aplington Fire Department. The station is located at 722 10th Street in Aplington. There are 22 volunteer fire fighters that serve in the department currently. Each of the members is HAZMAT certified Firefighter 1 trained. There are several members that have Firefighter 2 training, and others with

driver/operator training. Dispatch is provided via a paging system called I Am Responding app that is accessible through a phone app.

The Aplington Fire Department maintains 28E agreements with surrounding communities to provide additional support when needed and required.

Equipment used by the Aplington Fire Department includes the following:

- Jaws of life
- Hydraulic pumps
- Fire trucks
- Rescue pumper
- Top Kick

EMS Services

Butler County EMS represents all 8 of the EMS service in the County. Butler County Board of Supervisors deemed EMS an Essential Service for the County according to Iowa Code Chapter 422D and recently hired an EMS Coordinator to provide coverage and support for EMS services within the county.

2025 Aplington Hazard Mitigation Plan

Medical Facilities

The City of Aplington does not have any medical clinics located directly within its community. It is located near several health clinics in Parkersburg.

The Waverly Health Center in Waverly is located approximately 36 miles southeast and the Franklin General Hospital in Hampton is located approximately 28 miles northwest.

HAZMAT Response Teams

Aplington 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 hazard 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 the containment of the site and disposal of hazardous chemicals.

Warning Systems in Aplington

1. Tornado Sirens

Aplington has purchased a new tornado warning siren system as of 2024 with a 30-year life use.

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

2) Alert Iowa Mass Communication System

Butler County has implemented the use of Alert Iowa, a mass communication notification system. The system features are controlled through the Butler 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. There is an optional way to receive the same alert for events such as: excessive heat warnings, hazardous materials warnings, heavy snow warning, high wind warnings, ice storm

2025 Aplington Hazard Mitigation Plan

warnings, law enforcement warnings, shelter in place warnings, sleet warnings, wind chill warnings, and winter storm warnings.

Public Works/Street Department

The Public Works Department is located at City Hall at 409 10th Street.

Education and Outreach Projects in Aplington

Aplington currently has in place E911 Emergency Assistance. Other communications used by city personnel include pagers, radios, and cellular telephones. Radio, television, cellular telephones, landline telephones, newspapers, warning sirens, and NOAA Radio Service are available to the public at large. The City has developed a website in order to keep its citizens, and other interested parties, aware of local and government affairs. The website address is <https://www.aplingtonia.com/>. The city also has a social media account for local notifications and updates.

The city partners with KLMJ 104.9 for radio announcements.

Natural Resource Protection in Aplington

Aplington does not have any natural resources protection actions. It is located in a relatively flat portion of Butler County, without a major stream or river to create significant topography. The soils are predominately rich agricultural types that are conducive to development as well.

Structural Projects in Aplington

The city currently does not have any major structural projects taking place and has not since the last plan update.

Local Plans and Regulations in Aplington

Aplington completed a local plan and regulation assessment. The results are shown in the following table.

Table 11: Local Regulatory Capability Assessment	
Community	City of Aplington
Previous HMP Participant?	Yes
Comprehensive Plan?	Yes
Building Code?	Yes (2015 IBC/IRC)
Zoning Ordinance? RR=restricted residential	Yes - RR
Subdivision Regulations?	Yes
Floodplain Management Ordinance?	Yes
Tree-Trimming Ordinance?	Yes
Storm Water Ordinance?	Yes
Snow Removal Ordinance?	Yes

Building Codes Follow the State of Iowa Building Code Bureau Adoption Year

Timeframe	Description
Immediate	1 - 6 months
Short Term	1-3 years
Mid-Term	3-5 Years
Long-Term	More than 5 Years

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

How to Use the Implementation Guide in this Plan

Notes about the tasks (listed as line items) on the tables on the following pages.

- 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 the City’s 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 & 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. The time frame to complete the column is based on four designations (see table to the left).

Strategic Implementation Guide for Hazard Mitigation Activities

Table 12: '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	Enhance public awareness and education by providing citizens with timely information on preventative measures and risk reduction strategies, empowering the community to take proactive steps to minimize the impacts of natural and man-made hazards.	All	City Council	Medium-Term	Low	City General Fund
Medium	Educate the public on the disposal of household hazardous waste disposal at the Butler County landfill.	Hazardous Materials	City Council	Medium-Term	Low	City General Fund
Low	Coordinate with Butler County Public Health on the education of citizens on human disease and preventions.	Pandemic Human Disease	City Clerk	Medium-Term	Low	City General Fund

Table 13: Emergency Services' Type Mitigation Activities						
Description: Actions that protect people and property during and immediately after a disaster or hazard event.						
<i>Priority</i>	<i>Tasks</i>	<i>Hazard(s)</i>	<i>Primary Agency Responsible for Implementation</i>	<i>Time Frame to Complete</i>	<i>Estimated Cost (s)</i>	<i>Funding Source</i>
Medium	Provide comprehensive training for city employees, including fire, police, and other emergency personnel, to ensure effective and coordinated responses during emergencies.	All	City Council, Fire and Police Department	Medium-Term	Minimal	City General Fund
Medium	Develop a communication plan for times of extreme heat and drought to provide information for general public and emergency managers on response.	Extreme Heat, Drought	City Council, Butler EMA	Medium-Term	Minimal	City General Fund

Table 14: Structure and Infrastructure Project Type Mitigation Activities						
Description: Actions that either modify existing buildings or structures to protect them from a hazard, or remove them 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
Low	Collaborate with utility companies to prioritize and implement the burial of power lines, reducing vulnerability to severe weather events, minimizing power outages, and enhancing community resilience and safety.	Thunderstorm, Tornado/Windstorm, Flash Flood, Severe Winter Storm, River Flood, Infrastructure Failure	Utility Provider, City Council	Long-Term	High	Grid Resilience Utility Grants, Hazard Mitigation Grants
High	Make improvements to the wastewater system outline at creek to reduce flood waters.	River Flood, Flash Flood	City Council	Long-Term	High	Water Improvement Grants, City General Fund, SRF
Low	Consider options available for safe rooms/tornado rooms for general public use.	Tornado/Windstorm	City Council	Long-Term	High	Hazard Mitigation Grant Program
Low	Routinely inspect and ensure capability of fire hydrants and equipment.	Wildfire	Fire Department	Short-Term	Low	Fire Department General Fund
Low	Review potential transportation hazards and look for improvements to roadway infrastructure to enhance traffic safety in and around the community	Transportation Incidents	City Council, Police Department	Long-term	High	City General Fund, Regional Transportation Grants
High	Consider available options for the construction of a new emergency response building.	All	City Council, Fire and Police Department	Medium-Term	High	City General Fund, USDA Community Facilities Grant/Loan

Table 15: 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
Low	Promote community initiatives to encourage the planting of grass, native plants, and other ground cover on open lots to prevent soil erosion, mitigation impact of droughts, and improve stormwater absorption.	Extreme Heat, Grass/Wildfire, Drought, Plant Disease, Sinkholes, Expansive Soils	City Council	Long-Term	Minimal	City General Fund, Conservation Grants
Low	Consider natural, nature-based solutions to reduce the risk of flash flooding.	Flash Flood	City Council	Long-term	High	City General Fund, Conservation Grants

Table 16: Local Plans and Regulations Mitigation Activities						
Description: Actions by administrative or regulatory processes which direct how land and buildings are developed and built. These actions include regulations by public entities to reduce hazard losses.						
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
Low	Adopt and enforce updated building and safety code ordinances to reduce the risk associated with aging properties, ensuring resilience against structural failures, fire hazards, and other potential disasters, while preserving community safety and enhancing property standards.	Thunderstorm, Windstorm, Flash Flooding, River Flooding	City Council	Long-Term	Moderate to High	City General Fund
Low	Develop a water rationing plan in order to address potential drought and extreme heat conditions.	Drought, Extreme Heat	City Council	Medium-Term	Low	City General Fund

City of Aredale, Iowa

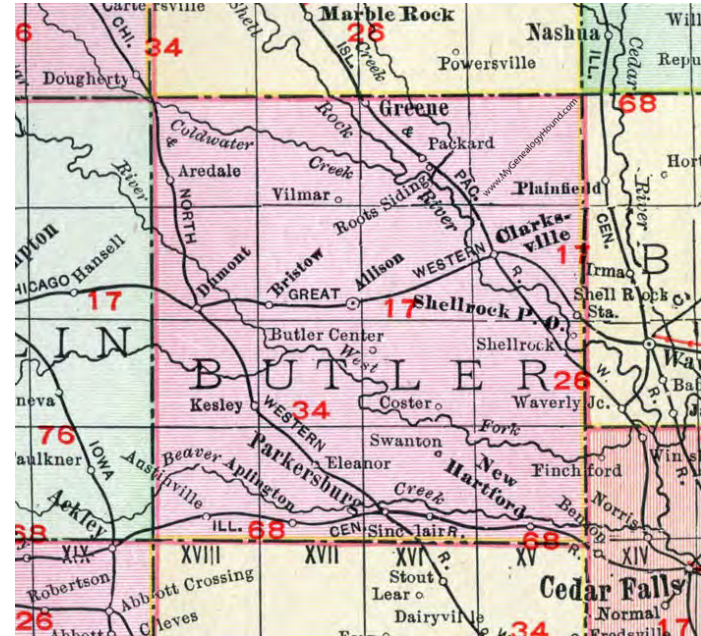
Hazard Mitigation Plan 2025 Update

Appendix C of Butler County Multi-Jurisdictional Hazard Mitigation Plan

Funded by the Butler County Emergency
Management Agency

Prepared by Iowa Northland Regional Council
of Governments (INRCOG)

January 2025



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Adopting Resolution by Aredale City Council

Resolution 2025A

A RESOLUTION OF THE CITY COUNCIL OF AREDALE, IOWA, ADOPTING THE CITY OF AREDALE, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Aredale City Council recognizes the threat that natural hazards pose to people and property within Aredale; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Aredale served and participated in the formulation of the Plan, hereby known as the City of Aredale, Iowa Hazard Mitigation Plan 2025 Update, as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Aredale from the impacts of future hazards and disasters; and

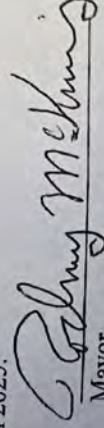
WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of Aredale demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF AREDALE, IOWA, THAT:

Section 1: In accordance with local regulations, the Council adopts the City of Aredale, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Aredale may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Aredale to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 10th day of March 2025.


Mayor

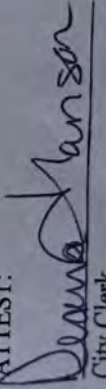
ATTEST:

City Clerk

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2025 Aredale Hazard Mitigation Plan

About

The City of Aredale developed this Plan as part of the 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan update process. The 2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan is a sequential 5-year update to the previous document. Federal regulations regarding how local governments may receive funding from FEMA require that the specified jurisdiction (city, school district, county) have an approved hazard mitigation plan that is in good standing (updated and FEMA approved) to remain eligible for grant funding. This Plan was developed to meet the requirements in Title 44 CFR § 201.6.

Elected officials, city clerks, planners, first responders, and other stakeholders were invited to attend planning committee meetings as participants to learn about hazard mitigation and complete data gathering assignments. These assignments were submitted to the plan development coordinators: Butler County Emergency Management Agency (EMA) and Iowa Northland Regional Council of Government (INRCOG). Butler County's EMA initiated and funded this effort for all participating communities and contracted INRCOG to coordinate the plan development process with a multi-jurisdictional approach.

Participating communities included all ten (10) incorporated municipalities of Butler County. County staff participating in the committee were representing their respective County departments. School district superintendents for four public school districts attended and completed the data gathering assignments for their district communities. Four (4) committee

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.

meetings were held between October 1st and December 12th wherein each participant provided data and completed work sheets to develop their hazard mitigation plans.

The Benefits of Hazard Mitigation for Local Governments

For local governments, there are benefits in knowing how specific hazards may affect their communities, its potential to cause negative impacts, and develop pre-disaster actions or activities to lessen or avoid those anticipated negative impacts. Benefits include:

- ✓ An increased understanding of how natural and human caused hazards develop under certain conditions which may inform a level of magnitude or intensity.
- ✓ Take advantage of the opportunity to create more sustainable and disaster-resistant communities.
- ✓ Participating in this collaborative intergovernmental effort is cost effective for all participants.
- ✓ Using limited resources to address the threat from hazard events that may have the biggest impact on the community.
- ✓ Reducing or preventing damage to existing structures and reducing their subsequent repair costs.
- ✓ Identifying vulnerable populations to establish equitable outcomes.

- ✓ Hazard mitigation involves a commitment to long-term goals that focus on lessening or reducing negative impacts of natural, and human caused hazards.

The Planning Process

In order to reduce the threat of negative impacts from natural hazards, a risk informed approach was used in this planning process. A risk informed approach is a multi-step process. This Plan also involves collaboration among participants in the planning committee. The process involved learning the historical occurrence of when such hazards may have occurred in Butler County.

Participants in the Butler County Multi-Jurisdictional Hazard Mitigation Plan Planning Committee determined the level of risk facing their communities by completing a risk assessment. Data gathering by committee participants involved giving updates to existing mitigation activities by the local government.

Participants in the Plan followed a general 5 step process. (below)



Community Data Sources

Population data is based on 2020 decennial Census data. The 2022 American Community Survey 5-year estimates are the latest and most reliable survey data sets to understand what is taking place in the county and each city. Most counties, cities, and towns rely on 5-year estimates. Employment, workforce, and industry figures in this Plan are estimates that have a margin of error.

It is important to note that the ACS estimates used for rural communities will have a degree of uncertainty associated with them, called sampling error, because they are based on a sample. In general, the larger the sample, the smaller the level of sampling error. Rural communities tend to have smaller samples than larger cities, so the “margin of error”—a measure of the precision of an estimate at a given level of confidence—likely will be larger for rural areas.

Crash data along roadways within each jurisdiction is collected between the period of 2019 and 2023. Using a map tool interface, the data was taken at a city level and presented to understand incident severity, casualties, and property damage from reported accidents. Accident data is added to the site daily and accessible through an online website, <https://icat.iowadot.gov/>.

In the risk analysis section of this Plan, estimates of property loss are measured using mapping of hazardous zones. For the vulnerability risk assessment, flood prone homes were determined using the boundaries of the 100 year (1%) annual chance flood zone. The value of potential property loss was derived from the 2023 assessed dollar value of

structures and dwellings on affected parcels provided by the Butler County Assessor’s Office.



Aredale Welcome Sign

City Profile

Jurisdiction: City of Aredale

County: Butler County

Population (2020): 62

The City of Aredale is located in the northeast corner of Butler County, approximately 10 miles east of Highway 65.

The following data presented in tables on the following page include population, employment, and industry sector data for the community based on 2020 Census data and 2022 American Community Survey 5-year Estimates.

In 2020, the city's population was 62 and 92.1% were White with the median age is 50. Working aged residents (15-60 years) made up 46.8% of the population. Children and teens (younger than 15 years) made up 16.1% of Aredale's population while older adults (older than 65 years) made up 37.1%.

The median household income in 2022 was \$28,750. The unemployment rate was 2.1%. Most people commute to work, and zero people work from home. The top three largest industry sectors in Aredale are as follows (in order from highest to lowest): 1) Education services, and health care and social assistance; 2) Manufacturing, and 3) Agriculture, forestry, fishing and hunting, and mining.

Figure 1: Map of Butler County



2025 Aredale Hazard Mitigation Plan

Table 1: Population Data (2020)		
City of Aredale		
	Total	% of Population
Total population	62	100%
AGE		
Under 5 years	5	8.1%
5 to 9 years	2	3.2%
10 to 14 years	3	4.8%
15 to 19 years	4	6.5%
20 to 24 years	1	1.6%
25 to 29 years	1	1.6%
30 to 34 years	5	8.1%
35 to 39 years	3	4.8%
40 to 44 years	4	6.5%
45 to 49 years	3	4.8%
50 to 54 years	4	6.5%
55 to 59 years	1	1.6%
60 to 64 years	3	4.8%
65 to 69 years	9	14.5%
70 to 74 years	7	11.3%
75 to 79 years	3	4.8%
80 to 84 years	0	0%
85 years and over	4	6.5%
Median Age	50	-
RACE		
White	59	92.1%
Black or African American	0	0%
Hispanic or Latino (of any race)	0	0%
American Indian and Alaska Native	0	0%
Asian	0	0%
Native Hawaiian/Other Pacific Islander	0	0%
Some Other Race	0	0%
Two or More Races	3	7.9%

Source: 2020 Census, 2022 ACS 5-Yr Estimates

Table 2: Employment Data (2022)		
City of Aredale		
	Value	% of Population
Median Household Income	\$28,750	-
Unemployment Rate (2022)	2.1%	-
Workers that commute to work	24	100%
Workforce that works from home	-	0%

Source: 2022 American Community Survey 5-Yr Estimates

Table 3: Employment Industry Data (2022)		
City of Aredale		
Workforce Industry	# of Workers	% of Workforce
Workforce	24	100%
Agriculture, forestry, fishing and hunting, and mining	3	12.5%
Construction	2	8.3%
Manufacturing	5	20.8%
Wholesale trade	0	0%
Retail trade	3	12.5%
Transportation -warehousing, utilities	3	12.5%
Information	0	0%
Finance and insurance, and real estate and rental and leasing	0	0%
Professional, scientific, and management, and administrative and waste management services	0	0%
Educational services, and health care and social assistance	7	29.2%
Arts, entertainment, and recreation, and accommodation and food services	0	0%
Other services, except public administration	0	0%
Public administration	1	4.2%

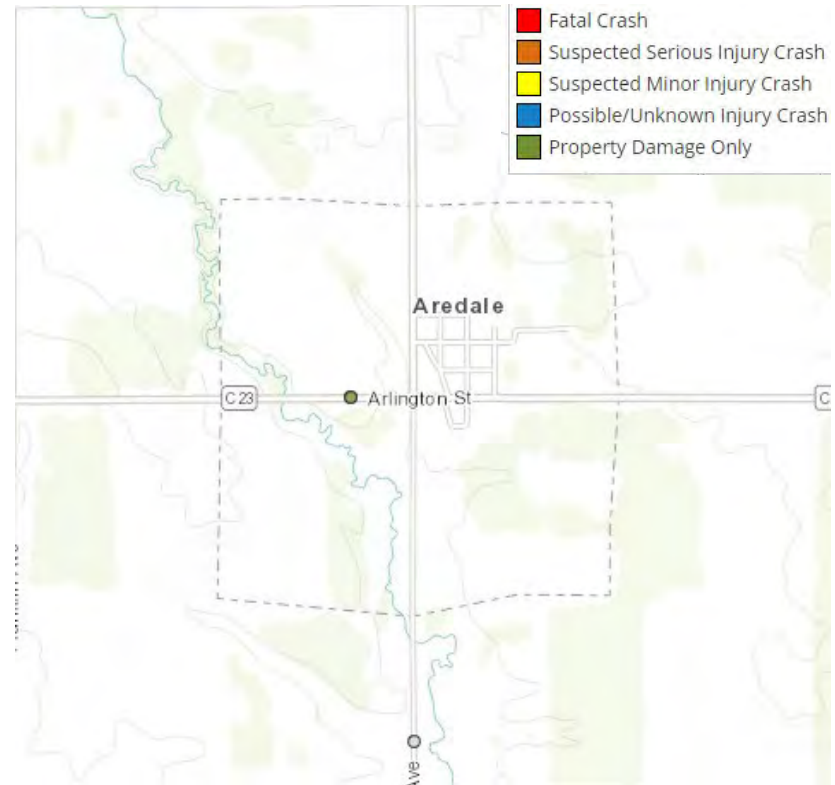
Source: 2022 American Community Survey 5-Yr Estimates

Highway Traffic and Crash Data

Based on Iowa DOT crash data, between 2019 and 2024 there has been 1 incident. Of those incidents, it was for property damage only, resulting in \$21,500 in total damages. No fatalities or crashes with severely injured persons were reported.

Table 4: Crash Data from 2019-2024	
Total Crashes	1
Crash Severity	
Fatal	0
Suspected Serious Injury	0
Suspected Minor Injury	0
Unknown	0
Property Damage Only	1
Property Damage Total	\$21,500
<i>Source: Iowa DOT Crash Data</i>	

Figure 2: Iowa Crash Analysis for All Traffic Incidents (2019-2024)



Source: Iowa DOT

Housing Data

The City of Aredale has 32 occupied housing units. Nearly 85% of them are single family detaching housing. There are 0 housing units that are mobile homes or other types of housing. There are 5 or 15.6% multifamily housing units (greater than 2 units).

A large portion of the housing stock was built prior to 1940 (50.0%). About 84.4% of the housing stock was built prior to 1980. Most homes heat their units with bottled, tank or LP gas (65.6%).

Community Utility Providers

MidAmerican Energy provides utility electric services and natural gas services. Rockwell Telephone provides telephone services and internet services. The city does not have a water utility. Each resident has their own well for water. The fire department accesses water either from a private well connected to fire equipment or by a pumper Truck carried to the site through mutual aid. The city does not have natural gas services. Each household has its own septic tank and fields.

Table 6: Utility Providers	
City of Aredale	
Electric	MidAmerican Energy
Natural Gas	-
Telephone/Internet	Rockwell Telephone
Cable TV	Rockwell Telephone
Water Services	-
Sewer Services	-
Sanitation	Jendro Sanitation Services

Table 5: Housing Data (2022)		
City of Aredale		
	Total	% of Occupied Units
Occupied housing units	32	100%
Housing Unit Type		
1, detached	27	84.4%
1, attached	0	0%
2 apartments	0	0%
3 or more apartments	5	15.6%
Mobile home or other type of housing	0	0%
Year Structure Built		
2020 or later	0	0%
2010 to 2019	5	15.6%
2000 to 2009	0	0%
1980 to 1999	2	6.3%
1960 to 1979	0	0%
1940 to 1959	9	28.1%
1939 or earlier	16	50.0%
House Heating Fuel		
Utility gas	1	3.1%
Bottled, tank, or LP gas	21	65.6%
Electricity	7	21.9%
Fuel oil, kerosene, etc.	3	9.4%
Coal or coke	0	0%
All other fuels	0	0.0%
No fuel used	0	0.0%

Source: 2022 American Community Survey 5-Year Estimates

Vulnerable Assets

People

Vulnerability to hazard losses increases where there are larger concentrations of people. In towns where population density increases, the number of people that can be harmed during a hazard event (tornado, flood, etc.) increases. In addition, there are segments of the population that may be more susceptible to impacts and/or harm from a hazard depending on their location within the area (i.e. flood zone or near industrial plants with hazardous materials). This includes underserved or socially vulnerable populations.

Vulnerable Age Groups

Both younger and older aged groups are likely to require assistance with physically moving to shelters or finding safety. Elderly residents may not have a personal vehicle to move away from a hazard quickly. Cognitive impairments among older adults may cause some to get easily confused.

Households Facing Poverty or With Limited Income

Families or older adults living at, near, or below poverty are more likely to be impacted by hazards than other households with higher incomes. The costly repairs from a tornado or derecho for a low-income household may be more adversely affected than another household that has the same damage but may be able to afford the repairs without much change to their lifestyles or needs. That disparity is also different during extreme weather events such as heat waves. Low-income households may not be able to afford

the electricity to run air conditioning and many may face complications that involve heat stroke, fatigue, or death due to their age (infants or the infirm) and health conditions (obesity, heart conditions, diabetes).

Aredale's Vulnerable Populations

In Aredale, 22.2% (or 12 out of 54) of individuals are below the poverty level. About 50.0% (16) of occupied households have elderly occupants (60 years and over). About 25% of occupied households have elderly residents (65 years and over) living alone

Most residents have access to vehicles. There are no households that lack access to a vehicle. Nearly 6% of households have a person living with a disability. This is broadly defined from the data estimates for Aredale. However, persons with mobility disabilities may be at a higher risk than others especially during unexpected natural disasters where accessibility is not always guaranteed to shelter.

Manufactured homes are unsafe in a tornado. Fatality rates are significantly higher than sturdy buildings. An alternative shelter should be identified prior to a tornado watch or warning. In 2022, there were 0 mobile homes estimated in Aredale.

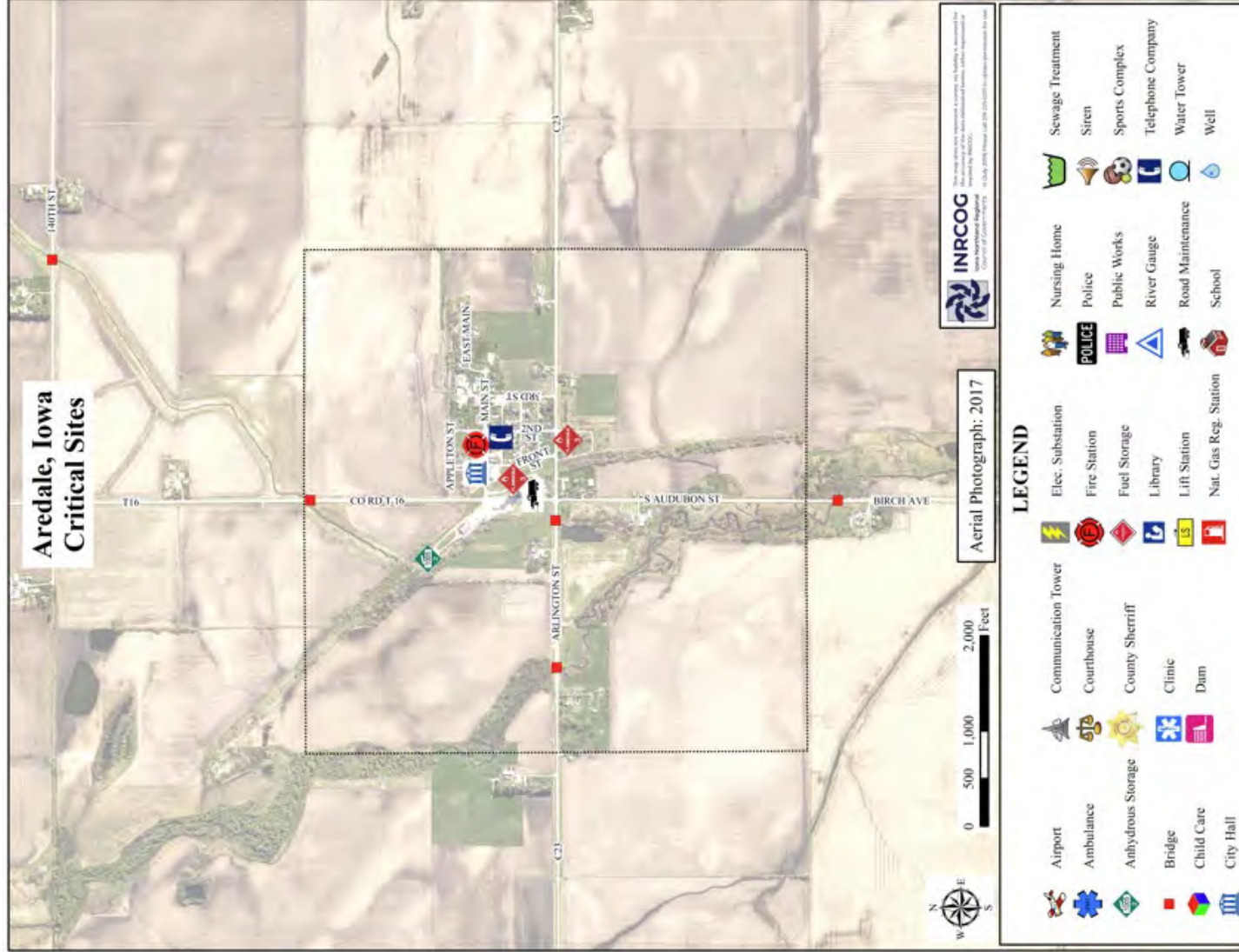
Aredale has none of its population in institutionalized quarters.

Critical Facilities

Water Supply and Wastewater Treatment Plant

The City of Aredale does not have a water utility. Each resident is responsible for their own well for water. The city also does not have a wastewater treatment plant. Each household has its own septic tank and fields.

Figure 3: Critical Facilities



Measuring Vulnerability to Selected Hazards

Tornado Hazard

Although there is no recent history of tornadoes in Aredale, the city remains vulnerable. In 1968, an outbreak of tornadoes struck the area including witnesses reporting seeing two tornadoes simultaneously in the Aredale area, leading to damage to local farms.

All buildings in Aredale are prone to being damaged by a tornado. Therefore, the vulnerability of the community was determined by the assessed valuation of all buildings and dwellings on all parcels within the city’s limits.

Using the assessed value from December 2023, the valuation of all 122 parcels in the City of Aredale is \$4,100,460 based on Butler County assessor data. The City of Aredale has a potential property loss of \$2,925,680 from a tornado disaster.

Table 7: Valuation of All Parcels in City of Aredale (2023)	
Percent of City at Risk of a Tornado	100%
# of Parcels	122
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$2,925,680
Source: Butler County Assessor’s Office	

Flood Prone Areas

The potential property losses of structures prone to flooding were calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

Assessing the community’s vulnerability to losses from tornado and flood hazards is determined with county assessor data. The potential property losses of structures prone to flooding were calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

In Figures 4 and 5, the flood plain map shows the 1% annual chance of flooding in and around the City of Aredale. The river basin is depicted in the topography shown on the map.

The parcels that are impacted by the 1% annual chance of flood are highlighted in Figure 6. There are 23 parcels within Aredale that are potentially affected. The value of all buildings and dwellings on the affected parcels is \$1,758,300 based on the latest Butler County assessor information. This covers 59.67% of the city’s total parcels.

Table 8: Potential Property Losses from the 1% Annual Chance Flood	
Percent of City Affected	59.67%
# of Parcels	23
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$1,758,300
Source: Butler County Assessor’s Office	

Figure 4: Flood Plain Map

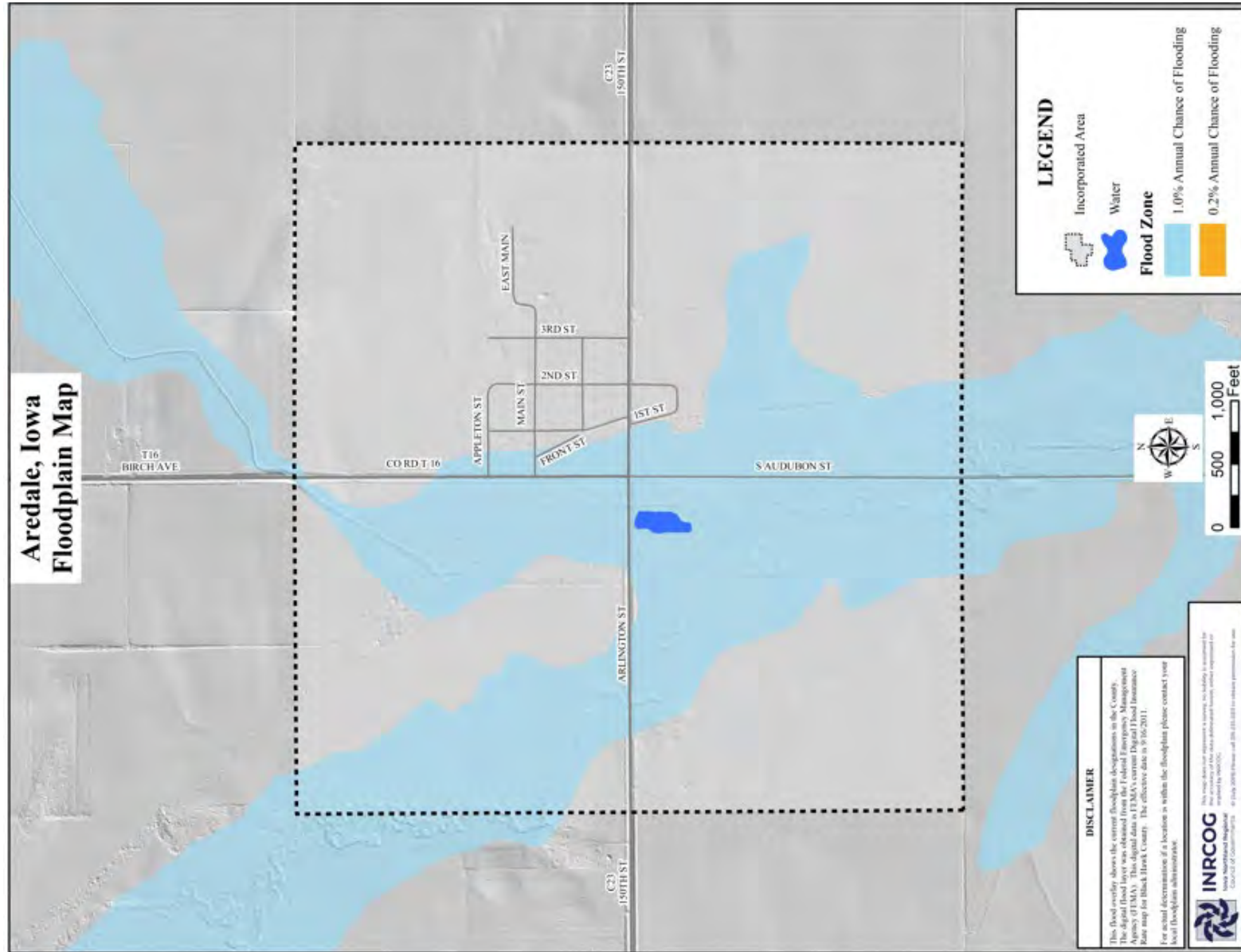
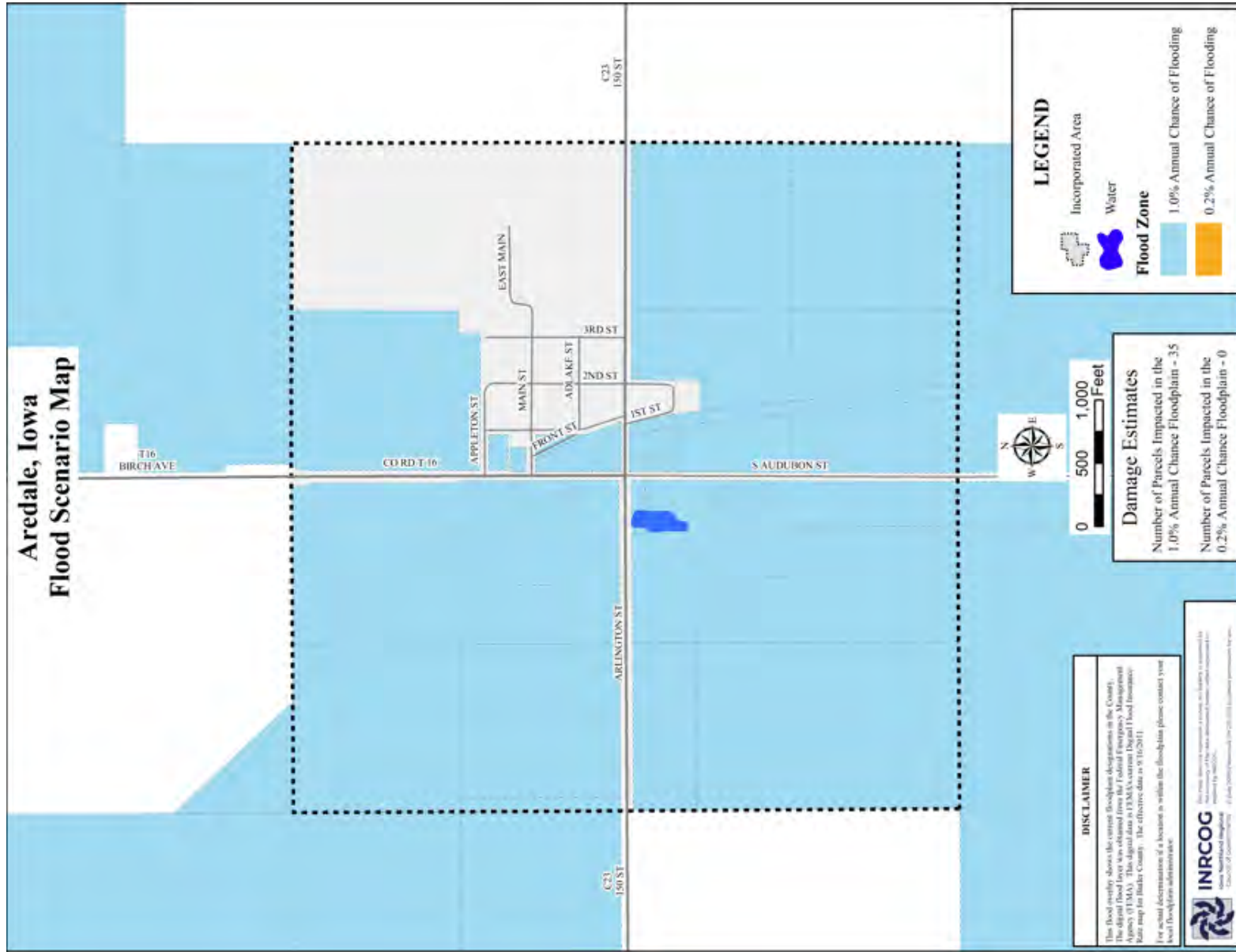


Figure 5: Flood Scenario Map



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.

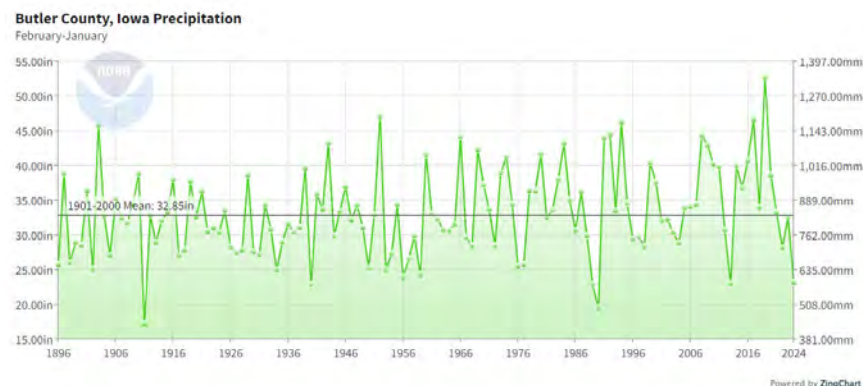
Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section.¹ The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use,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

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

Annual Precipitation Levels in Butler County

Taking the monthly precipitation records from January to December between 1895 and 2024 is shown in Figure 6. The values hover between 20 - 50 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 6. The trend shows a growing level of annual precipitation on average of 32.80 inches. Based on this historical trend, precipitation is likely to continue to increase in the coming years.

Figure 6: Historical Precipitation Data and Trend for Butler County, Iowa²



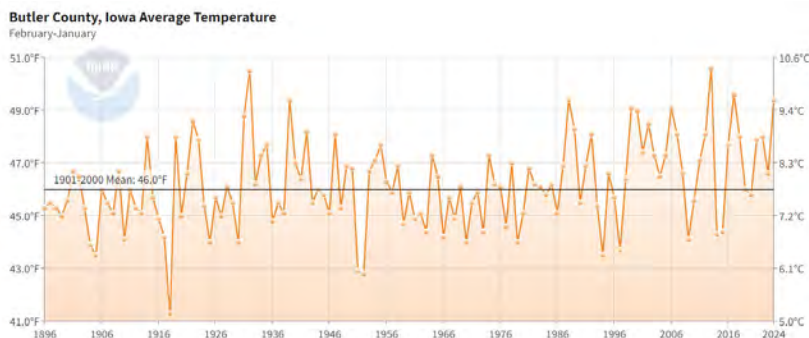
Average Annual Temperatures in Butler County

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

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 7: Historical Temperature Data and Trend for Butler 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 evaporate 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 more frequently 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 Butler County

- Prologued drought may occur as the atmosphere holds more moisture (even pulling moisture from plants) as the temperature increases. Longer periods between weather events mean there are drier 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. 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.

National Flood Insurance Program

The City of Aredale participates in the National Flood Insurance Program. The current effective FIRM map date is December 17, 2020. Butler County participates in the NFIP, and its effective map date is December 17, 2020.

FEMA defines a repetitive loss property as an insurable building that has experienced two losses in a 10-year period in which each loss is \$1,000 or more. There are 0 reported repetitive loss properties. The City has 1 total policy with a total net dollars paid value of \$2,363.

The designee for the implementation of NFIP requirements within Aredale is the City Clerk.

Hazard Risk Assessment

The top three hazards from the risk assessment are:

1. Thunderstorm/Lightning/Hail
2. Hazardous Materials
3. Tornado/Wind Storm



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 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 Aredale are located below.

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.
Scores with a value Of 0 <u>No Presumed Risk</u>	The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

2025 Aredale Hazard Mitigation Plan

Probability

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

Probability Score Definitions		
Score	Description	
1	Unlikely	<i>Less than 10% 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.</i>
2	Occasional	<i>Between 10% and 20% 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.</i>
3	Likely	<i>Between 20% and 33% 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.</i>
4	Highly Likely	<i>More than 33% 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.</i>

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.

2025 Aredale Hazard Mitigation Plan

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 city 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

Table 10: Hazard Risk Assessment					
Hazards	Probability	Magnitude	Warning Time	Duration	Score
Thunderstorm/Lightning/Hail	4	3	4	1	3.4
Hazardous Materials	3	3	4	3	3.15
Tornado/Windstorm	3	2	4	3	2.85
Pandemic Human Disease	3	3	1	4	2.8
Grass/Wild Land Fire	3	2	4	2	2.75
Infrastructure Failure	3	2	4	2	2.75
Transportation Incident	3	2	4	2	2.75
Flash Flood	3	2	3	3	2.7
Severe Winter Storm	3	2	2	3	2.55
Drought	3	2	1	4	2.5
Extreme Heat	3	2	1	4	2.5
Animal/Crop/Plant Disease	3	2	1	4	2.5
River Flood	2	1	3	3	1.95
Landslides	1	1	4	1	1.45
Expansive Soils	1	1	1	1	1
Sinkholes	1	1	1	1	1
Radiological Incident	1	1	1	1	1
Earthquake*	0	0	0	0	0
Levee/Dam Failure*	0	0	0	0	0
Terrorism *	0	0	0	0	0

Source: Completed by City Representative. Calculated score completed by INRCOG.

* The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

Hazard Mitigation Goals

in Aredale, Iowa

The following list of goals was developed by planning committee participants from the associated jurisdiction. Goals 1 through 7 were developed in the previous 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan. The planning committee participants chose to adopt the same goals and add additional goals after review.

- Goal #1** Minimize to the greatest possible extent the number of injuries and/or loss of life associated with all identified hazards.
- Goal #2** Reduce or eliminate property damage due to the occurrence of disasters.
- Goal #3** Improve response operations in the event of a disaster.
- Goal #4** Return the community to either a pre-disaster or improved conditions in a timely manner in the wake of a disaster.
- Goal #5** Develop strategies that can be used to reduce the community's overall risk to the negative effects of natural, technological, and man-made disasters.
- Goal #6** Reconvene the planning committee annually to review the plan document, check for compliance with the plan goals, and track progress in achieving the mitigation strategies.
- Goal #7** Maintain the Countywide Multi-Jurisdictional format for future updates.

Previous 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 Aredale

Butler County Emergency Management Agency

Aredale works with the Butler County Emergency Management Coordinator, based out of the City of Allison, 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 Butler County Emergency Management Coordinator is Chris Showalter.

Law Enforcement

Aredale contracts for law enforcement services with the Butler County Sheriff's Department. The Department provides routine services and support for the city. They are located at 428 Sixth Street in Allison.

Fire Protection and EMS Services

Fire protection for the City of Aredale is provided by the Aredale Fire Department. The station is located at 102 E Main Street in Aredale. There are 9 volunteer fire fighters that serve in the department currently. Each of the members is HAZMAT certified Firefighter 1 trained. There are several

members that have Firefighter 2 training, and others with driver/operator training. Dispatch is provided via a paging system called I Am Responding app that is accessible through a phone app.

The Aredale Fire Department maintains 28E agreements with surrounding communities to provide additional support when needed and required.

They have the following pieces of equipment:

- Pumper Truck
- Grass Fire Truck
- Tanker
- Kawasaki mule with water tank

EMS Services

Butler County EMS represents all 8 of the EMS service in the County. Butler County Board of Supervisors deemed EMS an Essential Service for the County according to Iowa Code Chapter 422D and recently hired an EMS Coordinator to provide coverage and support for EMS services within the county.

2025 Aredale Hazard Mitigation Plan

Medical Facilities

The City of Aredale does not have any medical clinics located directly within its community.

The Waverly Health Center in Waverly is located approximately 35 miles east and the Franklin General Hospital in Hampton is located approximately 17 miles southwest.

HAZMAT Response Teams

Aredale 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 hazard 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 the containment of the site and disposal of hazardous chemicals.

Warning Systems in Aredale

1. Tornado Sirens

Aredale has an existing tornado siren that it does not expect to need to be replaced in the next 3-5 years. It was installed in 2007. They test the tornado siren on a weekly basis.

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

2) Alert Iowa Mass Communication System

Butler County has implemented the use of Alert Iowa, a mass communication notification system. The system features are controlled through the Butler 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. There is an optional way to receive the same alert for events such as: excessive heat warnings, hazardous materials warnings,

2025 Aredale Hazard Mitigation Plan

heavy snow warning, high wind warnings, ice storm warnings, law enforcement warnings, shelter in place warnings, sleet warnings, wind chill warnings, and winter storm warnings.

Public Works/Street Department

The Public Works Department is located at City Hall at 112 E Main Street.

Education and Outreach Projects in Aredale

Aredale currently has in place E911 Emergency Assistance. Other communications used by city personnel include pagers, radios, and cellular telephones. Radio, television, cellular telephones, landline telephones, newspapers, warning sirens, and NOAA Radio Service are available to the public at large. The City has developed a website in order to keep its citizens, and other interested parties, aware of local and government affairs. The website address is <https://www.facebook.com/aredale.ia.us/>. The City also has a social media account for local notifications and updates.

The City partners with KLMJ 104.9 for radio announcements.

Natural Resource Protection in Aredale

Aredale does not have any natural resources protection actions. It is located in a relatively flat portion of Butler County, without a major stream or river to create significant topography. The soils are predominately of rich agricultural types that are conducive to development as well.

Structural Projects in Aredale

The City currently does not have any major structural projects taking place and has not since the last update.

Local Plans and Regulations in Aredale

Aredale completed a local plan and regulation assessment. The results are shown in the following table.

Table 11: Local Regulatory Capability Assessment	
Community	City of Aredale
Previous HMP Participant?	Yes
Comprehensive Plan?	No
Building Code?	No
Zoning Ordinance? RR=restricted residential	RR
Subdivision Regulations?	No
Floodplain Management Ordinance?	Yes
Tree-Trimming Ordinance?	No
Storm Water Ordinance?	No
Snow Removal Ordinance?	No

Timeframe	Description
Immediate	1 - 6 months
Short Term	1-3 years
Mid-Term	3-5 Years
Long-Term	More than 5 Years

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

How to Use the Implementation Guide in this Plan

Notes about the tasks (listed as line items) on the tables on the following pages.

- 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 the City’s 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 & 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. The time frame to complete the column is based on four designations (see table to the left).

Strategic Implementation Guide for Hazard Mitigation Activities

Table 12: '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	Promote rapid response by providing safe room locations and supporting severe weather awareness within the community.	Thunderstorm, Tornado/Windstorm	City Clerk, Fire Dept	Short-Term	Minimal	Hazard Mitigation Grant Program
Low	Maintain an active presence on social media to provide the community with up-to-date information.	All	City Clerk	Immediate	Minimal	City General Fund
Low	Mail out community and emergency information and updates with sanitation bills every six months.	All	City Clerk, Sanitation	Immediate	Minimal	City General Fund

Table 13: 'Emergency Services' Type Mitigation Activities						
Description: Actions that protect people and property during and immediately after a disaster or hazard event.						
<i>Priority</i>	<i>Tasks</i>	<i>Hazard(s)</i>	<i>Primary Agency Responsible for Implementation</i>	<i>Time Frame to Complete</i>	<i>Estimated Cost (s)</i>	<i>Funding Source</i>
Medium	Collaborate with community members and emergency personnel to create an emergency response plan.	All	Butler County EMS; Fire Department	Short-term	Minimal	City General Fund
Medium	Acquire and maintain essential equipment for emergency facilities and personnel to provide efficient response to emergencies.	All	City Clerk, Fire Department	Mid-Term	Moderate	City General Fund; Assistance to Firefighters Grant

Table 14: 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
Medium	Maintain records and open communication with local businesses to improve response and prevent long-term impact of, or prevent, infrastructure and system failures, including electrical outages impacting climate control.	Infrastructure Failure, Transportation Incident, Severe Winter Storm, Extreme Heat, Animal/Crop/Plant Disease	City Clerk; Butler Emergency Management	Short-term	Minimal	City General Fund
Medium	Maintain up to date records of floor plans for local buildings to provide efficient and safe response.	All	City Clerk	Short-term	Minimal	City General Fund
Medium	Install surge protection on critical electronic equipment within city location and critical facilities to prevent equipment failure and information loss.	Thunderstorm, Tornado/Windstorm, Infrastructure Failure	City Clerk	Immediate	Minimal	City General Fund

Table 15: 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	Prevent and slow the spread of grass/wildfires by clearing and pruning dead vegetation and cutting firebreaks into public wooded areas.	Gass/Wildfire	Fire Dept.	Short-Term	Minimal	City General Fund
Low	Create a plan to plant trees and native plants to provide shade and improve ground, water, and air quality.	Expansive Soils, Extreme Heat, Landslide, Sinkholes	City Clerk	Medium-Term	Minimal	City General Fund
Medium	Protect local natural resources by working with the community and local businesses to prevent spills and promote proper disposal of hazardous materials.	Hazardous Materials	City Public Works	Medium-Term	Minimal	City General Fund

Table 16: Local Plans and Regulations Mitigation Activities						
Description: Actions by administrative or regulatory processes which direct how land and buildings are developed and built. These actions include regulations by public entities to reduce hazard losses.						
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
Medium	Develop detailed criteria and secure agreements for secondary water sources during water shortages.	Drought	City Public Works	Short-Term	Minimal	City General Fund
Medium	Develop criteria for prevention and response to Landus Elevator failure from collapse or explosion.	Hazardous Materials, Infrastructure Failure	City Fire Department; Landus Elevator	Short-Term	Minimal	City General Fund
Low	Purchase or remove structures from the 100-year floodplain to prevent future damage to community and critical facilities.	Flash Flood, River Flood	City Council	Long-Term	High	Hazard Mitigation Grant Program

City of Bristow, Iowa

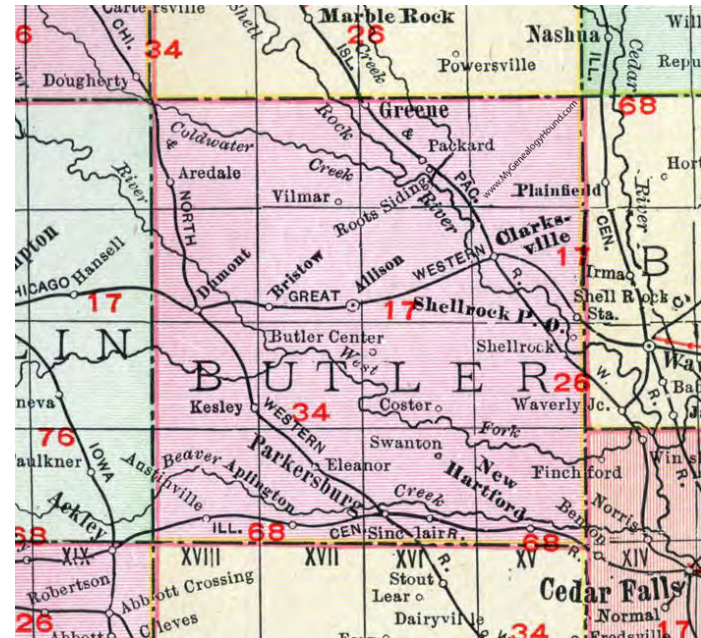
Hazard Mitigation Plan 2025 Update

Appendix D of Butler County Multi-Jurisdictional Hazard Mitigation Plan

Funded by the Butler County Emergency
Management Agency

Prepared by Iowa Northland Regional Council
of Governments (INRCOG)

January 2025



INRCOG
Iowa Northland Regional
Council of Governments

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Adopting Resolution by Bristow City Council

A RESOLUTION OF THE CITY COUNCIL OF BRISTOW, IOWA, ADOPTING THE CITY OF BRISTOW, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Bristow City Council recognizes the threat that natural hazards pose to people and property within Bristow; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Bristow served and participated in the formulation of the Plan, hereby known as the City of Bristow, Iowa Hazard Mitigation Plan 2025 Update, as part of the the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Bristow from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of Bristow demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF BRISTOW, IOWA, THAT:

Section 1: In accordance with local regulations, the Council adopts the City of Bristow, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Bristow may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Bristow to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 13th day of February 2025.

ATTEST:


City Clerk


Mayor

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About

The City of Bristow developed this Plan as part of the 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan update process. The 2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan is a sequential 5-year update to the previous document. Federal regulations regarding how local governments may receive funding from FEMA require that the specified jurisdiction (city, school district, county) have an approved hazard mitigation plan that is in good standing (updated and FEMA approved) to remain eligible for grant funding. This Plan was developed to meet the requirements in Title 44 CFR § 201.6.

Elected officials, city clerks, planners, first responders, and other stakeholders were invited to attend planning committee meetings as participants to learn about hazard mitigation and complete data gathering assignments. These assignments were submitted to the plan development coordinators: Butler County Emergency Management Agency (EMA) and Iowa Northland Regional Council of Government (INRCOG). Butler County's EMA initiated and funded this effort for all participating communities and contracted INRCOG to coordinate the plan development process with a multi-jurisdictional approach.

Participating communities included all ten (10) incorporated municipalities of Butler County. County staff participating in the committee were representing their respective County departments. School district superintendents for the public school districts attended and completed the data gathering assignments for their district communities. Four (4) committee

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.

meetings were held between October 1st and December 12th wherein each participant provided data and completed worksheets to develop their hazard mitigation plans.

The Benefits of Hazard Mitigation for Local Governments

For local governments, there are benefits in knowing how specific hazards may affect their communities, its potential to cause negative impacts, and develop pre-disaster actions or activities to lessen or avoid those anticipated negative impacts. Benefits include:

- ✓ An increased understanding of how natural and human caused hazards develop under certain conditions which may inform a level of magnitude or intensity.
- ✓ Take advantage of the opportunity to create more sustainable and disaster-resistant communities.
- ✓ Participating in this collaborative intergovernmental effort is cost effective for all participants.
- ✓ Using limited resources to address the threat from hazard events that may have the biggest impact on the community.
- ✓ Reducing or preventing damage to existing structures and reducing their subsequent repair costs.
- ✓ Identifying vulnerable populations to establish equitable outcomes.

- ✓ Hazard mitigation involves a commitment to long-term goals that focus on lessening or reducing negative impacts of natural, and human caused hazards.

The Planning Process

In order to reduce the threat of negative impacts from natural hazards, a risk informed approach was used in this planning process. A risk informed approach is a multi-step process. This Plan also involves collaboration among participants in the planning committee. The process involved learning the historical occurrence of when such hazards may have occurred in Butler County.

Participants in the Butler County Multi-Jurisdictional Hazard Mitigation Plan Planning Committee determined the level of risk facing their communities by completing a risk assessment. Data gathering by committee participants involved giving updates to existing mitigation activities by the local government.

Participants in the Plan followed a general 5 step process. (below)



Community Data Sources

Population data is based on 2020 decennial Census data. The 2022 American Community Survey 5-year estimates are the latest and most reliable survey data sets to understand what is taking place in the county and each city. Most counties, cities, and towns rely on 5-year estimates. Employment, workforce, and industry figures in this Plan are estimates that have a margin of error.

It is important to note that the ACS estimates used for rural communities will have a degree of uncertainty associated with them, called sampling error, because they are based on a sample. In general, the larger the sample, the smaller the level of sampling error. Rural communities tend to have smaller samples than larger cities, so the “margin of error”—a measure of the precision of an estimate at a given level of confidence—likely will be larger for rural areas.

Crash data along roadways within each jurisdiction is collected between the period of 2019 and 2023. Using a map tool interface, the data was taken at a city level and presented to understand incident severity, casualties, and property damage from reported accidents. Accident data is added to the site daily and accessible through an online website, <https://icat.iowadot.gov/>.

In the risk analysis section of this Plan, estimates of property loss are measured using mapping of hazardous zones. For the vulnerability risk assessment, flood prone homes were determined using the boundaries of the 100 year (1%) annual chance flood zone. The value of potential property loss was derived from the 2023 assessed dollar value of

structures and dwellings on affected parcels provided by the Butler County Assessor’s Office.



Bristow, Iowa Water Tower

City Profile

Jurisdiction: City of Bristow

County: Butler County

Population (2020): 145

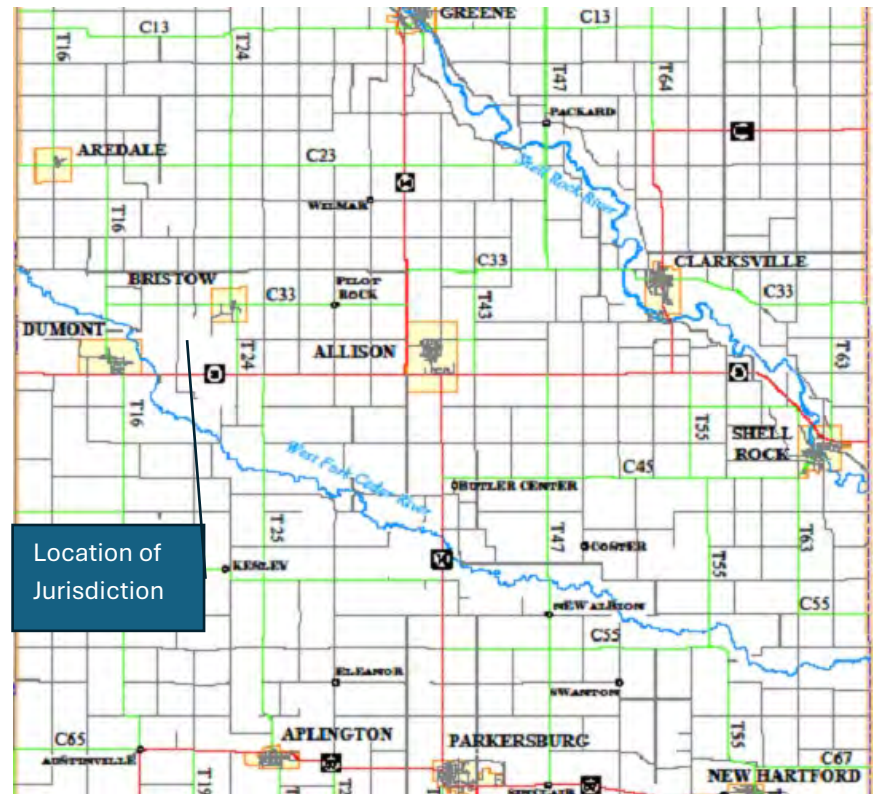
The City of Bristow is in the northwest corner of Butler County. It is located just north of Highway 3 with C33 running east-west through town.

The following data presented in tables on the following page include population, employment, and industry sector data for the community based on 2020 Census data and 2022 American Community Survey 5-year Estimates.

In 2023, the city's population was 173 and 100% were White with the median age is 44. Working aged residents (15-60 years) made up 77.5% of the population. Children and teens (younger than 15 years) made up 16.7% of Bristow's population while older adults (older than 60 years) made up 22.5%.

The median household income in 2022 was \$105,603. The unemployment rate was 0.7%. Most people commute to work, and none of the workforce work from home. The top three largest industry sectors in Bristow are as follows (in order from highest to lowest): 1) Wholesale trade, 2) Other services, except public administration, and 3) Educational services, and health care and social assistance.

Figure 1: Map of Butler County



2025 Bristow Hazard Mitigation Plan

Table 1: Population Data (2023)		
City of Bristow		
	Total	% of Population
Total population	173	100%
AGE		
Under 5 years	4	2.3%
5 to 9 years	5	2.9%
10 to 14 years	20	11.6%
15 to 19 years	5	2.9%
20 to 24 years	4	2.3%
25 to 29 years	11	6.4%
30 to 34 years	2	1.2%
35 to 39 years	6	3.5%
40 to 44 years	33	19.1%
45 to 49 years	3	1.7%
50 to 54 years	18	10.4%
55 to 59 years	23	13.3%
60 to 64 years	13	7.5%
65 to 69 years	6	3.5%
70 to 74 years	9	5.2%
75 to 79 years	3	1.7%
80 to 84 years	1	0.6%
85 years and over	7	4.0%
Median Age	44.0	-
RACE		
White	173	100%
Black or African American	0	0.0%
Hispanic or Latino (of any race)	0	0.0%
American Indian and Alaska Native	0	0.0%
Asian	0	0.0%
Native Hawaiian/Other Pacific Islander	0	0.0%
Some Other Race	0	0.0%
Two or More Races	0	0.0%
<i>Source: 2023 ACS 5-Yr Estimates</i>		

Table 2: Employment Data (2023)		
City of Bristow		
	Value	% of Population
Median Household Income	\$105,259	-
Unemployment Rate (2022)	0.7%	-
Workers that commute to work	99	100%
Workforce that works from home	0	0%
<i>Source: 2023 American Community Survey 5-Yr Estimates</i>		

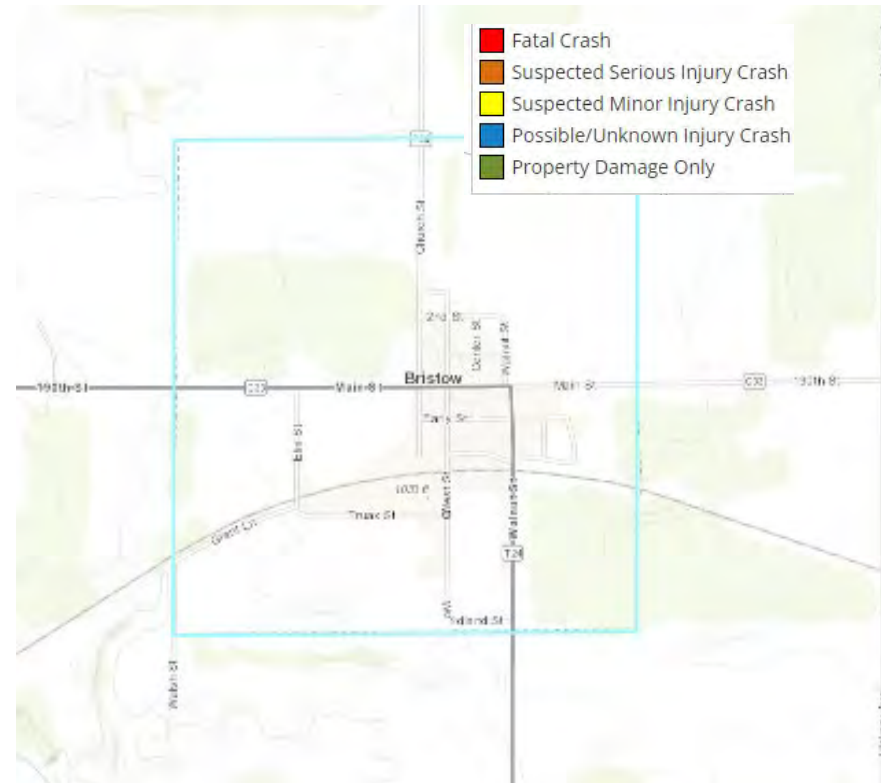
Table 3: Employment Industry Data (2023)		
City of Bristow		
Workforce Industry	# of Workers	% of Workforce
Workforce	99	100%
Agriculture, forestry, fishing and hunting, and mining	4	4.0%
Construction	6	6.1%
Manufacturing	9	9.1%
Wholesale trade	29	29.3%
Retail trade	9	9.1%
Transportation -warehousing, utilities	8	8.1%
Information	0	0.0%
Finance and insurance, and real estate and rental and leasing	0	0.0%
Professional, scientific, and management, and administrative and waste management services	0	0.0%
Educational services, and health care and social assistance	10	10.1%
Arts, entertainment, and recreation, and accommodation and food services	2	2.0%
Other services, except public administration	21	21.2%
Public administration	1	1.0%
<i>Source: 2023 American Community Survey 5-Yr Estimates</i>		

Highway Traffic and Crash Data

Based on Iowa DOT crash data, between 2019 and 2024 there have been 0 incidents. No incidents of property damage, fatalities, or crashes with severely injured persons were reported.

Table 4: Crash Data from 2019-2024	
Total Crashes	0
Crash Severity	
Fatal	0
Suspected Serious Injury	0
Suspected Minor Injury	0
Unknown	0
Property Damage Only	0
Property Damage Total	\$0
<i>Source: Iowa DOT Crash Data</i>	

Figure 2: Iowa Crash Analysis for All Traffic Incidents (2019-2024)



Source: Iowa DOT

Housing Data

The City of Bristow has 80 occupied housing units. Nearly 94% of them are single family detached housing. There is 1 housing unit that is a mobile homes or other types of housing. There are 4 apartments that are multifamily (greater than 2 units).

A large portion of the housing stock was built between 1960-79 (45.0%). All of the housing stock was built prior to 2000. Most homes heat their units with gas (45.0%).

Community Utility Providers

MidAmerican Energy provides utility electric services and natural gas services. Rockwell Telephone provides telephone services and internet services. Residents receive water from wells and sewer is private while the City of Parkersburg provides sanitation.

Table 6: Utility Providers	
City of Bristow	
Electric	MidAmerican Energy
Natural Gas	MidAmerican Energy
Telephone/Internet	Rockwell Telephone
Cable TV	Rockwell Telephone
Water Services	Well
Sewer Services	Private Owners
Sanitation	City Sanitation Services of Parkersburg

Table 5: Housing Data (2023)		
City of Bristow		
	Total	% of Occupied Units
Occupied housing units	80	100%
Housing Unit Type		
1, detached	75	93.8%
1, attached	0	0.0%
2 apartments	0	0.0%
3 or more apartments	4	5.0%
Mobile home or other type of housing	1	1.3%
Year Structure Built		
2020 or later	0	0.0%
2010 to 2019	0	0.0%
2000 to 2009	0	0.0%
1980 to 1999	5	6.3%
1960 to 1979	36	45.0%
1940 to 1959	7	8.8%
1939 or earlier	32	40.0%
House Heating Fuel		
	Total	% of Occupied Units
Utility gas	36	45.0%
Bottled, tank, or LP gas	1	1.3%
Electricity	38	47.5%
Fuel oil, kerosene, etc.	0	0.0%
Coal or coke	0	0.0%
All other fuels	2	2.5%
No fuel used	3	3.8%

Source: 2023 American Community Survey 5-Year Estimates

Vulnerable Assets

People

Vulnerability to hazard losses increase when there are larger concentrations of people. In towns where population density increases, the number of people that can be harmed during a hazard event (tornado, flood, etc.) increases. In addition, there are segments of the population that may be more susceptible to impacts and/or harm from a hazard depending on their location within the area (i.e. flood zone or near industrial plants with hazardous materials). This includes underserved or socially vulnerable populations.

Vulnerable Age Groups

Both younger and older age groups are likely to require assistance with physically moving to shelters or finding safety. Elderly residents may not have a personal vehicle to move away from a hazard quickly. Cognitive impairments among older adults may cause some to get easily confused.

Households Facing Poverty or With Limited Income

Families or older adults living near or below poverty are more likely to be impacted by hazards than other households with higher incomes. The costly repairs from a tornado or derecho for a low-income household may be more adversely affected than another household that has the same damage but may be able to afford the repairs without much change to their lifestyles or needs. That disparity is also different during extreme weather events such as heat waves. Low-income households may not be able to afford the electricity to run air conditioning and many may face

complications that involve heat stroke, fatigue, or death due to their age (infants or the infirm) and health conditions (obesity, heart conditions, diabetes).

Bristow's Vulnerable Populations

In Bristow, 17.6% (or 30 out of 170) of individuals are below the poverty level. About 25% of occupied households have elderly occupants (65 years and over). About 15% of occupied households have elderly residents (65 years and over) living alone.

Most residents have access to a vehicle, however it is likely a few individuals don't have readily available access. Nearly 15% of households have a person living with a disability. This is broadly defined from the data estimates for Bristow. However, persons with mobility disabilities may be at a higher risk than others especially during unexpected natural disasters where accessibility is not always guaranteed to shelter.

Manufactured homes are unsafe in a tornado. Fatality rates are significantly higher than sturdy buildings. An alternative shelter should be identified prior to a tornado watch or warning. In 2023, there was 1 mobile home estimated in Bristow.

Bristow has about 0 individuals living in group quarters.

Critical Facilities

Water Supply

The City of Bristow, Iowa works to provide its residents with a reliable water supply system that supports the needs of its small population. As a rural community, Bristow's water infrastructure is designed to ensure access to clean and safe drinking water. The system is primarily made up of privately owned wells to serve residents.

Wastewater Treatment System

The City of Bristow, Iowa operates without a centralized sewer system, with wastewater management being the responsibility of individual property owners through privately maintained septic systems. Each property is equipped with its own on-site septic system to handle wastewater treatment and disposal, a common practice for small, rural communities. Property owners are responsible for ensuring their systems are functioning properly, which includes regular maintenance such as pumping and inspections to prevent environmental contamination or system failures. The City may provide guidance or enforce regulations to ensure septic systems meet standards, protecting groundwater and public health. This decentralized approach reflects the community's rural character and the logistical challenges of implementing a municipal sewer system in a small population area.

Figure 3: Critical Facilities



Measuring Vulnerability to Selected Hazards

Tornado Hazard

Although there is no recent history of tornadoes in Bristow, the City remains vulnerable.

All buildings in Bristow are prone to being damaged by a tornado. Therefore, the vulnerability of the community was determined by the assessed valuation of all buildings and dwellings on all parcels within the city’s limits.

Using the assessed value from December 2023, the valuation of all 185 parcels in the City of Bristow is \$5,098,180 based on Butler County assessor data. The City of Bristow has a potential property loss of \$3,098,180 from a tornado disaster.

Table 7: Valuation of All Parcels in City of Bristow (2023)	
Percent of City at Risk of a Tornado	100%
# of Parcels	185
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$3,098,180
Source: Butler County Assessor’s Office	

Flood Prone Areas

The potential property losses of structures prone to flooding were calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

Assessing the community’s vulnerability to losses from tornado and flood hazards is determined with county assessor data. The potential property losses of structures prone to flooding were calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

In Figures 4 and 5, the flood plain map shows the 1% annual chance of flooding in and around the City of Bristow. The river basin is depicted in the topography shown on the map.

The parcels that are impacted by the 1% annual chance of flood are highlighted in Figure 6. There are 5 parcels within Bristow that are potentially affected. The value of all buildings and dwellings on the affected parcels is \$0 based on the latest Butler County assessor’s information. This covers 7.37% of the city’s total parcels.

Table 8: Potential Property Losses from the 1% Annual Chance Flood	
Percent of City Affected	7.37%
# of Parcels	5
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$0.00
Source: Butler County Assessor’s Office	

Figure 4: Flood Plain Map

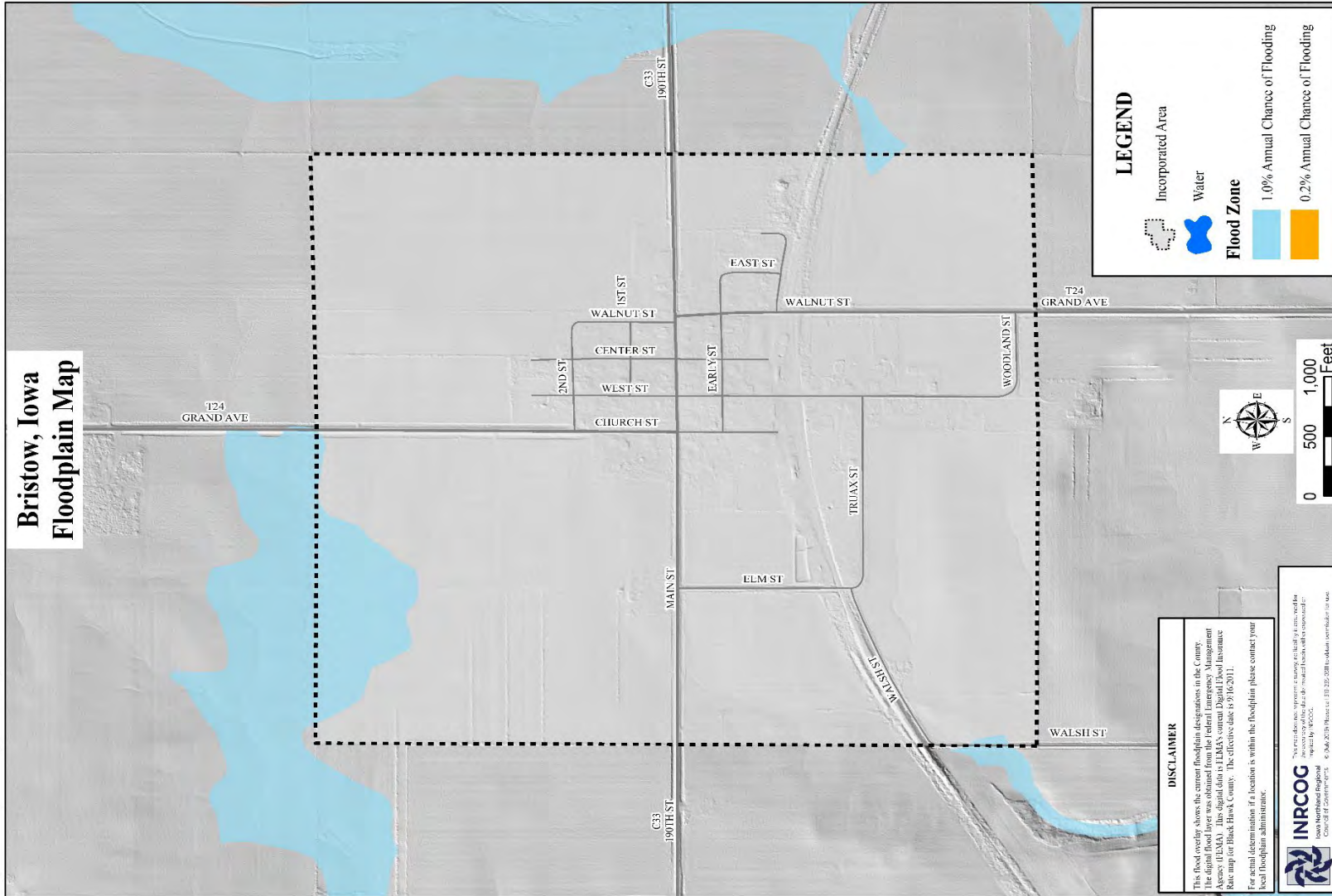
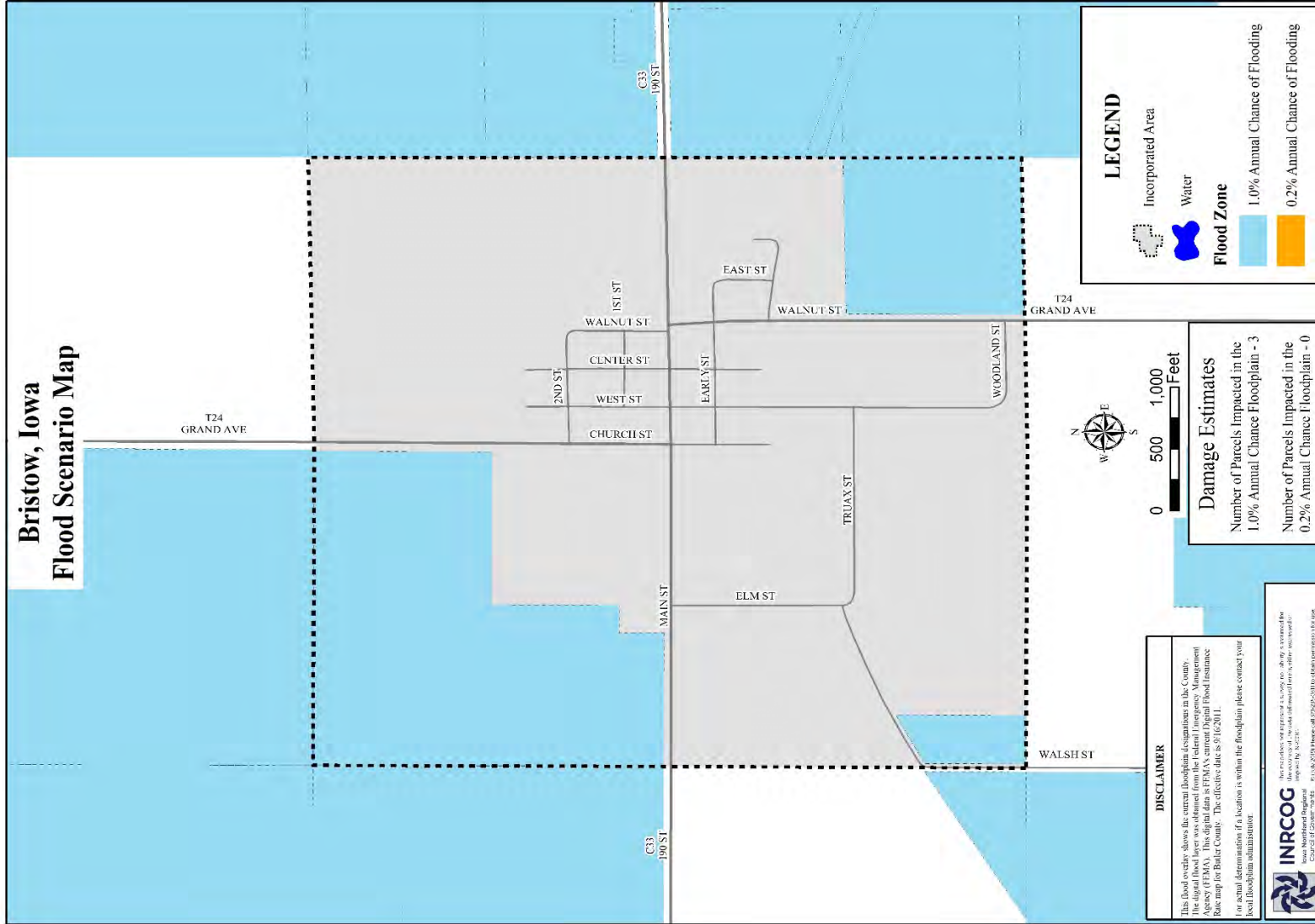


Figure 5: Flood Scenario Map



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.

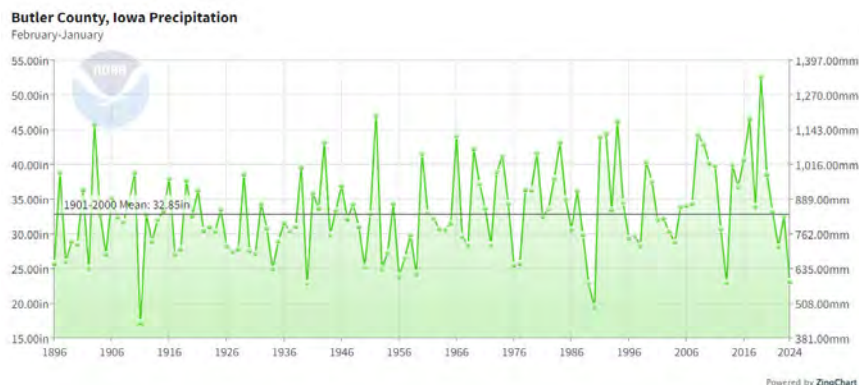
Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section.¹ The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use,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

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

Annual Precipitation Levels in Butler County

Taking the monthly precipitation records from January to December between 1895 and 2024 is shown in Figure 6. The values hover between 20 - 50 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 6. The trend shows a growing level of annual precipitation on average of 32.80 inches. Based on this historical trend, precipitation is likely to continue to increase in the coming years.

Figure 6: Historical Precipitation Data and Trend for Butler County, Iowa²



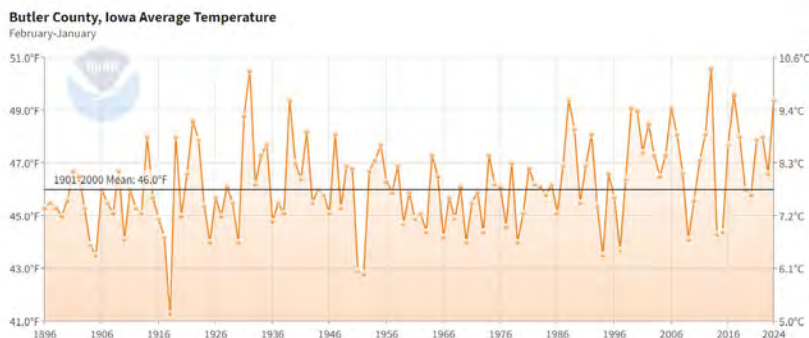
Average Annual Temperatures in Butler County

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

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 7: Historical Temperature Data and Trend for Butler 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 evaporate 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 more frequently 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 Butler County

- Prologued drought may occur as the atmosphere holds more moisture (even pulling moisture from plants) as the temperature increases. Longer periods between weather events mean there are drier 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. 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.

National Flood Insurance Program

The City of Bristow does not actively participate in the National Flood Insurance Program (NFIP). The City does not participate in the NFIP because there are no structures within the city that fall into the Special Flood Hazard Area. The current effective FIRM map date is December 17, 2020. Butler County participates in the NFIP and its effective map date is December 17, 2020.

The City has not experienced repetitive loss properties, which are defined as those incurring two or more flood insurance claims exceeding \$1,000 within a 10-year period. The city aims to reduce flood risks, protect property values, and enhance community resilience through these ongoing efforts and ensure there are no repetitive loss properties.

Hazard Risk Assessment

The top three hazards from the risk assessment are:

1. Tornado/Windstorm
2. Flash Flood
3. Animal/Plant/Crop Disease



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 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 Bristow are located below.

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.
Scores with a value Of 0 <u>No Presumed Risk</u>	The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

2025 Bristow Hazard Mitigation Plan

Probability

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

Probability Score Definitions		
Score	Description	
1	Unlikely	<i>Less than 10% 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.</i>
2	Occasional	<i>Between 10% and 20% 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.</i>
3	Likely	<i>Between 20% and 33% 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.</i>
4	Highly Likely	<i>More than 33% 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.</i>

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.

2025 Bristow Hazard Mitigation Plan

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 city 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

Table 10: Hazard Risk Assessment					
Hazards	Probability	Magnitude	Warning Time	Duration	Score
Tornado/Windstorm	4	2	4	3	3.3
Flash Flood	4	2	4	2	3.2
Animal/Crop/Plant Disease	3	2.5	4	4	3.1
Hazardous Materials	3	2	4	3	2.85
Grass/Wild Fire	4	1	4	1	2.8
Thunderstorm/Lighting/Hail	4	1	4	1	2.8
Drought	3	3	1	4	2.8
Levee/Dam Failure	2	3	4	3	2.7
Severe Winter Storm	4	1	2	2	2.6
Extreme Heat	4	1	1	3	2.55
Transportation Incident	3	1	4	3	2.55
Radiological Incident	1	2	4	3	1.95
Infrastructure Failure	1	2	4	3	1.95
Expansive Soils*	0	0	0	0	0
Landslides*	0	0	0	0	0
Sinkholes*	0	0	0	0	0
Earthquake*	0	0	0	0	0
Landslides*	0	0	0	0	0
River Flooding*	0	0	0	0	0
Terrorism*	0	0	0	0	0

Source: Completed by City Representative. Calculated score completed by INRCOG.

* The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

Hazard Mitigation Goals

in Bristow, Iowa

The following list of goals was developed by planning committee participants from the associated jurisdiction. Goals 1 through 7 were developed in the previous 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan. The planning committee participants chose to adopt the same goals and add additional goals after review.

- Goal #1** Minimize to the greatest possible extent the number of injuries and/or loss of life associated with all identified hazards.
- Goal #2** Reduce or eliminate property damage due to the occurrence of disasters.
- Goal #3** Improve response operations in the event of a disaster.
- Goal #4** Return the community to either a pre-disaster or improved conditions in a timely manner in the wake of a disaster.
- Goal #5** Develop strategies that can be used to reduce the community's overall risk to the negative effects of natural, technological, and man-made disasters.
- Goal #6** Reconvene the planning committee annually to review the plan document, check for compliance with the plan goals, and track progress in achieving the mitigation strategies.
- Goal #7** Maintain the Countywide Multi-Jurisdictional format for future updates.

Previous 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 Bristow

Butler County Emergency Management Agency

Bristow works with the Butler County Emergency Management Coordinator, based out of the City of Allison, 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 Butler County Emergency Management Coordinator is Chris Showalter.

Law Enforcement

Bristow contracts with the County Sheriff's Department for police services. The department is based out of Allison, Iowa. They handle a range of essential services, including routine patrols, emergency response, and criminal investigations.

Fire Protection and EMS Services

Fire protection for the City of Bristow is provided by the volunteer Bristow Fire Department. The station is located on Main Street. There are 16 volunteer fire fighters that serve in the department currently. Each of the members is HAZMAT certified Firefighter 1 trained. There are several members

that have Firefighter 2 training, and others with driver/operator training. Dispatch is provided via a paging system called I Am Responding app that is accessible through a phone app.

The Bristow Fire Department maintains 28E agreements with surrounding communities to provide additional support when needed and required.

Equipment used by the Bristow Fire Department includes the following:

- Jaws of life
- Hydraulic pumps
- Fire trucks
- Rescue pumper
- Top Kick

EMS Services

Butler County EMS represents all 8 of the EMS service in the County. Butler County Board of Supervisors deemed EMS an Essential Service for the County according to Iowa Code Chapter 422D and recently hired an EMS Coordinator to provide coverage and support for EMS services within the county.

2025 Bristow Hazard Mitigation Plan

Medical Facilities

The City of Bristow does not have any medical clinics located within the city.

The Waverly Health Center in Waverly is located approximately 28 miles southeast and the Franklin General Hospital in Hampton is located approximately 18 miles southwest.

HAZMAT Response Teams

Bristow 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 hazard 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 the containment of the site and disposal of hazardous chemicals.

Warning Systems in Bristow

1. Tornado Sirens

Bristow has a tornado warning siren system with a 30-year life span and does not expect to replace within the next 3 to 5 years. It is approximately 10 years old.

The activation systems of the sirens are activated and operated by trained Bristow Fire Department storm spotters.

2) Alert Iowa Mass Communication System

Butler County has implemented the use of Alert Iowa, a mass communication notification system. The system features are controlled through the Butler 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. There is an optional way to receive the same alert for events such as: excessive heat warnings, hazardous materials warnings, heavy snow warning, high wind warnings, ice storm

2025 Bristow Hazard Mitigation Plan

warnings, law enforcement warnings, shelter in place warnings, sleet warnings, wind chill warnings, and winter storm warnings.

Public Works/Street Department

The Public Works Department is located at City Hall at 716 West Street.

Education and Outreach Projects in Bristow

Bristow currently has E911 Emergency Assistance in place. Other communications used by city personnel include pagers, radios, and cellular telephones. Radio, television, cellular telephones, landline telephones, newspapers, warning sirens, and NOAA Radio Service are available to the public at large. The City uses Facebook for local notifications and updates. Announcements are also made available in the local newspaper.

The City partners with KLMJ 104.9 for radio announcements.

Natural Resource Protection in Bristow

Bristow does not have any natural resources protection actions.

Structural Projects in Bristow

The City does not have any major structural projects that have taken place recently.

Local Plans and Regulations in Bristow

Bristow completed a local plan and regulation assessment. The results are shown in the following table.

Table 11: Local Regulatory Capability Assessment	
Community	City of Bristow
Previous HMP Participant?	Yes
Comprehensive Plan?	No
Building Code?	No
Zoning Ordinance? RR=restricted residential	Yes - RR
Subdivision Regulations?	No
Floodplain Management Ordinance?	No
Tree-Trimming Ordinance?	No
Storm Water Ordinance?	No
Snow Removal Ordinance?	No

Timeframe	Description
Immediate	1 - 6 months
Short Term	1-3 years
Mid-Term	3-5 Years
Long-Term	More than 5 Years

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

How to Use the Implementation Guide in this Plan

Notes about the tasks (listed as line items) on the tables on the following pages.

- 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 the City’s 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 & 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. The time frame to complete the column is based on four designations (see table to the left).

Strategic Implementation Guide for Hazard Mitigation Activities

Table 12: '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
High	Enhance community resilience by providing residents with the knowledge, tools, and resources need to effectively mitigate, prepare for, respond to, and recover from natural and man-made hazards.	All	City Clerk	Immediate	Minimal	City General Fund
Medium	Work with Butler Public Health to educate the public on pandemic human disease prevention and animal disease.	Pandemic Human Disease, Animal/Crop/Plant Disease	Butler County Public Health, City Clerk	Mid-Term	Minimal	City General Fund
High	Educate the public on outdoor warning sirens to ensure compliance by community during severe weather.	All	City Clerk; Butler Emergency Services	Short-Term	Minimal	City General Fund; Butler Emergency Services

Table 13: 'Emergency Services' Type Mitigation Activities						
Description: Actions that protect people and property during and immediately after a disaster or hazard event.						
<i>Priority</i>	<i>Tasks</i>	<i>Hazard(s)</i>	<i>Primary Agency Responsible for Implementation</i>	<i>Time Frame to Complete</i>	<i>Estimated Cost (s)</i>	<i>Funding Source</i>
High	Update communication equipment for emergency services agencies for disaster response including but not limited to radio upgrades.	All	City Clerk; Butler Emergency Services	Short-Term	Moderate	City General Fund; Butler Emergency Services
Medium	Work with local police and fire response team to update planning responses to transportation, infrastructure, and hazardous materials response.	Transportation Incidents, Hazardous Materials, Infrastructure Failures, Radiological Incidents	City Clerk; Hazard Mitigation Committee; Butler Emergency Services;	Short-Term	Minimal	City General Fund; Butler Emergency Services
Medium	Purchase additional warning sirens for unserved areas of the community.	All	City Clerk; Butler Emergency Services	Short-Term	Moderate	City General Fund; Butler Emergency Services
Medium	Ensure an adequate number of safe rooms are available for the community for use during a disaster.	All	City Clerk; Butler Emergency Services	Short-Term	Moderate	City General Fund; Butler Emergency Services

Table 14: 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	Enhance the City's resilience to flash flooding events by ensuring proper infrastructure is in place to handle large rainfalls.	Flash Flood, Levee Failure	City Council	Long-Term	High	City General Fund; Hazard Mitigation Grant Program, Flood Mitigation Assistance Grant Program
Low	Collaborate with utility companies to prioritize and implement the burial of power lines, reducing vulnerability to severe weather events, minimizing power outages, and enhancing community resilience and safety.	Thunderstorm, Tornado/Windstorm, Flash Flood, Severe Winter Storm, River Flood, Infrastructure Failure	Utility Provider, City Council	Long-Term	High	Grid Resilience Utility Grants, Hazard Mitigation Grants

Table 15: 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
Low	Explore natural solutions such as detention ponds and natural waterways to ensure proper stormwater drainage.	River Flood, Flash Flood, Levee Failure	City Council	Long-Term	High	City General Fund; DNR Grants; Hazard Mitigation Grant Program
Low	Promote community initiatives to encourage the planting of grass, native plants, and other ground cover on open lots to prevent soil erosion, mitigation impact of droughts, and improve stormwater absorption.	Extreme Heat, Grass/Wildfire, Drought, Plant Disease, Sinkholes, Expansive Soils	City Clerk	Mid-Term	Minimal	City General Fund

Table 16: Local Plans and Regulations Mitigation Activities						
Description: Actions by administrative or regulatory processes which direct how land and buildings are developed and built. These actions include regulations by public entities to reduce hazard losses.						
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	Update ordinances and building codes that establish consistency and improved effectiveness in addressing the city's hazard mitigation goals.	All	City Council	Short-Term	Minimal	City General Fund
High	Establish clear enforcement practices that ensure ordinances and codes are followed at a local level.	All	City Council	Short-Term	Moderate	City General Fund
Low	Develop a water rationing plan in the need of a severe drought.	Extreme Heat, Drought	City Clerk, Public Works Director, City Council	Mid-Term	Minimal	City General Fund
Medium	Enhance the City's resilience to flooding events by preventing development located within flood prone areas.	River Flood, Flash Flood, Levee Failure	City Council	Long-Term	Moderate	City General Fund; Hazard Mitigation Grant Program, Flood Mitigation Assistance Grant Program

City of Clarksville, Iowa

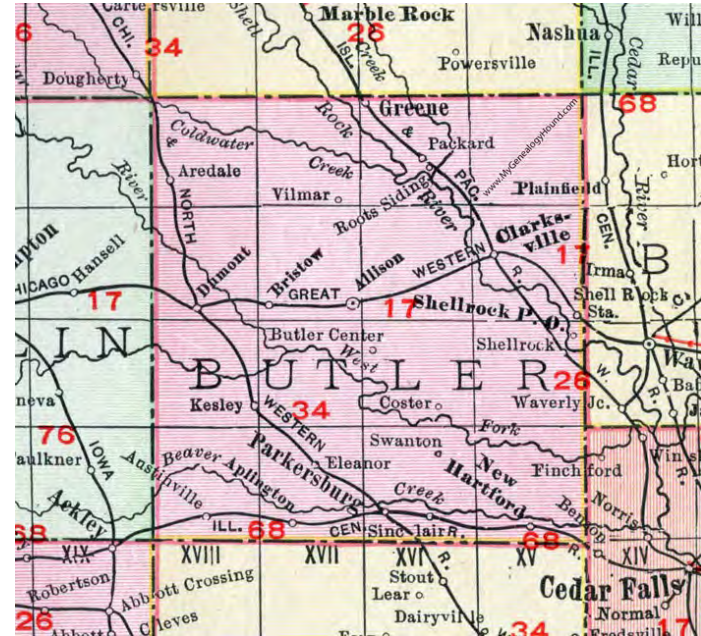
Hazard Mitigation Plan 2025 Update

Appendix E of Butler County Multi-Jurisdictional Hazard Mitigation Plan

Funded by the Butler County Emergency
Management Agency

Prepared by Iowa Northland Regional Council
of Governments (INRCOG)

January 2025



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Adopting Resolution by Clarksville City Council

Resolution 25-1

A RESOLUTION OF THE CITY COUNCIL OF CLARKSVILLE, IOWA, ADOPTING THE CITY OF CLARKSVILLE, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Clarksville City Council recognizes the threat that natural hazards pose to people and property within Clarksville; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Clarksville served and participated in the formulation of the Plan, hereby known as the City of Clarksville, Iowa Hazard Mitigation Plan 2025 Update, as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Clarksville from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of Clarksville demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF CLARKSVILLE, IOWA, THAT:

Section 1: In accordance with local regulations, the Council adopts the City of Clarksville, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Clarksville may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Clarksville to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 6th day of January 2025.

Roll Call Vote Ayes: 5

Nays: 0

Absent: 7

Attest: Molly Bohlen, City Clerk

Jerald Heuer, Mayor

I hereby certify that the foregoing constitutes a true and complete copy of a resolution duly adopted by the City Council of the City of Clarksville, at a regular meeting held on January 6, 2025, at which all council members were present except, none.

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2025 Clarksville Hazard Mitigation Plan

About

The City of Clarksville developed this Plan as part of the 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan update process. The 2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan is a sequential 5-year update to the previous document. Federal regulations regarding how local governments may receive funding from FEMA require that the specified jurisdiction (city, school district, county) have an approved hazard mitigation plan that is in good standing (updated and FEMA approved) to remain eligible for grant funding. This Plan was developed to meet the requirements in Title 44 CFR § 201.6.

Elected officials, city clerks, planners, first responders, and other stakeholders were invited to attend planning committee meetings as participants to learn about hazard mitigation and complete data gathering assignments. These assignments were submitted to the plan development coordinators: Butler County Emergency Management Agency (EMA) and Iowa Northland Regional Council of Government (INRCOG). Butler County's EMA initiated and funded this effort for all participating communities and contracted INRCOG to coordinate the plan development process with a multi-jurisdictional approach.

Participating communities included all ten (10) incorporated municipalities of Butler County. County staff participating in the committee were representing their respective County departments. School district superintendents for the public school districts attended and completed the data gathering assignments for their district communities. Four (4) committee

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.

meetings were held between October 1st and December 12th wherein each participant provided data and completed work sheets to develop their hazard mitigation plans.

The Benefits of Hazard Mitigation for Local Governments

For local governments, there are benefits in knowing how specific hazards may affect their communities, its potential to cause negative impacts, and develop pre-disaster actions or activities to lessen or avoid those anticipated negative impacts. Benefits include:

- ✓ An increased understanding of how natural and human caused hazards develop under certain conditions which may inform a level of magnitude or intensity.
- ✓ Take advantage of the opportunity to create more sustainable and disaster-resistant communities.
- ✓ Participating in this collaborative intergovernmental effort is cost effective for all participants.
- ✓ Using limited resources to address the threat from hazard events that may have the biggest impact on the community.
- ✓ Reducing or preventing damage to existing structures and reducing their subsequent repair costs.
- ✓ Identifying vulnerable populations to establish equitable outcomes.

- ✓ Hazard mitigation involves a commitment to long-term goals that focus on lessening or reducing negative impacts of natural, and human caused hazards.

The Planning Process

In order to reduce the threat of negative impacts from natural hazards, a risk informed approach was used in this planning process. A risk informed approach is a multi-step process. This Plan also involves collaboration among participants in the planning committee. The process involved learning the historical occurrence of when such hazards may have occurred in Butler County.

Participants in the Butler County Multi-Jurisdictional Hazard Mitigation Plan Planning Committee determined the level of risk facing their communities by completing a risk assessment. Data gathering by committee participants involved giving updates to existing mitigation activities by the local government.

Participants in the Plan followed a general 5 step process. (below)



Community Data Sources

Population data is based on 2020 decennial Census data. The 2022 American Community Survey 5-year estimates are the latest and most reliable survey data sets to understand what is taking place in the county and each city. Most counties, cities, and towns rely on 5-year estimates. Employment, workforce, and industry figures in this Plan are estimates that have a margin of error.

It is important to note that the ACS estimates used for rural communities will have a degree of uncertainty associated with them, called sampling error, because they are based on a sample. In general, the larger the sample, the smaller the level of sampling error. Rural communities tend to have smaller samples than larger cities, so the “margin of error”—a measure of the precision of an estimate at a given level of confidence—likely will be larger for rural areas.

Crash data along roadways within each jurisdiction is collected between the period of 2019 and 2023. Using a map tool interface, the data was taken at a city level and presented to understand incident severity, casualties, and property damage from reported accidents. Accident data is added to the site daily and accessible through an online website, <https://icat.iowadot.gov/>.

In the risk analysis section of this Plan, estimates of property loss are measured using mapping of hazardous zones. For the vulnerability risk assessment, flood prone homes were determined using the boundaries of the 100 year (1%) annual chance flood zone. The value of potential property loss was derived from the 2023 assessed dollar value of

structures and dwellings on affected parcels provided by the Butler County Assessor’s Office.



Clarksville, Iowa Downtown

City Profile

Jurisdiction: City of Clarksville

County: Butler County

Population (2020): 1,429

The City of Clarksville is in the northwest corner of Butler County. State Highway 3 is just south while Highway 218 runs east of Clarksville.

The following data presented in tables on the following page include population, employment, and industry sector data for the community based on 2020 Census data and 2022 American Community Survey 5-year Estimates.

In 2020, the city's population was 1,429 and 92.4% were White with the median age is 42.7. Working aged residents (15-60 years) made up 55% of the population. Children and teens (younger than 15 years) made up 15.4% of Clarksville's population while older adults (older than 65 years) made up 21.4%.

The median household income in 2022 was \$58,523. The unemployment rate was 2.6%. Most people commute to work, and 3 people, or 0.5% of the workforce, work from home. The top three largest industry sectors in Clarksville are as follows (in order from highest to lowest): 1) Educational services, and health care, and social assistance, 2) Manufacturing, and 3) Retail Trade.

Figure 1: Map of Butler County



2025 Clarksville Hazard Mitigation Plan

Table 1: Population Data (2020)		
City of Clarksville		
	Total	% of Population
Total population	1,264	100%
AGE		
Under 5 years	62	4.7%
5 to 9 years	99	7.6%
10 to 14 years	76	5.8%
15 to 19 years	50	3.8%
20 to 24 years	82	6.3%
25 to 29 years	73	5.6%
30 to 34 years	88	6.7%
35 to 39 years	94	7.2%
40 to 44 years	89	6.8%
45 to 49 years	58	4.4%
50 to 54 years	74	5.6%
55 to 59 years	108	8.2%
60 to 64 years	77	5.9%
65 to 69 years	79	6.0%
70 to 74 years	81	6.2%
75 to 79 years	41	3.1%
80 to 84 years	34	2.6%
85 years and over	46	3.5%
Median Age	42.7	-
RACE		
White	1,211	92.4%
Black or African American	10	0.8%
Hispanic or Latino (of any race)	42	3.2%
American Indian and Alaska Native	1	0.01%
Asian	4	0.3%
Native Hawaiian/Other Pacific Islander	0	0.0%
Some Other Race	0	0.0%
Two or More Races	75	5.7%

Source: 2020 Census, 2022 ACS 5-Yr Estimates

Table 2: Employment Data (2022)		
City of Clarksville		
	Value	% of Population
Median Household Income	\$58,523	-
Unemployment Rate (2022)	2.6%	-
Workers that commute to work	621	99%
Workforce that works from home	3	0.5%

Source: 2022 American Community Survey 5-Yr Estimates

Table 3: Employment Industry Data (2022)		
City of Clarksville		
Workforce Industry	# of Workers	% of Workforce
Workforce	644	100%
Agriculture, forestry, fishing and hunting, and mining	6	6.2%
Construction	24	15.3%
Manufacturing	142	20.1%
Wholesale trade	11	4.4%
Retail trade	78	10.9%
Transportation -warehousing, utilities	38	2.8%
Information	8	0.6%
Finance and insurance, and real estate and rental and leasing	24	6.4%
Professional, scientific, and management, and administrative and waste management services	51	3.2%
Educational services, and health care and social assistance	177	21.5%
Arts, entertainment, and recreation, and accommodation and food services	41	1.8%
Other services, except public administration	36	2.0%
Public administration	8	4.6%

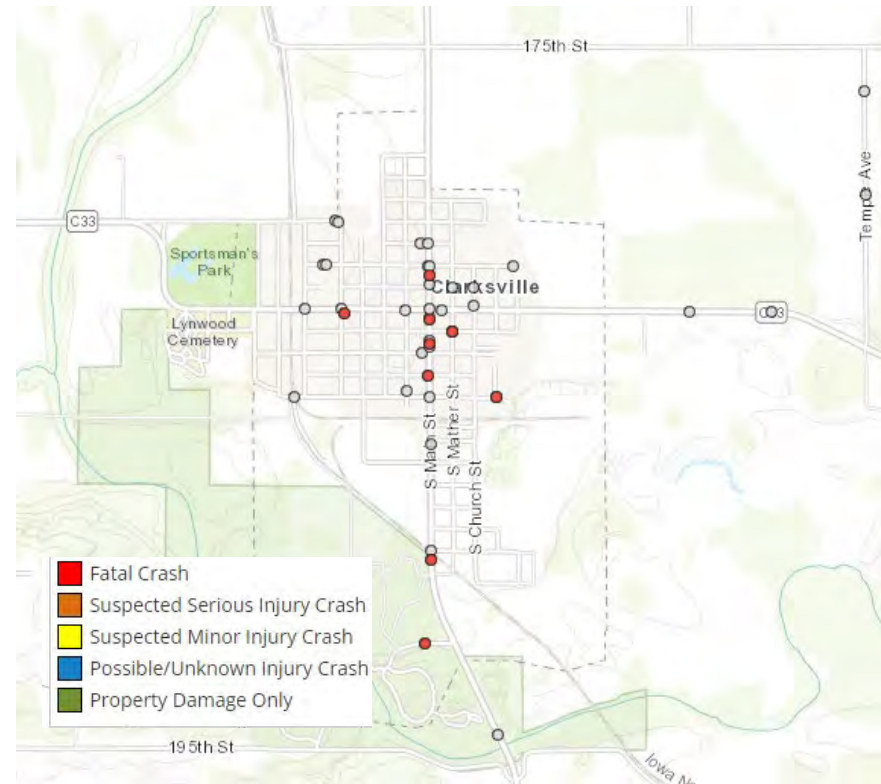
Source: 2022 American Community Survey 5-Yr Estimates

Highway Traffic and Crash Data

Based on Iowa DOT crash data, between 2019 and 2024 there have been 10 incidents. Of those incidents, 5 incidents were property damage only, resulting in \$81,850 in total damages. No fatalities or crashes with severely injured persons were reported.

Table 4: Crash Data from 2019-2024	
Total Crashes	10
Crash Severity	
Fatal	0
Suspected Serious Injury	0
Suspected Minor Injury	4
Unknown	1
Property Damage Only	5
Property Damage Total	\$81,850
<i>Source: Iowa DOT Crash Data</i>	

Figure 2: Iowa Crash Analysis for All Traffic Incidents (2019-2024)



Source: Iowa DOT

Housing Data

The City of Clarksville has 543 occupied housing units. Nearly 87% of them are single family detached housing. There are 22 housing units that are mobile homes or other types of housing. There are 5 duplex apartments. 8.4% are multifamily (greater than 2 units).

A large portion of the housing stock was built between 1960-79 (22.5%). About 80.7% of the housing stock was built prior to 1980. Most homes heat their units with gas (70.5%).

Community Utility Providers

MidAmerican Energy provides utility electric services and natural gas services. Butler-Bremer Communications provides telephone services and broadband internet services. Residents receive water, sewer, and recycling collection services from the city.

Table 6: Utility Providers	
City of Clarksville	
Electric	MidAmerican Energy
Natural Gas	MidAmerican Energy
Telephone/Internet	Butler-Bremer Communications
Cable TV	Butler-Bremer Communications
Water Services	City of Clarksville
Sewer Services	City of Clarksville
Sanitation	City of Clarksville

Table 5: Housing Data (2022)		
City of Clarksville		
	Total	% of Occupied Units
Occupied housing units	543	100%
Housing Unit Type		
1, detached	470	86.6%
1, attached	5	0.9%
2 apartments	5	0.9%
3 or more apartments	41	7.5%
Mobile home or other type of housing	22	4.1%
Year Structure Built		
2020 or later	0	0%
2010 to 2019	29	5.3%
2000 to 2009	23	4.2%
1980 to 1999	53	9.8%
1960 to 1979	122	22.5%
1940 to 1959	76	14.0%
1939 or earlier	240	44.2%
House Heating Fuel		
Utility gas	383	70.5%
Bottled, tank, or LP gas	4	0.7%
Electricity	150	27.6%
Fuel oil, kerosene, etc.	0	0%
Coal or coke	0	0%
All other fuels		1.1%
No fuel used	0	0.0%

Source: 2022 American Community Survey 5-Year Estimates

Vulnerable Assets

People

Vulnerability to hazard losses increase when there are larger concentrations of people. In towns where population density increases, the number of people that can be harmed during a hazard event (tornado, flood, etc.) increases. In addition, there are segments of the population that may be more susceptible to impacts and/or harm from a hazard depending on their location within the area (i.e. flood zone or near industrial plants with hazardous materials). This includes underserved or socially vulnerable populations.

Vulnerable Age Groups

Both younger and older age groups are likely to require assistance with physically moving to shelters or finding safety. Elderly residents may not have a personal vehicle to move away from a hazard quickly. Cognitive impairments among older adults may cause some to get easily confused.

Households Facing Poverty or With Limited Income

Families or older adults living near or below poverty are more likely to be impacted by hazards than other households with higher incomes. The costly repairs from a tornado or derecho for a low-income household may be more adversely affected than another household that has the same damage but may be able to afford the repairs without much change to their lifestyles or needs. That disparity is also different during extreme weather events such as heat waves. Low-income households may not be able to afford the electricity to run air conditioning and many may face

complications that involve heat stroke, fatigue, or death due to their age (infants or the infirm) and health conditions (obesity, heart conditions, diabetes).

Clarksville's Vulnerable Populations

In Clarksville, 14.1% (or 174 out of 1,237) of individuals are below the poverty level. About 24.9% (145) of occupied households have elderly occupants (60 years and over). About 15% of occupied households have elderly residents (65 years and over) living alone.

Most residents have access to a vehicle, however an estimate of 2.5% (10) households have no access to a vehicle. An estimated 3 of those households without a vehicle are renters. Nearly 13% of households have a person living with a disability. This is broadly defined from the data estimates for Clarksville. However, persons with mobility disabilities may be at a higher risk than others especially during unexpected natural disasters where accessibility is not always guaranteed to shelter.

Manufactured homes are unsafe in a tornado. Fatality rates are significantly higher than sturdy buildings. An alternative shelter should be identified prior to a tornado watch or warning. In 2022, there are about 22 mobile homes estimated in Clarksville.

Clarksville has about 36 individuals living in institutionalized quarters, which is likely the assisted living facility and jail.

Critical Facilities

Water Supply

The City of Clarksville, Iowa, operates a municipal water supply system serving approximately 1,264 residents. The system sources water from two active wells, known as Clarksville #2 and Clarksville #3, both drawing from the Devonian aquifer at depths of 245 and 220 feet, respectively.

Water is treated with chlorine at the well sites to ensure quality and safety.

The city maintains an elevated water tower with a capacity of 400,000 gallons to support consistent water pressure and supply. While specific data on daily water usage isn't readily available, the system is designed to meet the community's needs effectively.

In addition to the municipal supply, some housing units utilize individually drilled wells for their water needs.

Wastewater Treatment Plant and Lift Stations

The City of Clarksville operates a wastewater treatment facility that processes municipal wastewater collected through an extensive network of sewer lines and lift stations.

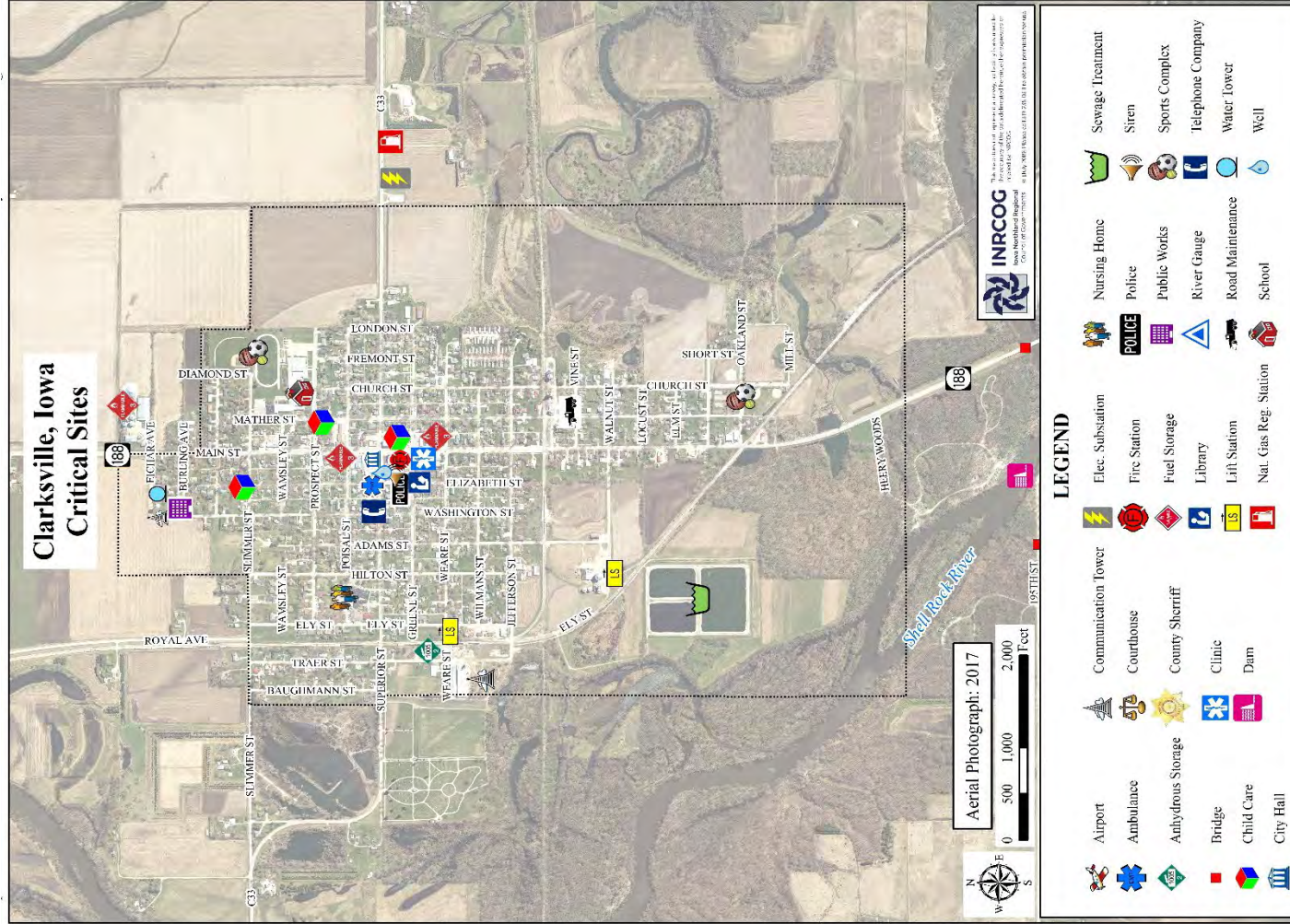
The treatment system employs a lagoon-based process, effectively managing the community's wastewater needs.

Constructed in the early 1980s, the facility has been consistently maintained and upgraded to comply with

environmental standards and to support both current residents and future economic development.

Clarksville regularly assesses its wastewater infrastructure to ensure long-term efficiency and adherence to regulatory requirements. Projections indicate that over the next 20 years, the city's population will remain steady. The existing wastewater treatment plant has the capacity to accommodate gradual growth. Future hazard mitigation efforts will consider additional facilities related to the assets identified in the vulnerability assessment.

Figure 3: Critical Facilities



Measuring Vulnerability to Selected Hazards

Tornado Hazard

Although there is no recent history of tornadoes in Clarksville, the city remains vulnerable.

All buildings in Clarksville are prone to being damaged by a tornado. Therefore, the vulnerability of the community was determined by the assessed valuation of all buildings and dwellings on all parcels within the city’s limits.

Using the assessed value from December 2023, the valuation of all 812 parcels in the City of Clarksville is \$75,629,190 based on Butler County assessor data. The City of Clarksville has a potential property loss of \$67,394,280 from a tornado disaster.

Table 7: Valuation of All Parcels in City of Clarksville (2023)	
Percent of City at Risk of a Tornado	100%
# of Parcels	812
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$67,394,280
Source: Butler County Assessor’s Office	

Flood Prone Areas

The potential property losses of structures prone to flooding was calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

Assessing the community’s vulnerability to losses from tornado and flood hazards is determined with county assessor data. The potential property losses of structures prone to flooding was calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

In Figures 4 and 5, the flood plain map shows the 1% annual chance of flooding in and around the City of Clarksville. The river basin is depicted in the topography shown on the map.

The parcels that are impacted with the 1% annual chance of flood are highlighted in Figure 6. There are 150 parcels within Clarksville that are potentially affected. The value of all buildings and dwellings on the affected parcels is \$7,917,400 based on the latest Butler County assessor information. This covers 12.48% of the city’s total parcels.

Table 8: Potential Property Losses from the 1% Annual Chance Flood	
Percent of City Affected	12.48%
# of Parcels	150
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$7,917,400
Source: Butler County Assessor’s Office	

Figure 4: Flood Plain Map

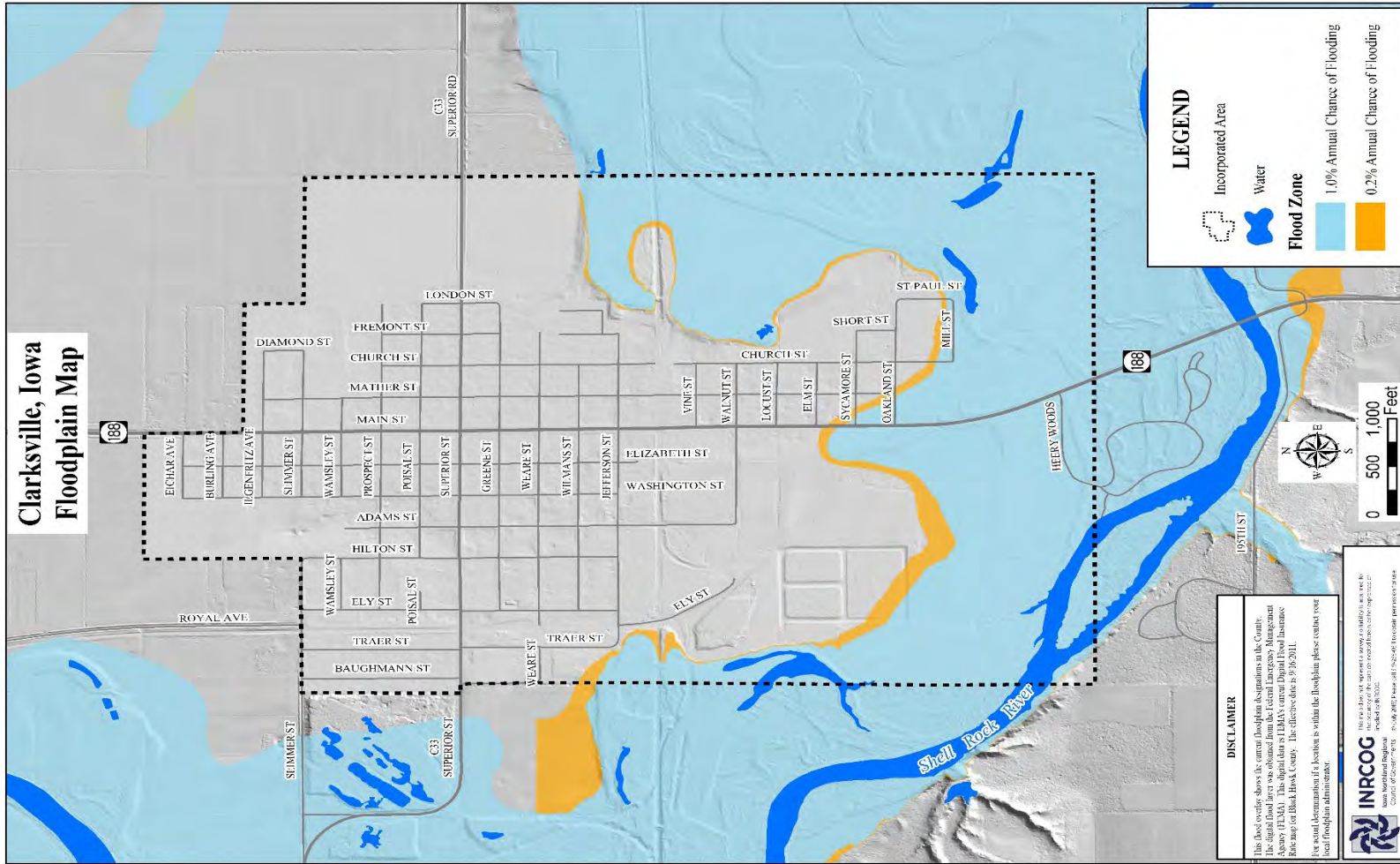
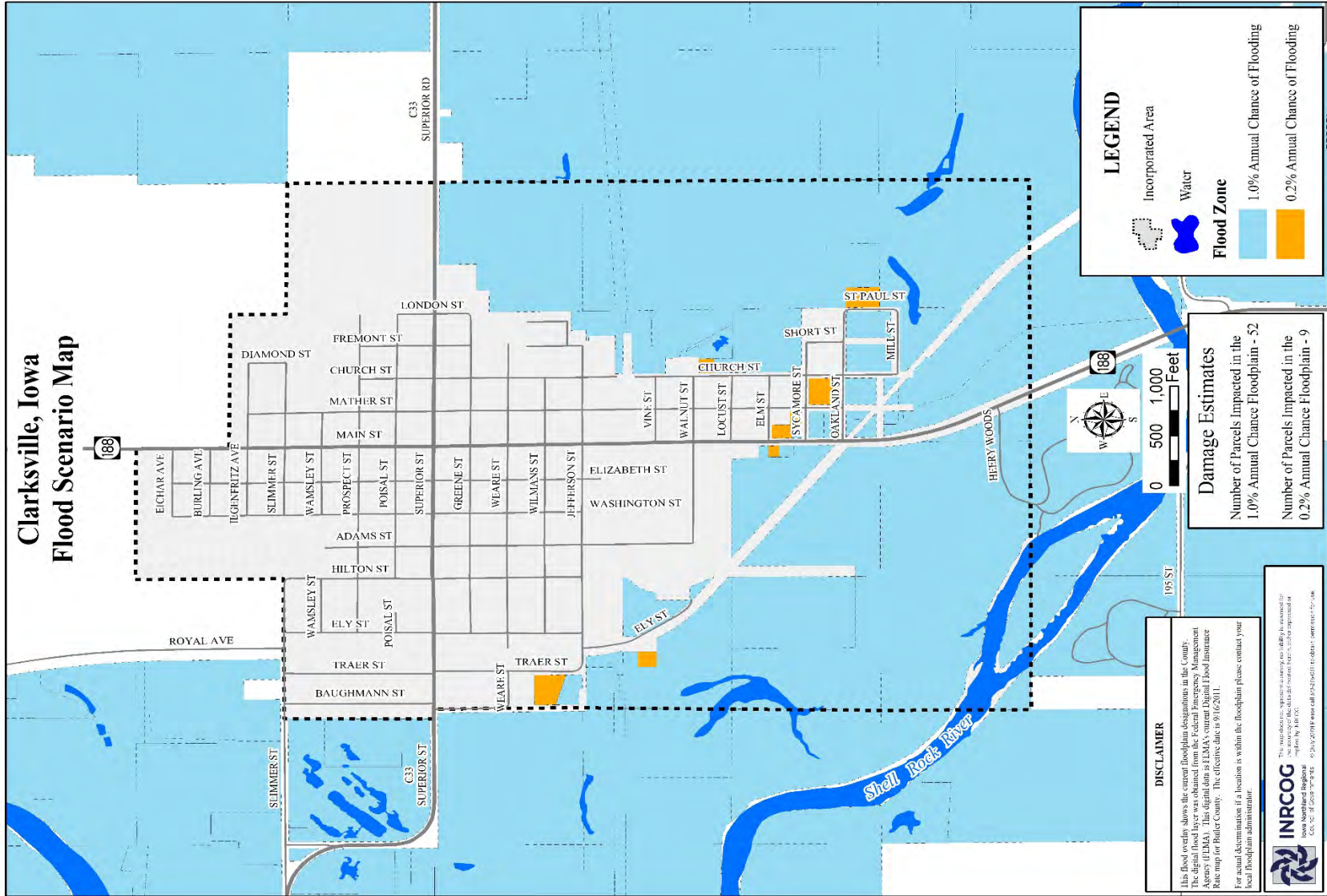


Figure 5: Flood Scenario Map



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.

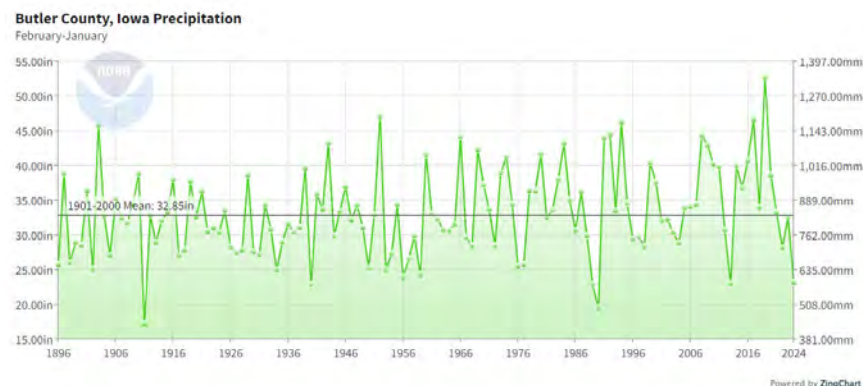
Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section.¹ The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use,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

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

Annual Precipitation Levels in Butler County

Taking the monthly precipitation records from January to December between 1895 and 2024 is shown in Figure 6. The values hover between 20 - 50 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 6. The trend shows a growing level of annual precipitation on average of 32.80 inches. Based on this historical trend, precipitation is likely to continue to increase in the coming years.

Figure 6: Historical Precipitation Data and Trend for Butler County, Iowa²



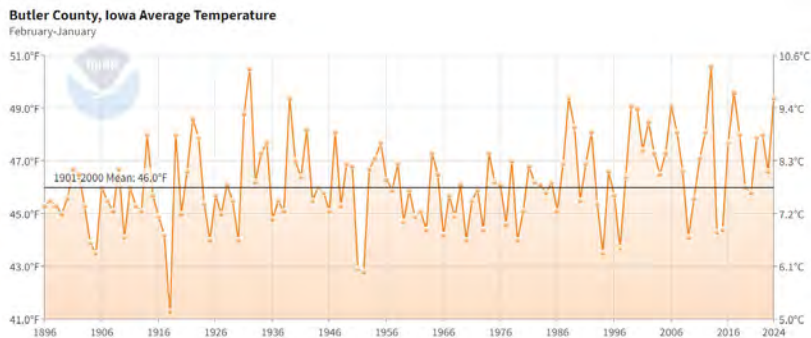
Average Annual Temperatures in Butler County

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

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 7: Historical Temperature Data and Trend for Butler 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 evaporate 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 more frequently 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 Butler County

- Prologued drought may occur as the atmosphere holds more moisture (even pulling moisture from plants) as the temperature increases. Longer periods between weather events mean there are drier 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. 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.

National Flood Insurance Program

The City of Clarksville participates in the National Flood Insurance Program. The current effective FIRM map date is December 17, 2020. Butler County participates in the NFIP and its effective map date is December 17, 2020.

FEMA defines a repetitive loss property as an insurable building that has experienced two losses in a 10-year period in which each loss is \$1,000 or more. There are 0 reported repetitive loss properties. The City has 12 total policies with a total net dollars paid value of \$572,059.

The designee for the implementation of NFIP requirements within Clarksville is the City Clerk.

Hazard Risk Assessment

The top three hazards from the risk assessment are:

1. Severe Winter Storms
2. Transportation Incident
3. River Flood



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 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 Clarksville are located below.

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.
Scores with a value Of 0 <u>No Presumed Risk</u>	The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

2025 Clarksville Hazard Mitigation Plan

Probability

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

Probability Score Definitions		
Score	Description	
1	Unlikely	<i>Less than 10% 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.</i>
2	Occasional	<i>Between 10% and 20% 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.</i>
3	Likely	<i>Between 20% and 33% 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.</i>
4	Highly Likely	<i>More than 33% 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.</i>

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.

2025 Clarksville Hazard Mitigation Plan

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 city 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

Table 10: Hazard Risk Assessment					
Hazards	Probability	Magnitude	Warning Time	Duration	Score
Severe Winter Storm	4	3	3	3	3.45
Transportation Incident	4	3	4	1	3.4
River Flood	3	4	3	4	3.4
Thunderstorm/Lightning/Hail	4	2	4	1	3.1
Pandemic Human Disease	3	3	2	4	2.95
Hazardous Materials	3	2	4	3	2.85
Flash Flood	3	2.5	3	2.5	2.8
Levee/Dam Failure	2	3	3	3	2.55
Extreme Heat	3	2	1	4	2.5
Tornado/Windstorm	2	2	4	1	2.2
Drought	2	2	1	4	2.05
Animal/Crop/Plant Disease	2	2	1	4	2.05
Grass/Wild Land Fire	2	1	4	1	1.9
Sinkholes	1	1	4	1	1.45
Expansive Soils	1	1	1	1	1
Infrastructure Failure	1	1	1	1	1
Earthquake*	0	0	0	0	0
Landslides*	0	0	0	0	0
Radiological Incident*	0	0	0	0	0
Terrorism *	0	0	0	0	0

Source: Completed by City Representative. Calculated score completed by INRCOG.

* The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

Hazard Mitigation Goals

in Clarksville, Iowa

The following list of goals was developed by planning committee participants from the associated jurisdiction. Goals 1 through 7 were developed in the previous 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan. The planning committee participants chose to adopt the same goals and add additional goals after review.

- Goal #1** Minimize to the greatest possible extent the number of injuries and/or loss of life associated with all identified hazards.
- Goal #2** Reduce or eliminate property damage due to the occurrence of disasters.
- Goal #3** Improve response operations in the event of a disaster.
- Goal #4** Return the community to either a pre-disaster or improved conditions in a timely manner in the wake of a disaster.
- Goal #5** Develop strategies that can be used to reduce the community's overall risk to the negative effects of natural, technological, and man-made disasters.
- Goal #6** Reconvene the planning committee annually to review the plan document, check for compliance with the plan goals, and track progress in achieving the mitigation strategies.
- Goal #7** Maintain the Countywide Multi-Jurisdictional format for future updates.

Previous 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 Clarksville

Butler County Emergency Management Agency

Clarksville works with the Butler County Emergency Management Coordinator, based out of the City of Allison, 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 Butler County Emergency Management Coordinator is Chris Showalter.

Law Enforcement

Clarksville has one police chief and 1 part time reserve officer. The police department is located at 115 W Superior Street. They handle a range of essential services, including routine patrols, emergency response, and criminal investigations.

Fire Protection and EMS Services

Fire protection for the City of Clarksville is provided by the Clarksville Fire Department. The station is located at 107 S Elizabeth Street. There are 19 volunteer fire fighters that serve in the department currently. Each of the members is

HAZMAT certified Firefighter 1 trained. There are several members that have Firefighter 2 training, and others with driver/operator training. Dispatch is provided via a paging system called I Am Responding app that is accessible through a phone app.

The Clarksville Fire Department maintains 28E agreements with surrounding communities to provide additional support when needed and required.

Equipment used by the Clarksville Fire Department includes the following:

- Jaws of life
- Hydraulic pumps
- Fire trucks
- Rescue pumper
- Top Kick

EMS Services

Butler County EMS represents all 8 of the EMS service in the County. Butler County Board of Supervisors deemed EMS an Essential Service for the County according to Iowa Code Chapter 422D and recently hired an EMS Coordinator to provide coverage and support for EMS services within the county.

2025 Clarksville Hazard Mitigation Plan

Medical Facilities

The City of Clarksville Peoples Community Health Clinic at 118 S Main St that offers a full range of services for community members.

The Waverly Health Center in Waverly is located approximately 14 miles southeast and the Franklin General Hospital in Hampton is located approximately 31 miles west.

HAZMAT Response Teams

Clarksville 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 hazard 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 the containment of the site and disposal of hazardous chemicals.

Warning Systems in Clarksville

1. Tornado Sirens

Clarksville has recently installed a new tornado warning siren system with a 30-year life use and does not expect to replace within the next 3 to 5 years.

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

2) Alert Iowa Mass Communication System

Butler County has implemented the use of Alert Iowa, a mass communication notification system. The system features are controlled through the Butler 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. There is an optional way to receive the same alert for events such as: excessive heat warnings, hazardous materials warnings, heavy snow warning, high wind warnings, ice storm

2025 Clarksville Hazard Mitigation Plan

warnings, law enforcement warnings, shelter in place warnings, sleet warnings, wind chill warnings, and winter storm warnings.

Public Works/Street Department

The Public Works Department is located at City Hall at 115 W Superior Street.

Education and Outreach Projects in Clarksville

Clarksville currently has E911 Emergency Assistance in place. Other communications used by city personnel include pagers, radios, and cellular telephones. Radio, television, cellular telephones, landline telephones, newspapers, warning sirens, and NOAA Radio Service are available to the public at large. The City has developed a website in order to keep its citizens, and other interested parties, aware of local and government affairs. The website address is <https://clarksvilleiowa.com/>. The City also has a social media account for local notifications and updates.

The City partners with KLMJ 104.9 for radio announcements.

Natural Resource Protection in Clarksville

Clarksville does not have any natural resources protection actions.

Structural Projects in Clarksville

The City has recently constructed a new lift station.

Local Plans and Regulations in Clarksville

Clarksville completed a local plan and regulation assessment. The results are shown in the following table.

Table 11: Local Regulatory Capability Assessment	
Community	City of Clarksville
Previous HMP Participant?	Yes
Comprehensive Plan?	No
Building Code?	No
Zoning Ordinance? RR=restricted residential	Yes - RR
Subdivision Regulations?	No
Floodplain Management Ordinance?	Yes
Tree-Trimming Ordinance?	Yes
Storm Water Ordinance?	Yes
Snow Removal Ordinance?	Yes

Timeframe	Description
Immediate	1 - 6 months
Short Term	1-3 years
Mid-Term	3-5 Years
Long-Term	More than 5 Years

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

How to Use the Implementation Guide in this Plan

Notes about the tasks (listed as line items) on the tables on the following pages.

- 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 the City’s 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 & 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. The time frame to complete the column is based on four designations (see table to the left).

Strategic Implementation Guide for Hazard Mitigation Activities

Table 12: '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
High	Enhance community resilience by providing residents with the knowledge, tools, and resources need to effectively mitigate, prepare for, respond to, and recover from natural and man-made hazards.	All	City Clerk	Immediate	Minimal	City General Fund
Medium	Work with Butler Public Health to educate the public on pandemic human disease prevention and animal disease.	Pandemic Human Disease, Animal/Crop/Plant Disease	Butler County Public Health, City Clerk	Mid-Term	Minimal	City General Fund

Table 13: 'Emergency Services' Type Mitigation Activities						
Description: Actions that protect people and property during and immediately after a disaster or hazard event.						
<i>Priority</i>	<i>Tasks</i>	<i>Hazard(s)</i>	<i>Primary Agency Responsible for Implementation</i>	<i>Time Frame to Complete</i>	<i>Estimated Cost (s)</i>	<i>Funding Source</i>
High	Create and implement a detailed plan for temporary relocation and sheltering to ensure the safety, well-being, and recovery shall a resident be impacted by a hazard.	All	Hazard Mitigation Committee; Butler Emergency Services	Short-Term	Minimal	City General Fund; Butler Emergency Services
Medium	Work with local police and fire response team to update planning response to transportation, infrastructure, and hazardous materials response.	Transportation Incidents, Hazardous Materials, Infrastructure Failures	Hazard Mitigation Committee; Butler Emergency Services; Police Dept: Fire Dept.	Short-Term	Minimal	City General Fund; Butler Emergency Services

Table 14: 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	Enhance the City's resilience to flooding events by installing and maintaining flood gates, reducing flood-related damage and protecting businesses and essential services.	River Flood, Flash Flood, Levee Failure	City Council; City Maintenance Committee	Immediate	Minimal	City General Fund; Hazard Mitigation Grant Program, Flood Mitigation Assistance Grant Program
High	Enhance the City's resilience to flooding events by extending levees, reducing flood-related damage and protecting businesses and essential services.	River Flood, Flash Flood, Levee Failure	City Council; City Maintenance Committee	Short-Term	Minimal	City General Fund; Hazard Mitigation Grant Program, Flood Mitigation Assistance Grant Program
High	Enhance the City's resilience to flooding events by adding culverts at key locations, reducing flood-related damage and protecting businesses and essential services.	River Flood, Flash Flood, Levee Failure	City Council; City Maintenance Committee	Short-Term	Minimal	City General Fund; Hazard Mitigation Grant Program, Flood Mitigation Assistance Grant Program
Low	Collaborate with utility companies to prioritize and implement the burial of power lines, reducing vulnerability to severe weather events, minimizing power outages, and enhancing community resilience and safety.	Thunderstorm, Tornado/Windstorm, Flash Flood, Severe Winter Storm, River Flood, Infrastructure Failure	Utility Provider, City Council	Long-Term	High	Grid Resilience Utility Grants, Hazard Mitigation Grants

Table 15: 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
High	Improve the functionality and resilience of waterways by implementing measures that include cleaning, reseeded, and providing ongoing maintenance to ensure greater effectiveness.	River Flood, Flash Flood, Levee Failure	City Council	Immediate	Minimal	City General Fund; DNR Grants
High	Provide ongoing maintenance and cleaning of culverts to ensure proper drainage.	River Flood, Flash Flood, Levee Failure	City Council	Immediate	Minimal	City General Fund
Low	Promote community initiatives to encourage the planting of grass, native plants, and other ground cover on open lots to prevent soil erosion, mitigation impact of droughts, and improve stormwater absorption.	Extreme Heat, Grass/Wildfire, Drought, Plant Disease, Sinkholes, Expansive Soils	City Clerk	Mid-Term	Minimal	City General Fund

Table 16: Local Plans and Regulations Mitigation Activities						
Description: Actions by administrative or regulatory processes which direct how land and buildings are developed and built. These actions include regulations by public entities to reduce hazard losses.						
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	Update ordinances and building codes that establish consistency and improved effectiveness in addressing the city's hazard mitigation goals.	All	City Council	Short-Term	Minimal	City General Fund
High	Establish clear enforcement practices that ensure ordinances and codes are followed at a local level.	All	City Council	Short-Term	Moderate	City General Fund

City of Dumont, Iowa

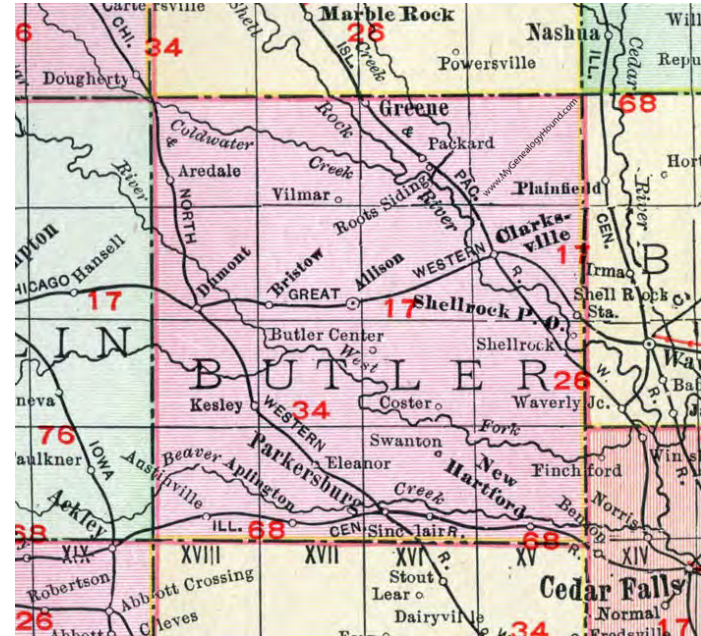
Hazard Mitigation Plan 2025 Update

Appendix F of Butler County Multi-Jurisdictional Hazard Mitigation Plan

Funded by the Butler County Emergency
Management Agency

Prepared by Iowa Northland Regional Council
of Governments (INRCOG)

January 2025



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Adopting Resolution by Dumont City Council

Resolution 2025-3

A RESOLUTION OF THE CITY COUNCIL OF DUMONT, IOWA, ADOPTING THE CITY OF DUMONT, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Dumont City Council recognizes the threat that natural hazards pose to people and property within Dumont; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Dumont served and participated in the formulation of the Plan, hereby known as the City of Dumont, Iowa Hazard Mitigation Plan 2025 Update, as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Dumont from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of Dumont demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF DUMONT, IOWA, THAT:

Section 1: In accordance with local regulations, the Council adopts the City of Dumont, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Dumont may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Dumont to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 13th day of March 2025,


Mayor

ATTEST:


City Clerk

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2025 Dumont Hazard Mitigation Plan

About

The City of Dumont developed this Plan as part of the 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan update process. The 2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan is a sequential 5-year update to the previous document. Federal regulations regarding how local governments may receive funding from FEMA require that the specified jurisdiction (city, school district, county) have an approved hazard mitigation plan that is in good standing (updated and FEMA approved) to remain eligible for grant funding. This Plan was developed to meet the requirements in Title 44 CFR § 201.6.

Elected officials, city clerks, planners, first responders, and other stakeholders were invited to attend planning committee meetings as participants to learn about hazard mitigation and complete data gathering assignments. These assignments were submitted to the plan development coordinators: Butler County Emergency Management Agency (EMA) and Iowa Northland Regional Council of Government (INRCOG). Butler County's EMA initiated and funded this effort for all participating communities and contracted INRCOG to coordinate the plan development process with a multi-jurisdictional approach.

Participating communities included all ten (10) incorporated municipalities of Butler County. County staff participating in the committee were representing their respective County departments. School district superintendents for public school districts attended and completed the data gathering assignments for their district communities. Four (4) committee

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.

meetings were held between October 1st and December 12th wherein each participant provided data and completed work sheets to develop their hazard mitigation plans.

The Benefits of Hazard Mitigation for Local Governments

For local governments, there are benefits in knowing how specific hazards may affect their communities, its potential to cause negative impacts, and develop pre-disaster actions or activities to lessen or avoid those anticipated negative impacts. Benefits include:

- ✓ An increased understanding of how natural and human caused hazards develop under certain conditions which may inform a level of magnitude or intensity.
- ✓ Take advantage of the opportunity to create more sustainable and disaster-resistant communities.
- ✓ Participating in this collaborative intergovernmental effort is cost effective for all participants.
- ✓ Using limited resources to address the threat from hazard events that may have the biggest impact on the community.
- ✓ Reducing or preventing damage to existing structures and reducing their subsequent repair costs.
- ✓ Identifying vulnerable populations to establish equitable outcomes.

- ✓ Hazard mitigation involves a commitment to long-term goals that focus on lessening or reducing negative impacts of natural, and human caused hazards.

The Planning Process

In order to reduce the threat of negative impacts from natural hazards, a risk informed approach was used in this planning process. A risk informed approach is a multi-step process. This Plan also involves collaboration among participants in the planning committee. The process involved learning the historical occurrence of when such hazards may have occurred in Butler County.

Participants in the Butler County Multi-Jurisdictional Hazard Mitigation Plan Planning Committee determined the level of risk facing their communities by completing a risk assessment. Data gathering by committee participants involved giving updates to existing mitigation activities by the local government.

Participants in the Plan followed a general 5 step process. (below)



2025 Dumont Hazard Mitigation Plan

Community Data Sources

Population data is based on 2020 decennial Census data. The 2022 American Community Survey 5-year estimates are the latest and most reliable survey data sets to understand what is taking place in the county and each city. Most counties, cities, and towns rely on 5-year estimates. Employment, workforce, and industry figures in this Plan are estimates that have a margin of error.

It is important to note that the ACS estimates used for rural communities will have a degree of uncertainty associated with them, called sampling error, because they are based on a sample. In general, the larger the sample, the smaller the level of sampling error. Rural communities tend to have smaller samples than larger cities, so the “margin of error”—a measure of the precision of an estimate at a given level of confidence—likely will be larger for rural areas.

Crash data along roadways within each jurisdiction is collected between the period of 2019 and 2023. Using a map tool interface, the data was taken at a city level and presented to understand incident severity, casualties, and property damage from reported accidents. Accident data is added to the site daily and accessible through an online website, <https://icat.iowadot.gov/>.

In the risk analysis section of this Plan, estimates of property loss are measured using mapping of hazardous zones. For the vulnerability risk assessment, flood prone homes were determined using the boundaries of the 100 year (1%) annual chance flood zone. The value of potential property loss was derived from the 2023 assessed dollar value of

structures and dwellings on affected parcels provided by the Butler County Assessor’s Office.



Dumont Area Emergency Center

City Profile

Jurisdiction: City of Dumont

County: Butler County

Population (2020): 634

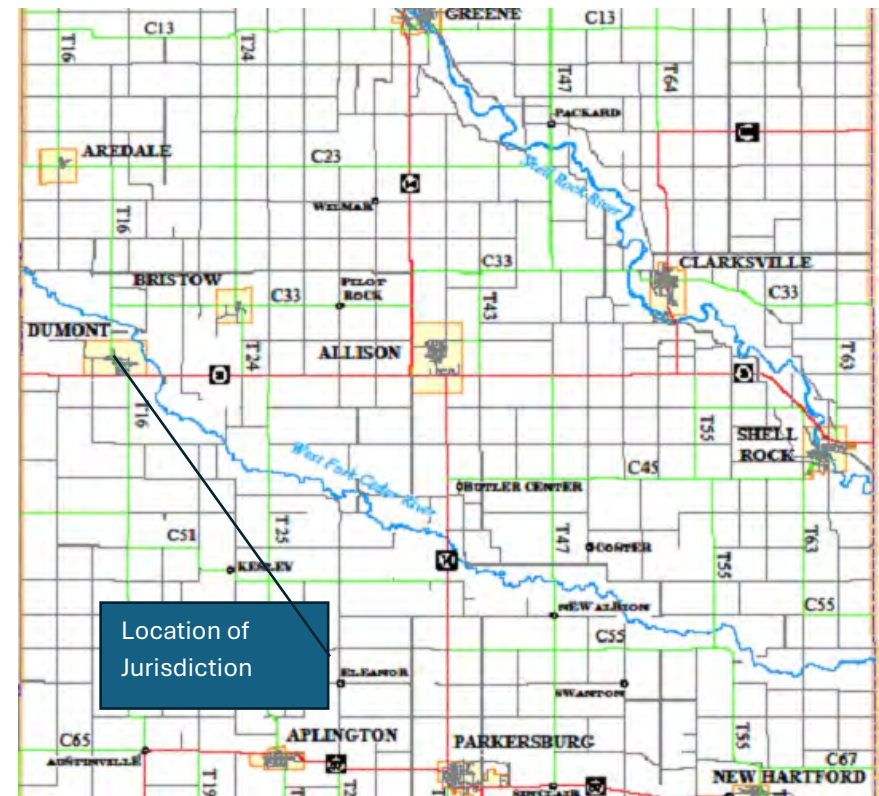
The City of Dumont is located in the western portion of Butler County, approximately 10 miles east of Highway 65.

The following data presented in tables on the following page include population, employment, and industry sector data for the community based on 2020 Census data and 2022 American Community Survey 5-year Estimates.

In 2020, the city's population was 634 and 93.5% were White with the median age is 45. Working aged residents (15-64 years) made up 56.9% of the population. Children and teens (younger than 15 years) made up 16% of Dumont's population while older adults (older than 65 years) made up 27.1%.

The median household income in 2022 was \$49,625. The estimated unemployment rate was 4.0%. Most people commute to work, and three people work from home. The top three largest industry sectors in Dumont are as follows (in order from highest to lowest): 1) Education services, and health care and social assistance; 2) Retail Trade, and 3) Manufacturing.

Figure 1: Map of Butler County



2025 Dumont Hazard Mitigation Plan

Table 1: Population Data (2020)		
City of Dumont		
	Total	% of Population
Total population	634	100%
AGE		
Under 5 years	32	5.0%
5 to 9 years	28	4.4%
10 to 14 years	42	6.6%
15 to 19 years	43	6.8%
20 to 24 years	36	5.7%
25 to 29 years	33	5.2%
30 to 34 years	31	4.9%
35 to 39 years	33	5.2%
40 to 44 years	39	6.2%
45 to 49 years	34	5.4%
50 to 54 years	31	4.9%
55 to 59 years	41	6.5%
60 to 64 years	40	6.3%
65 to 69 years	46	7.3%
70 to 74 years	34	5.4%
75 to 79 years	39	6.2%
80 to 84 years	17	2.7%
85 years and over	35	5.5%
Median Age	45.0	-
RACE		
White	593	93.5%
Black or African American	1	0.2%
Hispanic or Latino (of any race)	0	0%
American Indian and Alaska Native	0	0%
Asian	0	0%
Native Hawaiian/Other Pacific Islander	0	0%
Some Other Race	19	3.0%
Two or More Races	21	3.3%

Source: 2020 Census, 2022 ACS 5-Yr Estimates

Table 2: Employment Data (2022)		
City of Dumont		
	Value	% of Population
Median Household Income	\$49,625	-
Unemployment Rate (2022)	4.0%	-
Workers that commute to work	303	99.7%
Workforce that works from home	1	0.3%

Source: 2022 American Community Survey 5-Yr Estimates

Table 3: Employment Industry Data (2022)		
City of Dumont		
Workforce Industry	# of Workers	% of Workforce
Workforce	308	100%
Agriculture, forestry, fishing and hunting, and mining	21	6.8%
Construction	42	13.6%
Manufacturing	49	15.9%
Wholesale trade	1	0.3%
Retail trade	58	18.8%
Transportation -warehousing, utilities	14	4.5%
Information	5	1.6%
Finance and insurance, and real estate and rental and leasing	1	0.3%
Professional, scientific, and management, and administrative and waste management services	7	2.3%
Educational services, and health care and social assistance	63	20.5%
Arts, entertainment, and recreation, and accommodation and food services	10	3.2%
Other services, except public administration	11	3.6%
Public administration	26	8.4%

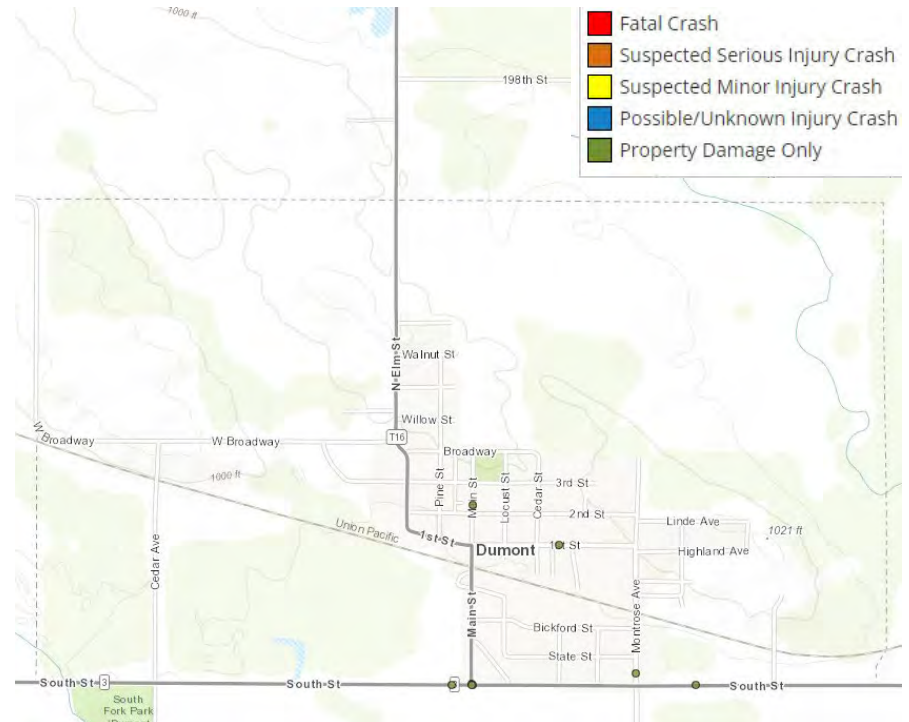
Source: 2022 American Community Survey 5-Yr Estimates

Highway Traffic and Crash Data

Based on Iowa DOT crash data, between 2019 and 2024 there have been 8 incidents. Of those incidents, most were for property damage only, with one unknown, resulting in \$101,250 in total damage. No fatalities or crashes with severely injured persons were reported.

Table 4: Crash Data from 2019-2024	
Total Crashes	8
Crash Severity	
Fatal	0
Suspected Serious Injury	0
Suspected Minor Injury	0
Unknown	1
Property Damage Only	7
Property Damage Total	\$101,250
<i>Source: Iowa DOT Crash Data</i>	

Figure 2: Iowa Crash Analysis for All Traffic Incidents (2019-2024)



Source: Iowa DOT

Housing Data

The City of Dumont has 285 occupied housing units. Nearly 91% of them are single family detaching housing. According to the American Community Survey, there are 0 housing units that are mobile homes or other types of housing. However, the city survey counts 7 mobile homes. There are 26 or 9.1% multifamily housing units (greater than 2 units).

A large portion of the housing stock was built prior to 1940 (56.8%). About 88% of the housing stock was built prior to 1980. Most homes heat using utility gas (77.5%) or electricity (18.6%).

Community Utility Providers

MidAmerican Energy provides utility electric services and natural gas services. Dumont Telephone provides telephone services and internet services. Residents receive water and

Table 6: Utility Providers	
City of Dumont	
Electric	MidAmerican Energy
Natural Gas	MidAmerican Energy
Telephone/Internet	Dumont Telephone
Cable TV	Dumont Telephone
Water Services	City of Dumont
Sewer Services	City of Dumont
Sanitation	Jendro Sanitation Services

sewer services from the city.

Table 5: Housing Data (2022)		
City of Dumont		
	Total	% of Occupied Units
Occupied housing units	285	100%
Housing Unit Type		
1, detached	259	90.9%
1, attached	0	0%
2 apartments	0	0%
3 or more apartments	26	9.1%
Mobile home or other type of housing	0	0%
Year Structure Built		
2020 or later	0	0%
2010 to 2019	19	6.7%
2000 to 2009	2	0.7%
1980 to 1999	26	6.3%
1960 to 1979	44	15.4%
1940 to 1959	32	11.2%
1939 or earlier	162	56.8%
House Heating Fuel		
	Total	% of Occupied Units
Utility gas	221	77.5%
Bottled, tank, or LP gas	0	0.0%
Electricity	53	18.6%
Fuel oil, kerosene, etc.	3	1.1%
Coal or coke	0	0.0%
All other fuels	6	2.1%
No fuel used	2	0.7%

Source: 2022 American Community Survey 5-Year Estimates

Vulnerable Assets

People

Vulnerability to hazard losses increases where there are larger concentrations of people. In towns where population density increases, the number of people that can be harmed during a hazard event (tornado, flood, etc.) increases. In addition, there are segments of the population that may be more susceptible to impacts and/or harm from a hazard depending on their location within the area (i.e. flood zone or near industrial plants with hazardous materials). This includes underserved or socially vulnerable populations.

Vulnerable Age Groups

Both younger and older aged groups are likely to require assistance with physically moving to shelters or finding safety. Elderly residents may not have a personal vehicle to move away from a hazard quickly. Cognitive impairments among older adults may cause some to get easily confused.

Households Facing Poverty or With Limited Income

Families or older adults living at, near, or below poverty are more likely to be impacted by hazards than other households with higher incomes. The costly repairs from a tornado or derecho for a low-income household may be more adversely affected than another household that has the same damage but may be able to afford the repairs without much change to their lifestyles or needs. That disparity is also different during extreme weather events such as heat waves. Low-income households may not be able to afford the electricity to run air conditioning and many may face

complications that involve heat stroke, fatigue, or death due to their age (infants or the infirm) and health conditions (obesity, heart conditions, diabetes).

Dumont's Vulnerable Populations

In Dumont, 13.8% of individuals are below the poverty level. About 42.8% (122) of occupied households have elderly occupants (60 years and over). About 11.2% of occupied households have elderly residents (65 years and over) living alone

Most residents have access to vehicles. There are no households that lack access to a vehicle. About 12% of households have a person living with a disability. This is broadly defined from the data estimates for Dumont. However, persons with mobility disabilities may be at a higher risk than others especially during unexpected natural disasters where accessibility is not always guaranteed to shelter.

Manufactured homes are unsafe in a tornado. Fatality rates are significantly higher than sturdy buildings. An alternative shelter should be identified prior to a tornado watch or warning. In 2022, there are 7 mobile homes estimated in Dumont.

The most recent decennial census date accounted for about 30 individuals in institutionalized quarters, which were likely in nursing/skilled-nursing facilities. However, the nursing home in Dumont closed in 2022.

Critical Facilities

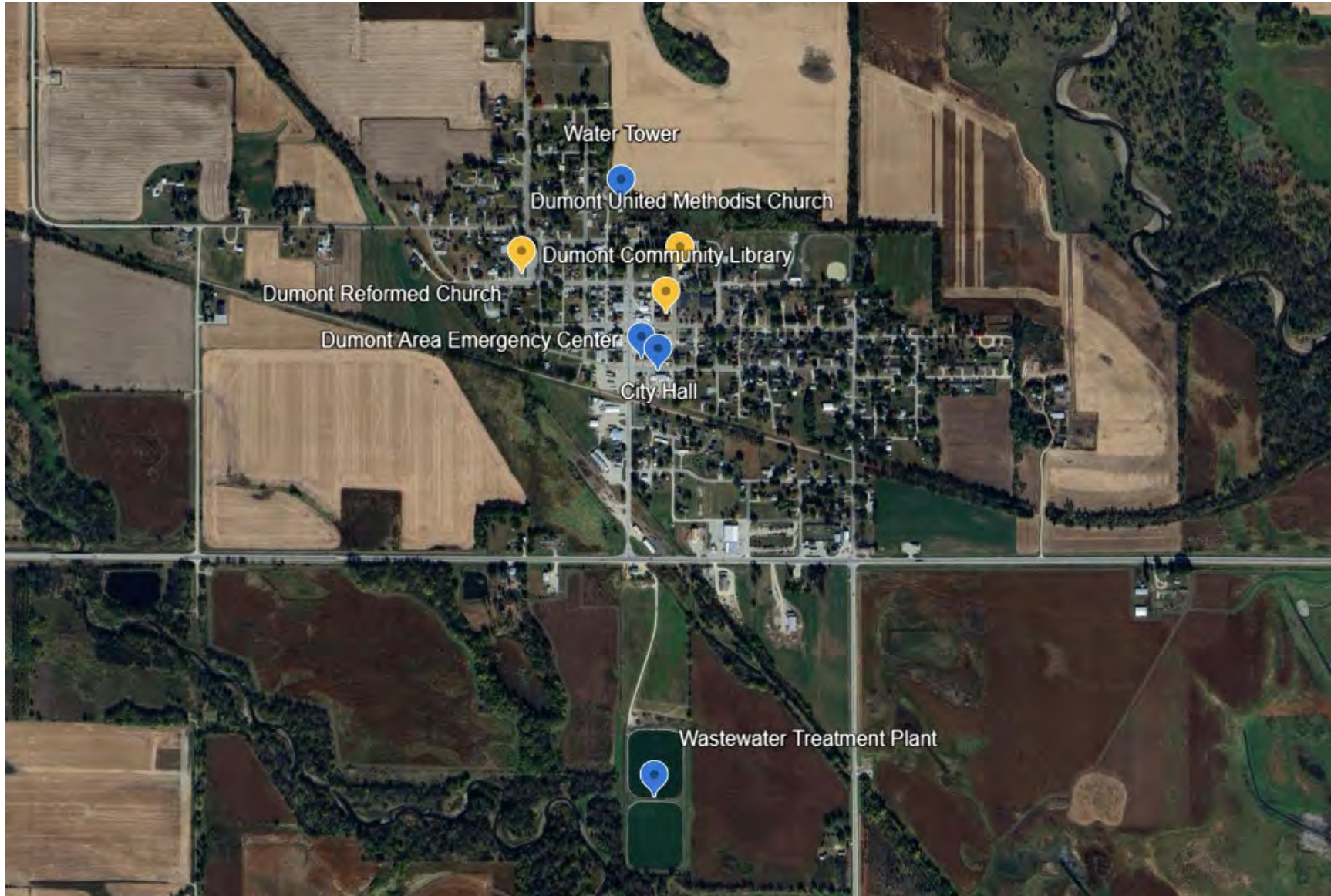
Water Supply

The City of Dumont utilizes a municipal water supply system serving approximately 630 residents. Water is supplied by two active wells, known as Dumont #1 and Dumont #2, both drawing from the Devonian aquifer, at 185 feet and 285 feet respectively. Both water sources are treated with liquid chlorination and polyphosphate for disinfection. The city has a 150,000 gallon water tower for storage to maintain consistent water pressure.

Wastewater Treatment Plant

The City of Dumont operates a wastewater treatment facility utilized by most residents. The facility discharges waste through a three-cell aerated lagoon facility. Eight residents utilize septic systems.

Figure 3: Critical Facilities



Measuring Vulnerability to Selected Hazards

Tornado Hazard

Although there is no recent history of tornadoes in Dumont, the city remains vulnerable.

All buildings in Dumont are prone to being damaged by a tornado. Therefore, the vulnerability of the community was determined by the assessed valuation of all buildings and dwellings on all parcels within the city’s limits.

Using the assessed value from December 2023, the valuation of all 512 parcels in the City of Dumont is \$26,944,020 based on Butler County assessor data. The City of Dumont has a potential property loss of \$23,226,130 from a tornado disaster.

Table 7: Valuation of All Parcels in City of Dumont (2023)	
Percent of City at Risk of a Tornado	100%
# of Parcels	512
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$23,226,130
Source: Butler County Assessor’s Office	

Flood Prone Areas

The potential property losses of structures prone to flooding were calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

Assessing the community’s vulnerability to losses from tornado and flood hazards is determined with county assessor data. The potential property losses of structures prone to flooding were calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

In Figures 4 and 5, the flood plain map shows the 1% annual chance of flooding in and around the City of Dumont. The river basin is depicted in the topography shown on the map.

The parcels that are impacted by the 1% annual chance of flood are highlighted in Figure 6. There are 77 parcels within Dumont that are potentially affected. The value of all buildings and dwellings on the affected parcels is \$2,092,830 based on the latest Butler County Assessor’s information. This covers 11.88% of the city’s total parcels.

Table 8: Potential Property Losses from the 1% Annual Chance Flood	
Percent of City Affected	11.88%
# of Parcels	77
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$2,092,830
Source: Butler County Assessor’s Office	

Figure 4: Flood Plain Map

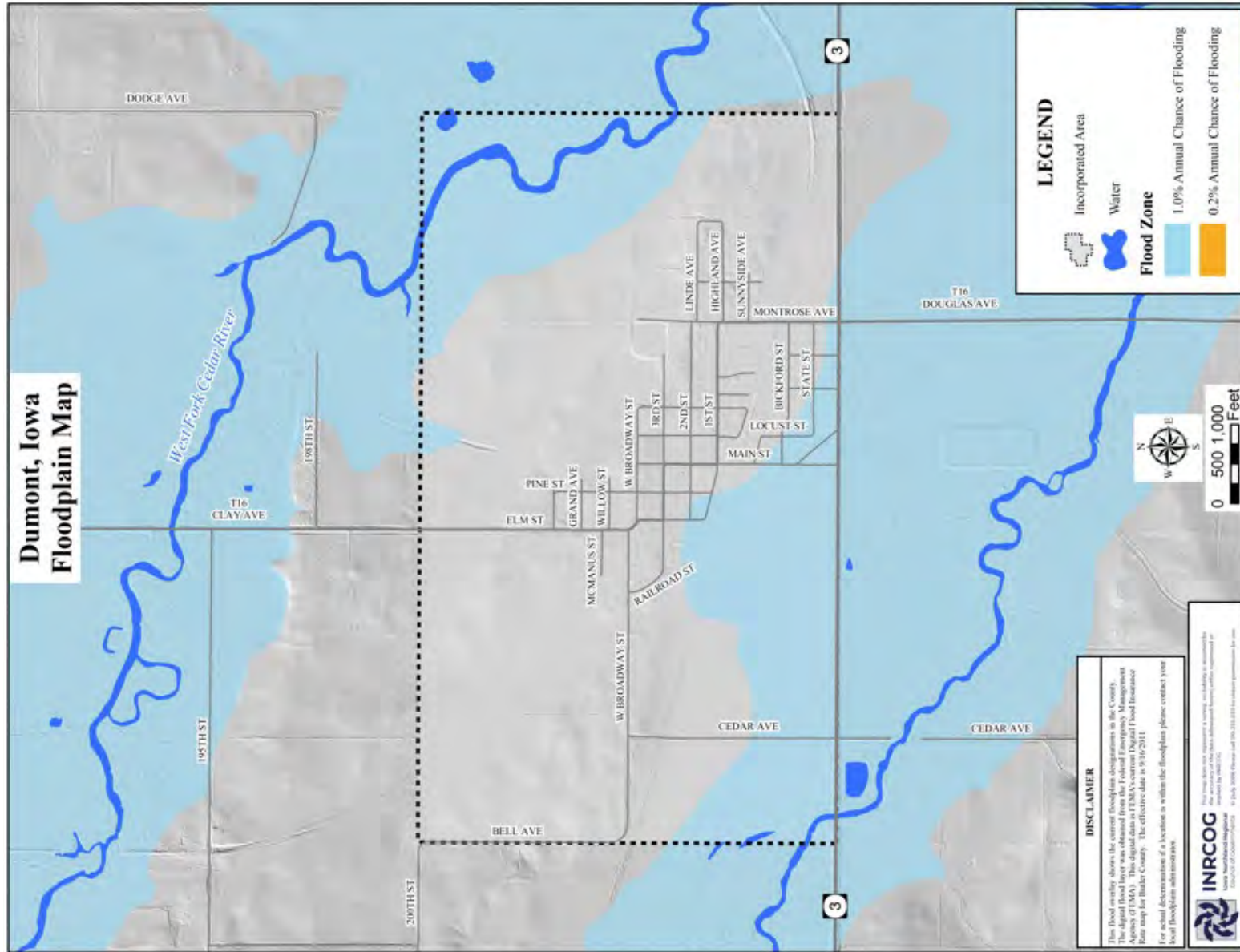
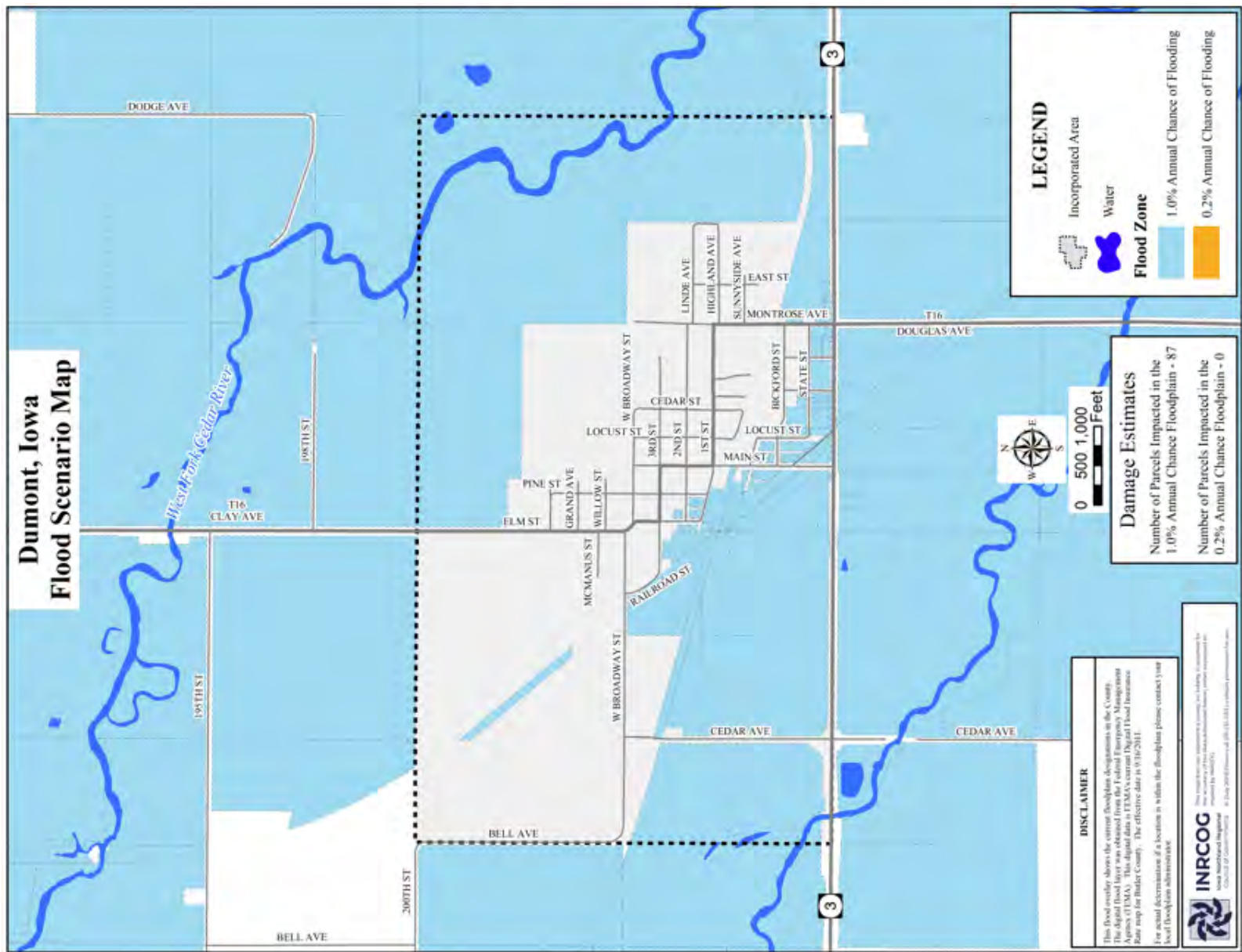


Figure 5: Flood Scenario Map



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.

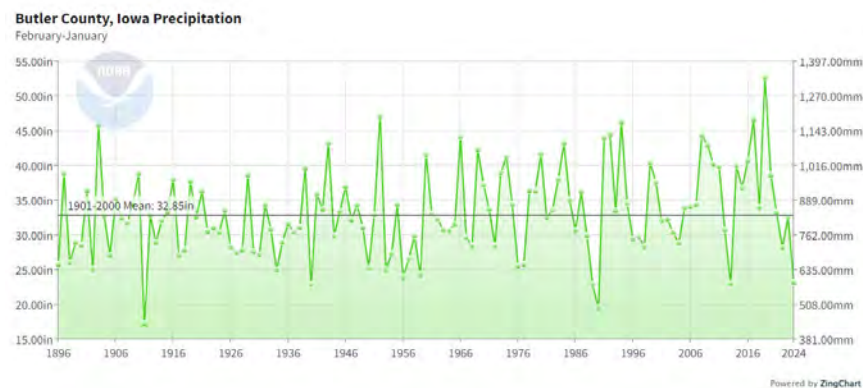
Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section.¹ The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use,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

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

Annual Precipitation Levels in Butler County

Taking the monthly precipitation records from January to December between 1895 and 2024 is shown in Figure 6. The values hover between 20 - 50 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 6. The trend shows a growing level of annual precipitation on average of 32.80 inches. Based on this historical trend, precipitation is likely to continue to increase in the coming years.

Figure 6: Historical Precipitation Data and Trend for Butler County, Iowa²



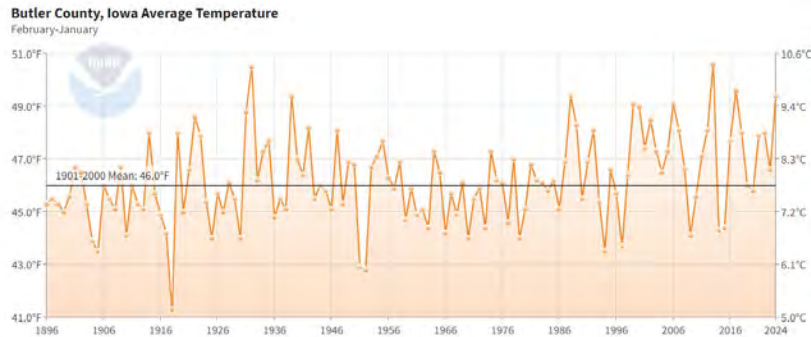
Average Annual Temperatures in Butler County

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

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 7: Historical Temperature Data and Trend for Butler 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 evaporate 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 more frequently 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.

2025 Dumont Hazard Mitigation Plan

Projected Trends of Natural Hazards in Butler County

- Prologued drought may occur as the atmosphere holds more moisture (even pulling moisture from plants) as the temperature increases. Longer periods between weather events mean there are drier 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. 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.

National Flood Insurance Program

The City of Dumont participates in the National Flood Insurance Program. The current effective FIRM map date is December 17, 2020. Butler County participates in the NFIP, and its effective map date is December 17, 2020.

FEMA defines a repetitive loss property as an insurable building that has experienced two losses in a 10-year period in which each loss is \$1,000 or more. There are 2 reported repetitive loss properties. Each repetitive loss property was a single-family residence. The City has 1 total policies with a total net dollars value of \$62,566.

The designee for the implementation of NFIP requirements within Dumont is the City Clerk.

Hazard Risk Assessment

The top three hazards from the risk assessment are:

1. Flash Flood
2. Pandemic Human Disease
3. Transportation Incident



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 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 Dumont are located below.

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.
Scores with a value Of 0 <u>No Presumed Risk</u>	The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

2025 Dumont Hazard Mitigation Plan

Probability

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

Probability Score Definitions		
Score	Description	
1	Unlikely	<i>Less than 10% 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.</i>
2	Occasional	<i>Between 10% and 20% 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.</i>
3	Likely	<i>Between 20% and 33% 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.</i>
4	Highly Likely	<i>More than 33% 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.</i>

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.

2025 Dumont Hazard Mitigation Plan

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 10 displays rated risk scores for each associated hazard. This assessment was completed by city 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

Table 10: Hazard Risk Assessment					
Hazards	Probability	Magnitude	Warning Time	Duration	Score
Flash Flood	4	2	4	3	3.3
Pandemic Human Disease	3	3	1	4	2.8
Transportation Incident	3	2	4	1	2.65
Severe Winter Storm	4	1	2	2	2.6
Animal/Crop/Plant Disease	3	2	1	4	2.5
Drought	3	2	1	4	2.5
Thunderstorm/Lightning/Hail	3	1	3	2	2.3
River Flood	3	1	2	3	2.25
Extreme Heat	3	1	1	3	2.1
Tornado/Windstorm	2	1	4	2	2
Infrastructure Failure	1	2	4	3	1.95
Grass/Wild Land Fire	2	1	4	1	1.9
Sinkholes	1	1	4	4	1.75
Hazardous Materials	1	1	4	2	1.55
Expansive Soils	1	1	1	1	1
Landslides*	0	0	0	0	0
Terrorism *	0	0	0	0	0
Radiological Incident*	0	0	0	0	0
Levee/Dam Failure*	0	0	0	0	0
Earthquake*	0	0	0	0	0

Source: Completed by City Representative. Calculated score completed by INRCOG.

* The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

Hazard Mitigation Goals

in Dumont, Iowa

The following list of goals was developed by planning committee participants from the associated jurisdiction. Goals 1 through 7 were developed in the previous 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan. The planning committee participants chose to adopt the same goals and add additional goals after review.

- Goal #1** Minimize to the greatest possible extent the number of injuries and/or loss of life associated with all identified hazards.
- Goal #2** Reduce or eliminate property damage due to the occurrence of disasters.
- Goal #3** Improve response operations in the event of a disaster.
- Goal #4** Return the community to either a pre-disaster or improved conditions in a timely manner in the wake of a disaster.
- Goal #5** Develop strategies that can be used to reduce the community's overall risk to the negative effects of natural, technological, and man-made disasters.
- Goal #6** Reconvene the planning committee annually to review the plan document, check for compliance with the plan goals, and track progress in achieving the mitigation strategies.
- Goal #7** Maintain the Countywide Multi-Jurisdictional format for future updates.

Previous 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 Dumont

Butler County Emergency Management Agency

Dumont works with the Butler County Emergency Management Coordinator, based out of the City of Allison, 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 Butler County Emergency Management Coordinator is Chris Showalter.

Law Enforcement

Dumont contracts for law enforcement services with the Butler County Sheriff's Department. The Department provides routine services and support for the city. They are located at 428 Sixth Street in Allison.

Fire Protection and EMS Services

Fire protection for the City of Dumont is provided by the Dumont Volunteer Fire Department. The station is located at 630 First Street in Dumont. There are 17 volunteer fire fighters that serve in the department currently. Each of the members is HAZMAT certified Firefighter 1 trained. There are

several members that have Firefighter 2 training, and others with driver/operator training. Dispatch is provided via a paging system called I Am Responding app that is accessible through a phone app.

The Dumont Fire Department maintains 28E agreements with surrounding communities to provide additional support when needed and required.

EMS Services

Butler County EMS represents all 8 of the EMS service in the County. Butler County Board of Supervisors deemed EMS an Essential Service for the County according to Iowa Code Chapter 422D and recently hired an EMS Coordinator to provide coverage and support for EMS services within the county.

2025 Dumont Hazard Mitigation Plan

Medical Facilities

The City of Dumont does not have any medical clinics located directly within its community.

The Waverly Health Center in Waverly is located approximately 30 miles east and the Franklin General Hospital in Hampton is located approximately 12 miles west.

HAZMAT Response Teams

Dumont 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 hazard 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 the containment of the site and disposal of hazardous chemicals.

Warning Systems in Dumont

1. Tornado Sirens

Dumont has an existing tornado siren located at the Dumont Area Emergency Center. The city is expecting to replace the siren within the next 5 to 10 years. The siren is tested monthly, from April to November, at 10AM on the third Wednesday of the month.

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

2) Alert Iowa Mass Communication System

Butler County has implemented the use of Alert Iowa, a mass communication notification system. The system features are controlled through the Butler 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. There is an optional way to receive the same alert for events such as:

2025 Dumont Hazard Mitigation Plan

excessive heat warnings, hazardous materials warnings, heavy snow warning, high wind warnings, ice storm warnings, law enforcement warnings, shelter in place warnings, sleet warnings, wind chill warnings, and winter storm warnings.

Public Works/Street Department

The Public Works Department is located at City Hall at 625 First Street.

Education and Outreach Projects in Dumont

Dumont currently has in place E911 Emergency Assistance. Other communications used by city personnel include pagers, radios, and cellular telephones. Radio, television, cellular telephones, landline telephones, newspapers, warning sirens, and NOAA Radio Service are available to the public at large. The city utilizes a social media account to keep its citizens, and other interested parties, aware of local and government affairs: www.facebook.com/p/City-of-Dumont-Iowa-100069154391544/.

The city also posts notices and information on the City Hall window and an electric sign on Main Street. The city also partners with the Hampton Chronicle newspaper, radio station KLMJ, and a local cable station for community updates.

Natural Resource Protection in Dumont

Dumont does not have any natural resources protection actions.

Structural Projects in Dumont

Since the last Hazard Mitigation Plan, the city executed a project to raise Cedar Ave for flood management. The city currently does not have any major structural projects taking place but has begun replacing some hydrants and watermain infrastructure.

Local Plans and Regulations in Dumont

Dumont completed a local plan and regulation assessment. The results are shown in the following table.

Table 11: Local Regulatory Capability Assessment	
Community	City of Dumont
Previous HMP Participant?	Yes
Comprehensive Plan?	No
Building Code?	No
Zoning Ordinance? RR=restricted residential	RR
Subdivision Regulations?	No
Floodplain Management Ordinance?	Yes
Tree-Trimming Ordinance?	Yes
Storm Water Ordinance?	Yes
Snow Removal Ordinance?	Yes

Timeframe	Description
Immediate	1 - 6 months
Short Term	1-3 years
Mid-Term	3-5 Years
Long-Term	More than 5 Years

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

How to Use the Implementation Guide in this Plan

Notes about the tasks (listed as line items) on the tables on the following pages.

- 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 the City’s 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 & 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. The time frame to complete the column is based on four designations (see table to the left).

Strategic Implementation Guide for Hazard Mitigation Activities

Table 12: '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	Develop a newsletter to make residents aware of safety issues and procedures to mitigate, prepare for, respond to, and recover from natural and man-made hazards.	All	City Clerk, City Council; Butler Emergency Management	Short-Term	Minimal	City General Fund
Medium	Partner with Butler County Emergency Management to continue providing residents with public awareness and education programs.	All	City Clerk, City Council; Butler Emergency Management	Short-Term	Minimal	City General Fund

Table 13: 'Emergency Services' Type Mitigation Activities						
Description: Actions that protect people and property during and immediately after a disaster or hazard event.						
<i>Priority</i>	<i>Tasks</i>	<i>Hazard(s)</i>	<i>Primary Agency Responsible for Implementation</i>	<i>Time Frame to Complete</i>	<i>Estimated Cost (s)</i>	<i>Funding Source</i>
Medium	Acquire generators for critical facilities, library and churches, to provide more safe locations for residents during an emergency.	All	City Clerk, City Council, Facility Boards	Mid-Term	Minimal	Hazard Mitigation Grant
Medium	Acquire another fire truck to improve efficiency and effectiveness of local fire and emergency response	Fire, Transportation Incident, Hazardous Materials	City Clerk, City Council, Fire Department	Long-Term	Moderate	Assistance to Firefighters Grant
Medium	Continue to incorporate technological advancements within our critical service and emergency response vehicles to better serve community needs.	All	City Clerk, City council, Fire Department	Long-Term	Moderate	City General Fund; Hazard Mitigation Grant

Table 14: 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	Partner with Butler County to perform a replacement project to change the culvert type on Main Street.	Flood, transportation Incident, Severe Winter Storm	City Clerk, City Council, Butler County	Short-Term	High	Hazard Mitigation Grant Program; City Bonds
Medium	Replace remaining hydrants and water mains to maintain safe and efficient water sources for community and emergency response.	Sever Winter Storm, Drought, Extreme Heat, Infrastructure Failure	City Clerk, City Council, Public Works	Long-Term	High	City Bonds; City General Fund
Low	Bury overhead power lines to prevent disturbances in service from severe weather emergencies.	Sever Winter Storm, Transportation Incident, Thunderstorm, Tornado/Windstorm	City Council; Public Works; Local Utility Providers	Long-term	High	Hazard Mitigation Grant

Table 15: 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	Purchase new controls and improve testing and inspection procedures to secure the city's water sources.	Drought, Flood, Extreme Heat, Sinkholes	City Council, Public Works, Fire Department	Mid-Term	Moderate	City General Fund
Medium	Establish a community-wide household hazardous waste disposal site or event to promote recycling of household electronics and hazardous materials.	All	City Clerk, City Council, Public Works, Sanitation	Mid-Term	Minimal	County Solid Waste Management Fund

Table 16: Local Plans and Regulations Mitigation Activities						
Description: Actions by administrative or regulatory processes which direct how land and buildings are developed and built. These actions include regulations by public entities to reduce hazard losses.						
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
Medium	Install lights and cameras at critical facilities to improve security and maintenance.	Infrastructure Failure	City Clerk, City Council, Public Works	Short-Term	Minimal	City General Fund
Medium	Maintain a bulk supply of bottled water and nonperishable food items at critical facilities and safety locations.	All	Public Works	Short-Term	Moderate	City General Fund
Medium	Implement a better Source Water Protection Plan in collaboration with Iowa DNR to protect natural water sources.	Flash Flood, River Flood, Drought, Hazardous Materials	City Council; Public Works; Iowa DNR	Short-Term	Minimal	State Water Protection Grant
Low	Develop a plan to purchase, elevate, or remove structures within the 100-year floodplain.	Flash Flood, River Flood	City Council; Public Works	Long-Term	High	Hazard Mitigation Grant Program

City of Greene, Iowa

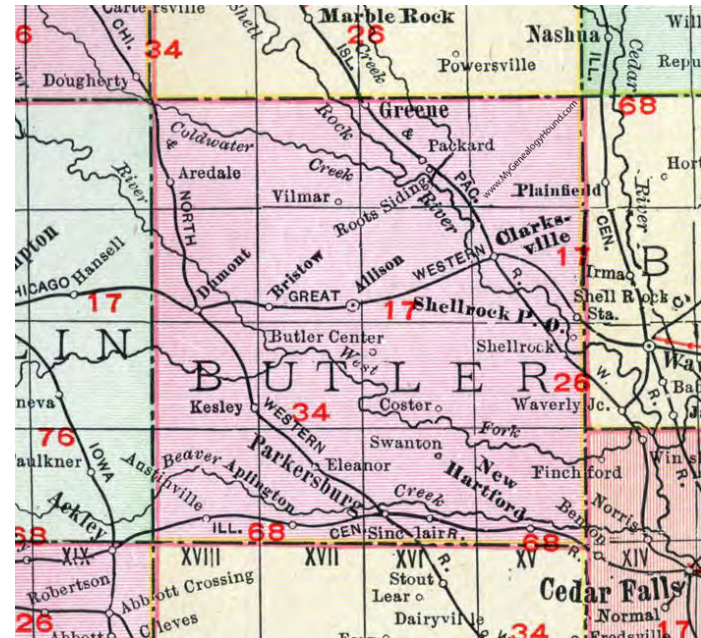
Hazard Mitigation Plan 2025 Update

Appendix G of Butler County Multi-Jurisdictional Hazard Mitigation Plan

Funded by the Butler County Emergency
Management Agency

Prepared by Iowa Northland Regional Council
of Governments (INRCOG)

January 2025



INRCOG
Iowa Northland Regional
Council of Governments

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Adopting Resolution by Greene City Council

RESOLUTION 2025-01

A RESOLUTION OF THE CITY COUNCIL OF GREENE, IOWA, ADOPTING THE CITY OF GREENE, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Greene City Council recognizes the threat that natural hazards pose to people and property within Greene; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Greene served and participated in the formulation of the Plan, hereby known as the City of Greene, Iowa Hazard Mitigation Plan 2025 Update, as part of the the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Greene from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of Greene demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF GREENE, IOWA, THAT:

Section 1: In accordance with local regulations, the Council adopts the City of Greene, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Greene may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Greene to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted 10th day of February 2025.

ATTEST:


City Clerk


Mayor

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2025 Greene Hazard Mitigation Plan

About

The City of Greene developed this Plan as part of the 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan update process. The 2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan is a sequential 5-year update to the previous document. Federal regulations regarding how local governments may receive funding from FEMA require that the specified jurisdiction (city, school district, county) have an approved hazard mitigation plan that is in good standing (updated and FEMA approved) to remain eligible for grant funding. This Plan was developed to meet the requirements in Title 44 CFR § 201.6.

Elected officials, city clerks, planners, first responders, and other stakeholders were invited to attend planning committee meetings as participants to learn about hazard mitigation and complete data gathering assignments. These assignments were submitted to the plan development coordinators: Butler County Emergency Management Agency (EMA) and Iowa Northland Regional Council of Government (INRCOG). Butler County's EMA initiated and funded this effort for all participating communities and contracted INRCOG to coordinate the plan development process with a multi-jurisdictional approach.

Participating communities included all ten (10) incorporated municipalities of Butler County. County staff participating in the committee were representing their respective County departments. School district superintendents for the public school districts attended and completed the data gathering assignments for their district communities. Four (4) committee

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.

meetings were held between October 1st and December 12th wherein each participant provided data and completed work sheets to develop their hazard mitigation plans.

The Benefits of Hazard Mitigation for Local Governments

For local governments, there are benefits in knowing how specific hazards may affect their communities, its potential to cause negative impacts, and develop pre-disaster actions or activities to lessen or avoid those anticipated negative impacts.

Benefits include:

- ✓ An increased understanding of how natural and human caused hazards develop under certain conditions which may inform a level of magnitude or intensity.
- ✓ Take advantage of the opportunity to create more sustainable and disaster-resistant communities.
- ✓ Participating in this collaborative intergovernmental effort is cost effective for all participants.
- ✓ Using limited resources to address the threat from hazard events that may have the biggest impact on the community.
- ✓ Reducing or preventing damage to existing structures and reducing their subsequent repair costs.
- ✓ Identifying vulnerable populations to establish equitable outcomes.

- ✓ Hazard mitigation involves a commitment to long-term goals that focus on lessening or reducing negative impacts of natural, and human caused hazards.

The Planning Process

In order to reduce the threat of negative impacts from natural hazards, a risk informed approach was used in this planning process. A risk informed approach is a multi-step process. This Plan also involves collaboration among participants in the planning committee. The process involved learning the historical occurrence of when such hazards may have occurred in Butler County.

Participants in the Butler County Multi-Jurisdictional Hazard Mitigation Plan Planning Committee determined the level of risk facing their communities by completing a risk assessment. Data gathering by committee participants involved giving updates to existing mitigation activities by the local government.

Participants in the Plan followed a general 5 step process. (below)



2025 Greene Hazard Mitigation Plan

Community Data Sources

Population data is based on 2020 decennial Census data. The 2022 American Community Survey 5-year estimates are the latest and most reliable survey data sets to understand what is taking place in the county and each city. Most counties, cities, and towns rely on 5-year estimates. Employment, workforce, and industry figures in this Plan are estimates that have a margin of error.

It is important to note that the ACS estimates used for rural communities will have a degree of uncertainty associated with them, called sampling error, because they are based on a sample. In general, the larger the sample, the smaller the level of sampling error. Rural communities tend to have smaller samples than larger cities, so the “margin of error”—a measure of the precision of an estimate at a given level of confidence—likely will be larger for rural areas.

Crash data along roadways within each jurisdiction is collected between the period of 2019 and 2023. Using a map tool interface, the data was taken at a city level and presented to understand incident severity, casualties, and property damage from reported accidents. Accident data is added to the site daily and accessible through an online website, <https://icat.iowadot.gov/>.

In the risk analysis section of this Plan, estimates of property loss are measured using mapping of hazardous zones. For the vulnerability risk assessment, flood prone homes were determined using the boundaries of the 100 year (1%) annual chance flood zone. The value of potential property loss was derived from the 2023 assessed dollar value of

structures and dwellings on affected parcels provided by the Butler County Assessor’s Office.



Butler County Freedom Rock located in Greene, Iowa

City Profile

Jurisdiction: City of Greene

County: Butler County

Population (2020): 990

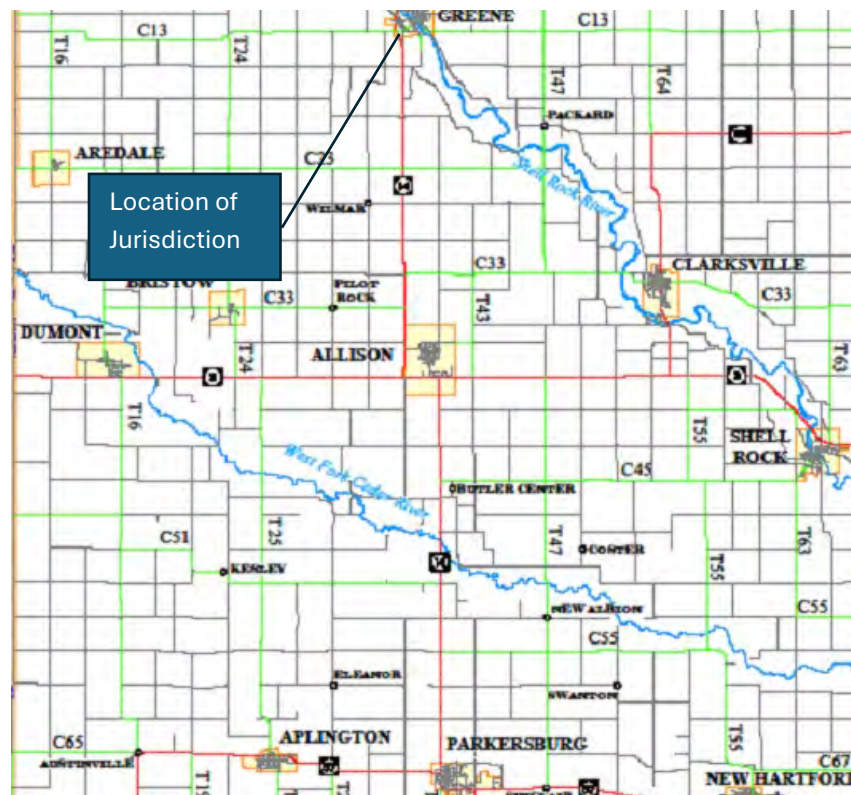
The City of Greene is in the north of Butler County. State Highway 14 runs north and south of the city.

The following data presented in tables on the following page include population, employment, and industry sector data for the community based on 2020 Census data and 2022 American Community Survey 5-year Estimates.

In 2020, the city’s population was 990 and 98.0% were White with the median age is 49.3. Working aged residents (15-60 years) made up 46.2% of the population. Children and teens (younger than 15 years) made up 13.9% of Greene’s population while older adults (older than 60 years) made up 39.9%.

The median household income in 2022 was \$51,756. The unemployment rate was 3.0%. Most people commute to work, and 22 people, or 3.7% of the workforce, work from home. The top three largest industry sectors in Greene are as follows (in order from highest to lowest): 1) Educational services, and health care, and social assistance, 2) Manufacturing, and 3) Wholesale Trade.

Figure 1: Map of Butler County



2025 Greene Hazard Mitigation Plan

Table 1: Population Data (2020)		
City of Greene		
	Total	% of Population
Total population	1,267	100%
AGE		
Under 5 years	56	4.4%
5 to 9 years	28	2.2%
10 to 14 years	97	7.3%
15 to 19 years	77	6.1%
20 to 24 years	59	4.7%
25 to 29 years	104	8.2%
30 to 34 years	88	6.9%
35 to 39 years	47	3.7%
40 to 44 years	39	3.1%
45 to 49 years	54	4.3%
50 to 54 years	57	4.5%
55 to 59 years	60	4.7%
60 to 64 years	117	9.2%
65 to 69 years	95	7.5%
70 to 74 years	62	4.9%
75 to 79 years	35	2.8%
80 to 84 years	76	6.0%
85 years and over	121	9.6%
Median Age	49.3	-
RACE		
White	1,179	93.1%
Black or African American	6	0.5%
Hispanic or Latino (of any race)	28	2.2%
American Indian and Alaska Native	4	0.3%
Asian	74	5.8%
Native Hawaiian/Other Pacific Islander	0	0.0%
Some Other Race	28	2.2%
Two or More Races	24	1.9%

Source: 2022 ACS 5-Yr Estimates

Table 2: Employment Data (2022)		
City of Greene		
	Value	% of Population
Median Household Income	\$51,756	-
Unemployment Rate (2022)	3.0%	-
Workers that commute to work	572	96.3%
Workforce that works from home	22	3.7%

Source: 2022 American Community Survey 5-Yr Estimates

Table 3: Employment Industry Data (2022)		
City of Greene		
Workforce Industry	# of Workers	% of Workforce
Workforce	609	100%
Agriculture, forestry, fishing and hunting, and mining	11	1.8%
Construction	23	3.8%
Manufacturing	98	16.1%
Wholesale trade	36	5.9%
Retail trade	34	5.6%
Transportation -warehousing, utilities	29	4.8%
Information	2	0.3%
Finance and insurance, and real estate and rental and leasing	35	5.7%
Professional, scientific, and management, and administrative and waste management services	15	2.5%
Educational services, and health care and social assistance	265	43.5%
Arts, entertainment, and recreation, and accommodation and food services	20	3.3%
Other services, except public administration	20	3.3%
Public administration	21	3.44%

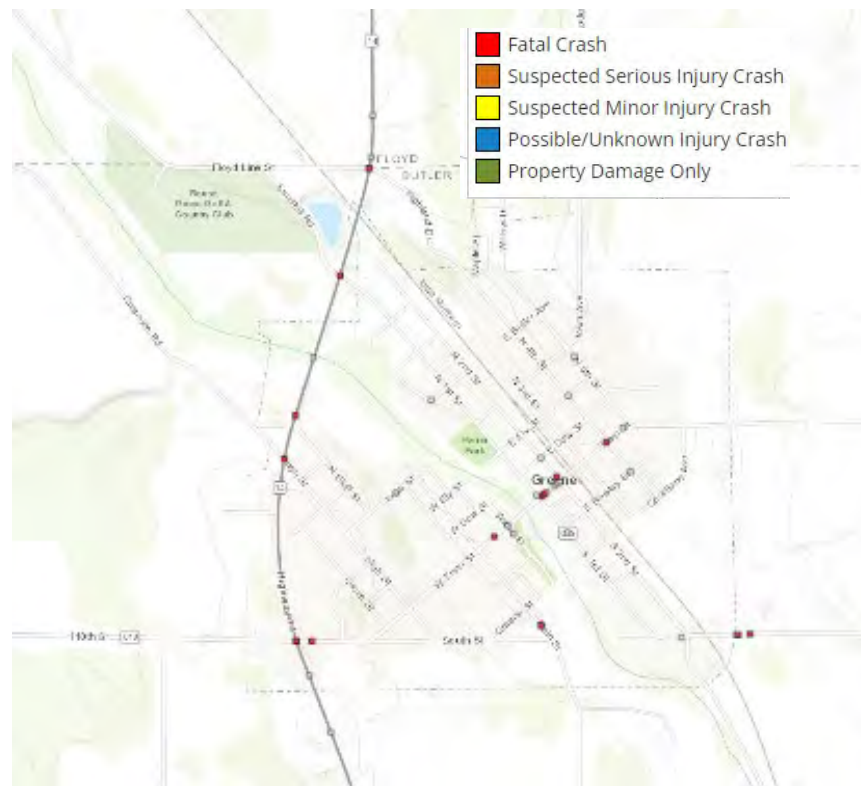
Source: 2022 American Community Survey 5-Yr Estimates

Highway Traffic and Crash Data

Based on Iowa DOT crash data, between 2019 and 2024 there have been 13 incidents. Of those incidents, 8 incidents were property damage only, resulting in \$174,050 in total damages. No fatalities and 1 crashes with severely injured persons were reported.

Table 4: Crash Data from 2019-2024	
Total Crashes	13
Crash Severity	
Fatal	0
Suspected Serious Injury	1
Suspected Minor Injury	1
Unknown	3
Property Damage Only	8
Property Damage Total	\$174,050
<i>Source: Iowa DOT Crash Data</i>	

Figure 2: Iowa Crash Analysis for All Traffic Incidents (2019-2024)



Source: Iowa DOT

Housing Data

The City of Greene has 587 occupied housing units. Nearly 87% of them are single family detached housing. There are 4 housing units that are mobile homes or other types of housing. There are 39 duplex apartments. 11.7% are multifamily (greater than 2 units).

A large portion of the housing stock was built between 1940-59 (28.3%). About 90.9% of the housing stock was built prior to 1980. Most homes heat their units with gas (87.1%).

Community Utility Providers

Alliant Energy provides utility electric services and Black Hills Energy provides natural gas services. Omnitel and Windstream provide telephone services and internet services. Residents receive water and sewer from the city while Jedro Sanitation provides Sanitation.

Table 6: Utility Providers	
City of Greene	
Electric	Alliant Energy
Natural Gas	Black Hills Energy
Telephone/Internet	Omnitel and Windstream
Cable TV	Omnitel and Windstream
Water Services	City of Greene
Sewer Services	City of Greene
Sanitation	Jedro Sanitation

Table 5: Housing Data (2022)		
City of Greene		
	Total	% of Occupied Units
Occupied housing units	587	100%
Housing Unit Type		
1, detached	506	86.2%
1, attached	8	1.4%
2 apartments	39	6.6%
3 or more apartments	30	5.1%
Mobile home or other type of housing	4	0.7%
Year Structure Built		
2020 or later	0	0%
2010 to 2019	8	1.4%
2000 to 2009	46	7.8%
1980 to 1999	75	12.8%
1960 to 1979	86	14.7%
1940 to 1959	166	28.3%
1939 or earlier	206	35.1%
House Heating Fuel		
Utility gas	511	87.1%
Bottled, tank, or LP gas	3	0.5%
Electricity	73	12.4%
Fuel oil, kerosene, etc.	0	0%
Coal or coke	0	0%
All other fuels	0	0%
No fuel used	0	0%

Source: 2022 American Community Survey 5-Year Estimates

Vulnerable Assets

People

Vulnerability to hazard losses increase when there are larger concentrations of people. In towns where population density increases, the number of people that can be harmed during a hazard event (tornado, flood, etc.) increases. In addition, there are segments of the population that may be more susceptible to impacts and/or harm from a hazard depending on their location within the area (i.e. flood zone or near industrial plants with hazardous materials). This includes underserved or socially vulnerable populations.

Vulnerable Age Groups

Both younger and older age groups are likely to require assistance with physically moving to shelters or finding safety. Elderly residents may not have a personal vehicle to move away from a hazard quickly. Cognitive impairments among older adults may cause some to get easily confused.

Households Facing Poverty or With Limited Income

Families or older adults living near or below poverty are more likely to be impacted by hazards than other households with higher incomes. The costly repairs from a tornado or derecho for a low-income household may be more adversely affected than another household that has the same damage but may be able to afford the repairs without much change to their lifestyles or needs. That disparity is also different during extreme weather events such as heat waves. Low-income households may not be able to afford the electricity to run air conditioning and many may face

complications that involve heat stroke, fatigue, or death due to their age (infants or the infirm) and health conditions (obesity, heart conditions, diabetes).

Greene Vulnerable Populations

In Greene, 15.9% (or 197 out of 1,237) of individuals are below the poverty level. About 43.3% (254) of occupied households have elderly occupants (65 years and over). About 12.8% of occupied households have elderly residents (65 years and over) living alone.

Most residents have access to a vehicle, however an estimate of 7.7% (45) households have no access to a vehicle. Nearly 13% of households have a person living with a disability. This is broadly defined from the data estimates for Greene. However, persons with mobility disabilities may be at a higher risk than others especially during unexpected natural disasters where accessibility is not always guaranteed to shelter.

Manufactured homes are unsafe in a tornado. Fatality rates are significantly higher than sturdy buildings. An alternative shelter should be identified prior to a tornado watch or warning. In 2022, there are about 4 mobile homes estimated in Greene.

Greene has about 25 individuals living in group quarters, all of which is nursing facilities/skilled-nursing facilities.

Critical Facilities

Water Supply

The City of Greene, Iowa, operates a municipal water supply system serving approximately 1,130 residents. The system sources water from two active wells, known as Greene #1 and Greene #2, both drawing from the Devonian aquifer at depths of approximately 240 and 225 feet, respectively. Water is treated with chlorine at the well sites to ensure quality and safety.

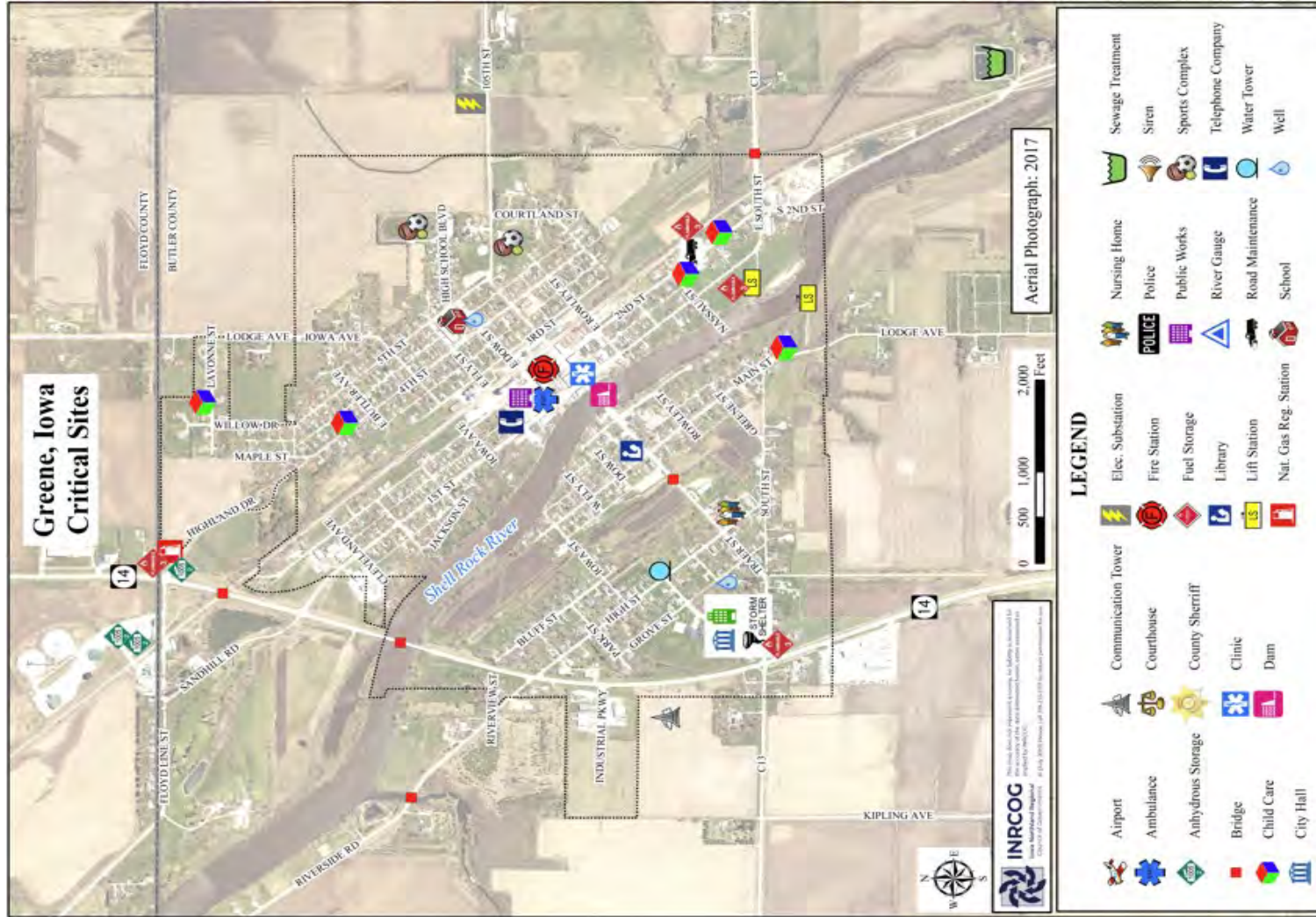
The city maintains an elevated water tower with a capacity of 300,000 gallons to support consistent water pressure and supply. While specific data on daily water usage isn't readily available, the system is designed to meet the community's needs effectively. Additionally, some housing units in Greene rely on individually drilled wells for their water needs.

Wastewater Treatment Plant and Lift Stations

The City of Greene operates a wastewater treatment facility that processes municipal wastewater collected through an extensive network of sewer lines and lift stations. The treatment system utilizes a lagoon-based process, effectively meeting the community's wastewater management needs. Constructed in the early 1980s, the facility has been consistently maintained and periodically upgraded to comply with environmental standards and to support both current residents and future economic development.

Greene regularly evaluates its wastewater infrastructure to ensure long-term efficiency and compliance with regulatory requirements. Projections indicate that over the next 20 years, the city's population will remain steady. The existing wastewater treatment facility has sufficient capacity to accommodate gradual growth. Future hazard mitigation efforts will incorporate considerations for additional facilities and improvements identified through vulnerability assessments.

Figure 3: Critical Facilities



Measuring Vulnerability to Selected Hazards

Tornado Hazard

Although there is no recent history of tornadoes in Greene, the City remains vulnerable.

All buildings in Greene are prone to being damaged by a tornado. Therefore, the vulnerability of the community was determined by the assessed valuation of all buildings and dwellings on all parcels within the city’s limits.

Using the assessed value from December 2023, the valuation of all 893 parcels in the City of Greene is \$67,247,540 based on Butler County assessor data. The City of Greene has a potential property loss of \$58,325,820 from a tornado disaster.

Table 7: Valuation of All Parcels in City of Greene (2023)	
Percent of City at Risk of a Tornado	100%
# of Parcels	893
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$58,325,820
Source: Butler County Assessor’s Office	

Flood Prone Areas

The potential property losses of structures prone to flooding was calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

Assessing the community’s vulnerability to losses from tornado and flood hazards is determined with county assessor data. The potential property losses of structures prone to flooding was calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

In Figures 4 and 5, the flood plain map shows the 1% annual chance of flooding in and around the City of Greene. The river basin is depicted in the topography shown on the map.

The parcels that are impacted by the 1% annual chance of flood are highlighted in Figure 6. There are 158 parcels within Greene that are potentially affected. The value of all buildings and dwellings on the affected parcels is \$6,459,160 based on the latest Butler County assessor information. This covers 11.67% of the city’s total parcels.

Table 8: Potential Property Losses from the 1% Annual Chance Flood	
Percent of City Affected	11.67%
# of Parcels	158
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$6,459,160
Source: Butler County Assessor’s Office	

Figure 4: Flood Plain Map

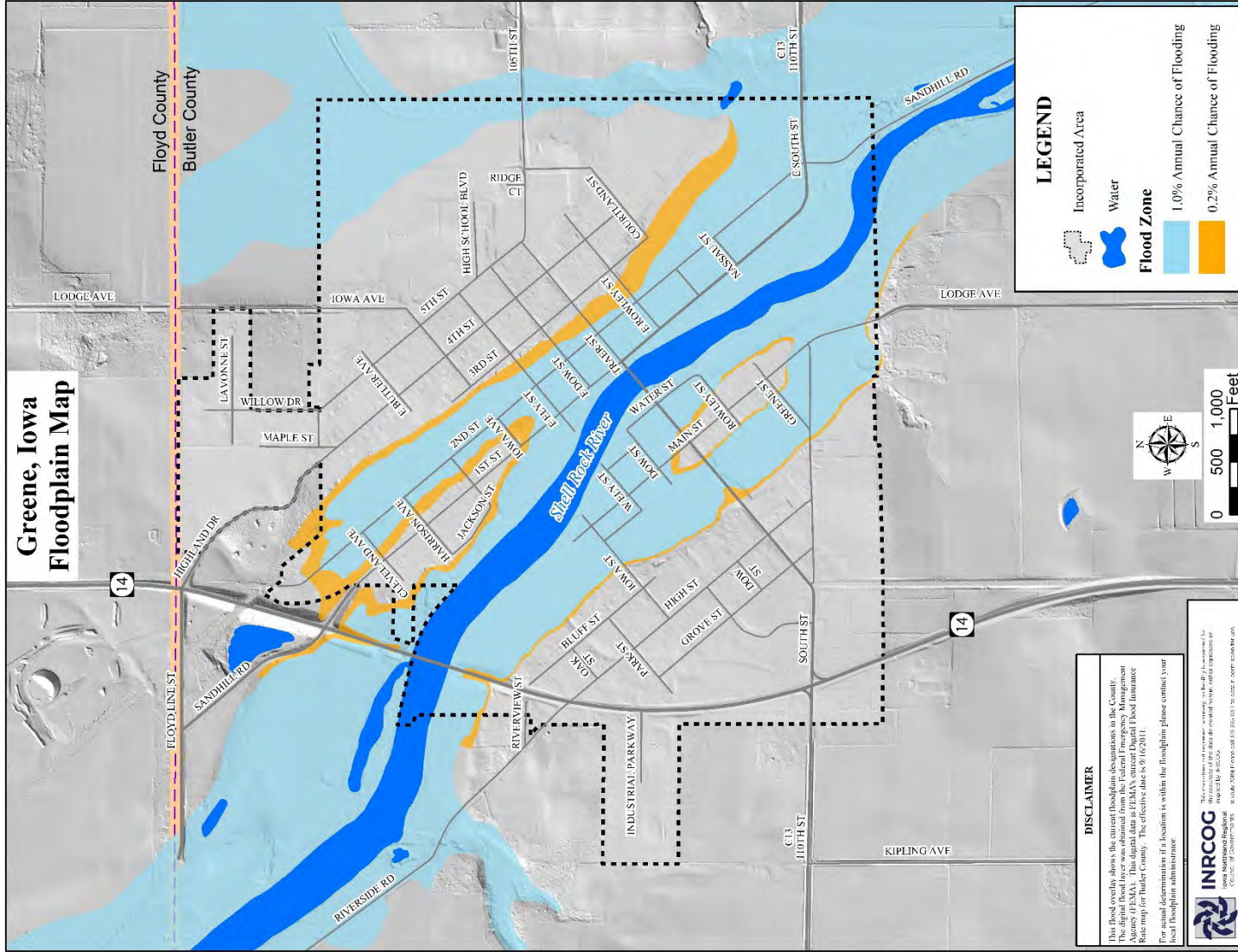
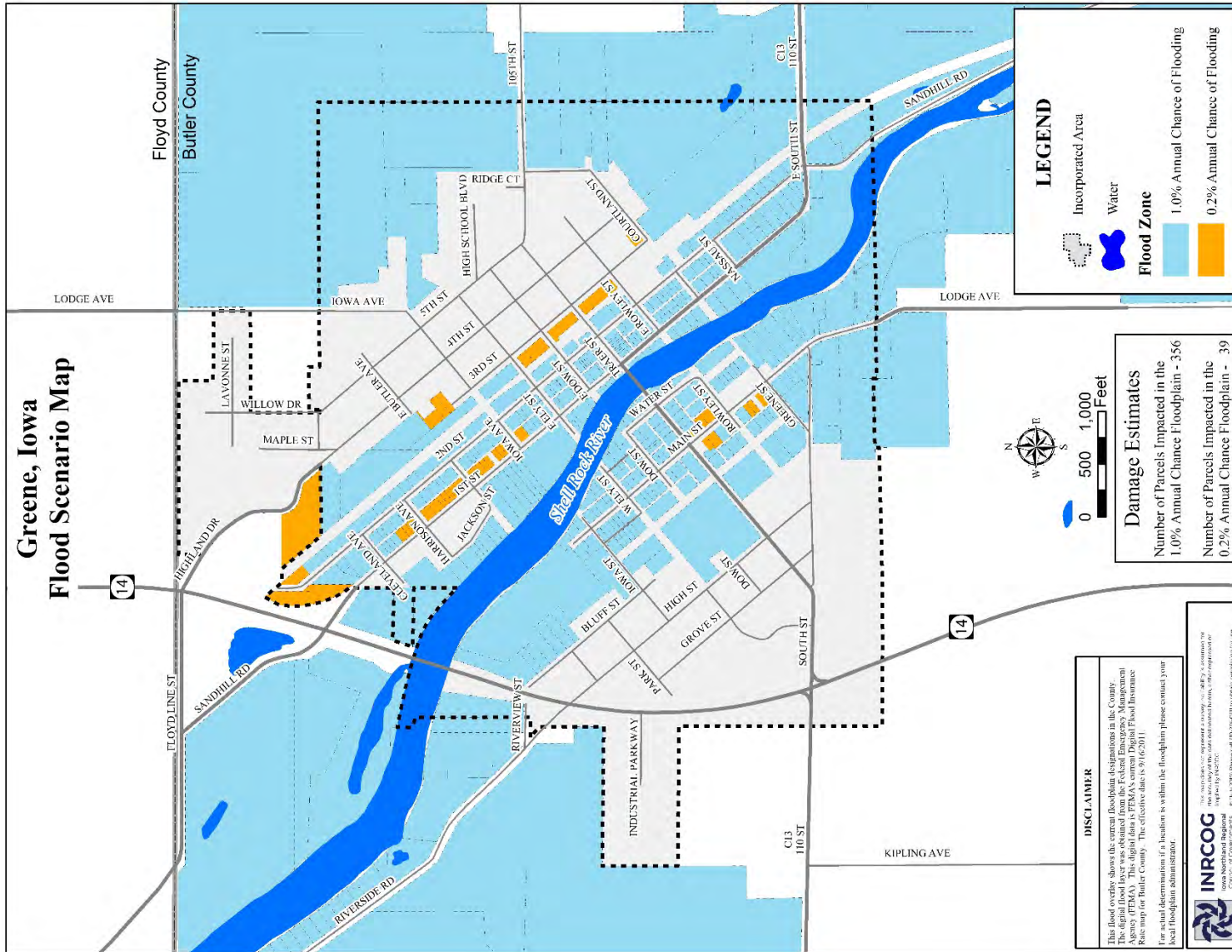


Figure 5: Flood Scenario Map



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.

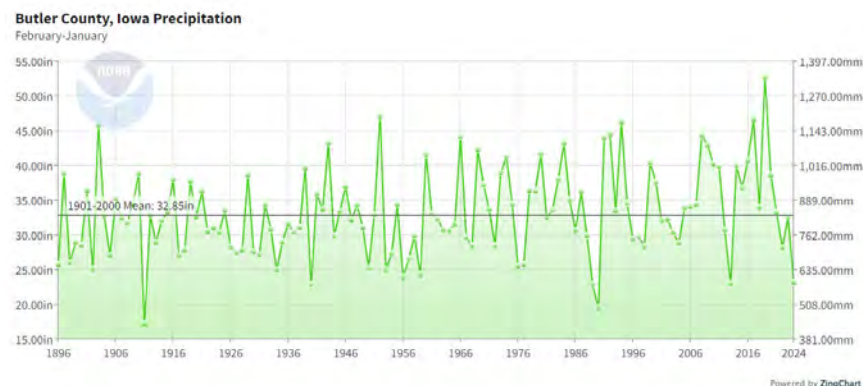
Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section.¹ The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use,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

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

Annual Precipitation Levels in Butler County

Taking the monthly precipitation records from January to December between 1895 and 2024 is shown in Figure 6. The values hover between 20 - 50 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 6. The trend shows a growing level of annual precipitation on average of 32.80 inches. Based on this historical trend, precipitation is likely to continue to increase in the coming years.

Figure 6: Historical Precipitation Data and Trend for Butler County, Iowa²



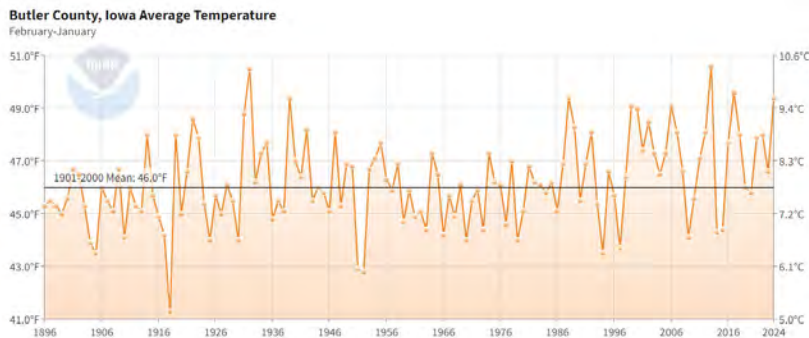
Average Annual Temperatures in Butler County

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

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 7: Historical Temperature Data and Trend for Butler 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 evaporate 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 more frequently 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 Butler County

- Prologued drought may occur as the atmosphere holds more moisture (even pulling moisture from plants) as the temperature increases. Longer periods between weather events mean there are drier 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. 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.

National Flood Insurance Program

The City of Greene, Iowa, actively participates in the National Flood Insurance Program (NFIP) to mitigate the impacts of flooding on residents and property. The current effective FIRM map date is December 17, 2020. Butler County participates in the NFIP and its effective map date is December 17, 2020.

FEMA defines a repetitive loss property as an insurable building that has experienced two losses in a 10-year period in which each loss is \$1,000 or more. There is 1 reported repetitive loss properties. The repetitive loss property was a single-family residence. The City has 20 total policies with a total net dollars paid value of \$1,244,885.

These properties underscore the city's vulnerability to flooding due to its proximity to the Shell Rock River. Efforts to address these repetitive loss properties have included floodplain management strategies, enforcement of building codes, and participation in hazard mitigation initiatives. The city aims to reduce flood risks, protect property values, and enhance community resilience through these ongoing efforts.

The designee for the implementation of NFIP requirements within Greene is the City Clerk.

Hazard Risk Assessment

The top three hazards from the risk assessment are:

1. Severe Winter Storms
2. River Flood
3. River Flood



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 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 Greene are located below.

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.
Scores with a value Of 0 <u>No Presumed Risk</u>	The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

2025 Greene Hazard Mitigation Plan

Probability

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

Probability Score Definitions		
Score	Description	
1	Unlikely	<i>Less than 10% 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.</i>
2	Occasional	<i>Between 10% and 20% 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.</i>
3	Likely	<i>Between 20% and 33% 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.</i>
4	Highly Likely	<i>More than 33% 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.</i>

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.

2025 Greene Hazard Mitigation Plan

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 city 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

Table 10: Hazard Risk Assessment					
Hazards	Probability	Magnitude	Warning Time	Duration	Score
Severe Winter Storm	4	3	3	3	3.45
River Flood	3	4	3	4	3.4
Thunderstorm/Lightning/Hail	4	3	3	1	3.25
Transportation Incident	4	2	4	1	3.1
Pandemic Human Disease	3	3	2	4	2.95
Hazardous Materials	3	2	4	3	2.85
Flash Flood	3	2.5	3	2.5	2.8
Levee/Dam Failure	2	3	3	3	2.55
Extreme Heat	3	2	1	4	2.5
Tornado/Windstorm	2	2	4	1	2.2
Drought	2	2	1	4	2.05
Animal/Crop/Plant Disease	2	2	1	4	2.05
Grass/Wild Land Fire	2	1	4	1	1.9
Sinkholes	1	1	4	1	1.45
Expansive Soils	1	1	1	1	1
Infrastructure Failure	1	1	1	1	1
Earthquake	0	0	0	0	0
Landslides	0	0	0	0	0
Radiological Incident	0	0	0	0	0
Terrorism	0	0	0	0	0

Source: Completed by City Representative. Calculated score completed by INRCOG.

* The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

Hazard Mitigation Goals

in Greene, Iowa

The following list of goals was developed by planning committee participants from the associated jurisdiction. Goals 1 through 7 were developed in the previous 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan. The planning committee participants chose to adopt the same goals and add additional goals after review.

- Goal #1** Minimize to the greatest possible extent the number of injuries and/or loss of life associated with all identified hazards.
- Goal #2** Reduce or eliminate property damage due to the occurrence of disasters.
- Goal #3** Improve response operations in the event of a disaster.
- Goal #4** Return the community to either a pre-disaster or improved conditions in a timely manner in the wake of a disaster.
- Goal #5** Develop strategies that can be used to reduce the community's overall risk to the negative effects of natural, technological, and man-made disasters.
- Goal #6** Reconvene the planning committee annually to review the plan document, check for compliance with the plan goals, and track progress in achieving the mitigation strategies.
- Goal #7** Maintain the Countywide Multi-Jurisdictional format for future updates.

Previous 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 Greene

Butler County Emergency Management Agency

Greene works with the Butler County Emergency Management Coordinator, based out of the City of Allison, 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 Butler County Emergency Management Coordinator is Chris Showalter.

Law Enforcement

Greene contracts with the County Sheriff's Department for police services. The department is based out of Allison, Iowa. They handle a range of essential services, including routine patrols, emergency response, and criminal investigations.

Fire Protection and EMS Services

Fire protection for the City of Greene is provided by the Greene Fire Department. The station is located at 301 Old School Road. There are 15 volunteer fire fighters that serve in the department currently. Each of the members is HAZMAT certified Firefighter 1 trained. There are several

members that have Firefighter 2 training, and others with driver/operator training. Dispatch is provided via a paging system called I Am Responding app that is accessible through a phone app.

The Greene Fire Department maintains 28E agreements with surrounding communities to provide additional support when needed and required.

Equipment used by the Greene Fire Department includes the following:

- Jaws of life
- Hydraulic pumps
- Fire trucks
- Rescue pumper
- Top Kick

EMS Services

Butler County EMS represents all 8 of the EMS service in the County. Butler County Board of Supervisors deemed EMS an Essential Service for the County according to Iowa Code Chapter 422D and recently hired an EMS Coordinator to provide coverage and support for EMS services within the county.

2025 Greene Hazard Mitigation Plan

Medical Facilities

The City of Greene has MercyOne Greene Family Medicine at 104 E Traer Street that offers a full range of services for community members.

The Waverly Health Center in Waverly is located approximately 18 miles southeast and the Franklin General Hospital in Hampton is located approximately 32 miles southwest.

HAZMAT Response Teams

Greene 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 hazard 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 the containment of the site and disposal of hazardous chemicals.

Warning Systems in Greene

1. Tornado Sirens

Greene has a tornado warning siren system with a 30-year life use and does not expect to replace within the next 3 to 5 years. It is approximately 10 years old.

The activation systems of the sirens are activated and operated by trained Green Fire Department storm spotters.

2) Alert Iowa Mass Communication System

Butler County has implemented the use of Alert Iowa, a mass communication notification system. The system features are controlled through the Butler 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. There is an optional way to receive the same alert for events such as: excessive heat warnings, hazardous materials warnings,

2025 Greene Hazard Mitigation Plan

heavy snow warning, high wind warnings, ice storm warnings, law enforcement warnings, shelter in place warnings, sleet warnings, wind chill warnings, and winter storm warnings.

Public Works/Street Department

The Public Works Department is located at City Hall at 202 W South Street.

Education and Outreach Projects in Greene

Greene currently has E911 Emergency Assistance in place. Other communications used by city personnel include pagers, radios, and cellular telephones. Radio, television, cellular telephones, landline telephones, newspapers, warning sirens, and NOAA Radio Service are available to the public at large. The City has developed a website in order to keep its citizens, and other interested parties, aware of local and government affairs. The website address is <https://greeneia.org/>. The City also has a social media account for local notifications and updates. Announcements are also made available in the local Greene Reporter newspaper.

The City partners with KLMJ 104.9 for radio announcements.

Natural Resource Protection in Greene

Greene does not have any natural resources protection actions.

Structural Projects in Greene

The City does not have any major structural projects that have taken place recently.

Local Plans and Regulations in Greene

Greene completed a local plan and regulation assessment. The results are shown in the following table.

Table 11: Local Regulatory Capability Assessment	
Community	City of Greene
Previous HMP Participant?	Yes
Comprehensive Plan?	Yes
Building Code?	Yes
Zoning Ordinance? RR=restricted residential	Yes
Subdivision Regulations?	Yes
Floodplain Management Ordinance?	Yes
Tree-Trimming Ordinance?	Yes
Storm Water Ordinance?	Yes
Snow Removal Ordinance?	Yes

Timeframe	Description
Immediate	1 - 6 months
Short Term	1-3 years
Mid-Term	3-5 Years
Long-Term	More than 5 Years

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

How to Use the Implementation Guide in this Plan

Notes about the tasks (listed as line items) on the tables on the following pages.

- 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 the City’s 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 & 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. The time frame to complete the column is based on four designations (see table to the left).

Strategic Implementation Guide for Hazard Mitigation Activities

Table 12: '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
High	Enhance community resilience by providing residents with the knowledge, tools, and resources need to effectively mitigate, prepare for, respond to, and recover from natural and man-made hazards.	All	City Clerk	Immediate	Minimal	City General Fund
Medium	Work with Butler Public Health to educate the public on pandemic human disease prevention and animal disease.	Pandemic Human Disease, Animal/Crop/Plant Disease	Butler County Public Health, City Clerk	Mid-Term	Minimal	City General Fund
High	Educate the public on outdoor warning sirens to ensure compliance by community during severe weather.	All	City Clerk; Butler Emergency Services	Short-Term	Minimal	City General Fund; Butler Emergency Services

Table 13: 'Emergency Services' Type Mitigation Activities						
Description: Actions that protect people and property during and immediately after a disaster or hazard event.						
<i>Priority</i>	<i>Tasks</i>	<i>Hazard(s)</i>	<i>Primary Agency Responsible for Implementation</i>	<i>Time Frame to Complete</i>	<i>Estimated Cost (s)</i>	<i>Funding Source</i>
High	Update communication equipment for emergency services agencies for disaster response including but not limited to radio upgrades.	All	City Clerk; Butler Emergency Services	Short-Term	Moderate	City General Fund; Butler Emergency Services
Medium	Work with local police and fire response team to update planning responses to transportation, infrastructure, and hazardous materials response.	Transportation Incidents, Hazardous Materials, Infrastructure Failruers	City Clerk; Hazard Mitigation Committee; Butler Emergency Services;	Short-Term	Minimal	City General Fund; Butler Emergency Services
Medium	Purchase additional warning sirens for unserved areas of the community.	All	City Clerk; Butler Emergency Services	Short-Term	Moderate	City General Fund; Butler Emergency Services
Medium	Ensure an adequate number of safe rooms are available for the community for use during a disaster.	All	City Clerk; Butler Emergency Services	Short-Term	Moderate	City General Fund; Butler Emergency Services

Table 14: 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	Enhance the City's resilience to flooding events by elevating properties in flood prone areas as needed to at least above 100-year floodplain.	River Flood, Flash Flood, Levee Failure	City Council	Long-Term	High	City General Fund; Hazard Mitigation Grant Program, Flood Mitigation Assistance Grant Program
High	Enhance the City's resilience to flooding events by reducing properties located within flood prone areas.	River Flood, Flash Flood, Levee Failure	City Council	Long-Term	High	City General Fund; Hazard Mitigation Grant Program, Flood Mitigation Assistance Grant Program
High	Make critical infrastructure improvements that protect wastewater treatment plant from future flooding events.	River Flood, Flash Flood, Infrastructure Failure	City Council	Long-Term	High	City General Fund; Hazard Mitigation Grant Program, Flood Mitigation Assistance Grant Program; SRF
Low	Collaborate with utility companies to prioritize and implement the burial of power lines, reducing vulnerability to severe weather events, minimizing power outages, and enhancing community resilience and safety.	Thunderstorm, Tornado/Windstorm, Flash Flood, Severe Winter Storm, River Flood, Infrastructure Failure	Utility Provider, City Council	Long-Term	High	Grid Resilience Utility Grants, Hazard Mitigation Grants

Table 15: 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
High	Improve the functionality and resilience of waterways by implementing measures that include cleaning, reseeded, maintaining grass levels, preventing dirt infiltration, and providing ongoing maintenance to ensure greater effectiveness.	River Flood, Flash Flood, Levee Failure	City Council	Short-Term	Minimal	City General Fund; DNR Grants
Low	Promote community initiatives to encourage the planting of grass, native plants, and other ground cover on open lots to prevent soil erosion, mitigation impact of droughts, and improve stormwater absorption.	Extreme Heat, Grass/Wildfire, Drought, Plant Disease, Sinkholes, Expansive Soils	City Clerk	Mid-Term	Minimal	City General Fund

Table 16: Local Plans and Regulations Mitigation Activities						
Description: Actions by administrative or regulatory processes which direct how land and buildings are developed and built. These actions include regulations by public entities to reduce hazard losses.						
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	Update ordinances and building codes that establish consistency and improved effectiveness in addressing the city's hazard mitigation goals.	All	City Council	Short-Term	Minimal	City General Fund
High	Establish clear enforcement practices that ensure ordinances and codes are followed at a local level.	All	City Council	Short-Term	Moderate	City General Fund
Low	Develop a water rationing plan in the need of a severe drought.	Extreme Heat, Drought	City Clerk, Public Works Director, City Council	Mid-Term	Minimal	City General Fund

City of New Hartford, Iowa

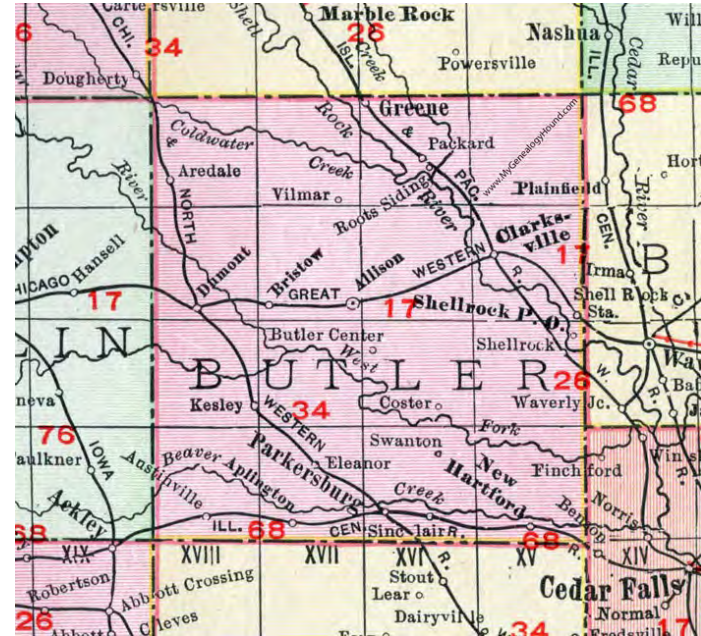
Hazard Mitigation Plan 2025 Update

Appendix H of Butler County Multi-Jurisdictional Hazard Mitigation Plan

Funded by the Butler County Emergency
Management Agency

Prepared by Iowa Northland Regional Council
of Governments (INRCOG)

January 2025



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Adopting Resolution by New Hartford City Council

Resolution 1010AF2025

A RESOLUTION OF THE CITY COUNCIL OF NEW HARTFORD, IOWA, ADOPTING THE CITY OF NEW HARTFORD, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of New Hartford City Council recognizes the threat that natural hazards pose to people and property within New Hartford; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing New Hartford served and participated in the formulation of the Plan, hereby known as the City of New Hartford, Iowa Hazard Mitigation Plan 2025 Update, as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in New Hartford from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of New Hartford demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF NEW HARTFORD, IOWA, THAT:

Section 1: In accordance with local regulations, the Council adopts the City of New Hartford, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of New Hartford may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of New Hartford to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 2nd day of April 2025.

ATTEST:

Sandra Hager
City Clerk

Dennis L. Casper
Mayor

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2025 New Hartford Hazard Mitigation Plan

About

The City of New Hartford developed this Plan as part of the 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan update process. The 2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan is a sequential 5-year update to the previous document. Federal regulations regarding how local governments may receive funding from FEMA require that the specified jurisdiction (city, school district, county) have an approved hazard mitigation plan that is in good standing (updated and FEMA approved) to remain eligible for grant funding. This Plan was developed to meet the requirements in Title 44 CFR § 201.6.

Elected officials, city clerks, planners, first responders, and other stakeholders were invited to attend planning committee meetings as participants to learn about hazard mitigation and complete data gathering assignments. These assignments were submitted to the plan development coordinators: Butler County Emergency Management Agency (EMA) and Iowa Northland Regional Council of Government (INRCOG). Butler County's EMA initiated and funded this effort for all participating communities and contracted INRCOG to coordinate the plan development process with a multi-jurisdictional approach.

Participating communities included all ten (10) incorporated municipalities of Butler County. County staff participating in the committee were representing their respective County departments. School district superintendents for four public school districts attended and completed the data gathering assignments for their district communities. Four (4) committee

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.

meetings were held between October 1st and December 12th wherein each participant provided data and completed work sheets to develop their hazard mitigation plans.

The Benefits of Hazard Mitigation for Local Governments

For local governments, there are benefits in knowing how specific hazards may affect their communities, its potential to cause negative impacts, and develop pre-disaster actions or activities to lessen or avoid those anticipated negative impacts. Benefits include:

- ✓ An increased understanding of how natural and human caused hazards develop under certain conditions which may inform a level of magnitude or intensity.
- ✓ Take advantage of the opportunity to create more sustainable and disaster-resistant communities.
- ✓ Participating in this collaborative intergovernmental effort is cost effective for all participants.
- ✓ Using limited resources to address the threat from hazard events that may have the biggest impact on the community.
- ✓ Reducing or preventing damage to existing structures and reducing their subsequent repair costs.
- ✓ Identifying vulnerable populations to establish equitable outcomes.

- ✓ Hazard mitigation involves a commitment to long-term goals that focus on lessening or reducing negative impacts of natural, and human caused hazards.

The Planning Process

In order to reduce the threat of negative impacts from natural hazards, a risk informed approach was used in this planning process. A risk informed approach is a multi-step process. This Plan also involves collaboration among participants in the planning committee. The process involved learning the historical occurrence of when such hazards may have occurred in Butler County.

Participants in the Butler County Multi-Jurisdictional Hazard Mitigation Plan Planning Committee determined the level of risk facing their communities by completing a risk assessment. Data gathering by committee participants involved giving updates to existing mitigation activities by the local government.

Participants in the Plan followed a general 5 step process. (below)



2025 New Hartford Hazard Mitigation Plan

Community Data Sources

Population data is based on 2020 decennial Census data. The 2022 American Community Survey 5-year estimates are the latest and most reliable survey data sets to understand what is taking place in the county and each city. Most counties, cities, and towns rely on 5-year estimates. Employment, workforce, and industry figures in this Plan are estimates that have a margin of error.

It is important to note that the ACS estimates used for rural communities will have a degree of uncertainty associated with them, called sampling error, because they are based on a sample. In general, the larger the sample, the smaller the level of sampling error. Rural communities tend to have smaller samples than larger cities, so the “margin of error”—a measure of the precision of an estimate at a given level of confidence—likely will be larger for rural areas.

Crash data along roadways within each jurisdiction is collected between the period of 2019 and 2023. Using a map tool interface, the data was taken at a city level and presented to understand incident severity, casualties, and property damage from reported accidents. Accident data is added to the site daily and accessible through an online website, <https://icat.iowadot.gov/>.

In the risk analysis section of this Plan, estimates of property loss are measured using mapping of hazardous zones. For the vulnerability risk assessment, flood prone homes were determined using the boundaries of the 100 year (1%) annual chance flood zone. The value of potential property loss was derived from the 2023 assessed dollar value of

structures and dwellings on affected parcels provided by the Butler County Assessor’s Office.



New Hartford Welcome Sign

City Profile

Jurisdiction: City of New Hartford

County: Butler County

Population (2020): 570

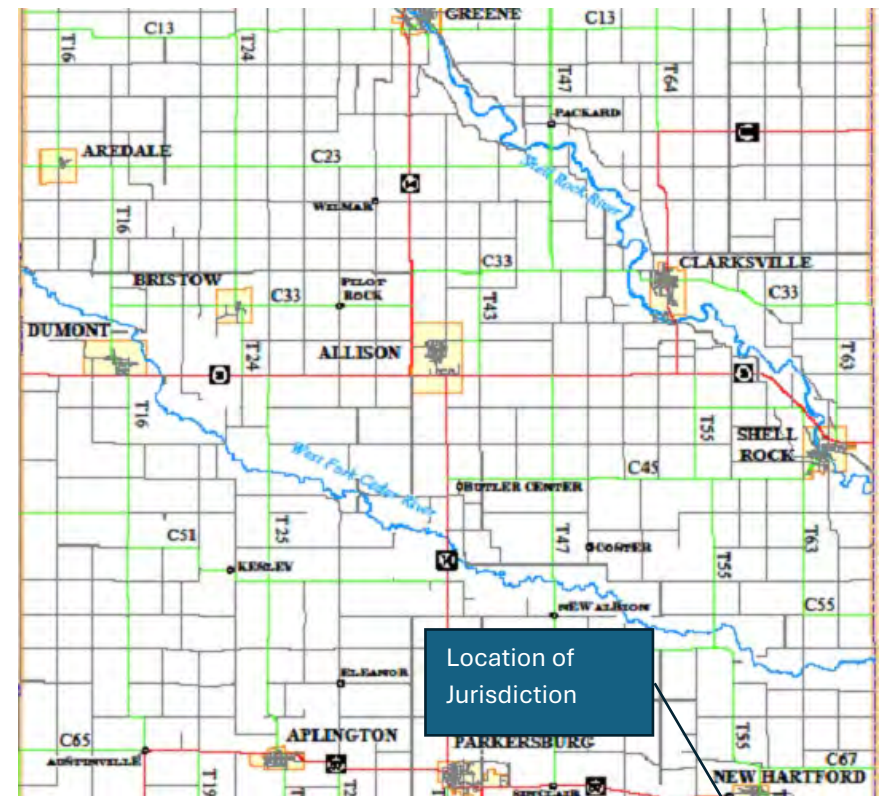
The City of New Hartford is located in the southeast corner of Butler County along Iowa State Highway 57. New Hartford is approximately 10 miles northwest of the Waterloo-Cedar Falls Metropolitan Area.

The following data presented in tables on the following page include population, employment, and industry sector data for the community based on 2020 Census data and 2022 American Community Survey 5-year Estimates.

In 2020, the city's population was 570 and 96.3% were White with the median age is 19.3. Working aged residents (15-64 years) made up 63.1% of the population. Children and teens (younger than 15 years) made up 19.3% of New Hartford's population while older adults (older than 65 years) made up 17.6%.

The median household income in 2022 was \$64,583. The unemployment rate was 4.3%. Most people commute to work. The top three largest industry sectors in New Hartford are as follows (in order from highest to lowest): 1) Manufacturing; 2) Education services, and health care and social assistance, and 3) Arts, entertainment, and recreation, and accommodation and food services.

Figure 1: Map of Butler County



2025 New Hartford Hazard Mitigation Plan

Table 1: Population Data (2020)		
City of New Hartford		
	Total	% of Population
Total population	570	100%
AGE		
Under 5 years	32	5.6%
5 to 9 years	36	6.3%
10 to 14 years	42	7.4%
15 to 19 years	51	8.9%
20 to 24 years	32	5.6%
25 to 29 years	34	6.0%
30 to 34 years	25	4.4%
35 to 39 years	37	6.5%
40 to 44 years	41	7.2%
45 to 49 years	43	7.5%
50 to 54 years	32	5.6%
55 to 59 years	35	6.1%
60 to 64 years	30	5.3%
65 to 69 years	34	6.0%
70 to 74 years	27	4.7%
75 to 79 years	22	3.9%
80 to 84 years	14	2.5%
85 years and over	3	0.5%
Median Age	39.4	-
RACE		
White	549	96.3%
Black or African American	1	0.2%
Hispanic or Latino (of any race)	0	0%
American Indian and Alaska Native	0	0%
Asian	0	0%
Native Hawaiian/Other Pacific Islander	0	0%
Some Other Race	3	0.5%
Two or More Races	21	3.7%

Source: 2020 Census, 2022 ACS 5-Yr Estimates

Table 2: Employment Data (2022)		
City of New Hartford		
	Value	% of Population
Median Household Income	\$64,583	-
Unemployment Rate (2022)	4.3%	-
Workers that commute to work	334	99.1%
Workforce that works from home	3	0.9%

Source: 2022 American Community Survey 5-Yr Estimates

Table 3: Employment Industry Data (2022)		
City of New Hartford		
Workforce Industry	# of Workers	% of Workforce
Workforce	360	100%
Agriculture, forestry, fishing and hunting, and mining	3	0.8%
Construction	17	4.7%
Manufacturing	74	20.6%
Wholesale trade	2	0.6%
Retail trade	33	9.2%
Transportation -warehousing, utilities	19	5.3%
Information	22	6.1%
Finance and insurance, and real estate and rental and leasing	5	1.4%
Professional, scientific, and management, and administrative and waste management services	17	4.7%
Educational services, and health care and social assistance	73	20.0%
Arts, entertainment, and recreation, and accommodation and food services	64	17.8%
Other services, except public administration	24	6.7%
Public administration	7	1.9%

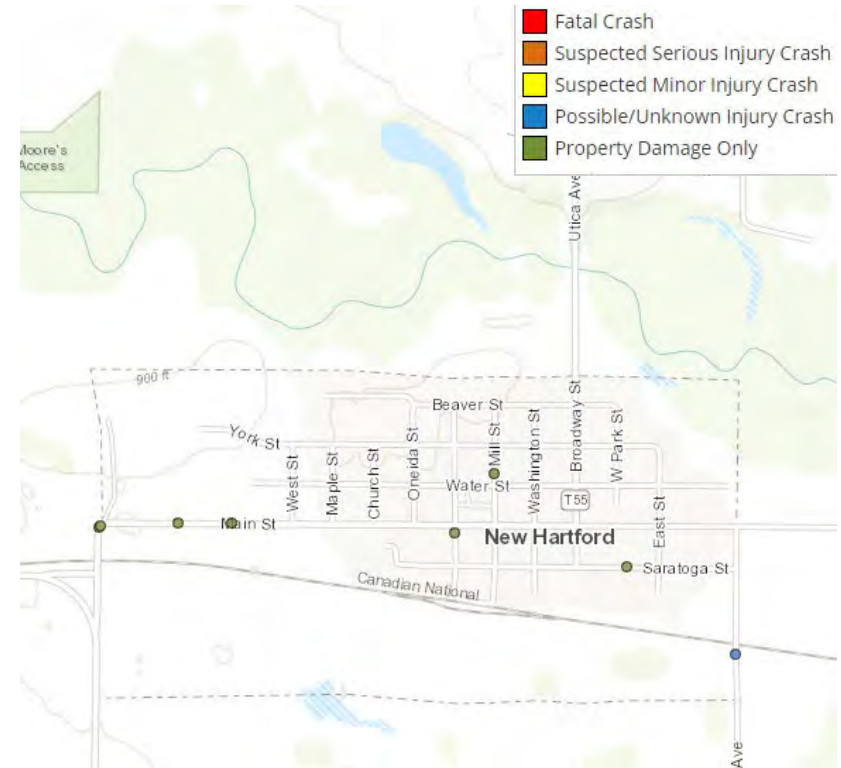
Source: 2022 American Community Survey 5-Yr Estimates

Highway Traffic and Crash Data

Based on Iowa DOT crash data, between 2019 and 2024 there have been 8 incidents. Of those incidents, most were for property damage only, resulting in \$61,000 in total damages. No fatalities or crashes with severely injured persons were reported.

Table 4: Crash Data from 2019-2024	
Total Crashes	8
Crash Severity	
Fatal	0
Suspected Serious Injury	0
Suspected Minor Injury	0
Unknown	1
Property Damage Only	7
Property Damage Total	\$61,000
<i>Source: Iowa DOT Crash Data</i>	

Figure 2: Iowa Crash Analysis for All Traffic Incidents (2019-2024)



Source: Iowa DOT

Housing Data

The City of New Hartford has 273 occupied housing units. About 90% of them are single family detaching housing. There are 5 housing units that are mobile homes or other types of housing. There are 20 or 7.3% multifamily housing units (greater than 2 units).

A large portion of the housing stock was built prior to 1940 (38.1%). About 80% of the housing stock was built prior to 1980. Most homes heat their units with natural gas (78.8%) with about 20% heating with electricity.

Community Utility Providers

MidAmerican Energy provides utility electric services and natural gas services. Mediacom and CenturyLink provide telephone services and internet services. The city provides water and sewer services.

Table 6: Utility Providers	
City of New Hartford	
Electric	MidAmerican Energy
Natural Gas	MidAmerican Energy
Telephone/Internet	Mediacom/CenturyLink
Cable TV	Mediacom/CenturyLink
Water Services	City of New Hartford
Sewer Services	City of New Hartford
Sanitation	Jendro Sanitation Services

Table 5: Housing Data (2022)		
City of New Hartford		
	Total	% of Occupied Units
Occupied housing units	273	100%
Housing Unit Type		
1, detached	248	90.8%
1, attached	0	0%
2 apartments	2	0.7%
3 or more apartments	18	6.6%
Mobile home or other type of housing	5	1.8%
Year Structure Built		
2020 or later	0	0%
2010 to 2019	0	0%
2000 to 2009	0	0%
1980 to 1999	53	19.4%
1960 to 1979	77	28.2%
1940 to 1959	39	14.3%
1939 or earlier	104	38.1%
House Heating Fuel		
Utility gas	215	78.8%
Bottled, tank, or LP gas	1	0.4%
Electricity	57	20.9%
Fuel oil, kerosene, etc.	0	0.0%
Coal or coke	0	0.0%
All other fuels	0	0.0%
No fuel used	0	0.0%
Source: 2022 American Community Survey 5-Year Estimates		

Vulnerable Assets

People

Vulnerability to hazard losses increases where there are larger concentrations of people. In towns where population density increases, the number of people that can be harmed during a hazard event (tornado, flood, etc.) increases. In addition, there are segments of the population that may be more susceptible to impacts and/or harm from a hazard depending on their location within the area (i.e. flood zone or near industrial plants with hazardous materials). This includes underserved or socially vulnerable populations.

Vulnerable Age Groups

Both younger and older aged groups are likely to require assistance with physically moving to shelters or finding safety. Elderly residents may not have a personal vehicle to move away from a hazard quickly. Cognitive impairments among older adults may cause some to get easily confused.

Households Facing Poverty or With Limited Income

Families or older adults living at, near, or below poverty are more likely to be impacted by hazards than other households with higher incomes. The costly repairs from a tornado or derecho for a low-income household may be more adversely affected than another household that has the same damage but may be able to afford the repairs without much change to their lifestyles or needs. That disparity is also different during extreme weather events such as heat waves. Low-income households may not be able to afford

the electricity to run air conditioning and many may face complications that involve heat stroke, fatigue, or death due to their age (infants or the infirm) and health conditions (obesity, heart conditions, diabetes).

New Hartford's Vulnerable Populations

In New Hartford, 20.6% (or 156 out of 756) of individuals are below the poverty level. About 38% (104) of occupied households have elderly occupants (60 years and over). About 7% of occupied households have elderly residents (65 years and over) living alone

Most residents have access to vehicles. There are no households that lack access to a vehicle. Nearly 9% of households have a person living with a disability. This is broadly defined from the data estimates for New Hartford. However, persons with mobility disabilities may be at a higher risk than others especially during unexpected natural disasters where accessibility is not always guaranteed to shelter.

Manufactured homes are unsafe in a tornado. Fatality rates are significantly higher than sturdy buildings. An alternative shelter should be identified prior to a tornado watch or warning. In 2022, there were 5 mobile homes estimated in New Hartford.

New Hartford has none of its population in institutionalized quarters.

Critical Facilities

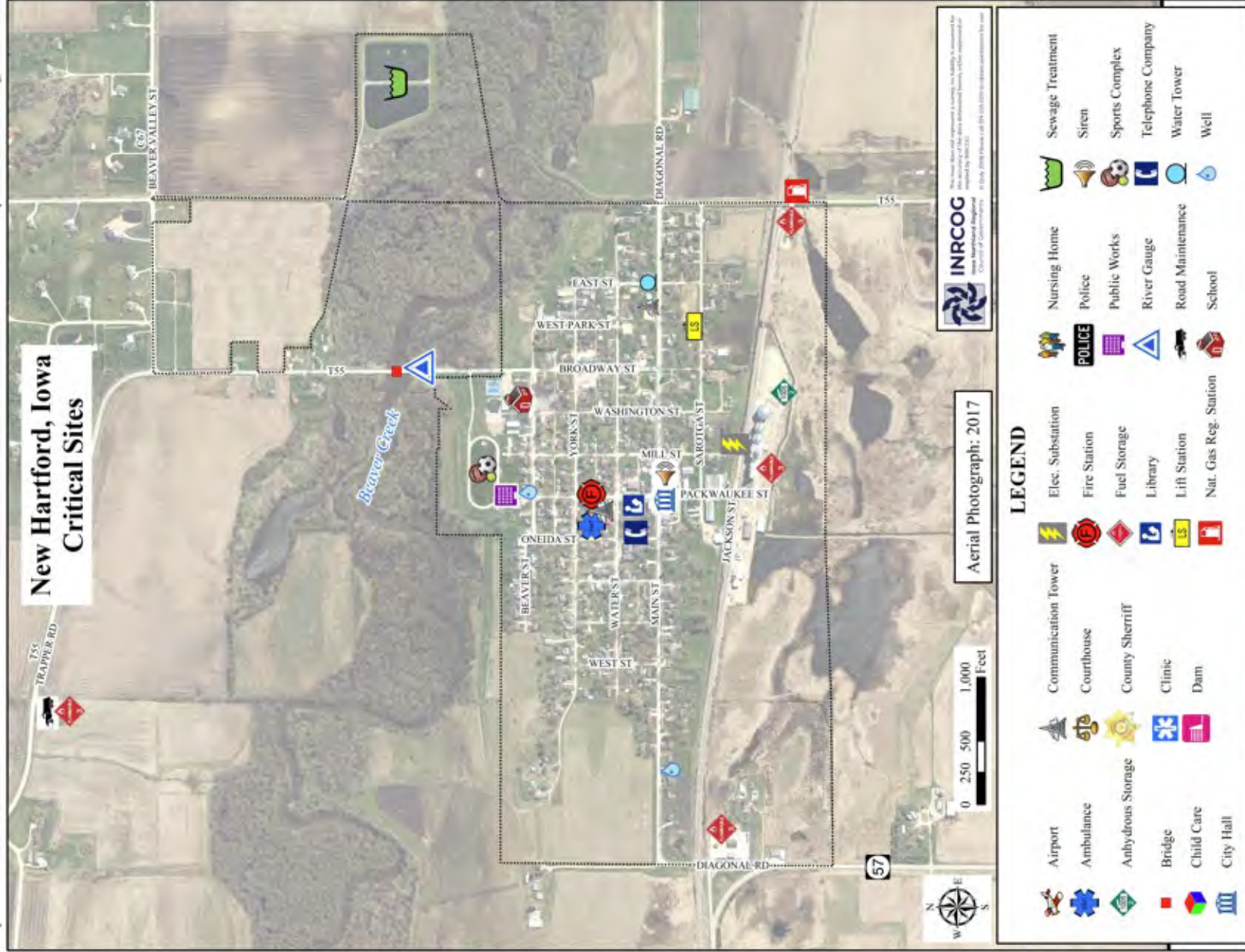
Water Supply and Wastewater Treatment Plant

The city of New Hartford provides water supply and wastewater treatment to the community. Water is supplied by one well, known as Well # 2, at 165 feet. The well is supplied by the Devonian aquifer. The city also has a 250,000 gallon water tower to maintain water pressure.

The city also has an emergency water connection to the Iowa Regional Utilities Associate.

Most households utilize a public wastewater and sewer system operated by the city. The wastewater treatment plant is northeast of the city.

Figure 3: Critical Facilities



Measuring Vulnerability to Selected Hazards

Tornado Hazard

In 2008, the city of New Hartford experienced an EF5 tornado in the northern portion of the city. 88 homes were destroyed along with the death of 2 individuals.

All buildings in New Hartford are prone to being damaged by a tornado. Therefore, the vulnerability of the community was determined by the assessed valuation of all buildings and dwellings on all parcels within the city’s limits.

Using the assessed value from December 2023, the valuation of all 408 parcels in the City of New Hartford is \$25,479,290 based on Butler County assessor data. The City of New Hartford has a potential property loss of \$22,922,500 from a tornado disaster.

Table 7: Valuation of All Parcels in City of New Hartford (2023)

Percent of City at Risk of a Tornado	100%
# of Parcels	408
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$22,922,500
Source: Butler County Assessor’s Office	

Flood Prone Areas

The potential property losses of structures prone to flooding were calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

Assessing the community’s vulnerability to losses from tornado and flood hazards is determined with county assessor data. The potential property losses of structures prone to flooding were calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

In Figures 4 and 5, the flood plain map shows the 1% annual chance of flooding in and around the City of New Hartford. The river basin is depicted in the topography shown on the map.

The parcels that are impacted by the 1% annual chance of flood are highlighted in Figure 6. There are 342 parcels within New Hartford that are potentially affected. The value of all buildings and dwellings on the affected parcels is \$21,479,330 based on the latest Butler County assessor information. This covers 93.59% of the city’s total parcels.

Table 8: Potential Property Losses from the 1% Annual Chance Flood

Percent of City Affected	93.59%
# of Parcels	342
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$21,479,330
Source: Butler County Assessor’s Office	

Figure 4: Flood Plain Map

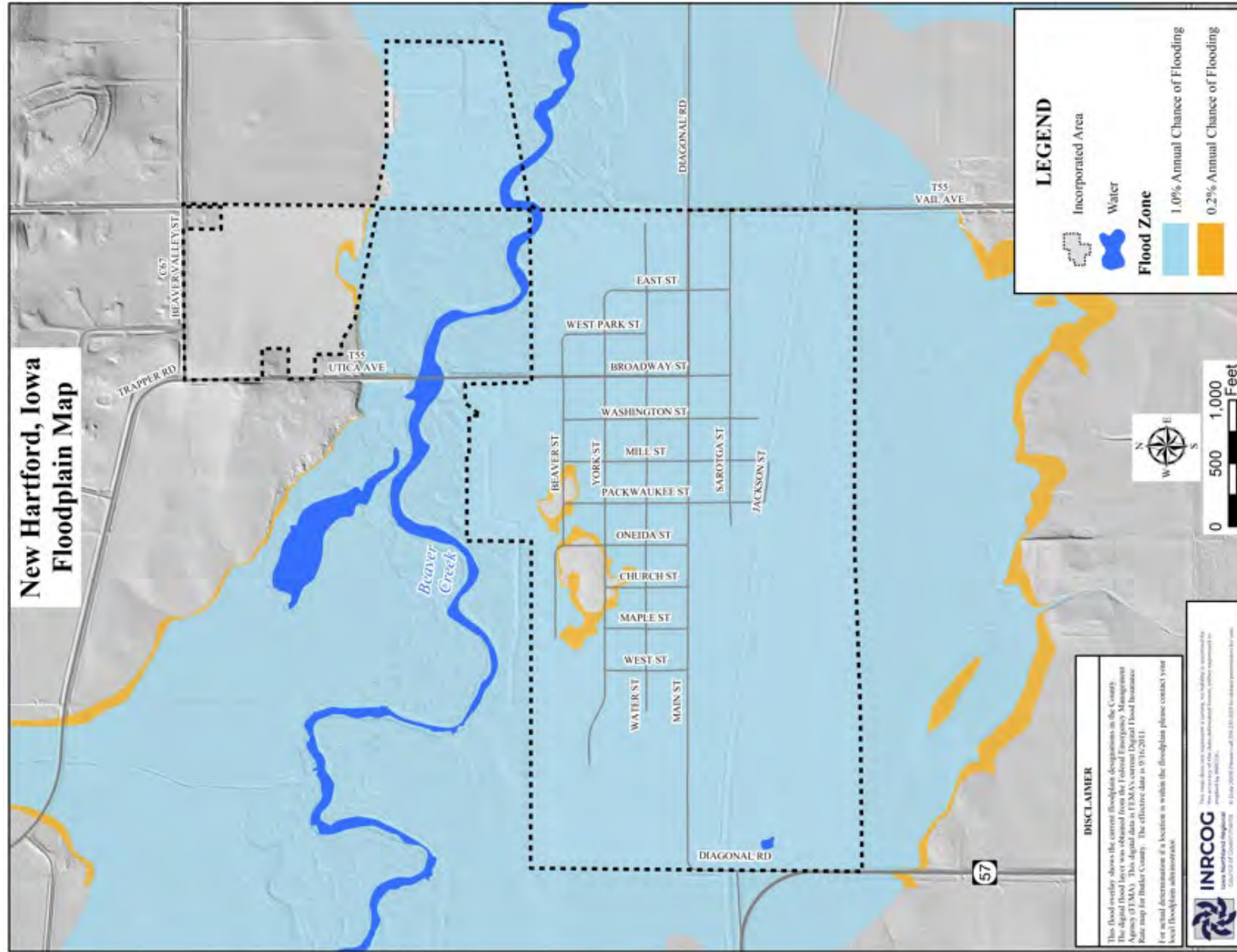


Figure 5: Flood Scenario Map



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.

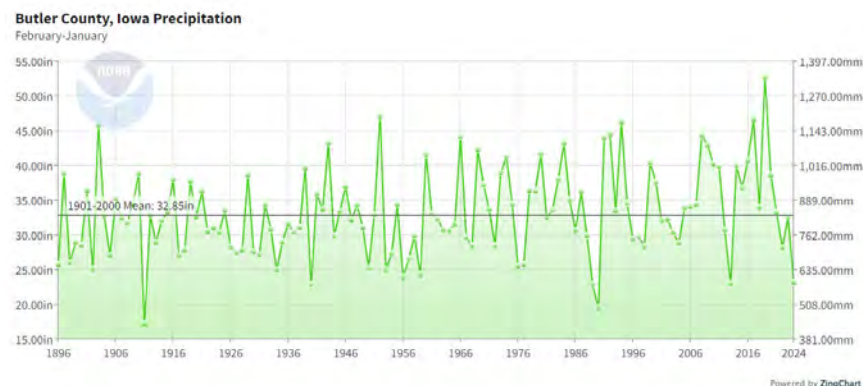
Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section.¹ The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use,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

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

Annual Precipitation Levels in Butler County

Taking the monthly precipitation records from January to December between 1895 and 2024 is shown in Figure 6. The values hover between 20 - 50 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 6. The trend shows a growing level of annual precipitation on average of 32.80 inches. Based on this historical trend, precipitation is likely to continue to increase in the coming years.

Figure 6: Historical Precipitation Data and Trend for Butler County, Iowa²



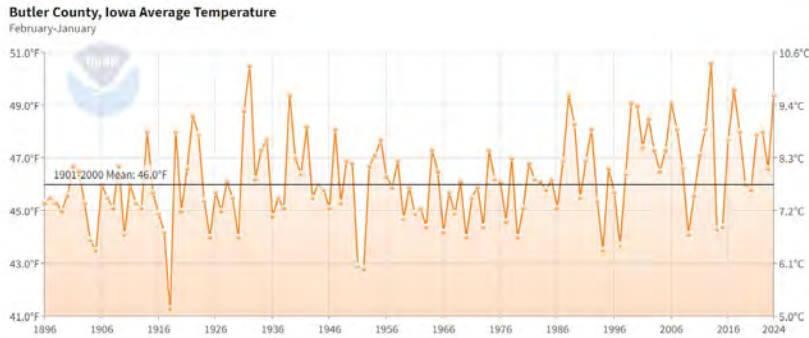
Average Annual Temperatures in Butler County

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

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 7: Historical Temperature Data and Trend for Butler 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 evaporate 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 more frequently 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 Butler County

- Prologued drought may occur as the atmosphere holds more moisture (even pulling moisture from plants) as the temperature increases. Longer periods between weather events mean there are drier 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. 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.

National Flood Insurance Program

The City of New Hartford participates in the National Flood Insurance Program. The current effective FIRM map date is December 17, 2020. Butler County participates in the NFIP, and its effective map date is December 17, 2020.

FEMA defines a repetitive loss property as an insurable building that has experienced two losses in a 10-year period in which each loss is \$1,000 or more. There are 12 reported repetitive loss properties. Each repetitive loss property was a single-family residence. The City has 70 total policies with a total net dollars paid value of \$3,666,537.

The designee for the implementation of NFIP requirements within New Hartford is the City Clerk.

Hazard Risk Assessment

The top three hazards from the risk assessment are:

1. Tornado/Wind Storm
2. Flash Flood
3. River Flood



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 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 New Hartford are located below.

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.
Scores with a value Of 0 <u>No Presumed Risk</u>	The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

2025 New Hartford Hazard Mitigation Plan

Probability

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

Probability Score Definitions		
Score	Description	
1	Unlikely	<i>Less than 10% 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.</i>
2	Occasional	<i>Between 10% and 20% 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.</i>
3	Likely	<i>Between 20% and 33% 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.</i>
4	Highly Likely	<i>More than 33% 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.</i>

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.

2025 New Hartford Hazard Mitigation Plan

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 city 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

Table 10: Hazard Risk Assessment					
Hazards	Probability	Magnitude	Warning Time	Duration	Score
Tornado/Windstorm	4	2	4	3	3.3
Flash Flood	4	2	4	2	3.2
River Flood	4	3	1	3	3.15
Animal/Crop/Plant Disease	3	2	4	4	2.95
Hazardous Materials	3	2	4	3	2.85
Thunderstorm/Lightning/Hail	4	1	4	1	2.8
Grass/Wild Land Fire	4	1	4	1	2.8
Levee/Dam Failure	2	3	4	3	2.7
Severe Winter Storm	4	1	2	2	2.6
Transportation Incident	3	1	4	3	2.55
Extreme Heat	4	1	1	3	2.55
Drought	3	2	1	4	2.5
Pandemic Human Disease	2	2	4	1	2.2
Radiological Incident	1	2	4	3	1.95
Infrastructure Failure	1	1	4	2	1.55
Landslides*	0	0	0	0	0
Expansive Soils*	0	0	0	0	0
Sinkholes*	0	0	0	0	0
Terrorism*	0	0	0	0	0
Earthquake*	0	0	0	0	0

Source: Completed by City Representative. Calculated score completed by INRCOG.

* The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

Hazard Mitigation Goals

in New Hartford, Iowa

The following list of goals was developed by planning committee participants from the associated jurisdiction. Goals 1 through 7 were developed in the previous 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan. The planning committee participants chose to adopt the same goals and add additional goals after review.

- Goal #1** Minimize to the greatest possible extent the number of injuries and/or loss of life associated with all identified hazards.
- Goal #2** Reduce or eliminate property damage due to the occurrence of disasters.
- Goal #3** Improve response operations in the event of a disaster.
- Goal #4** Return the community to either a pre-disaster or improved conditions in a timely manner in the wake of a disaster.
- Goal #5** Develop strategies that can be used to reduce the community's overall risk to the negative effects of natural, technological, and man-made disasters.
- Goal #6** Reconvene the planning committee annually to review the plan document, check for compliance with the plan goals, and track progress in achieving the mitigation strategies.
- Goal #7** Maintain the Countywide Multi-Jurisdictional format for future updates.

Previous 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 New Hartford

Butler County Emergency Management Agency

New Hartford works with the Butler County Emergency Management Coordinator, based out of the City of Allison, 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 Butler County Emergency Management Coordinator is Chris Showalter.

Law Enforcement

New Hartford contracts for law enforcement services with the Butler County Sheriff's Department. The Department provides routine services and support for the city. They are located at 428 Sixth Street in Allison.

Fire Protection and EMS Services

Fire protection for the City of New Hartford is provided by the New Hartford Fire Department. The station is located at 308 Packwaukee St in New Hartford. There are 34 volunteer fire fighters that serve in the department currently. Each of the members is HAZMAT certified Firefighter 1 trained. There

are several members that have Firefighter 2 training, and others with driver/operator training. Dispatch is provided via a paging system called I Am Responding app that is accessible through a phone app.

The New Hartford Fire Department maintains 28E agreements with surrounding communities to provide additional support when needed and required.

They have the following pieces of equipment:

- Two active Pumper Trucks
- Two reserve Pumper Trucks
- Grass Fire Truck
- Tanker
- Rescue Van
- Jaws of Life Unit

EMS Services

Butler County EMS represents all 8 of the EMS service in the County. Butler County Board of Supervisors deemed EMS an Essential Service for the County according to Iowa Code Chapter 422D and recently hired an EMS Coordinator to provide coverage and support for EMS services within the county.

2025 New Hartford Hazard Mitigation Plan

Medical Facilities

The City of New Hartford does not have any medical clinics located directly within its community.

MercyOne Cedar Falls Medical Center is located approximately 10 miles southeast. UnityPoint Health -Allen Hospital and MercyOne Waterloo Medical Center in Waterloo are located approximately 20 miles southeast.

HAZMAT Response Teams

New Hartford 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 hazard 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 the containment of the site and disposal of hazardous chemicals.

Warning Systems in New Hartford

1. Tornado Sirens

New Hartford has two existing tornado sirens with battery backups.

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

2) Alert Iowa Mass Communication System

Butler County has implemented the use of Alert Iowa, a mass communication notification system. The system features are controlled through the Butler 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. There is an optional way to receive the same alert for events such as: excessive heat warnings, hazardous materials warnings, heavy snow warning, high wind warnings, ice storm

2025 New Hartford Hazard Mitigation Plan

warnings, law enforcement warnings, shelter in place warnings, sleet warnings, wind chill warnings, and winter storm warnings.

Public Works/Street Department

The Public Works Department is located at City Hall at 503 Packwaukee St and City Maintenance is located at 720 Beaver St.

Education and Outreach Projects in New Hartford

New Hartford currently has in place E911 Emergency Assistance. Other communications used by city personnel include pagers, radios, and cellular telephones. Radio, television, cellular telephones, landline telephones, newspapers, warning sirens, and NOAA Radio Service are available to the public at large. The City has developed a website in order to keep its citizens, and other interested parties, aware of local and government affairs. The website address is www.newhartfordia.org. The City also has a social media account for local notifications and updates.

Natural Resource Protection in New Hartford

New Hartford does not have any natural resources protection actions.

Structural Projects in New Hartford

The City currently does not have any major structural projects taking place and has not since the last plan update.

Local Plans and Regulations in New Hartford

New Hartford completed a local plan and regulation assessment. The results are shown in the following table.

Table 11: Local Regulatory Capability Assessment	
Community	City of New Hartford
Previous HMP Participant?	Yes
Comprehensive Plan?	Yes
Building Code?	Yes (2015 IBC/IRC)
Zoning Ordinance? RR=restricted residential	RR
Subdivision Regulations?	Yes
Floodplain Management Ordinance?	Yes
Tree-Trimming Ordinance?	Yes
Storm Water Ordinance?	Yes
Snow Removal Ordinance?	Yes

Building Codes Follow the State of Iowa Building Code Bureau Adoption Year

Timeframe	Description
Immediate	1 - 6 months
Short Term	1-3 years
Mid-Term	3-5 Years
Long-Term	More than 5 Years

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

How to Use the Implementation Guide in this Plan

Notes about the tasks (listed as line items) on the tables on the following pages.

- 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 the City’s 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 & 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. The time frame to complete the column is based on four designations (see table to the left).

Strategic Implementation Guide for Hazard Mitigation Activities

Table 12: '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	Keep the community informed on mitigation activities, evacuation routes, and emergency response through education materials and necessary signage.	All	City Clerk, City Council, Fire Department	Immediate	Minimal	City General Fund
Medium	Provide information and keep the community in compliance with all local ordinances, codes, and programs.	All	City Clerk, City Council	Short-Term	Minimal	City General Fund
Medium	Promote the importance of well safety and inform the community of free testing provided by the county.	Infrastructure Failure, Drought, Pandemic, Animal/Plant/Crop Disease	City Clerk, City Council, County Environmental Health	Immediate	Minimal	City General Fund

Table 13: 'Emergency Services' Type Mitigation Activities						
Description: Actions that protect people and property during and immediately after a disaster or hazard event.						
<i>Priority</i>	<i>Tasks</i>	<i>Hazard(s)</i>	<i>Primary Agency Responsible for Implementation</i>	<i>Time Frame to Complete</i>	<i>Estimated Cost (s)</i>	<i>Funding Source</i>
High	Maintain an efficient and effective emergency response team by purchasing and maintaining equipment and supplies.	All	City Council, Fire Department	Short-Term	Minimal	City General Fund
Low	Identify and establish facilities to use as shelters and cooling/heating sites.	Tornado, Thunderstorm, Extreme Heat, Severe Winter Storm	City Council	Short-Term	Low	City General Fund
Low	Provide an adequate number of safe rooms and tornado shelters for public use.	Tornado, Thunderstorm	City Council	Short-Term	Minimal	City General Fund

Table 14: 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	Continue to update existing water mains and hydrants for improved potable water services and emergency services.	Drought, River Flooding, Flash Flooding, Extreme Heat, Infrastructure Failure	City Clerk, City Council	Mid-Term	Low	City General Fund
Medium	Work with the railroad company to redevelop local railroad tracks to mitigate flood and other hazard impacts.	Flash Flooding, River Flooding, Transportation Incident, Infrastructure Failure	City Clerk	Mid-Term	Low	City General Fund, Hazard Mitigation Grants
High	Protect the wastewater lagoons to keep natural waterways safe and maintain wastewater infrastructure.	River Flooding, Flash Flooding, Infrastructure Failure	City Council, Fire Department, City Maintenance	Short-Term	Low	City General Fund
Medium	Conduct survey to widen or introduce box culverts on T55 bridge.	River Flooding, Flash Flooding, Transportation Incident, Infrastructure Failure	City Council	Mid-Term	Moderate	City General Fund, Hazard Mitigation Grants

Table 15: 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	Protect natural water sources and community infrastructure through proper storm water management practices.	River Flooding, Flash Flooding, Infrastructure Failure	City Council	Short-Term	Low	City General Fund, DNR Grants, Stormwater Grants
Medium	Continue to utilize tree planting grant programs to improve tree cover and air quality.	Drought, Extreme Heat, Grass/Wildland Fire	City Clerk	Short-Term	Minimal	Trees Please! Grants, City General Fund
Medium	Clean and maintain vegetation in railroad ditch to protect city and railroad from hazards.	River Flooding, Flash Flooding, Grass/Wildland Fire, Transportation Incident	Fire Department	Short-Term	Minimal	City General Fund

Table 16: Local Plans and Regulations Mitigation Activities						
Description: Actions by administrative or regulatory processes which direct how land and buildings are developed and built. These actions include regulations by public entities to reduce hazard losses.						
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
Medium	Develop a plan to add culverts to relieve emergency flows and protect the city from flooding events.	River Flooding, Flash Flooding	City Council	Mid-Term	Moderate	Hazard Mitigation Grants, City General Fund
High	Develop a detailed Flood Response Master Plan, including evacuation routes, staging locations, sandbagging locations, etc.	River Flooding, Flash Flooding	Fire Department, City Council, Mayor	Mid-Term	Low	Hazard Mitigation Grants, City General Fund
Low	Perform an engineering study to develop mitigation techniques to divert flows away from the city; including studies of flood doors and berms to east and wetlands to the south.	River Flooding, Flash Flooding, Dam/Levee Failure	City Council	Mid-Term	Moderate	City General Fund, Hazard Mitigation Grant

City of Parkersburg, Iowa

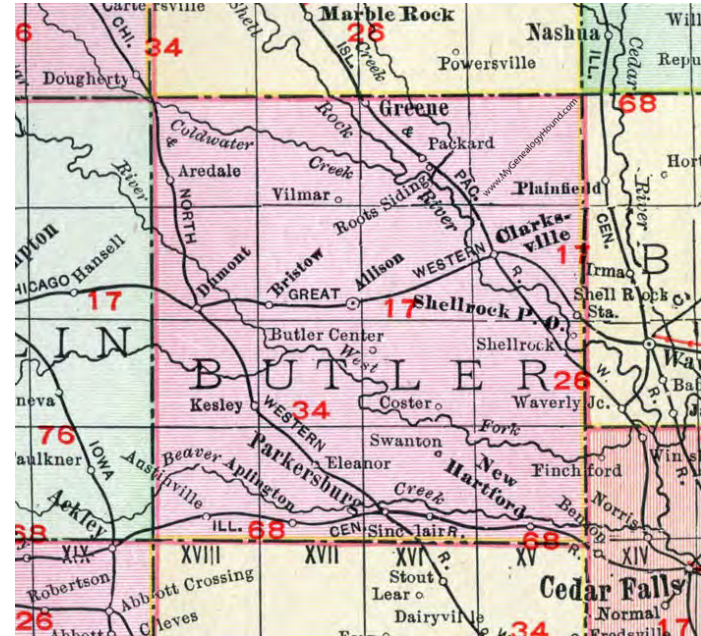
Hazard Mitigation Plan 2025 Update

Appendix I of Butler County Multi-Jurisdictional Hazard Mitigation Plan

Funded by the Butler County Emergency
Management Agency

Prepared by Iowa Northland Regional Council
of Governments (INRCOG)

January 2025



INRCOG
Iowa Northland Regional
Council of Governments

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Adopting Resolution by Parkersburg City Council

RESOLUTION 1146

A RESOLUTION OF THE CITY COUNCIL OF PARKERSBURG, IOWA, ADOPTING THE CITY OF PARKERSBURG, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Parkersburg City Council recognizes the threat that natural hazards pose to people and property within Parkersburg; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Parkersburg served and participated in the formulation of the Plan, hereby known as the City of Parkersburg, Iowa Hazard Mitigation Plan 2025 Update, as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Parkersburg from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of Parkersburg demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF PARKERSBURG, IOWA, THAT:

Section 1: In accordance with local regulations, the Council adopts the City of Parkersburg, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Parkersburg may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Parkersburg to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 7th day of April 2025.


Mayor Mike Timmer

ATTEST:

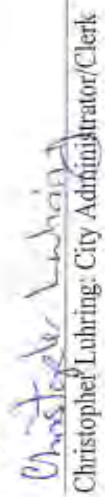

Christopher Luhring, City Administrator/Clerk

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2025 Parkersburg Hazard Mitigation Plan

About

The City of Parkersburg developed this Plan as part of the 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan update process. The 2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan is a sequential 5-year update to the previous document. Federal regulations regarding how local governments may receive funding from FEMA require that the specified jurisdiction (city, school district, county) have an approved hazard mitigation plan that is in good standing (updated and FEMA approved) to remain eligible for grant funding. This Plan was developed to meet the requirements in Title 44 CFR § 201.6.

Elected officials, city clerks, planners, first responders, and other stakeholders were invited to attend planning committee meetings as participants to learn about hazard mitigation and complete data gathering assignments. These assignments were submitted to the plan development coordinators: Butler County Emergency Management Agency (EMA) and Iowa Northland Regional Council of Government (INRCOG). Butler County's EMA initiated and funded this effort for all participating communities and contracted INRCOG to coordinate the plan development process with a multi-jurisdictional approach.

Participating communities included all ten (10) incorporated municipalities of Butler County. County staff participating in the committee were representing their respective County departments. School district superintendents for the public school districts attended and completed the data gathering assignments for their district communities. Four (4) committee

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.

meetings were held between October 1st and December 12th wherein each participant provided data and completed work sheets to develop their hazard mitigation plans.

The Benefits of Hazard Mitigation for Local Governments

For local governments, there are benefits in knowing how specific hazards may affect their communities, its potential to cause negative impacts, and develop pre-disaster actions or activities to lessen or avoid those anticipated negative impacts. Benefits include:

- ✓ An increased understanding of how natural and human caused hazards develop under certain conditions which may inform a level of magnitude or intensity.
- ✓ Take advantage of the opportunity to create more sustainable and disaster-resistant communities.
- ✓ Participating in this collaborative intergovernmental effort is cost effective for all participants.
- ✓ Using limited resources to address the threat from hazard events that may have the biggest impact on the community.
- ✓ Reducing or preventing damage to existing structures and reducing their subsequent repair costs.
- ✓ Identifying vulnerable populations to establish equitable outcomes.

- ✓ Hazard mitigation involves a commitment to long-term goals that focus on lessening or reducing negative impacts of natural, and human caused hazards.

The Planning Process

In order to reduce the threat of negative impacts from natural hazards, a risk informed approach was used in this planning process. A risk informed approach is a multi-step process. This Plan also involves collaboration among participants in the planning committee. The process involved learning the historical occurrence of when such hazards may have occurred in Butler County.

Participants in the Butler County Multi-Jurisdictional Hazard Mitigation Plan Planning Committee determined the level of risk facing their communities by completing a risk assessment. Data gathering by committee participants involved giving updates to existing mitigation activities by the local government.

Participants in the Plan followed a general 5 step process. (below)



Community Data Sources

Population data is based on 2020 decennial Census data. The 2022 American Community Survey 5-year estimates are the latest and most reliable survey data sets to understand what is taking place in the county and each city. Most counties, cities, and towns rely on 5-year estimates. Employment, workforce, and industry figures in this Plan are estimates that have a margin of error.

It is important to note that the ACS estimates used for rural communities will have a degree of uncertainty associated with them, called sampling error, because they are based on a sample. In general, the larger the sample, the smaller the level of sampling error. Rural communities tend to have smaller samples than larger cities, so the “margin of error”—a measure of the precision of an estimate at a given level of confidence—likely will be larger for rural areas.

Crash data along roadways within each jurisdiction is collected between the period of 2019 and 2023. Using a map tool interface, the data was taken at a city level and presented to understand incident severity, casualties, and property damage from reported accidents. Accident data is added to the site daily and accessible through an online website, <https://icat.iowadot.gov/>.

In the risk analysis section of this Plan, estimates of property loss are measured using mapping of hazardous zones. For the vulnerability risk assessment, flood prone homes were determined using the boundaries of the 100 year (1%) annual chance flood zone. The value of potential property loss was derived from the 2023 assessed dollar value of

structures and dwellings on affected parcels provided by the Butler County Assessor’s Office.



Parkersburg, Iowa Memorial honoring volunteers following the May 25, 2008 tornado

City Profile

Jurisdiction: City of Parkersburg

County: Butler County

Population (2020): 2,015

The City of Parkersburg is in the southern portion of Butler County. State Highway 14 runs north and south through the city, and it sits just north of Highway 20.

The following data presented in tables on the following page include population, employment, and industry sector data for the community based on 2020 Census data and 2022 American Community Survey 5-year Estimates.

In 2020, the city's population was 2,015 and 96.1% were White with the median age is 47.3. Working aged residents (15-60 years) made up 50.7% of the population. Children and teens (younger than 15 years) made up 18.8% of Parkersburg's population while older adults (older than 60 years) made up 30.5%.

The median household income in 2022 was \$69,038. The unemployment rate was 2.8%. Most people commute to work, and 77 people, or 9.8% of the workforce, work from home. The top three largest industry sectors in Parkersburg are as follows (in order from highest to lowest): 1) Educational services, and health care, and social assistance, 2) Retail Trade, and 3) Manufacturing.

Figure 1: Map of Butler County



2025 Parkersburg Hazard Mitigation Plan

Table 1: Population Data (2020)		
City of Parkersburg		
	Total	% of Population
Total population	1,738	100%
AGE		
Under 5 years	115	6.6%
5 to 9 years	76	4.4%
10 to 14 years	135	7.8%
15 to 19 years	105	6.0%
20 to 24 years	80	4.6%
25 to 29 years	68	3.9%
30 to 34 years	46	2.6%
35 to 39 years	103	5.9%
40 to 44 years	90	5.2%
45 to 49 years	112	6.4%
50 to 54 years	168	9.7%
55 to 59 years	109	6.3%
60 to 64 years	133	7.7%
65 to 69 years	75	4.3%
70 to 74 years	111	6.4%
75 to 79 years	112	6.4%
80 to 84 years	41	2.4%
85 years and over	59	3.4%
Median Age	47.3	-
RACE		
White	1,650	94.9%
Black or African American	3	0.2%
Hispanic or Latino (of any race)	14	0.8%
American Indian and Alaska Native	6	0.3%
Asian	41	2.4%
Native Hawaiian/Other Pacific Islander	0	0.0%
Some Other Race	37	2.1%
Two or More Races	1	0.1%

Source: 2022 ACS 5-Yr Estimates

Table 2: Employment Data (2022)		
City of Parkersburg		
	Value	% of Population
Median Household Income	\$69,038	-
Unemployment Rate (2022)	2.8%	-
Workers that commute to work	708	90.2%
Workforce that works from home	77	9.8%

Source: 2022 American Community Survey 5-Yr Estimates

Table 3: Employment Industry Data (2022)		
City of Parkersburg		
Workforce Industry	# of Workers	% of Workforce
Workforce	806	100%
Agriculture, forestry, fishing and hunting, and mining	53	6.6%
Construction	59	7.3%
Manufacturing	107	13.3%
Wholesale trade	18	2.2%
Retail trade	69	8.6%
Transportation -warehousing, utilities	36	4.5%
Information	0	0.0%
Finance and insurance, and real estate and rental and leasing	62	7.7%
Professional, scientific, and management, and administrative and waste management services	62	7.7%
Educational services, and health care and social assistance	283	32.6%
Arts, entertainment, and recreation, and accommodation and food services	12	1.5%
Other services, except public administration	50	6.2%
Public administration	15	1.9%

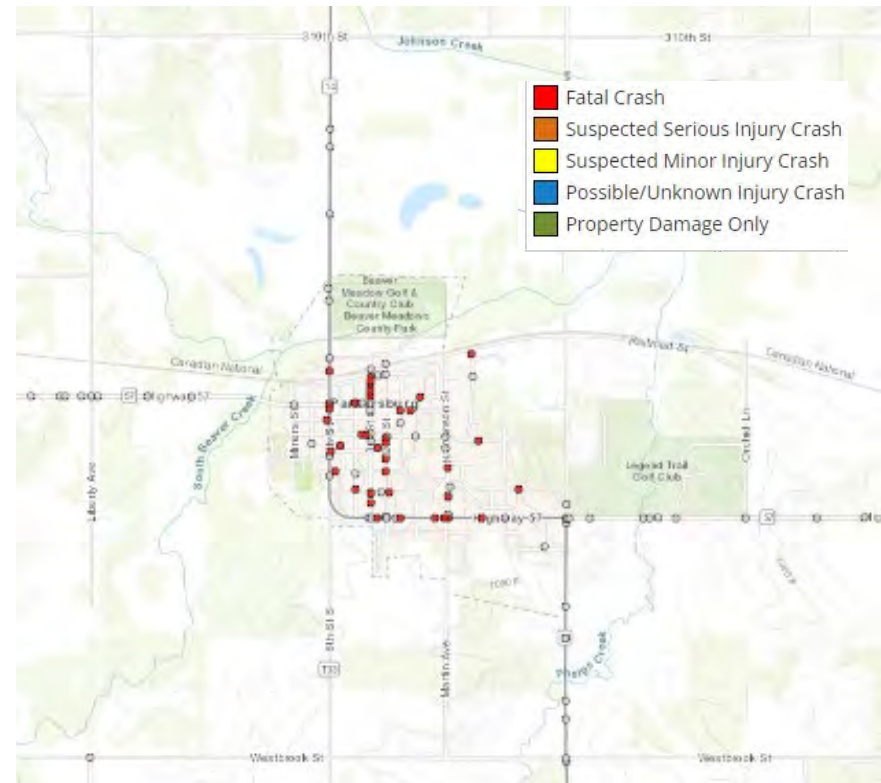
Source: 2022 American Community Survey 5-Yr Estimates

Highway Traffic and Crash Data

Based on Iowa DOT crash data, between 2019 and 2024 there have been 42 incidents. Of those incidents, 33 incidents were property damage only, resulting in \$288,250 in total damages. No fatalities or crashes with severely injured persons were reported.

Table 4: Crash Data from 2019-2024	
Total Crashes	42
Crash Severity	
Fatal	0
Suspected Serious Injury	0
Suspected Minor Injury	1
Unknown	8
Property Damage Only	33
Property Damage Total	\$288,250
<i>Source: Iowa DOT Crash Data</i>	

Figure 2: Iowa Crash Analysis for All Traffic Incidents (2019-2024)



Source: Iowa DOT

Housing Data

The City of Parkersburg has 702 occupied housing units. Nearly 84% of them are single family detached housing. There are 6 housing units that are mobile homes or other types of housing. There are no duplex apartments and 13% are multifamily (greater than 2 units).

A large portion of the housing stock was built between 2000-2009 and 1960 to 1979. About 55.7% of the housing stock was built prior to 1980. Most homes heat their units with gas (68.4%).

Community Utility Providers

MidAmerican Energy provides utility electric services and natural gas services. Century Link or Mediacom provides telephone services and broadband internet services. Residents receive water, sewer, and recycling collection services from the city.

Table 6: Utility Providers	
City of Parkersburg	
Electric	MidAmerican Energy
Natural Gas	MidAmerican Energy
Telephone/Internet	Century Link, Mediacom
Cable TV	Century Link, Mediacom
Water Services	City of Parkersburg
Sewer Services	City of Parkersburg
Sanitation	City Sanitation Service

Table 5: Housing Data (2022)		
City of Parkersburg		
	Total	% of Occupied Units
Occupied housing units	702	100%
Housing Unit Type		
1, detached	587	83.6%
1, attached	19	2.7%
2 apartments	0	0.0%
3 or more apartments	90	12.9%
Mobile home or other type of housing	6	0.9%
Year Structure Built		
2020 or later	0	0%
2010 to 2019	61	8.7%
2000 to 2009	190	27.1%
1980 to 1999	60	8.5%
1960 to 1979	152	21.7%
1940 to 1959	85	12.1%
1939 or earlier	154	21.9%
House Heating Fuel		
	Total	% of Occupied Units
Utility gas	480	68.4%
Bottled, tank, or LP gas	8	1.1%
Electricity	195	27.8%
Fuel oil, kerosene, etc.	0	0%
Coal or coke	0	0%
All other fuels	17	2.4%
No fuel used	2	0.3%

Source: 2022 American Community Survey 5-Year Estimates

Vulnerable Assets

People

Vulnerability to hazard losses increase when there are larger concentrations of people. In towns where population density increases, the number of people that can be harmed during a hazard event (tornado, flood, etc.) increases. In addition, there are segments of the population that may be more susceptible to impacts and/or harm from a hazard depending on their location within the area (i.e. flood zone or near industrial plants with hazardous materials). This includes underserved or socially vulnerable populations.

Vulnerable Age Groups

Both younger and older age groups are likely to require assistance with physically moving to shelters or finding safety. Elderly residents may not have a personal vehicle to move away from a hazard quickly. Cognitive impairments among older adults may cause some to get easily confused.

Households Facing Poverty or With Limited Income

Families or older adults living near or below poverty are more likely to be impacted by hazards than other households with higher incomes. The costly repairs from a tornado or derecho for a low-income household may be more adversely affected than another household that has the same damage but may be able to afford the repairs without much change to their lifestyles or needs. That disparity is also different during extreme weather events such as heat waves. Low-income households may not be able to afford the electricity to run air conditioning and many may face

complications that involve heat stroke, fatigue, or death due to their age (infants or the infirm) and health conditions (obesity, heart conditions, diabetes).

Parkersburg's Vulnerable Populations

In Parkersburg, 7.1% (or 121 out of 1,738) of individuals are below the poverty level. About 38.7% (272) of occupied households have elderly occupants (65 years and over). About 20% of occupied households have elderly residents (65 years and over) living alone.

Most residents have access to a vehicle. Nearly 12% of households have a person living with a disability. This is broadly defined from the data estimates for Parkersburg. However, persons with mobility disabilities may be at a higher risk than others especially during unexpected natural disasters where accessibility is not always guaranteed to shelter.

Manufactured homes are unsafe in a tornado. Fatality rates are significantly higher than sturdy buildings. An alternative shelter should be identified prior to a tornado watch or warning. In 2022, there are about 6 mobile homes estimated in Parkersburg.

Parkersburg has 31 individuals living in institutionalized quarters, which is likely assisted living individuals.

Critical Facilities

Water Supply

The City of Parkersburg, Iowa, operates a municipal water supply system serving approximately 2,000 residents. The system sources water from two active wells, known as Parkersburg #1 and Parkersburg #2, both drawing from the Devonian aquifer at depths of 250 and 230 feet, respectively. Water is treated with chlorine at the well sites to ensure quality and safety. The city maintains an elevated water tower with a capacity of 300,000 gallons to support consistent water pressure and supply.

While specific data on daily water usage isn't readily available, the system is designed to meet the community's needs effectively. In addition to the municipal supply, some housing units utilize individually drilled wells for their water needs.

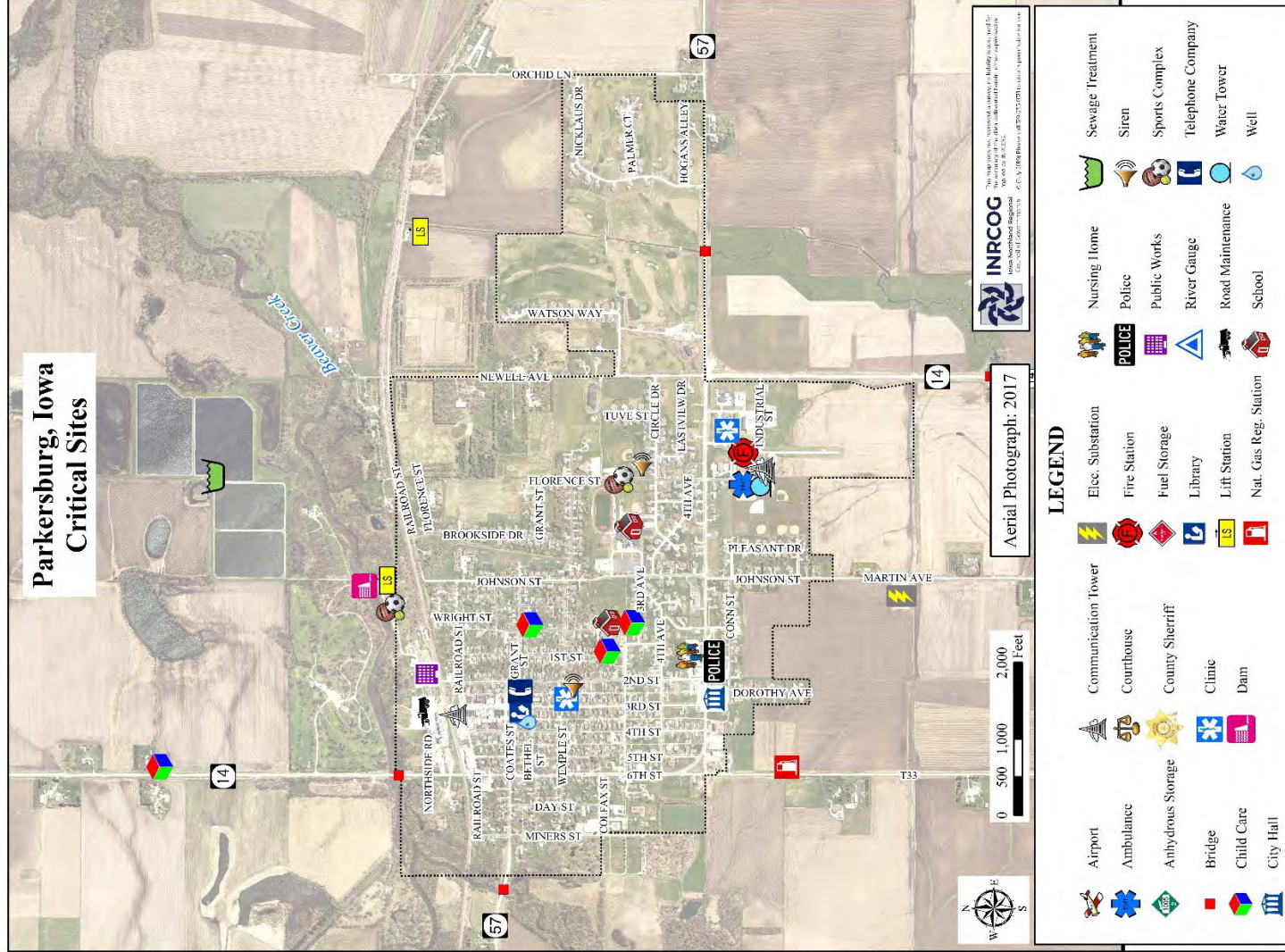
Wastewater Treatment Plant and Lift Stations

The City of Parkersburg operates a wastewater treatment facility that processes municipal wastewater collected through an extensive network of sewer lines and lift stations. The treatment system employs a lagoon-based process, effectively managing the community's wastewater needs. Constructed in the mid-1980s, the facility has been consistently maintained and upgraded to comply with environmental standards and to support both current residents and future economic development.

Parkersburg regularly assesses its wastewater infrastructure to ensure long-term efficiency and adherence to regulatory

requirements. Projections indicate that over the next 20 years, the city's population will remain steady or experience modest growth. The existing wastewater treatment plant has the capacity to accommodate gradual increases in demand. Future hazard mitigation efforts will consider additional facilities and improvements as identified in the city's vulnerability assessment.

Figure 3: Critical Facilities



Measuring Vulnerability to Selected Hazards

Tornado Hazard

In 2008, the City of Parkersburg experienced an EF5 tornado, that has left a lasting impact on the community.

Approximately 20% of the community’s buildings were destroyed, including over 220 homes and the loss of 8 individuals.

All buildings in Parkersburg are prone to being damaged by a tornado. Therefore, the vulnerability of the community was determined by the assessed valuation of all buildings and dwellings on all parcels within the city’s limits.

Using the assessed value from December 2023, the valuation of all 1301 parcels in the City of Parkersburg is \$193,562,320 based on Butler County assessor data. The City of Parkersburg has a potential property loss of \$174,667,890 from a tornado disaster.

Table 7: Valuation of All Parcels in City of Parkersburg (2023)	
Percent of City at Risk of a Tornado	100%
# of Parcels	1301
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$174,667,890
Source: Butler County Assessor’s Office	

Flood Prone Areas

The potential property losses of structures prone to flooding were calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

Assessing the community’s vulnerability to losses from tornado and flood hazards is determined with county assessor data. The potential property losses of structures prone to flooding were calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

In Figures 4 and 5, the flood plain map shows the 1% annual chance of flooding in and around the City of Parkersburg. The river basin is depicted in the topography shown on the map.

The parcels that are impacted by the 1% annual chance of flood are highlighted in Figure 6. There are 37 parcels within Parkersburg that are potentially affected. The value of all buildings and dwellings on the affected parcels is \$2,461,510 based on the latest Butler County assessor information. This covers 1.29% of the city’s total parcels

Table 8: Potential Property Losses from the 1% Annual Chance Flood	
Percent of City Affected	1.29%
# of Parcels	37
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$2,461,510
Source: Butler County Assessor’s Office	

Figure 4: Flood Plain Map

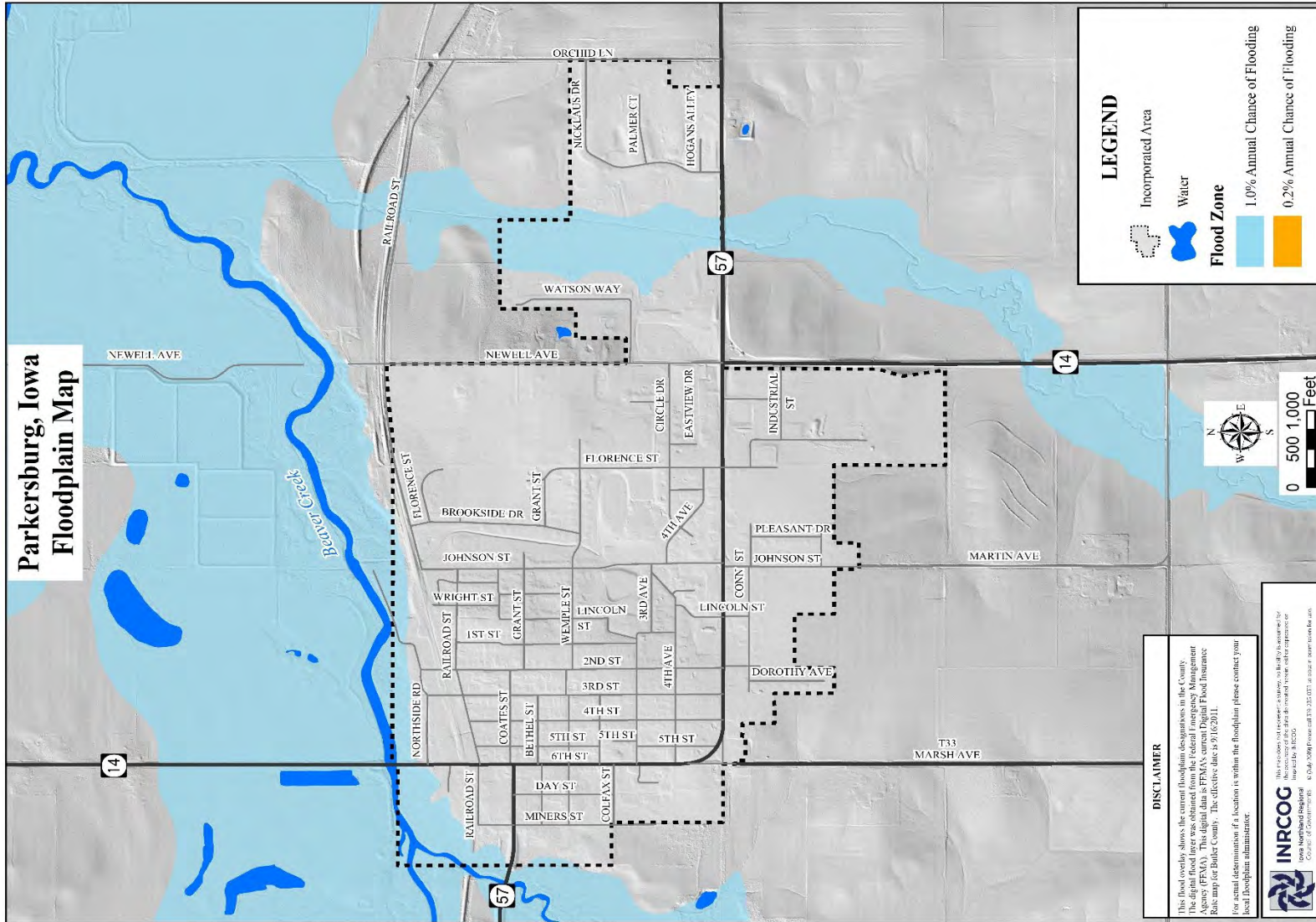
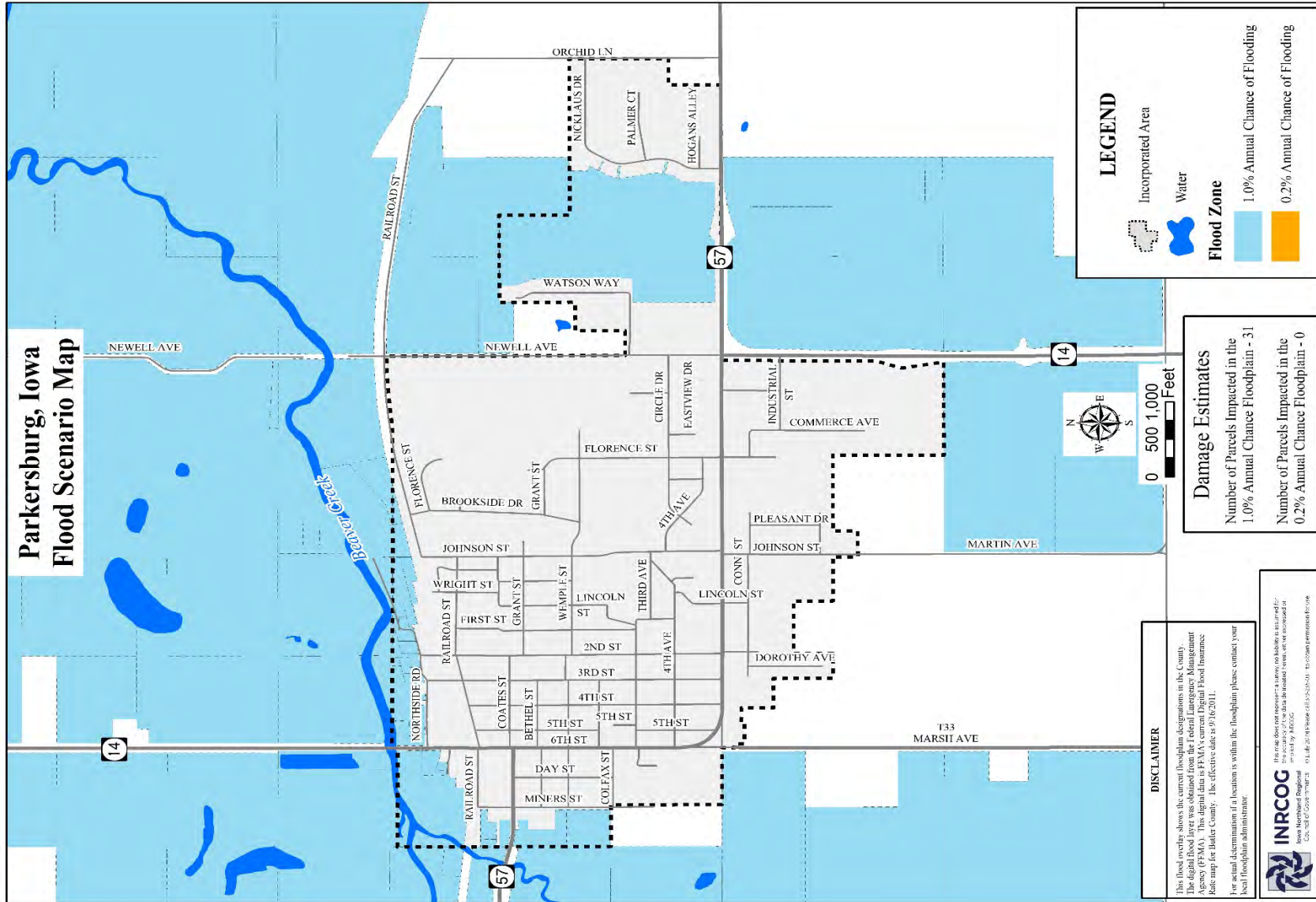


Figure 5: Flood Scenario Map



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.

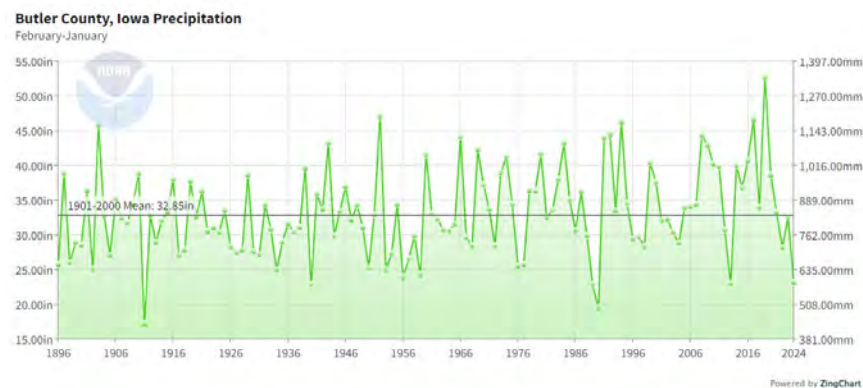
Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section.¹ The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use,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

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

Annual Precipitation Levels in Butler County

Taking the monthly precipitation records from January to December between 1895 and 2024 is shown in Figure 6. The values hover between 20 - 50 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 6. The trend shows a growing level of annual precipitation on average of 32.80 inches. Based on this historical trend, precipitation is likely to continue to increase in the coming years.

Figure 6: Historical Precipitation Data and Trend for Butler County, Iowa²



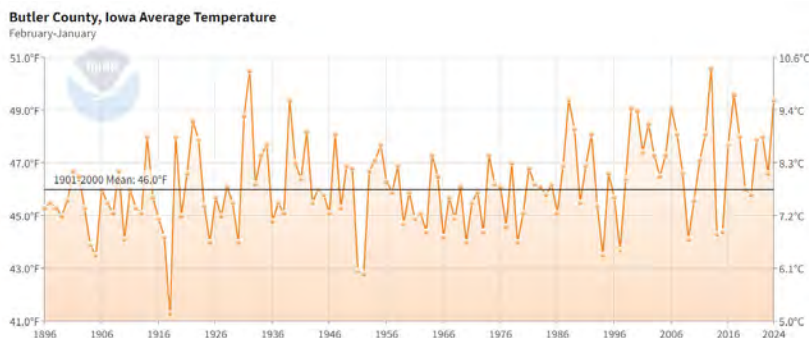
Average Annual Temperatures in Butler County

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

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 7: Historical Temperature Data and Trend for Butler 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 evaporate 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 more frequently 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 Butler County

- Prologued drought may occur as the atmosphere holds more moisture (even pulling moisture from plants) as the temperature increases. Longer periods between weather events mean there are drier 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. 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.

National Flood Insurance Program

The City of Parkersburg participates in the National Flood Insurance Program (NFIP). The current effective FIRM (Flood Insurance Rate Map) date for Parkersburg is December 17, 2020. Butler County, which includes Parkersburg, also participates in the NFIP, with its effective map date being December 17, 2020.

FEMA defines a repetitive loss property as an insurable building that has experienced two losses in a 10-year period, with each loss amounting to \$1,000 or more. In Parkersburg, there are 0 reported repetitive loss properties. The City has zero total policies.

The designee for the implementation of NFIP requirements within Parkersburg is the City Clerk.

Hazard Risk Assessment

The top three hazards from the risk assessment are:

1. Hazardous Materials
2. Severe Winter Storms
3. Drought



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 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 Parkersburg are located below.

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.
Scores with a value Of 0 <u>No Presumed Risk</u>	The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

2025 Parkersburg Hazard Mitigation Plan

Probability

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

Probability Score Definitions		
Score	Description	
1	Unlikely	<i>Less than 10% 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.</i>
2	Occasional	<i>Between 10% and 20% 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.</i>
3	Likely	<i>Between 20% and 33% 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.</i>
4	Highly Likely	<i>More than 33% 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.</i>

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.

2025 Parkersburg Hazard Mitigation Plan

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 city 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

Table 10: Hazard Risk Assessment					
Hazards	Probability	Magnitude	Warning Time	Duration	Score
Hazardous Materials	3	3	4	3	3.15
Severe Winter Storm	3	2	3	3	2.7
Drought	3	2	1	4	2.5
Extreme Heat	3	2	1	4	2.5
Animal/Crop/Plant Disease	2	3	1	4	2.35
Tornado/Windstorm	1	4	3	1	2.2
Thunderstorm/Lightning/Hail	2	2	3	1	2.05
Pandemic Human Disease	1	2	1	4	1.6
Grass/Wild Land Fire	1	1	3	1	1.3
Expansive Soils	1	1	1	1	1
Flash Flood	1	1	1	1	1
River Flood	1	1	1	1	1
Sinkholes	1	1	1	1	1
Infrastructure Failure	1	1	1	1	1
Terrorism	1	1	1	1	1
Transportation Incident	1	1	1	1	1
Radiological Incident*	1	1	1	1	1
Earthquake*	0	0	0	0	0
Landslides*	0	0	0	0	0
Levee/Dam Failure*	0	0	0	0	0

Source: Completed by City Representative. Calculated score completed by INRCOG.

* The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

Hazard Mitigation Goals

in Parkersburg, Iowa

The following list of goals was developed by planning committee participants from the associated jurisdiction. Goals 1 through 7 were developed in the previous 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan. The planning committee participants chose to adopt the same goals and add additional goals after review.

- Goal #1** Minimize to the greatest possible extent the number of injuries and/or loss of life associated with all identified hazards.
- Goal #2** Reduce or eliminate property damage due to the occurrence of disasters.
- Goal #3** Improve response operations in the event of a disaster.
- Goal #4** Return the community to either a pre-disaster or improved conditions in a timely manner in the wake of a disaster.
- Goal #5** Develop strategies that can be used to reduce the community's overall risk to the negative effects of natural, technological, and man-made disasters.
- Goal #6** Reconvene the planning committee annually to review the plan document, check for compliance with the plan goals, and track progress in achieving the mitigation strategies.
- Goal #7** Maintain the Countywide Multi-Jurisdictional format for future updates.

Previous 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 Parkersburg

Butler County Emergency Management Agency

Parkersburg works with the Butler County Emergency Management Coordinator, based out of the City of Allison, 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 Butler County Emergency Management Coordinator is Chris Showalter.

Law Enforcement

Parkersburg has one police chief, 1 full-time officer, and 2 part time reserve officers. The police department is located at 11608 Hwy 57. They handle a range of essential services, including routine patrols, emergency response, and criminal investigations.

Fire Protection and EMS Services

Fire protection for the City of Parkersburg is provided by the Parkersburg Fire Department. The station is located at 1005 Commerce Street. There are 18 volunteer fire fighters that serve in the department currently. Each of the members is

HAZMAT certified Firefighter 1 trained. There are several members that have Firefighter 2 training, and others with driver/operator training. Dispatch is provided via a paging system called I Am Responding app that is accessible through a phone app. The department also includes 18 trained volunteer EMS.

The Parkersburg Fire Department maintains 28E agreements with surrounding communities to provide additional support when needed and required.

Equipment used by the Parkersburg Fire Department includes the following:

- Jaws of life
- Hydraulic pumps
- Fire trucks
- Rescue pumper
- Top Kick

EMS Services

Butler County EMS represents all 8 of the EMS service in the County. Butler County Board of Supervisors deemed EMS an Essential Service for the County according to Iowa Code Chapter 422D and recently hired an EMS Coordinator to provide coverage and support for EMS services within the county.

2025 Parkersburg Hazard Mitigation Plan

Medical Facilities

The City of Parkersburg has three medical clinics that include Cedar Valley Primary Care UnityPoint Family Medicine, and MercyOne Parkersburg Family Medicine.

The Waverly Health Center in Waverly is located approximately 28 miles northeast, and the MercyOne Waterloo Medical Center in Waterloo is 32 miles east.

HAZMAT Response Teams

Parkersburg 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 hazard 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 the containment of the site and disposal of hazardous chemicals.

Warning Systems in Parkersburg

1. Tornado Sirens

Parkersburg has recently installed two new tornado warning siren systems in 2008 with a 30-year life use and does not expect to replace within the next 3 to 5 years.

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

2) Alert Iowa Mass Communication System

Butler County has implemented the use of Alert Iowa, a mass communication notification system. The system features are controlled through the Butler 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. There is an optional way to receive the same alert for events such as: excessive heat warnings, hazardous materials warnings,

2025 Parkersburg Hazard Mitigation Plan

heavy snow warning, high wind warnings, ice storm warnings, law enforcement warnings, shelter in place warnings, sleet warnings, wind chill warnings, and winter storm warnings.

Public Works/Street Department

The Public Works Department is located at City Hall at 608 Highway 57.

Education and Outreach Projects in Parkersburg

Parkersburg currently has E911 Emergency Assistance in place. Other communications used by city personnel include pagers, radios, and cellular telephones. Radio, television, cellular telephones, landline telephones, newspapers, warning sirens, and NOAA Radio Service are available to the public at large. The City has developed a website in order to keep its citizens, and other interested parties, aware of local and government affairs. The website address is <https://www.parkersburgia.com/>. The City also has a social media account for local notifications and updates.

The City also works with the local newspaper, *Parkersburg Eclipse* for updates to be communicated.

Natural Resource Protection in Parkersburg

Parkersburg does not have any natural resources protection actions.

Structural Projects in Parkersburg

The City does not have any structural projects upcoming.

Local Plans and Regulations in Parkersburg

Parkersburg completed a local plan and regulation assessment. The results are shown in the following table.

Table 11: Local Regulatory Capability Assessment	
Community	City of Parkersburg
Previous HMP Participant?	Yes
Comprehensive Plan?	Yes
Building Code?	Yes (2015 IBC/IRC)
Zoning Ordinance? RR=restricted residential	Yes
Subdivision Regulations?	Yes
Floodplain Management Ordinance?	Yes
Tree-Trimming Ordinance?	Yes
Storm Water Ordinance?	Yes
Snow Removal Ordinance?	Yes

Building Codes Follow the State of Iowa Building Code Bureau Adoption Year

Timeframe	Description
Immediate	1 - 6 months
Short Term	1-3 years
Mid-Term	3-5 Years
Long-Term	More than 5 Years

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

How to Use the Implementation Guide in this Plan

Notes about the tasks (listed as line items) on the tables on the following pages.

- 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 the City’s 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 & 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. The time frame to complete the column is based on four designations (see table to the left).

Strategic Implementation Guide for Hazard Mitigation Activities

Table 12: '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
High	Enhance community resilience by providing residents with the knowledge, tools, and resources need to effectively mitigate, prepare for, respond to, and recover from natural and man-made hazards.	All	City Clerk	Immediate	Minimal	City General Fund
High	Promote the registration and use of Alert Iowa tool to all residents.	All	City Clerk	Immediate	Minimal	City General Fund
Medium	Work with Butler Public Health to educate the public on pandemic human disease prevention and animal disease.	Pandemic Human Disease, Animal/Crop/Plant Disease	Butler County Public Health, City Clerk	Mid-Term	Minimal	City General Fund

Table 13: 'Emergency Services' Type Mitigation Activities						
Description: Actions that protect people and property during and immediately after a disaster or hazard event.						
<i>Priority</i>	<i>Tasks</i>	<i>Hazard(s)</i>	<i>Primary Agency Responsible for Implementation</i>	<i>Time Frame to Complete</i>	<i>Estimated Cost (s)</i>	<i>Funding Source</i>
High	Create and implement a detailed plan for temporary relocation and sheltering to ensure the safety, well-being, and recovery shall a resident be impacted by a hazard.	All	Hazard Mitigation Committee; Butler Emergency Services	Short-Term	Minimal	City General Fund; Butler Emergency Services
Medium	Work with local police and fire response team to update planning responses to transportation, infrastructure, cyber terrorism threats, and hazardous materials response.	Transportation Incidents, Hazardous Materials, Infrastructure Failures, Terrorism	Hazard Mitigation Committee; Butler Emergency Services; Police Dept: Fire Dept.	Short-Term	Minimal	City General Fund; Butler Emergency Services
Medium	Partner with community champions to grow the volunteer base for firefights and EMS and ensure proper training and support is given.	All	Hazard Mitigation Committee; Butler Emergency Services; Police Dept: Fire Dept.	Short-Term	Minimal	City General Fund; Butler Emergency Services

Table 14: 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
Low	Collaborate with utility companies to prioritize and implement the burial of power lines, reducing vulnerability to severe weather events, minimizing power outages, and enhancing community resilience and safety.	Thunderstorm, Tornado/Windstorm, Flash Flood, Severe Winter Storm, River Flood, Infrastructure Failure	Utility Provider, City Council	Long-Term	High	Grid Resilience Utility Grants, Hazard Mitigation Grants
High	Collaborate with Aplington-Parkersburg Community School District to ensure funding is secured for the addition of a safe room at Parkersburg Elementary.	Tornadoes, Severe Thunderstorms	School Board, City Council	Long-Term	High	Hazard Mitigation Grants, District General Funds, City General Funds
Medium	Ensure all safe rooms in the community are well maintained and function as necessary.	Tornadoes, Severe Thunderstorms	City Council	Mid-Term	Medium	City General Funds
High	Enhance the stormwater management infrastructure to increase capacity, reduce flooding risks, and improve resilience to extreme weather events by implementing sustainable drainage solutions.	Flash Flood, Thunderstorms	City Council	Long-Term	High	Hazard Mitigation Grants, Stormwater Grants, City General Funds

Table 15: 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
High	Improve the functionality and resilience of waterways by implementing measures that include cleaning, reseeded, and providing ongoing maintenance to ensure greater effectiveness.	River Flood, Flash Flood, Levee Failure	City Council	Immediate	Minimal	City General Fund; DNR Grants
Medium	Provide ongoing maintenance and clearing of trees within down to prevent hazards.	Severe Winter Storm, Windstorm, Thunderstorm	City Public Works	Mid-Term	Minimal	City General Fund
Low	Promote community initiatives to encourage the planting of grass, native plants, ground cover, and rain gardens in open areas to prevent soil erosion, mitigation impact of droughts, and improve stormwater absorption.	Extreme Heat, Grass/Wildfire, Drought, Plant Disease, Sinkholes, Expansive Soils	City Clerk	Mid-Term	Minimal	City General Fund

Table 16: Local Plans and Regulations Mitigation Activities						
Description: Actions by administrative or regulatory processes which direct how land and buildings are developed and built. These actions include regulations by public entities to reduce hazard losses.						
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	Update ordinances and building codes that establish consistency and improved effectiveness in addressing the city's hazard mitigation goals.	All	City Council	Short-Term	Minimal	City General Fund
High	Establish clear enforcement practices that ensure ordinances and codes are followed at a local level.	All	City Council	Short-Term	Moderate	City General Fund
High	Partner with EMS and Fire Department volunteers to ensure proper plans and support on in place to address most pressing hazard mitigation needs.	All	City Council, EMS, Fire Department	Short-Term	Minimal	City General Fund

City of Shell Rock, Iowa

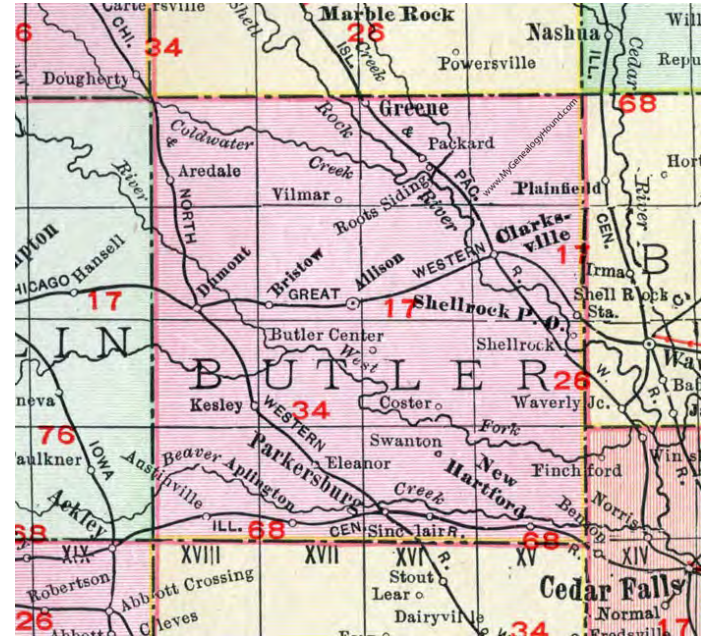
Hazard Mitigation Plan 2025 Update

Appendix J of Butler County Multi-Jurisdictional Hazard Mitigation Plan

Funded by the Butler County Emergency
Management Agency

Prepared by Iowa Northland Regional Council
of Governments (INRCOG)

January 2025



INRCOG
Iowa Northland Regional
Council of Governments

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Adopting Resolution by Shell Rock City Council

Resolution 006-2025

A RESOLUTION OF THE CITY COUNCIL OF SHELL ROCK, IOWA, ADOPTING THE CITY OF SHELL ROCK, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Shell Rock City Council recognizes the threat that natural hazards pose to people and property within Shell Rock; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Shell Rock served and participated in the formulation of the Plan, hereby known as the City of Shell Rock, Iowa Hazard Mitigation Plan 2025 Update, as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Shell Rock from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of Shell Rock demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF SHELL ROCK, IOWA, THAT:

Section 1: In accordance with local regulations, the Council adopts the City of Shell Rock, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Shell Rock may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Shell Rock to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 8th day of April 2025.
Roll Call Vote

AYES: Berglund, Fox, Krull, Beenen, Schuldt


Mayor

ATTEST:


City Clerk

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2025 Shell Rock Hazard Mitigation Plan

About

The City of Shell Rock developed this Plan as part of the 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan update process. The 2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan is a sequential 5-year update to the previous document. Federal regulations regarding how local governments may receive funding from FEMA require that the specified jurisdiction (city, school district, county) have an approved hazard mitigation plan that is in good standing (updated and FEMA approved) to remain eligible for grant funding. This Plan was developed to meet the requirements in Title 44 CFR § 201.6.

Elected officials, city clerks, planners, first responders, and other stakeholders were invited to attend planning committee meetings as participants to learn about hazard mitigation and complete data gathering assignments. These assignments were submitted to the plan development coordinators: Butler County Emergency Management Agency (EMA) and Iowa Northland Regional Council of Government (INRCOG). Butler County's EMA initiated and funded this effort for all participating communities and contracted INRCOG to coordinate the plan development process with a multi-jurisdictional approach.

Participating communities included all ten (10) incorporated municipalities of Butler County. County staff participating in the committee were representing their respective County departments. School district superintendents the public school districts attended and completed the data gathering assignments for their district communities. Four (4) committee

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.

meetings were held between October 1st and December 12th wherein each participant provided data and completed work sheets to develop their hazard mitigation plans.

The Benefits of Hazard Mitigation for Local Governments

For local governments, there are benefits in knowing how specific hazards may affect their communities, its potential to cause negative impacts, and develop pre-disaster actions or activities to lessen or avoid those anticipated negative impacts. Benefits include:

- ✓ An increased understanding of how natural and human caused hazards develop under certain conditions which may inform a level of magnitude or intensity.
- ✓ Take advantage of the opportunity to create more sustainable and disaster-resistant communities.
- ✓ Participating in this collaborative intergovernmental effort is cost effective for all participants.
- ✓ Using limited resources to address the threat from hazard events that may have the biggest impact on the community.
- ✓ Reducing or preventing damage to existing structures and reducing their subsequent repair costs.
- ✓ Identifying vulnerable populations to establish equitable outcomes.

- ✓ Hazard mitigation involves a commitment to long-term goals that focus on lessening or reducing negative impacts of natural, and human caused hazards.

The Planning Process

In order to reduce the threat of negative impacts from natural hazards, a risk informed approach was used in this planning process. A risk informed approach is a multi-step process. This Plan also involves collaboration among participants in the planning committee. The process involved learning the historical occurrence of when such hazards may have occurred in Butler County.

Participants in the Butler County Multi-Jurisdictional Hazard Mitigation Plan Planning Committee determined the level of risk facing their communities by completing a risk assessment. Data gathering by committee participants involved giving updates to existing mitigation activities by the local government.

Participants in the Plan followed a general 5 step process. (below)



Community Data Sources

Population data is based on 2020 decennial Census data. The 2022 American Community Survey 5-year estimates are the latest and most reliable survey data sets to understand what is taking place in the county and each city. Most counties, cities, and towns rely on 5-year estimates. Employment, workforce, and industry figures in this Plan are estimates that have a margin of error.

It is important to note that the ACS estimates used for rural communities will have a degree of uncertainty associated with them, called sampling error, because they are based on a sample. In general, the larger the sample, the smaller the level of sampling error. Rural communities tend to have smaller samples than larger cities, so the “margin of error”—a measure of the precision of an estimate at a given level of confidence—likely will be larger for rural areas.

Crash data along roadways within each jurisdiction is collected between the period of 2019 and 2023. Using a map tool interface, the data was taken at a city level and presented to understand incident severity, casualties, and property damage from reported accidents. Accident data is added to the site daily and accessible through an online website, <https://icat.iowadot.gov/>.

In the risk analysis section of this Plan, estimates of property loss are measured using mapping of hazardous zones. For the vulnerability risk assessment, flood prone homes were determined using the boundaries of the 100 year (1%) annual chance flood zone. The value of potential property loss was derived from the 2023 assessed dollar value of

structures and dwellings on affected parcels provided by the Butler County Assessor’s Office.



Shell Rock Historical Museum

City Profile

Jurisdiction: City of Shell Rock

County: Butler County

Population (2020): 1,268

The City of Shell Rock is located in the eastern portion of Butler County, approximately 2 miles west of Highway 218.

The following data presented in tables on the following page include population, employment, and industry sector data for the community based on 2020 Census data and 2022 American Community Survey 5-year Estimates.

In 2020, the city's population was 1,268 and 99% were White with the median age is 44.5. Working aged residents (15-60 years) made up 39% of the population. Children and teens (younger than 15 years) made up 18.9% of Shell Rock's population while older adults (older than 65 years) made up 26.4%.

The median household income in 2022 was \$70,556. The unemployment rate was 1.8%. Most people commute to work, and 6% of people work from home. The top three largest industry sectors in Shell Rock are as follows (in order from highest to lowest): 1) Education services, and health care and social assistance; 2) Manufacturing, and 3) Retail Trade.

Figure 1: Map of Butler County



2025 Shell Rock Hazard Mitigation Plan

Table 1: Population Data (2020)		
City of Shell Rock		
	Total	% of Population
Total population	1,268	100%
AGE		
Under 5 years	61	4.8%
5 to 9 years	78	6.2%
10 to 14 years	100	7.9%
15 to 19 years	53	4.2%
20 to 24 years	47	3.7%
25 to 29 years	68	5.4%
30 to 34 years	71	5.6%
35 to 39 years	109	8.6%
40 to 44 years	51	4.0%
45 to 49 years	71	5.6%
50 to 54 years	54	4.3%
55 to 59 years	66	5.2%
60 to 64 years	103	8.1%
65 to 69 years	95	7.5%
70 to 74 years	86	6.8%
75 to 79 years	55	4.3%
80 to 84 years	31	2.4%
85 years and over	69	5.4%
Median Age	44.5	-
RACE		
White	1,219	96.1%
Black or African American	0	0%
Hispanic or Latino (of any race)	0	0%
American Indian and Alaska Native	0	0%
Asian	2	0.2%
Native Hawaiian/Other Pacific Islander	0	0%
Some Other Race	7	0.6%
Two or More Races	40	3.2%

Source: 2020 Census, 2022 ACS 5-Yr Estimates

Table 2: Employment Data (2022)		
City of Shell Rock		
	Value	% of Population
Median Household Income	\$68,125	-
Unemployment Rate (2022)	1.8%	-
Workers that commute to work	676	94%
Workforce that works from home	43	6%

Source: 2022 American Community Survey 5-Yr Estimates

Table 3: Employment Industry Data (2022)		
City of Shell Rock		
Workforce Industry	# of Workers	% of Workforce
Workforce	725	100%
Agriculture, forestry, fishing and hunting, and mining	25	3.4%
Construction	26	3.6%
Manufacturing	127	17.5%
Wholesale trade	43	5.9%
Retail trade	83	11.4%
Transportation -warehousing, utilities	76	10.5%
Information	20	2.8%
Finance and insurance, and real estate and rental and leasing	74	10.2%
Professional, scientific, and management, and administrative and waste management services	27	3.7%
Educational services, and health care and social assistance	146	20.1%
Arts, entertainment, and recreation, and accommodation and food services	27	3.7%
Other services, except public administration	32	4.4%
Public administration	19	2.6%

Source: 2022 American Community Survey 5-Yr Estimates

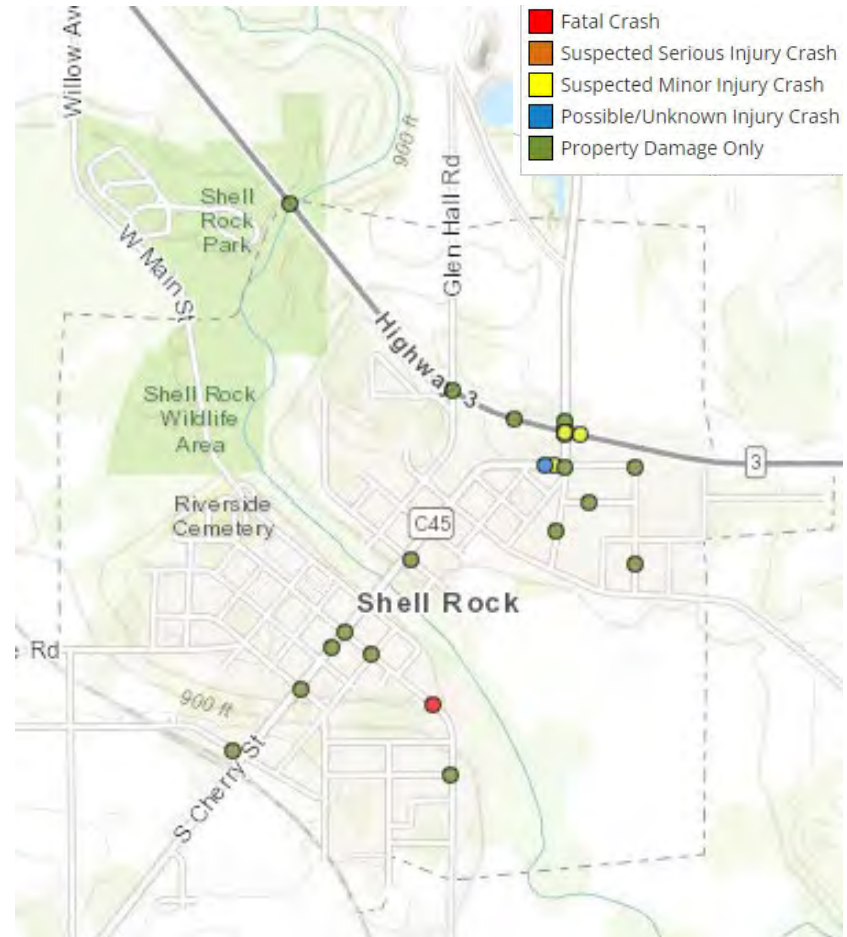
Highway Traffic and Crash Data

Based on Iowa DOT crash data, between 2019 and 2024 there have been 32 incidents. Of those incidents, most were for property damage only, resulting in \$264,400 in total damage. One fatality was reported with seven suspected minor injuries.

Table 4: Crash Data from 2019-2024	
Total Crashes	32
Crash Severity	
Fatal	1
Suspected Serious Injury	0
Suspected Minor Injury	7
Unknown	4
Property Damage Only	20
Property Damage Total	\$264,400

Source: Iowa DOT Crash Data

Figure 2: Iowa Crash Analysis for All Traffic Incidents (2019-2024)



Source: Iowa DOT

Housing Data

The City of Shell Rock has 577 occupied housing units. Nearly 90% of them are single family, detached housing. There are 0 housing units that are mobile homes or other types of housing. There are 58 or 10.1% multifamily housing units (greater than 2 units).

A large portion of the housing stock was built prior to 1940 (32.9%). About 80.0% of the housing stock was built prior to 1980. Most homes heat their units with utility gas (69.2%) or electricity (28.1%).

Community Utility Providers

MidAmerican Energy provides utility electric services and natural gas services. Butler-Bremer Communications or Mediacom provide telephone services and broadband internet services. Residents receive water and sewer services from the city. A small number of households have their own well and septic.

Table 6: Utility Providers	
City of Shell Rock	
Electric	MidAmerican Energy
Natural Gas	MidAmerican Energy
Telephone/Internet	Butler-Bremer Communications
Cable TV	Butler-Bremer Communications, Mediacom
Water Services	City of Shell Rock
Sewer Services	City of Shell Rock
Sanitation	Jendro Sanitation Services

Table 5: Housing Data (2022)		
City of Shell Rock		
	Total	% of Occupied Units
Occupied housing units	577	100%
Housing Unit Type		
1, detached	519	89.9%
1, attached	0	0%
2 apartments	0	0%
3 or more apartments	58	10.1%
Mobile home or other type of housing	0	0%
Year Structure Built		
2020 or later	0	0%
2010 to 2019	23	4.0%
2000 to 2009	43	7.5%
1980 to 1999	49	8.5%
1960 to 1979	145	25.1%
1940 to 1959	127	22.0%
1939 or earlier	190	32.9%
House Heating Fuel		
	Total	% of Occupied Units
Utility gas	399	69.2%
Bottled, tank, or LP gas	16	2.8%
Electricity	162	28.1%
Fuel oil, kerosene, etc.	3	0%
Coal or coke	0	0%
All other fuels	0	0%
No fuel used	0	0%

Source: 2022 American Community Survey 5-Year Estimates

2025 Shell Rock Hazard Mitigation Plan

Vulnerable Assets

People

Vulnerability to hazard losses increases where there are larger concentrations of people. In towns where population density increases, the number of people that can be harmed during a hazard event (tornado, flood, etc.) increases. In addition, there are segments of the population that may be more susceptible to impacts and/or harm from a hazard depending on their location within the area (i.e. flood zone or near industrial plants with hazardous materials). This includes underserved or socially vulnerable populations.

Vulnerable Age Groups

Both younger and older aged groups are likely to require assistance with physically moving to shelters or finding safety. Elderly residents may not have a personal vehicle to move away from a hazard quickly. Cognitive impairments among older adults may cause some to get easily confused.

Households Facing Poverty or With Limited Income

Families or older adults living at, near, or below poverty are more likely to be impacted by hazards than other households with higher incomes. The costly repairs from a tornado or derecho for a low-income household may be more adversely affected than another household that has the same damage but may be able to afford the repairs without much change to their lifestyles or needs. That disparity is also different during extreme weather events such as heat waves. Low-income households may not be able to afford the electricity to run air conditioning and many may face

complications that involve heat stroke, fatigue, or death due to their age (infants or the infirm) and health conditions (obesity, heart conditions, diabetes).

Shell Rock's Vulnerable Populations

In Shell Rock, 7.2% (or 108 out of 1,491) of individuals are below the poverty level. About 39.3% (227) of occupied households have elderly occupants (60 years and over). About 14.2% of occupied households have elderly residents (65 years and over) living alone.

Most residents have access to vehicles. Nearly 10% of households have a person living with a disability. This is broadly defined from the data estimates for Shell Rock. However, persons with mobility disabilities may be at a higher risk than others especially during unexpected natural disasters where accessibility is not always guaranteed to shelter.

Manufactured homes are unsafe in a tornado. Fatality rates are significantly higher than sturdy buildings. An alternative shelter should be identified prior to a tornado watch or warning. In 2022, there are 0 mobile homes estimated in Shell Rock.

Shell Rock has about 52 individuals in institutionalized quarters, which consist of nursing/skilled-nursing facilities.

Critical Facilities

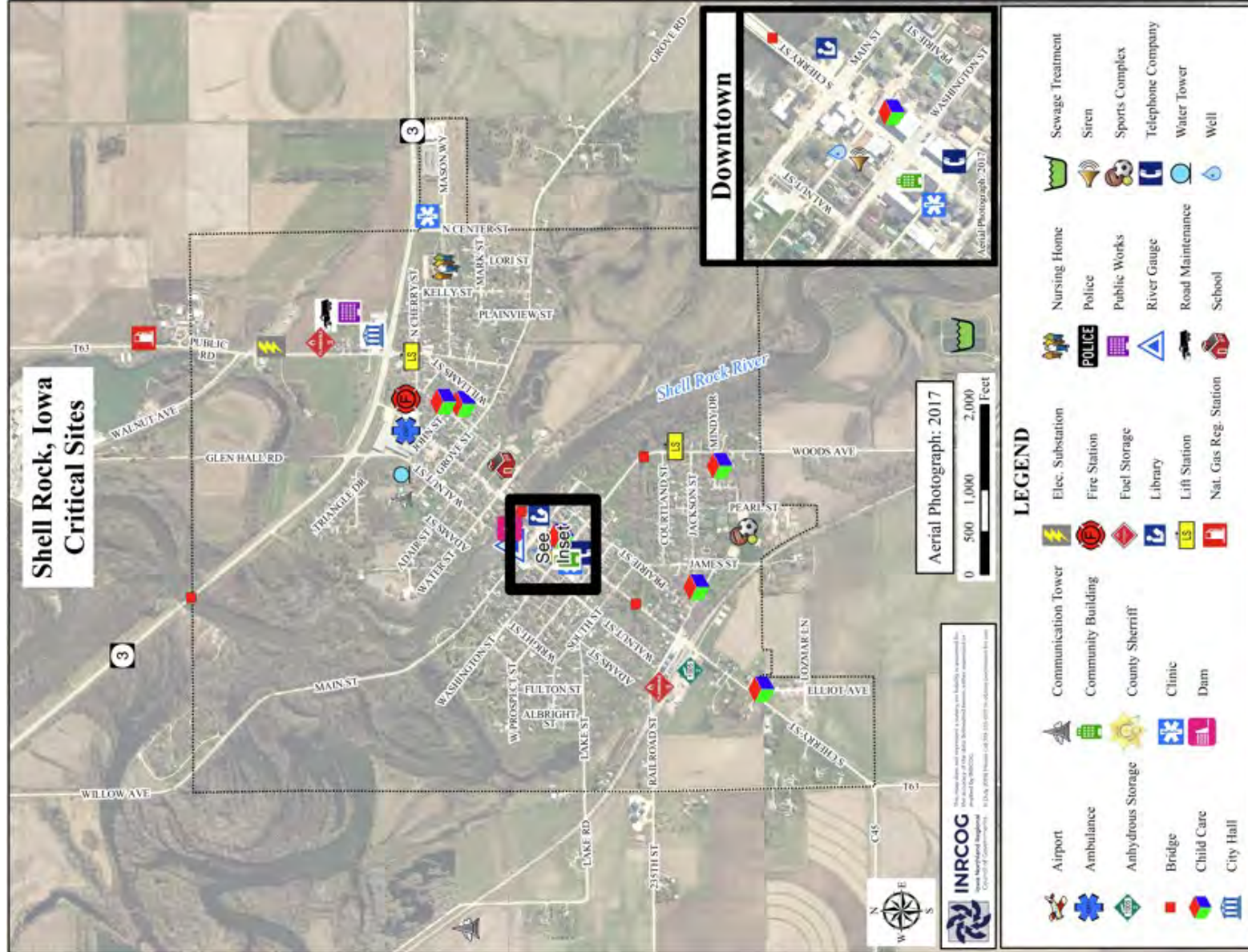
Water Supply

The City of Shell Rock utilizes a municipal water supply system serving approximately 1,300 residents. The system sources water from two active wells, known as Shell Rock #1 and Shell Rock #2, both drawing from the Devonian aquifer at depths of 160 feet. Water is treated with chlorine at the well site to ensure quality and safety. The city maintains an elevated water tower with a capacity of 200,000 gallons to support consistent water pressure and supply.

Wastewater Treatment Plant and Lift Stations

The City of Shell Rock operates a wastewater treatment facility that processes municipal wastewater collected through a network of sewer lines and two lift stations. The treatment system employs a lagoon-based process. There is a current project in place to increase the capacity of the wastewater treatment system by 20%.

Figure 3: Critical Facilities



Measuring Vulnerability to Selected Hazards

Tornado Hazard

In 2021, an EF2 tornado was confirmed about 2 miles south of Shell Rock.

All buildings in Shell Rock are prone to being damaged by a tornado. Therefore, the vulnerability of the community was determined by the assessed valuation of all buildings and dwellings on all parcels within the city’s limits.

Using the assessed value from December 2023, the valuation of all 837 parcels in the City of Shell Rock is \$113,827,780 based on Butler County assessor data. The City of Shell Rock has a potential property loss of \$100,952,770 from a tornado disaster.

Table 7: Valuation of All Parcels in City of Shell Rock (2023)	
Percent of City at Risk of a Tornado	100%
# of Parcels	837
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$100,952,770
Source: Butler County Assessor’s Office	

Flood Prone Areas

The potential property losses of structures prone to flooding were calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

Assessing the community’s vulnerability to losses from tornado and flood hazards is determined with county assessor data. The potential property losses of structures prone to flooding were calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

In Figures 4 and 5, the flood plain map shows the 1% annual chance of flooding in and around the City of Shell Rock. The river basin is depicted in the topography shown on the map.

The parcels that are impacted by the 1% annual chance of flood are highlighted in Figure 6. There are 84 parcels within Shell Rock that are potentially affected. The value of all buildings and dwellings on the affected parcels is \$6,419,540 based on the latest Butler County Assessor’s office. This covers 6.73% of the city’s total parcels.

Table 8: Potential Property Losses from the 1% Annual Chance Flood	
Percent of City Affected	6.73%
# of Parcels	84
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$6,419,540
Source: Butler County Assessor’s Office	

Figure 4: Flood Plain Map

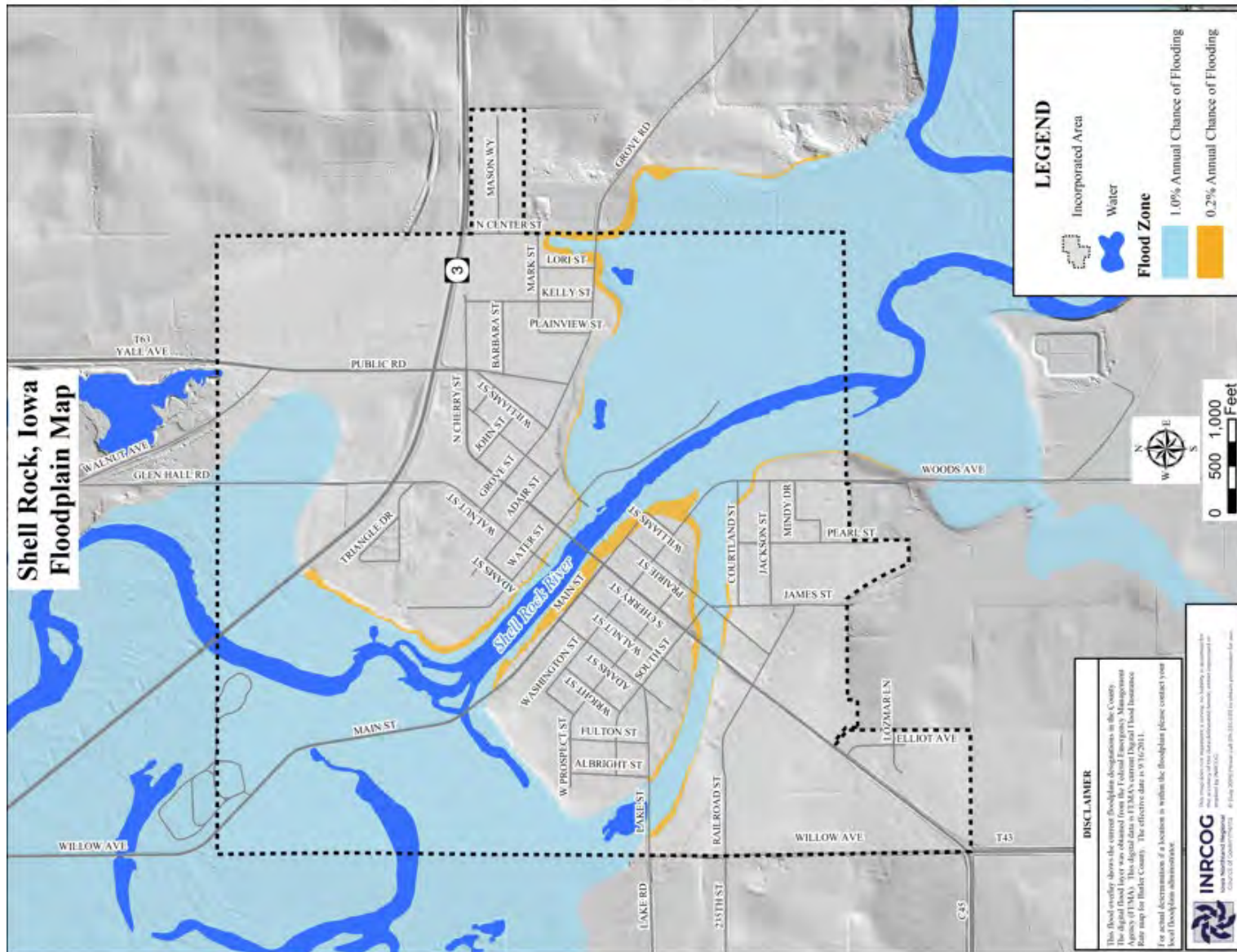
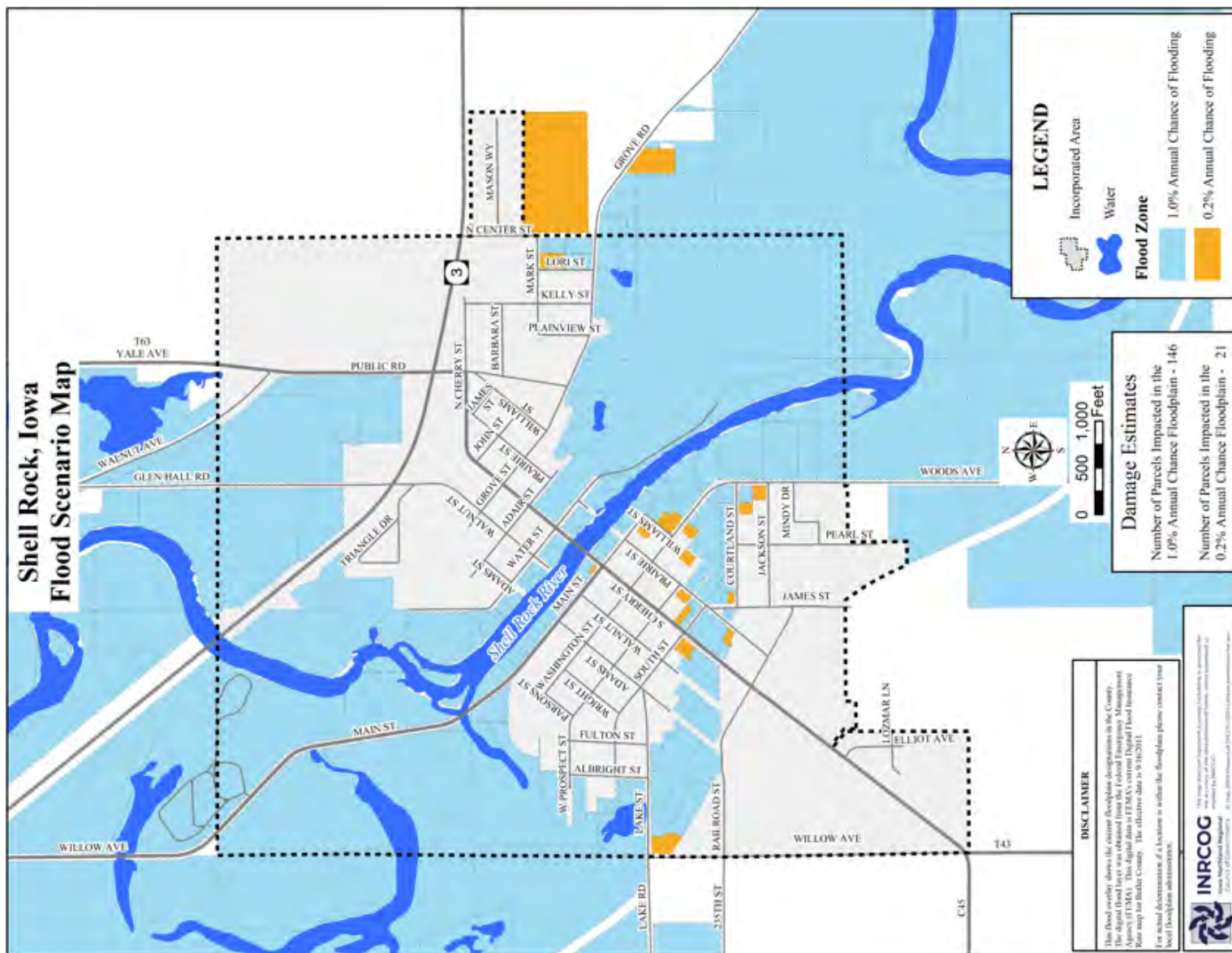


Figure 5: Flood Scenario Map



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.

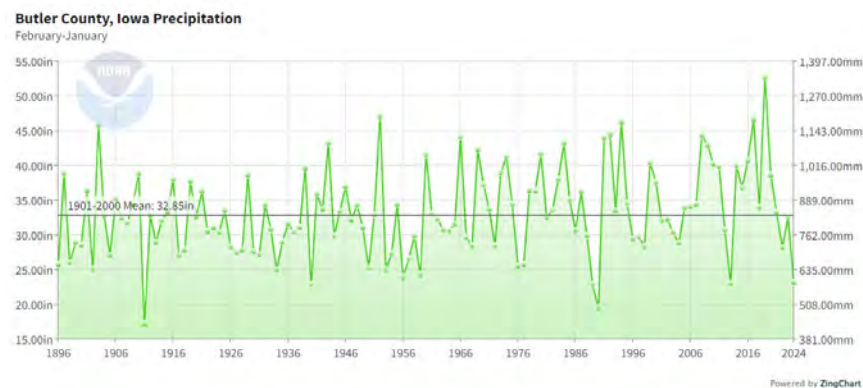
Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section.¹ The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use,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

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

Annual Precipitation Levels in Butler County

Taking the monthly precipitation records from January to December between 1895 and 2024 is shown in Figure 6. The values hover between 20 - 50 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 6. The trend shows a growing level of annual precipitation on average of 32.80 inches. Based on this historical trend, precipitation is likely to continue to increase in the coming years.

Figure 6: Historical Precipitation Data and Trend for Butler County, Iowa²



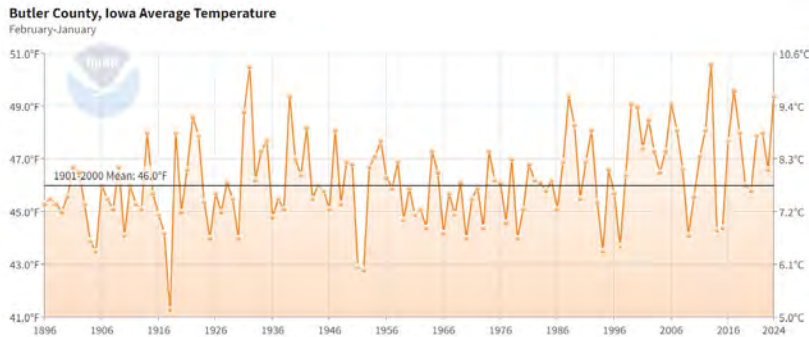
Average Annual Temperatures in Butler County

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

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 7: Historical Temperature Data and Trend for Butler 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 evaporate 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 more frequently 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 Butler County

- Prologued drought may occur as the atmosphere holds more moisture (even pulling moisture from plants) as the temperature increases. Longer periods between weather events mean there are drier 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. 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.

National Flood Insurance Program

The City of Shell Rock participates in the National Flood Insurance Program. The current effective FIRM map date is December 17, 2020. Butler County participates in the NFIP, and its effective map date is December 17, 2020.

FEMA defines a repetitive loss property as an insurable building that has experienced two losses in a 10-year period in which each loss is \$1,000 or more. There is 1 reported repetitive loss property. The repetitive loss property was a single-family residence. The City has 9 total policies with a total net dollar paid value of \$682,042.

The City continues to ensure that repetitive loss properties are minimized and safeguard with preventive measures the development of flood prone areas.

The designee for the implementation of NFIP requirements within Shel Rock is the City Clerk.

Hazard Risk Assessment

The top three hazards from the risk assessment are:

1. Animal/Crop/Plant Disease
2. Hazardous Materials
3. Drought



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 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 Shell Rock are located below.

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.
Scores with a value Of 0 <u>No Presumed Risk</u>	The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

2025 Shell Rock Hazard Mitigation Plan

Probability

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

Probability Score Definitions		
Score	Description	
1	Unlikely	<i>Less than 10% 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.</i>
2	Occasional	<i>Between 10% and 20% 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.</i>
3	Likely	<i>Between 20% and 33% 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.</i>
4	Highly Likely	<i>More than 33% 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.</i>

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.

2025 Shell Rock Hazard Mitigation Plan

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 10 displays rated risk scores for each associated hazard. This assessment was completed by city 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

Table 10: Hazard Risk Assessment					
Hazards	Probability	Magnitude	Warning Time	Duration	Score
Animal/Crop/Plant Disease	4	3	1	4	3.25
Hazardous Materials	4	1	4	4	3.1
Drought	4	2	1	4	2.95
Extreme Heat	4	2	1	3	2.85
Transportation Incident	4	1	4	1	2.8
Severe Winter Storm	4	2	1	1	2.65
Pandemic Human Disease	2	4	1	4	2.65
River Flood	4	1	1	3	2.55
Radiological Incident	1	4	4	1	2.35
Terrorism	1	3	4	4	2.35
Grass/Wild Land Fire	2	2	4	2	2.3
Tornado/Windstorm	2	2	4	1	2.2
Levee/Dam Failure	1	2	4	4	2.05
Thunderstorm/Lightning/Hail	3	1	1	1	1.9
Sinkholes	1	1	4	4	1.75
Flash Flood	1	1	4	1	1.45
Infrastructure Failure	1	1	1	4	1.3
Expansive Soils	1	1	1	1	1
Earthquake*	0	0	0	0	0
Landslides*	0	0	0	0	0

Source: Completed by City Representative. Calculated score completed by INRCOG.

* The hazard is extremely unlikely to impact the community, thus, the community has not taken it into consideration for mitigation actions.

Hazard Mitigation Goals

in Shell Rock, Iowa

The following list of goals was developed by planning committee participants from the associated jurisdiction. Goals 1 through 7 were developed in the previous 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan. The planning committee participants chose to adopt the same goals and add additional goals after review.

- Goal #1** Minimize to the greatest possible extent the number of injuries and/or loss of life associated with all identified hazards.
- Goal #2** Reduce or eliminate property damage due to the occurrence of disasters.
- Goal #3** Improve response operations in the event of a disaster.
- Goal #4** Return the community to either a pre-disaster or improved conditions in a timely manner in the wake of a disaster.
- Goal #5** Develop strategies that can be used to reduce the community's overall risk to the negative effects of natural, technological, and man-made disasters.
- Goal #6** Reconvene the planning committee annually to review the plan document, check for compliance with the plan goals, and track progress in achieving the mitigation strategies.
- Goal #7** Maintain the Countywide Multi-Jurisdictional format for future updates.

Previous 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 Shell Rock

Butler County Emergency Management Agency

Shell Rock works with the Butler County Emergency Management Coordinator, based out of the City of Allison, 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 Butler County Emergency Management Coordinator is Chris Showalter.

Law Enforcement

Shell Rock contracts for law enforcement services with the Butler County Sheriff's Department. The Department provides routine services and support for the city. They are located at 428 Sixth Street in Allison.

Fire Protection and EMS Services

Fire protection for the City of Shell Rock is provided by the Shell Rock Fire Department. The station is located at 513 E Cherry Street in Shell Rock. There are 14 volunteer fire fighters that serve in the department currently. Each of the members is HAZMAT certified Firefighter 1 trained. There are

several members that have Firefighter 2 training, and others with driver/operator training. Dispatch is provided via a paging system called I Am Responding app that is accessible through a phone app.

The Shell Rock Fire Department maintains 28E agreements with surrounding communities to provide additional support when needed and required.

EMS Services

Butler County EMS represents all 8 of the EMS service in the County. Butler County Board of Supervisors deemed EMS an Essential Service for the County according to Iowa Code Chapter 422D and recently hired an EMS Coordinator to provide coverage and support for EMS services within the county.

2025 Shell Rock Hazard Mitigation Plan

Medical Facilities

The City of Shell Rock has a medical clinic, Shell Rock Clinic.

The Waverly Health Center in Waverly is located approximately 6 miles east and the MercyOne Waterloo Medical Center in Waterloo is located approximately 30 miles southeast.

HAZMAT Response Teams

Shell Rock 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 the containment of the site and disposal of hazardous chemicals.

Warning Systems in Shell Rock

1. Tornado Sirens

Shell Rock has an existing tornado siren installed in 2010 that it does not expect to need to be replaced in the next 3-5 years. They test the tornado siren monthly during the summer.

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

2) Alert Iowa Mass Communication System

Butler County has implemented the use of Alert Iowa, a mass communication notification system. The system features are controlled through the Butler 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. There is an optional way to receive the same alert for events such as: excessive heat warnings, hazardous materials warnings,

2025 Shell Rock Hazard Mitigation Plan

heavy snow warning, high wind warnings, ice storm warnings, law enforcement warnings, shelter in place warnings, sleet warnings, wind chill warnings, and winter storm warnings.

Public Works/Street Department

The Public Works Department is located at City Hall at 802 N Public Rd.

Education and Outreach Projects in Shell Rock

Shell Rock currently has in place E911 Emergency Assistance. Other communications used by city personnel include pagers, radios, and cellular telephones. Radio, television, cellular telephones, landline telephones, newspapers, warning sirens, and NOAA Radio Service are available to the public at large. The city has developed a website in order to keep its citizens, and other interested parties, aware of local and government affairs. The website address is www.shellrockiowa.org. The city also has a social media account, newsletter, and community bulletin board for local notifications and updates.

The City partners with KWAY for radio announcements and KWWL to television announcements.

Natural Resource Protection in Shell Rock

Shell Rock does not have any natural resources protection actions.

Structural Projects in Shell Rock

The City currently has a project in place to increase the wastewater treatment capacity by 20% to increase effectiveness and comply with DNR and EPA Regulations.

Local Plans and Regulations in Shell Rock

Shell Rock completed a local plan and regulation assessment. The results are shown in the following table.

Table 11: Local Regulatory Capability Assessment	
Community	City of Shell Rock
Previous HMP Participant?	Yes
Comprehensive Plan?	Yes
Building Code?	No
Zoning Ordinance? RR=restricted residential	Yes
Subdivision Regulations?	Yes
Floodplain Management Ordinance?	Yes
Tree-Trimming Ordinance?	Yes
Storm Water Ordinance?	Yes
Snow Removal Ordinance?	Yes

Timeframe	Description
Immediate	1 - 6 months
Short Term	1-3 years
Mid-Term	3-5 Years
Long-Term	More than 5 Years

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

How to Use the Implementation Guide in this Plan

Notes about the tasks (listed as line items) on the tables on the following pages.

- 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 the City’s 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 & 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. The time frame to complete the column is based on four designations (see table to the left).

Strategic Implementation Guide for Hazard Mitigation Activities

Table 12: '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
High	Collaborate with Butler County Emergency Management Agency to educate the public on mitigation activities and emergency response.	All	City Clerk; Fire Depart; Butler Emergency Management	Short-Term	Minimal	City General Fund
Medium	Coordinate with schools, daycares, and businesses to run emergency drills to prepare the public and test systems.	Tornadoes, Severe Thunderstorms	Fire Dept; Butler Emergency Management; Local Entities	Immediate	Minimal	City General Fund
Low	Develop an evacuation and sheltering plan for the community with signage for location and route information.	All	Butler Emergency Management; Public Works	Short-Term	Minimal	City General Fund

Table 13: 'Emergency Services' Type Mitigation Activities						
Description: Actions that protect people and property during and immediately after a disaster or hazard event.						
<i>Priority</i>	<i>Tasks</i>	<i>Hazard(s)</i>	<i>Primary Agency Responsible for Implementation</i>	<i>Time Frame to Complete</i>	<i>Estimated Cost (s)</i>	<i>Funding Source</i>
High	Rework city ordinances and training to promote more Fire Department and First Responder volunteers.	All	Fire Department; City Council	Immediate	Minimal	City General Fund
High	Purchase essential equipment for fire and emergency response to more safely and effectively serve the community.	Hazardous Materials, Transportation Incident, Severe Winter Storm, Terrorism, Grass/Wild Land Fire, Tornado/Windstorm	Fire Department; City Council	Short-Term	High	Assistance to Firefighters Grant Program

Table 14: 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	Acquire generator to utilize City Hall as an emergency shelter to provide safer and more efficient response.	All	City Clerk	Short-Term	High	Hazard Mitigation Grant Program
High	Raise electrical components to protect wastewater treatment facilities from future flooding events.	River Flood, Flash Flood, Levee/Dam Failure, Infrastructure Failure	Public Works; City Council	Short-Term	High	Hazard Mitigation Grant Program
Medium	Update existing water mains and hydrants for improved potable water service and emergency services.	All	Public Works; City Council	Mid-Term	High	CDBG; Hazard Mitigation Grant Program

Table 15: 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	Maintain partnership and active participation in the Shell Rock River Watershed Management Coalition	Flood, Hazardous Materials, Drought, Extreme Heat, Levee/Dam Failure	City Council; Shell Rock River Watershed	Long-Term	Medium	City General Fund
Medium	Develop community programs that promote the planting of more drought tolerance and shade providing landscaping.	Extreme Heat, Grass/Wildfire, Drought, Plant Disease, Sinkholes, Expansive Soils	City Council; Public Works	Long-Term	Minimum	City General Fund

Table 16: Local Plans and Regulations Mitigation Activities						
Description: Actions by administrative or regulatory processes which direct how land and buildings are developed and built. These actions include regulations by public entities to reduce hazard losses.						
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	Limit future development and purchase, remove, or rework existing hazards in floodplains.	Flood	City Council; Public Works	Long-Term	High	Hazard Mitigation Grant Program
Medium	Backup essential data and records digitally and on a cloud-based solution to provide access remotely.	All	City Council; City Clerk	Shot-Term	Minimal	City General Fund

Clarksville Community School District

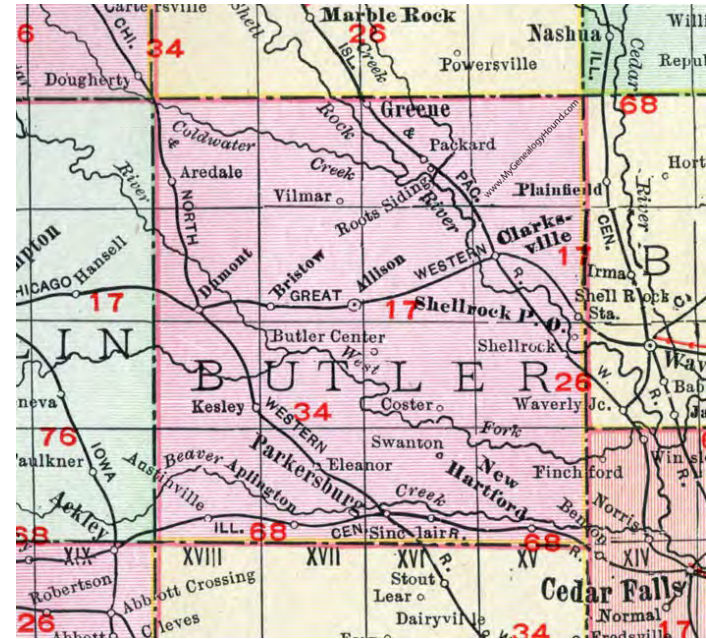
Hazard Mitigation Plan 2025 Update

Appendix L of Butler County Multi-Jurisdictional Hazard Mitigation Plan

Funded by the Butler County Emergency
Management Agency

Prepared by Iowa Northland Regional Council
of Governments (INRCOG)

January 2025



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Adopting Resolution by Clarksville School Board

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About

The Clarksville CSD developed this Plan as part of the 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan update process. The 2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan is a sequential 5-year update to the previous document. Federal regulations regarding how local governments may receive funding from FEMA require that the specified jurisdiction (city, school district, county) have an approved hazard mitigation plan that is in good standing (updated and FEMA approved) to remain eligible for grant funding. This Plan was developed to meet the requirements in Title 44 CFR § 201.6.

Elected officials, city clerks, planners, first responders, and other stakeholders were invited to attend planning committee meetings as participants to learn about hazard mitigation and complete data gathering assignments. These assignments were submitted to the plan development coordinators: Butler County Emergency Management Agency (EMA) and Iowa Northland Regional Council of Government (INRCOG). Butler County's EMA initiated and funded this effort for all participating communities and contracted INRCOG to coordinate the plan development process with a multi-jurisdictional approach.

Participating communities included all ten (10) incorporated municipalities of Butler County. County staff participating in the committee were representing their respective County departments. School district superintendents for four public school districts attended and completed the data gathering assignments for their district communities. Four (4) committee

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.

meetings were held between October 1st and December 12th wherein each participant provided data and completed work sheets to develop their hazard mitigation plans.

The Benefits of Hazard Mitigation for Local Governments

For local governments, there are benefits in knowing how specific hazards may affect their communities, its potential to cause negative impacts, and develop pre-disaster actions or activities to lessen or avoid those anticipated negative impacts. Benefits include:

- ✓ An increased understanding of how natural and human caused hazards develop under certain conditions which may inform a level of magnitude or intensity.
- ✓ Take advantage of the opportunity to create more sustainable and disaster-resistant communities.
- ✓ Participating in this collaborative intergovernmental effort is cost effective for all participants.
- ✓ Using limited resources to address the threat from hazard events that may have the biggest impact on the community.
- ✓ Reducing or preventing damage to existing structures and reducing their subsequent repair costs.
- ✓ Identifying vulnerable populations to establish equitable outcomes.

- ✓ Hazard mitigation involves a commitment to long-term goals that focus on lessening or reducing negative impacts of natural, and human caused hazards.

The Planning Process

In order to reduce the threat of negative impacts from natural hazards, a risk informed approach was used in this planning process. A risk informed approach is a multi-step process. This Plan also involves collaboration among participants in the planning committee. The process involved learning the historical occurrence of when such hazards may have occurred in Butler County.

Participants in the Butler County Multi-Jurisdictional Hazard Mitigation Plan Planning Committee determined the level of risk facing their communities by completing a risk assessment. Data gathering by committee participants involved giving updates to existing mitigation activities by the local government.

Participants in the Plan followed a general 5 step process. (below)



Community School District Profile

Jurisdiction: Clarksville Community School District

Counties: Butler County

School Enrollment (2023-24): 273

The Clarksville Community School District is based in the city of Clarksville. The district provides pre-kindergarten through 12th grade education to 273 students.

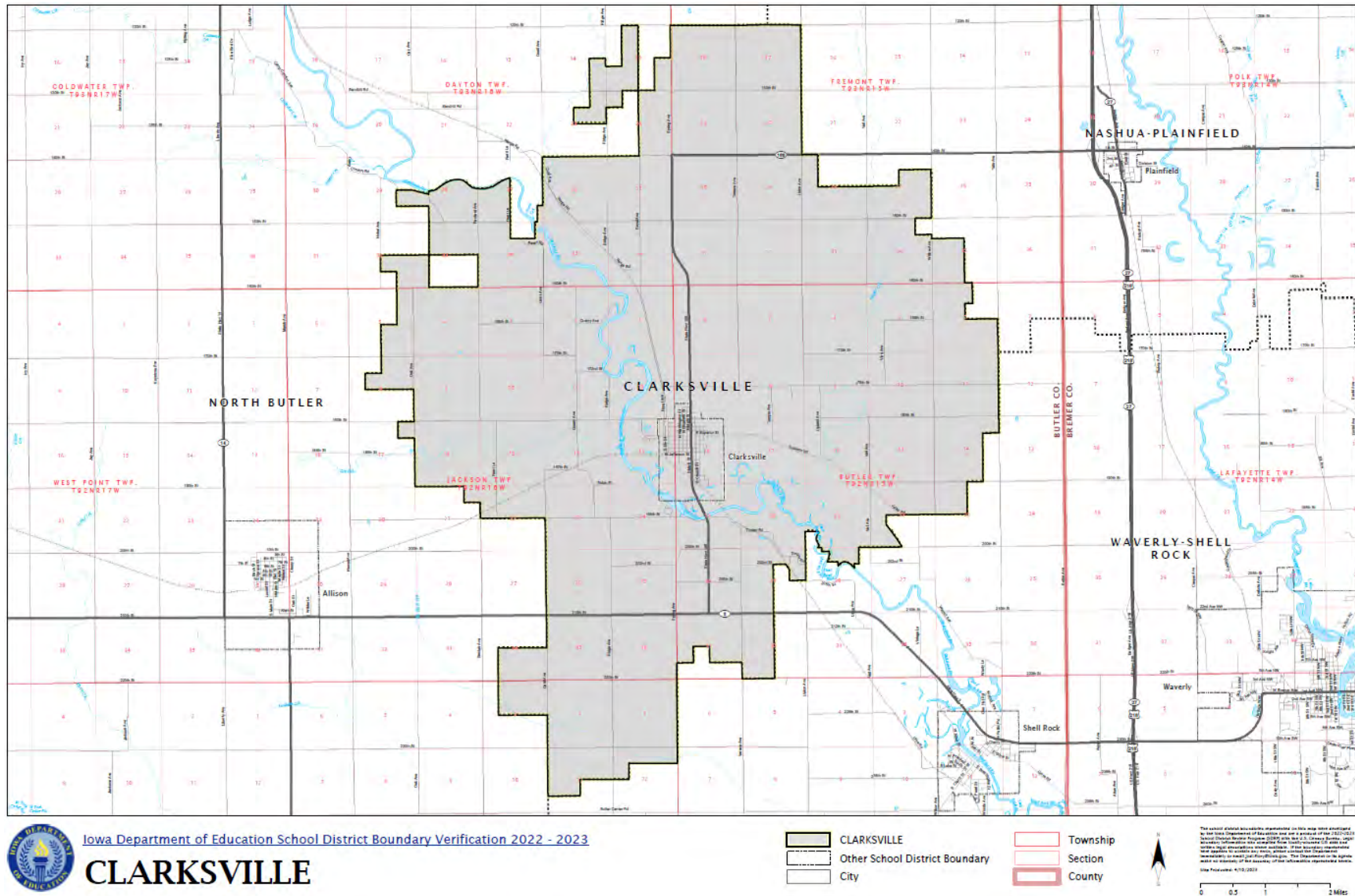
The school district conducts fire drills 5 times a year and tornado drill 1 time a year. They have 5 school buses in the fleet with about 70 riders daily. There is 1 active shooter drill, and 1 bus safety drill each year.

The school district does not have a tornado safe room. The school district provides information to households for fire, police, and emergency preparedness in the student handbook

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

Table 1: District Schools		
Clarksville High School	Clarksville Junior High School	Clarksville Elementary School
318 North Mather St Clarksville, IA 50619	318 North Mather St Clarksville, IA 50619	318 North Mather St Clarksville, IA 50619

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



Iowa Department of Education School District Boundary Verification 2022 - 2023

CLARKSVILLE

- CLARKSVILLE
- Other School District Boundary
- City
- Township
- Section
- County



The school district boundaries represented on this map were derived by the Iowa Department of Education and are a compilation of the 2022-2023 school district boundary information for the State of Iowa. The boundaries shown on this map are for informational purposes only and do not constitute a legal boundary. The Department of Education is not responsible for any errors or omissions on this map. The Department of Education is not responsible for any damages or losses resulting from the use of this map. Iowa Department of Education 4/12/2023

0 0.5 1 2 Miles

Critical Facilities

The school district has 4 critical buildings shown in the table below.

Table 2: Critical Facilities	
Clarksville High School	318 North Mather St Clarksville, IA 50619
Clarksville Junior High School	318 North Mather St Clarksville, IA 50619
Clarksville Elementary School	318 North Mather St Clarksville, IA 50619

Community Utility Providers

Table 3: Utility Providers	
Utility	Provider
<i>Electric</i>	MidAmerican Energy
<i>Natural Gas</i>	MidAmerican Energy
<i>Water</i>	City of Clarksville
<i>Sewer</i>	City of Clarksville
<i>Sanitation</i>	City of Clarksville
<i>Telephone</i>	Iowa Communications Network
<i>Internet</i>	Iowa Communications Network

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.

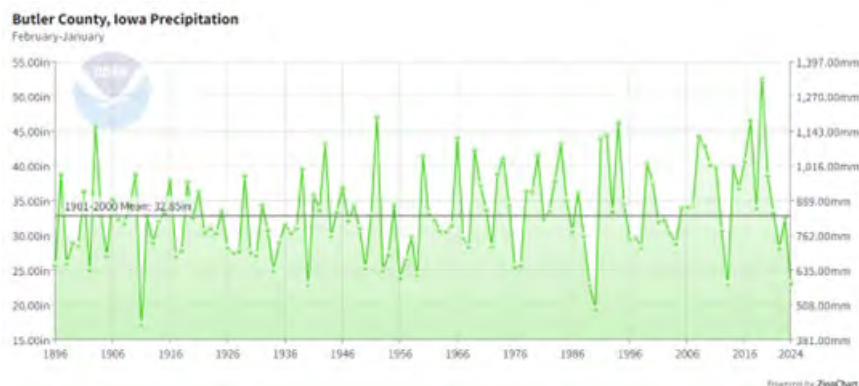
Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section.¹ The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use,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

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

Annual Precipitation Levels in Butler County

Taking the monthly precipitation records from January to December between 1895 and 2024 is shown in Figure 6. The values hover between 20 - 50 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 6. The trend shows a growing level of annual precipitation on average of 32.80 inches. Based on this historical trend, precipitation is likely to continue to increase in the coming years.

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



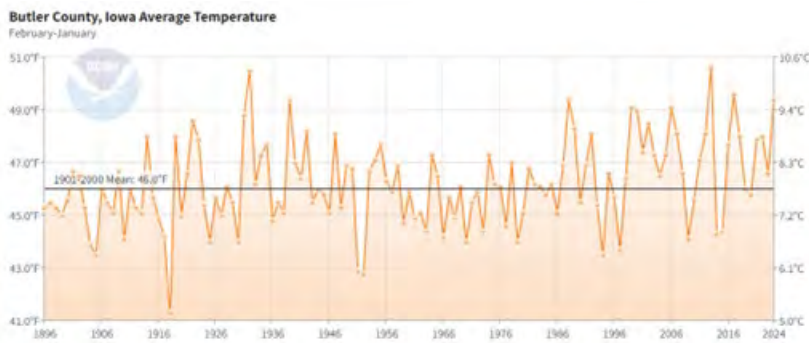
Average Annual Temperatures in Butler County

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

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 Butler County, Iowa²



Climate Patterns from Increasing Precipitation and Higher Temperatures

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 evaporate 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 more frequently 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.

2025 Clarksville CSD Hazard Mitigation Plan

Projected Trends of Natural Hazards in Butler County

- Prologued drought may occur as the atmosphere holds more moisture (even pulling moisture from plants) as the temperature increases. Longer periods between weather events mean 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. 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. Severe Winter Storm
2. River Flood
3. Thunderstorm with Lighting/ 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 are shown below.

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.

2025 Clarksville CSD Hazard Mitigation Plan

Probability

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

Probability Score Definitions		
Score	Description	
1	Unlikely	<i>Less than 10% 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.</i>
2	Occasional	<i>Between 10% and 20% 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.</i>
3	Likely	<i>Between 20% and 33% 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.</i>
4	Highly Likely	<i>More than 33% 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.</i>

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.

2025 Clarksville CSD Hazard Mitigation Plan

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 city 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

Table 4: Hazard Risk Assessment					
Hazards	Probability	Magnitude	Warning Time	Duration	Score
Severe Winter Storm	4	3	3	3	3.45
River Flood	3	4	3	4	3.4
Thunderstorm/Lightning/Hail	4	3	3	1	3.25
Transportation Incident	4	2	4	1	3.1
Pandemic Human Disease	3	3	2	4	2.95
Hazardous Materials	3	2	4	3	2.85
Flash Flood	3	2.5	3	2.5	2.8
Levee/Dam Failure	2	3	3	3	2.55
Extreme Heat	3	2	1	4	2.5
Tornado/Windstorm	2	2	4	1	2.2
Infrastructure Failure	1	1	1	1	1
Grass/Wild Land Fire*	0	0	0	0	0
Sinkholes*	0	0	0	0	0
Drought*	0	0	0	0	0
Animal/Crop/Plant Disease*	0	0	0	0	0
Expansive Soils*	0	0	0	0	0
Earthquake*	0	0	0	0	0
Landslides*	0	0	0	0	0
Radiological Incident*	0	0	0	0	0
Terrorism *	0	0	0	0	0

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

*Hazard were deemed to have no impact on the jurisdiction, thus no specific action strategy was developed .

Hazard Mitigation Goals

Clarksville Community School District

The following list of goals was developed by planning committee participants from the associated jurisdiction. Goals 1 through 7 were developed in the previous 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan. The planning committee participants chose to adopt the same goals and add additional goals after review.

- Goal #1** Minimize to the greatest possible extent the number of injuries and/or loss of life associated with all identified hazards.
- Goal #2** Reduce or eliminate property damage due to the occurrence of disasters.
- Goal #3** Improve response operations in the event of a disaster.
- Goal #4** Return the community to either a pre-disaster or improved conditions in a timely manner in the wake of a disaster.
- Goal #5** Develop strategies that can be used to reduce the community's overall risk to the negative effects of natural, technological, and man-made disasters.
- Goal #6** Reconvene the planning committee annually to review the plan document, check for compliance with the plan goals, and track progress in achieving the mitigation strategies.
- Goal #7** Maintain the Countywide Multi-Jurisdictional format for future updates.

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

Butler County Emergency Management Agency

The School District works with the Butler County Emergency Management Coordinator, based out of the City of Allison, on various safety and emergency events as well as the Grundy County Emergency Management Coordinator based in Grundy Center. 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 Butler County Emergency Management Coordinator is Chris Showalter. The Grundy County Emergency Management Coordinator is Chase Babcock.

Law Enforcement

The City of Clarksville contracts with the Butler County Sheriff's Department to provide law enforcement services. The Sheriff's Department is located in Allison at 428 6th Street. They handle a range of essential services, including routine patrols, emergency response, and criminal investigations.

Fire Protection and EMS Services

Fire protection for the City of Clarksville is provided by the Clarksville Fire Department. There are 19 volunteer fire fighters that serve in the department currently. Each of the members is HAZMAT certified Firefighter 1 trained. There are several members that have Firefighter 2 training, and others with driver/operator training. Dispatch is provided via a paging system called I Am Responding app that is accessible through a phone app.

The Clarksville Fire Department maintains 28E agreements with surrounding communities to provide additional support when needed and required.

EMS Services

Butler County EMS represents all 8 of the EMS service in the County. Butler County Board of Supervisors deemed EMS an Essential Service for the County according to Iowa Code Chapter 422D and recently hired an EMS Coordinator to provide coverage and support for EMS services within the county.

2025 Clarksville CSD Hazard Mitigation Plan

Medical Facilities

The City of Clarksville Peoples Community Health Clinic at 118 S Main St that offers a full range of services for community members.

The Waverly Health Center in Waverly is located approximately 14 miles southeast and the Franklin General Hospital in Hampton is located approximately 31 miles west.

HAZMAT Response Teams

The City of Clarksville 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 hazard 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 the containment of the site and disposal of hazardous chemicals.

Warning Systems in Clarksville

1. Tornado Sirens

The City of Clarksville has an activation system of warning sirens that are activated and operated by a central command system operated by the Butler County Rescue Squad in Allison, IA.

2) Alert Iowa Mass Communication System

Butler County has implemented the use of Alert Iowa, a mass communication notification system. The system features are controlled through the Butler 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. There is an optional way to receive the same alert for events such as: excessive heat warnings, hazardous materials warnings, heavy snow warning, high wind warnings, ice storm warnings, law enforcement warnings, shelter in place

2025 Clarksville CSD Hazard Mitigation Plan

warnings, sleet warnings, wind chill warnings, and winter storm warnings.

Current Mitigation Activities

The school district continues to take actions necessary to protect itself from hazards. Some of those activities include:

- Keep an active safety committee team.
- The entire campus is smoke-free.
- The District updates their emergency operations plan (EOP) regularly per state requirements.
- Regular practice of emergency responses and training for staff.

How to Use the Implementation Guide in this Plan

Notes about the tasks (listed as line items) on the tables on the following pages.

- 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.

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

- 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 the City's 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 & 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. The time frame to complete the column is based on four designations (see table to the left).

Timeframe	Description
Immediate	1 - 6 months
Short Term	1-3 years
Mid-Term	3-5 Years
Long-Term	More than 5 Years

Clarksville Community School District Hazard Mitigation Strategy

Table 5: Clarksville Community School District Hazard Mitigation Action Steps							
Priority	Mitigation Action/Program/Project	Associated Hazard(s)	Primary Agency Responsible for Implementation	Timeline	Estimated Cost (\$)	Associated Goal(s)	Funding Source(s)
High	Continue mandated tornado drills and fire drills with students regularly as scheduled.	All	School Board, Superintendent, City Fire/Police	Active	Minimal	1, 5	School District General Fund
High	Maintain clear signage for rooms with flammable gases.	HAZMAT incident	School Board, Superintendent	On-going	Minimal	1, 2, 5	School District General Fund
High	Systematically review and update, as needed, hazard response policies and procedures through the EOP.	All	School Board, Superintendent	Active	Minimal	All	School District General Fund
High	Identify and Evaluate Critical Facilities for Accessibility, Vulnerability, and Risk Potential through the EOP.	Terrorism	School Board, Superintendent	On-going	Minimal	1, 2	School General Fund, HMGP
High	Maintain a cooperative and effective relationship with the County Health Department for outbreak information.	Pandemic Human Disease	School Board, Superintendent, County Health Dept.	On-going	Minimal	1, 2, 6, 7	School District General Fund
High	Encourage students and their families to register their households on Alert Iowa.	All	School Board, Superintendent, County EMA	Short term	Minimal	1, 3, 5, 7	School District General Fund
Medium	Ensure school maintenance crews continue to improve facilities to protect against extreme heat and drought scenarios.	Drought, Extreme Heat	School Board, School Maintenance, Superintendent	Active	Moderate	1, 2, 5	School General Fund, HMGP
Medium	Work with Butler County EMA Coordinator to develop more disaster preparedness and awareness activities with students.	All	School Board, Superintendent, County EMA	Short term	Minimal	1, 2, 6, 7	School District General Fund
High	Coordinate with Butler County Emergency Management Agency on emergency school plans and emergency preparedness drills.	All	School Board, Superintendent, County EMA	Mid-term	Minimal	1, 2, 6, 7	School District General Fund
High	Explore the development of a tornado safe room and retrofitting of building with wind-resistant framing as needed.	Windstorm, Tornado, Infrastructure Failure	School Board, Superintendent	Mid-term	Minimal	1, 2, 5	School General Fund, HMGP

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Dike-New Hartford Community School District

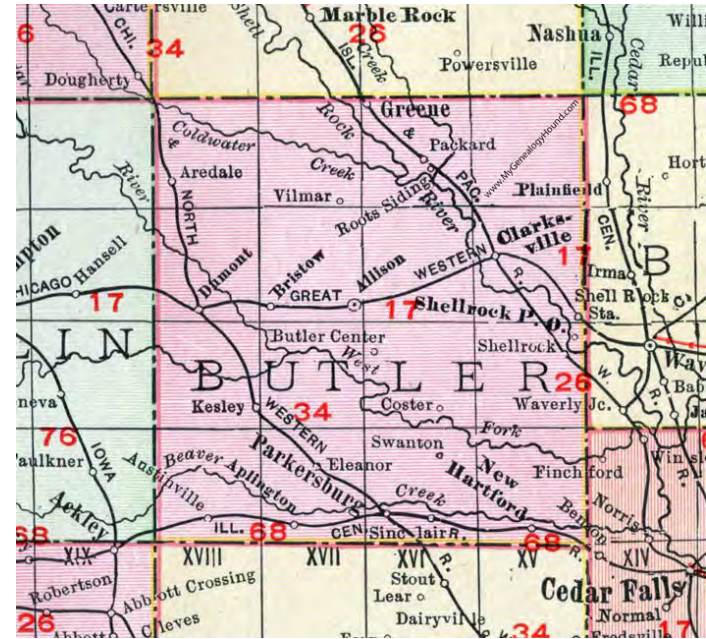
Hazard Mitigation Plan 2025 Update

Appendix M of Butler County Multi-Jurisdictional Hazard Mitigation Plan

Funded by the Butler County Emergency
Management Agency

Prepared by Iowa Northland Regional Council
of Governments (INRCOG)

January 2025



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Adopting Resolution by Dike-New Hartford School Board

A RESOLUTION OF THE SCHOOL BOARD OF DIKE NEW-HARTFORD COMMUNITY SCHOOL DISTRICT, ADOPTING A HAZARD MITIGATION PLAN.

WHEREAS, the Dike-New Hartford Community School District (or School District) recognizes the threat that natural hazards pose to people and property within New Hartford and Dike, Iowa; and

WHEREAS, the Butler County Emergency Management Agency has funded the development of a plan in order to become eligible for federal hazard mitigation grant programs; and

WHEREAS, Superintendent Stockdale, representing the School District, served and participated in the formulation of the hazard mitigation plan, hereby known as the Dike-New Hartford Community School District Hazard Mitigation Plan 2025 (or Plan) as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National-Dam-Safety-Program-Act, as amended; and

WHEREAS, said Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to students, faculty, staff, and property from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on said Plan; and


WHEREAS, adoption by the School Board of Directors demonstrates the School District's commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE SCHOOL BOARD OF DIRECTORS OF DIKE-NEW HARTFORD COMMUNITY SCHOOL DISTRICT HEREBY:

Section 1: In accordance with school regulations, school board directors adopt Dike-New Hartford Community School District Hazard Mitigation Plan 2025. While content related to the School District may require revisions to meet the plan approval requirements set by Iowa Homeland Security and Emergency Management Department or FEMA, changes occurring after adoption will not require the school board of directors to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 16th day of April, 2025.

ATTEST:


Board Secretary


School Board President

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2025 Dike-New Hartford CSD Hazard Mitigation Plan

About

The Dike New-Hartford CSD developed this Plan as part of the 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan update process. The 2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan is a sequential 5-year update to the previous document. Federal regulations regarding how local governments may receive funding from FEMA require that the specified jurisdiction (city, school district, county) have an approved hazard mitigation plan that is in good standing (updated and FEMA approved) to remain eligible for grant funding. This Plan was developed to meet the requirements in Title 44 CFR § 201.6.

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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.

meetings were held between October 1st and December 12th wherein each participant provided data and completed work sheets to develop their hazard mitigation plans.

The Benefits of Hazard Mitigation for Local Governments

For local governments, there are benefits in knowing how specific hazards may affect their communities, its potential to cause negative impacts, and develop pre-disaster actions or activities to lessen or avoid those anticipated negative impacts.

Benefits include:

- ✓ An increased understanding of how natural and human caused hazards develop under certain conditions which may inform a level of magnitude or intensity.
- ✓ Take advantage of the opportunity to create more sustainable and disaster-resistant communities.
- ✓ Participating in this collaborative intergovernmental effort is cost effective for all participants.
- ✓ Using limited resources to address the threat from hazard events that may have the biggest impact on the community.
- ✓ Reducing or preventing damage to existing structures and reducing their subsequent repair costs.
- ✓ Identifying vulnerable populations to establish equitable outcomes.

- ✓ Hazard mitigation involves a commitment to long-term goals that focus on lessening or reducing negative impacts of natural, and human caused hazards.

The Planning Process

In order to reduce the threat of negative impacts from natural hazards, a risk informed approach was used in this planning process. A risk informed approach is a multi-step process. This Plan also involves collaboration among participants in the planning committee. The process involved learning the historical occurrence of when such hazards may have occurred in Butler County.

Participants in the Butler County Multi-Jurisdictional Hazard Mitigation Plan Planning Committee determined the level of risk facing their communities by completing a risk assessment. Data gathering by committee participants involved giving updates to existing mitigation activities by the local government.

Participants in the Plan followed a general 5 step process. (below)



Community School District Profile

Jurisdiction: Dike New-Hartford Community School District

Counties: Butler, Grundy, Black Hawk, Bremer, and Hardin County

School Enrollment (2023-24): 916

The Dike-New Hartford Community School District is based in the cities of New Hartford and Dike. The district provides pre-kindergarten through 12th grade education to nearly 890 students.

The school district conducts fire drills 4 times a year and tornado drill 4 times a year. They have 11 school buses in the fleet with 40-50 riders daily. There are 2 active shooter drills, and 2 bus safety drills each year.

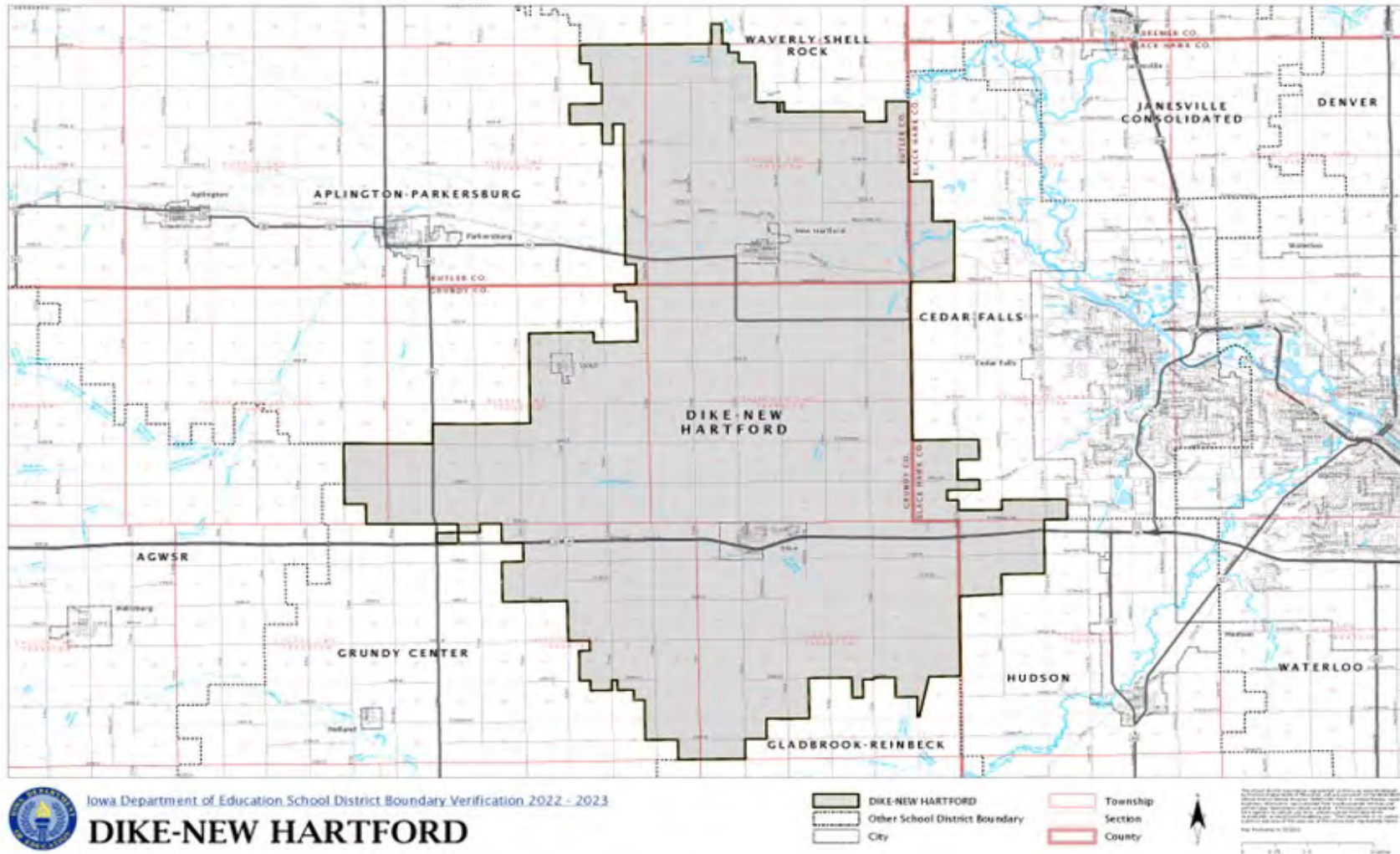
The school district does have a tornado safe room in Dike and New Hartford buildings. The school district sends out information to households for fire, police, and emergency preparedness.

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

Table 1: District Schools

Table 1: District Schools			
Dike-New Hartford High School	Dike-New Hartford Junior High School	New Hartford Elementary School	Dike Elementary
330 Main Street Dike, IA 50624	508 Beaver Street New Hartford, IA 50660	508 Beaver Street New Hartford, IA 50660	330 Main Street Dike, IA 50624

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



Critical Facilities

The school district has 4 critical buildings shown in the table below.

Table 2: Critical Facilities	
Dike-New Hartford High School	330 Main Street Dike, IA 50624
Dike-New Hartford Junior High School	508 Beaver Street New Hartford, IA 50660
New Hartford Elementary School	508 Beaver Street New Hartford, IA 50660
Dike Elementary School	330 Main Street Dike, IA 50624
Bus barn	Located in Dike

Community Utility Providers

Table 3: Utility Providers	
Utility	Provider
<i>Electric</i>	MidAmerican Energy
<i>Natural Gas</i>	Black Hills Energy
<i>Water</i>	City of New Hartford
<i>Sewer</i>	City of New Hartford
<i>Sanitation</i>	Cooley Sanitation
<i>Telephone</i>	Dumont Telephone
<i>Internet</i>	Dumont Telephone

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.

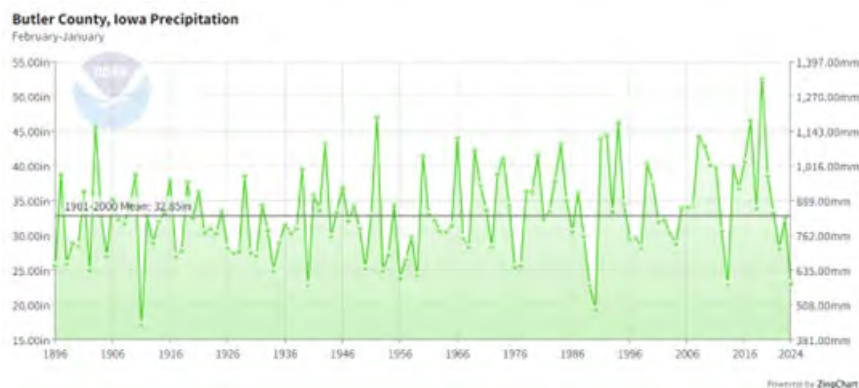
Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section.¹ The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use,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

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

Annual Precipitation Levels in Butler County

Taking the monthly precipitation records from January to December between 1895 and 2024 is shown in Figure 6. The values hover between 20 - 50 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 6. The trend shows a growing level of annual precipitation on average of 32.80 inches. Based on this historical trend, precipitation is likely to continue to increase in the coming years.

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



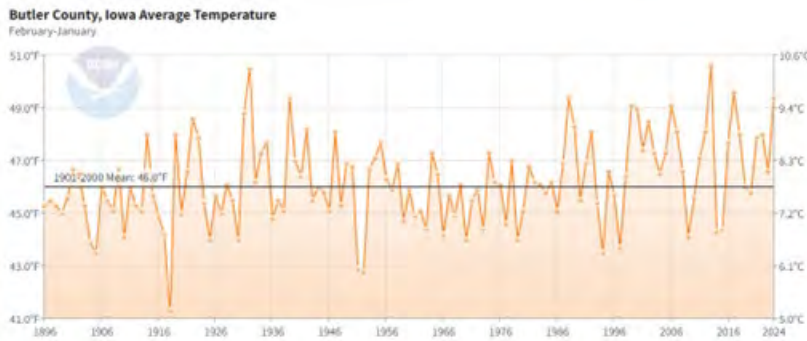
Average Annual Temperatures in Butler County

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

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 Butler County, Iowa²



Climate Patterns from Increasing Precipitation and Higher Temperatures

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 evaporate 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 more frequently 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.

2025 Dike-New Hartford CSD Hazard Mitigation Plan

Projected Trends of Natural Hazards in Butler County

- Prologued drought may occur as the atmosphere holds more moisture (even pulling moisture from plants) as the temperature increases. Longer periods between weather events mean 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. 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. Extreme Heat
2. Thunderstorm with Lighting/ Hail
3. Tornado/Windstorm



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 are shown below.

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.

2025 Dike-New Hartford CSD Hazard Mitigation Plan

Probability

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

Probability Score Definitions		
Score	Description	
1	Unlikely	<i>Less than 10% 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.</i>
2	Occasional	<i>Between 10% and 20% 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.</i>
3	Likely	<i>Between 20% and 33% 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.</i>
4	Highly Likely	<i>More than 33% 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.</i>

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.

2025 Dike-New Hartford CSD Hazard Mitigation Plan

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 city 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

Table 4: Hazard Risk Assessment					
Hazards	Probability	Magnitude	Warning Time	Duration	Score
Extreme Heat	4	3	1	4	3.25
Thunderstorm/Lightning/Hail	4	3	1	2	3.05
Tornado/Windstorm	3	3	3	3	3
Severe Winter Storm	3	3	1	3	2.7
Drought	2	2	1	4	2.05
Pandemic Human Disease	1	3	1	4	1.9
Terrorism	2	2	1	2	1.85
Flash Flood	2	1	1	3	1.65
Infrastructure Failure	2	1	1	3	1.65
River Flood	2	1	1	3	1.65
Transportation Incident	2	1	1	2	1.55
Grass/Wild Land Fire*	2	1	1	2	1.55
Animal/Crop/Plant Disease*	1	1	1	4	1.3
Expansive Soils*	1	1	1	4	1.3
Radiological Incident*	1	1	1	4	1.3
Earthquake*	1	1	1	1	1
Hazardous Materials	1	1	1	1	1
Landslides*	1	1	1	1	1
Levee/Dam Failure*	1	1	1	1	1
Sinkholes*	1	1	1	1	1

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

*Hazards were deemed to have no impact on the jurisdiction, thus no specific action strategy was developed.

Hazard Mitigation Goals

Dike New-Hartford Community School District

The following list of goals was developed by planning committee participants from the associated jurisdiction. Goals 1 through 7 were developed in the previous 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan. The planning committee participants chose to adopt the same goals and add additional goals after review.

- Goal #1** Minimize to the greatest possible extent the number of injuries and/or loss of life associated with all identified hazards.
- Goal #2** Reduce or eliminate property damage due to the occurrence of disasters.
- Goal #3** Improve response operations in the event of a disaster.
- Goal #4** Return the community to either a pre-disaster or improved conditions in a timely manner in the wake of a disaster.
- Goal #5** Develop strategies that can be used to reduce the community's overall risk to the negative effects of natural, technological, and man-made disasters.
- Goal #6** Reconvene the planning committee annually to review the plan document, check for compliance with the plan goals, and track progress in achieving the mitigation strategies.
- Goal #7** Maintain the Countywide Multi-Jurisdictional format for future updates.

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

Butler County Emergency Management Agency

The School District works with the Butler County Emergency Management Coordinator, based out of the City of Allison, on various safety and emergency events as well as the Grundy County Emergency Management Coordinator based in Grundy Center. 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 Butler County Emergency Management Coordinator is Chris Showalter. The Grundy County Emergency Management Coordinator is Chase Babcock.

Law Enforcement

The City of New Hartford contracts with the Butler County Sheriff's Department to provide law enforcement services. The Sheriff's Department is located in Allison at 428 6th Street. They handle a range of essential services, including routine patrols, emergency response, and criminal investigations.

Fire Protection and EMS Services

Fire protection for the City of New Hartford is provided by the New Hartford Fire Department. There are 23 volunteer fire fighters that serve in the department currently. Each of the members is HAZMAT certified Firefighter 1 trained. There are several members that have Firefighter 2 training, and others with driver/operator training. Dispatch is provided via a paging system called I Am Responding app that is accessible through a phone app.

The New Hartford Fire Department maintains 28E agreements with surrounding communities to provide additional support when needed and required.

EMS Services

Butler County EMS represents all 8 of the EMS service in the County. Butler County Board of Supervisors deemed EMS an Essential Service for the County according to Iowa Code Chapter 422D and recently hired an EMS Coordinator to provide coverage and support for EMS services within the county.

2025 Dike-New Hartford CSD Hazard Mitigation Plan

Medical Facilities

The City of New Hartford does not have any medical clinics.

The MercyOne Waterloo Hospital in Waterloo is located approximately 18 miles east.

HAZMAT Response Teams

The City of New Hartford 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 hazard 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 the containment of the site and disposal of hazardous chemicals.

Warning Systems in New Hartford

1. Tornado Sirens

The City of New Hartford has an activation system of warning sirens that are activated and operated by a central command system operated by the Butler County Rescue Squad in Allison, IA.

2) Alert Iowa Mass Communication System

Butler County has implemented the use of Alert Iowa, a mass communication notification system. The system features are controlled through the Butler 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. There is an optional way to receive the same alert for events such as: excessive heat warnings, hazardous materials warnings, heavy snow warning, high wind warnings, ice storm warnings, law enforcement warnings, shelter in place warnings, sleet warnings, wind chill warnings, and winter storm warnings.

2025 Dike-New Hartford CSD Hazard Mitigation Plan

Current Mitigation Activities

The school district continues to take actions necessary to protect itself from hazards. Some of those activities include:

- A tornado safe room in the New Hartford School.
- The entire campus is smoke-free.
- The District updates their emergency operations plan (EOP) regularly per state requirements.
- HVAC Replaced recently.
- Dead bolt locks put into place.
- Fever Alert System implemented.

How to Use the Implementation Guide in this Plan

Notes about the tasks (listed as line items) on the tables on the following pages.

- 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.

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

- 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 the City's 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 & 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. The time frame to complete the column is based on four designations (see table to the left).

Timeframe	Description
Immediate	1 - 6 months
Short Term	1-3 years
Mid-Term	3-5 Years
Long-Term	More than 5 Years

Dike-New Hartford Community School District Hazard Mitigation Strategy

Table 5: Dike-New Hartford Community School District Hazard Mitigation Action Steps							
Priority	Mitigation Action/Program/Project	Associated Hazard(s)	Primary Agency Responsible for Implementation	Timeline	Estimated Cost (\$)	Associated Goal(s)	Funding Source(s)
High	Continue mandated tornado drills and fire drills with students regularly as scheduled.	All	School Board, Superintendent, City Fire/Police	Active	Minimal	1, 5	School District General Fund
High	Maintain clear signage for rooms with flammable gases.	HAZMAT incident	School Board, Superintendent	On-going	Minimal	1, 2, 5	School District General Fund
High	Systematically review and update, as needed, hazard response policies and procedures through the EOP.	All	School Board, Superintendent	Active	Minimal	All	School District General Fund
High	Identify and Evaluate Critical Facilities for Accessibility, Vulnerability, and Risk Potential through the EOP.	Terrorism	School Board, Superintendent	On-going	Minimal	1, 2	School General Fund, HMGP
High	Maintain a cooperative and effective relationship with the County Health Department for outbreak information.	Pandemic Human Disease	School Board, Superintendent, County Health Dept.	On-going	Minimal	1, 2, 6, 7	School District General Fund
High	Encourage students and their families to register their households on Alert Iowa.	All	School Board, Superintendent, County EMA	Short term	Minimal	1, 3, 5, 7	School District General Fund
Medium	Ensure school maintenance crews continue to improve facilities to protect against extreme heat and drought scenarios.	Drought, Extreme Heat	School Board, School Maintenance, Superintendent	Active	Moderate	1, 2, 5	School General Fund, HMGP
Medium	Work with Butler County EMA Coordinator to develop more disaster preparedness and awareness activities with students.	All	School Board, Superintendent, County EMA	Short term	Minimal	1, 2, 6, 7	School District General Fund
High	Coordinate with Butler County Emergency Management Agency on emergency school plans and emergency preparedness drills.	All	School Board, Superintendent, County EMA	Mid-term	Minimal	1, 2, 6, 7	School District General Fund
High	Continue to maintain, update, and add additional tornado safe rooms and retrofitting of building with wind-resistant framing as needed.	Windstorm, Tornado, Infrastructure Failure	School Board, Superintendent	Mid-term	Minimal	1, 2, 5	School General Fund, HMGP

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North Butler Community School District

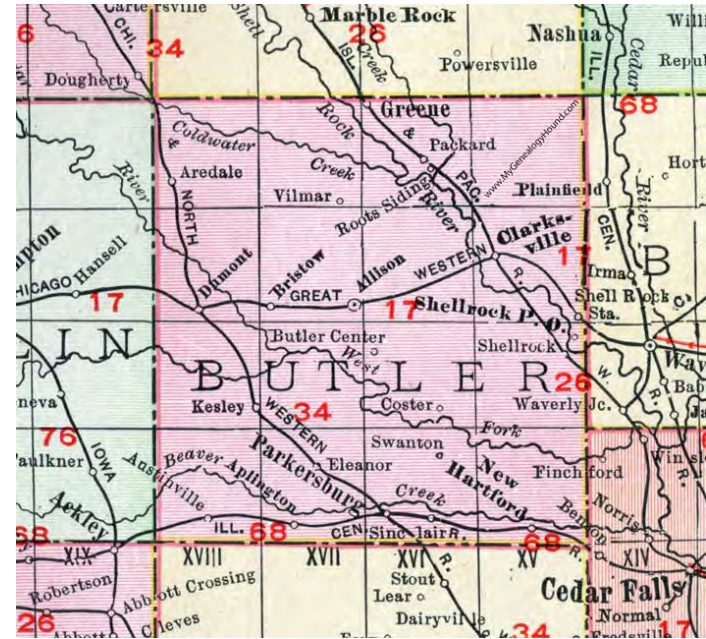
Hazard Mitigation Plan 2025 Update

Appendix N of Butler County Multi-Jurisdictional Hazard Mitigation Plan

Funded by the Butler County Emergency
Management Agency

Prepared by Iowa Northland Regional Council
of Governments (INRCOG)

January 2025



INRCOG
Iowa Northland Regional
Council of Governments

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Adopting Resolution by North Butler School Board

A RESOLUTION OF THE SCHOOL BOARD OF NORTH BUTLER COMMUNITY SCHOOL DISTRICT, ADOPTING A HAZARD MITIGATION PLAN.

WHEREAS, the North Butler Community School District (or School District) recognizes the threat that natural hazards pose to people and property within Greene and Allison, Iowa; and

WHEREAS, the Butler County Emergency Management Agency has funded the development of a plan in order to become eligible for federal hazard mitigation grant programs; and

WHEREAS, Superintendent Boysen, representing the School District, served and participated in the formulation of the hazard mitigation plan, hereby known as the North Butler Community School District Hazard Mitigation Plan 2025 (or Plan) as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS, said Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to students, faculty, staff, and property from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on said Plan; and

WHEREAS, adoption by the School Board of Directors demonstrates the School District's commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE SCHOOL BOARD OF DIRECTORS OF NORTH BUTLER COMMUNITY SCHOOL DISTRICT HEREBY:

Section 1: In accordance with school regulations, school board directors adopt North Butler Community School District Hazard Mitigation Plan 2025. While content related to the School District may require revisions to meet the plan approval requirements set by Iowa Homeland Security and Emergency Management Department or FEMA, changes occurring after adoption will not require the school board of directors to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 14th day of April, 2025.

ATTEST:


Board Secretary


School Board President

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About

The North Butler CSD developed this Plan as part of the 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan update process. The 2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan is a sequential 5-year update to the previous document. Federal regulations regarding how local governments may receive funding from FEMA require that the specified jurisdiction (city, school district, county) have an approved hazard mitigation plan that is in good standing (updated and FEMA approved) to remain eligible for grant funding. This Plan was developed to meet the requirements in Title 44 CFR § 201.6.

Elected officials, city clerks, planners, first responders, and other stakeholders were invited to attend planning committee meetings as participants to learn about hazard mitigation and complete data gathering assignments. These assignments were submitted to the plan development coordinators: Butler County Emergency Management Agency (EMA) and Iowa Northland Regional Council of Government (INRCOG). Butler County's EMA initiated and funded this effort for all participating communities and contracted INRCOG to coordinate the plan development process with a multi-jurisdictional approach.

Participating communities included all ten (10) incorporated municipalities of Butler County. County staff participating in the committee were representing their respective County departments. School district superintendents for four public school districts attended and completed the data gathering assignments for their district communities. Four (4) committee

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.
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- ✓ Take advantage of the opportunity to create more sustainable and disaster-resistant communities.
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The Planning Process

In order to reduce the threat of negative impacts from natural hazards, a risk informed approach was used in this planning process. A risk informed approach is a multi-step process. This Plan also involves collaboration among participants in the planning committee. The process involved learning the historical occurrence of when such hazards may have occurred in Butler County.

Participants in the Butler County Multi-Jurisdictional Hazard Mitigation Plan Planning Committee determined the level of risk facing their communities by completing a risk assessment. Data gathering by committee participants involved giving updates to existing mitigation activities by the local government.

Participants in the Plan followed a general 5 step process. (below)



Community School District Profile

Jurisdiction: North Butler Community School District

Counties: Butler and Floyd County

School Enrollment (2023-24): 506

The North Butler Community School District is based in the cities of Allison and Greene. The district provides pre-kindergarten through 12th grade education to 506 students.

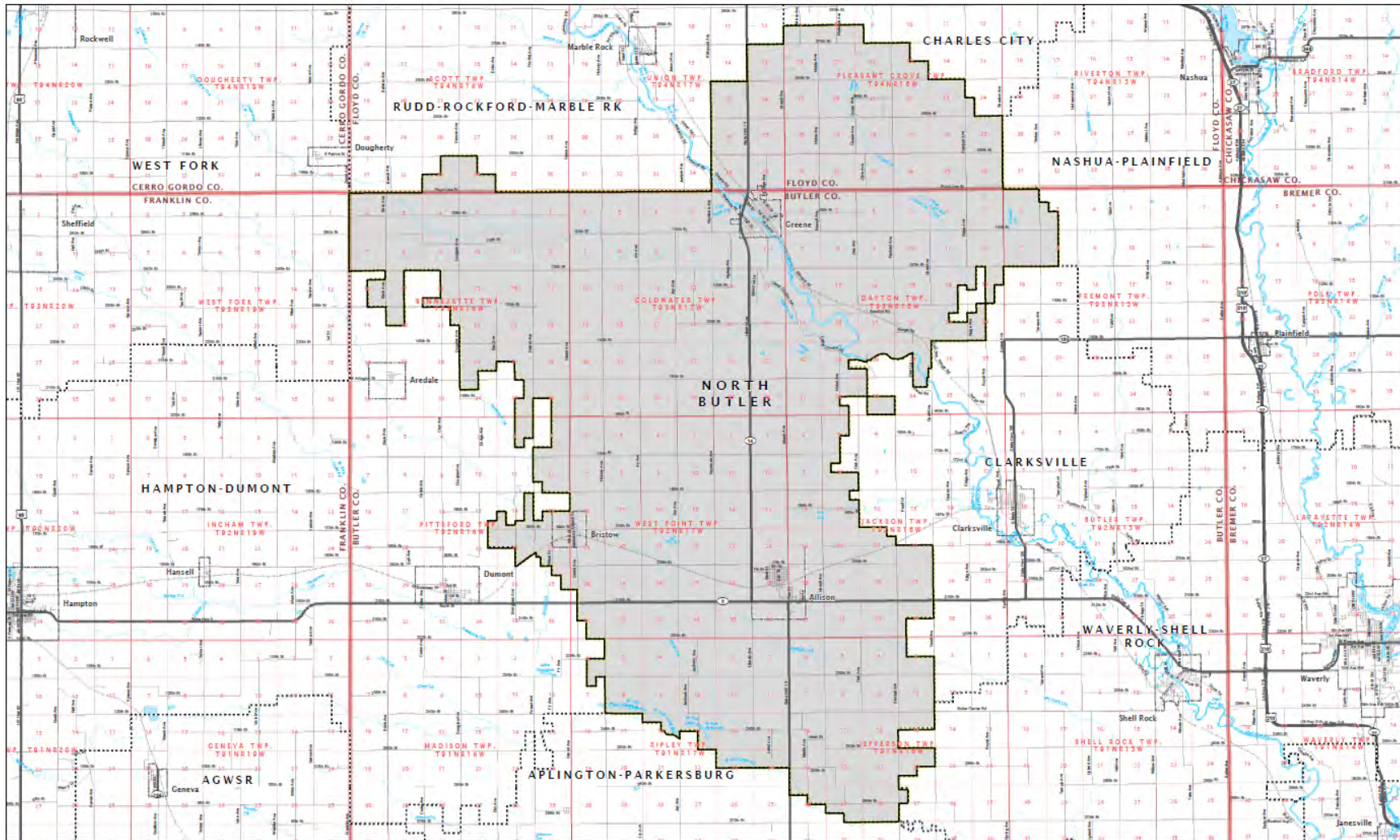
The school district conducts fire drills 5 times a year and tornado drill 1 times a year. They have 8 school buses in the fleet with close to 400 riders daily. There is 1 active shooter drill, and 1 bus safety drill each year.

The school district does not have a tornado safe room. The school district provides information to households for fire, police, and emergency preparedness in the school handbook.

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

Table 1: District Schools		
North Butler High School	North Butler Junior High School	North Butler Elementary School
201 North 5th Street Greene, IA 50636	201 North 5th Street Greene, IA 50636	513 Birch Street Allison, IA 50602

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



Iowa Department of Education School District Boundary Verification 2022 - 2023

NORTH BUTLER

- NORTH BUTLER
- Other School District Boundary
- City
- Township
- Section
- County



The school district boundaries presented on this map were obtained by the Iowa Department of Education and are a product of the 2022-2023 boundary verification process. The boundaries are not guaranteed to be 100% accurate. The user assumes all responsibility for any errors or omissions. The Department is not liable for any damages or losses resulting from the use of this map. The Department is not responsible for any errors or omissions. The Department is not responsible for any errors or omissions. The Department is not responsible for any errors or omissions.

0 0.75 1.5 3 Miles

Critical Facilities

The school district has 4 critical buildings shown in the table below.

Table 2: Critical Facilities	
North Butler High School	201 North 5th Street Greene, IA 50636
North Butler Junior High School	201 North 5th Street Greene, IA 50636
North Butler Elementary School	513 Birch Street Allison, IA 50602
Bus Barn	Located in Allison
Bus Barn	Located in Greene

Community Utility Providers

Table 3: Utility Providers	
Utility	Provider
<i>Electric</i>	MidAmerican Energy/Alliant Energy
<i>Natural Gas</i>	MidAmerican Energy/Black Hills Energy
<i>Water</i>	City of Allison/City of Greene
<i>Sewer</i>	City of Allison/City of Greene
<i>Sanitation</i>	City of Allison/Jendro Sanitation
<i>Telephone</i>	Dumont Telephone/Omnitel
<i>Internet</i>	Dumont Telephone/Omnitel

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.

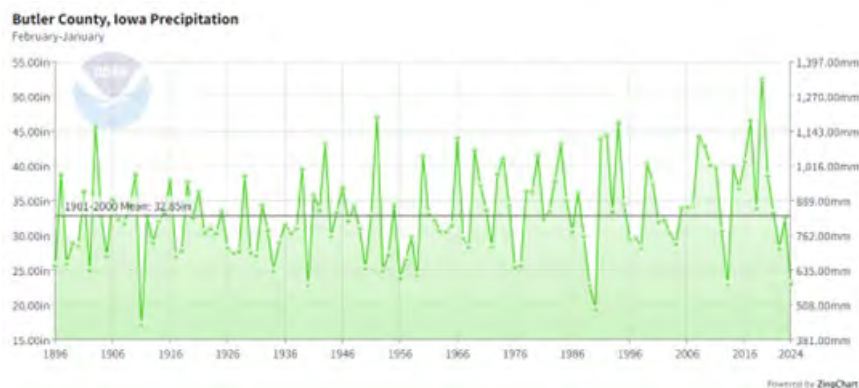
Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section.¹ The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use,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

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

Annual Precipitation Levels in Butler County

Taking the monthly precipitation records from January to December between 1895 and 2024 is shown in Figure 6. The values hover between 20 - 50 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 6. The trend shows a growing level of annual precipitation on average of 32.80 inches. Based on this historical trend, precipitation is likely to continue to increase in the coming years.

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



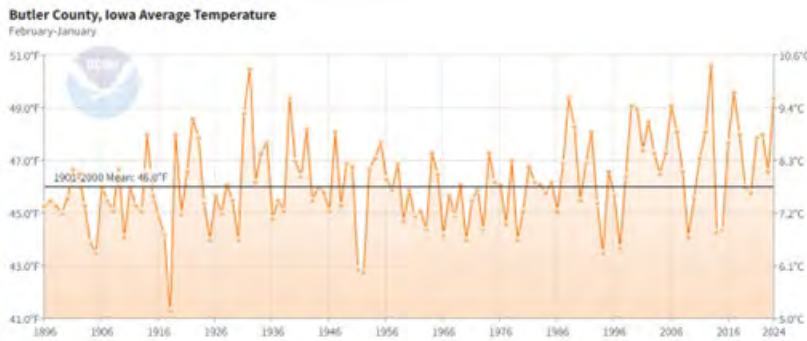
Average Annual Temperatures in Butler County

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

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 Butler County, Iowa²



Climate Patterns from Increasing Precipitation and Higher Temperatures

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 evaporate 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 more frequently 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.

2025 North Butler CSD Hazard Mitigation Plan

Projected Trends of Natural Hazards in Butler County

- Prologued drought may occur as the atmosphere holds more moisture (even pulling moisture from plants) as the temperature increases. Longer periods between weather events mean 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. 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. Severe Winter Storm
2. Extreme Heat
3. Thunderstorm with Lighting/ 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 are shown below.

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.

2025 North Butler CSD Hazard Mitigation Plan

Probability

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

Probability Score Definitions		
Score	Description	
1	Unlikely	<i>Less than 10% 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.</i>
2	Occasional	<i>Between 10% and 20% 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.</i>
3	Likely	<i>Between 20% and 33% 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.</i>
4	Highly Likely	<i>More than 33% 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.</i>

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.

2025 North Butler CSD Hazard Mitigation Plan

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 city 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

Table 4: Hazard Risk Assessment					
Hazards	Probability	Magnitude	Warning Time	Duration	Score
Severe Winter Storm	4	3	3	3	3.45
Extreme Heat	3	3	2	4	2.95
Thunderstorm/Lightning/Hail	4	2	2	1	2.8
Transportation Incident	3	2	4	1	2.65
Levee/Dam Failure	2	3	3	3	2.55
Pandemic Human Disease	2	2	3	4	2.35
Hazardous Materials	2	2	4	2	2.3
Tornado/Windstorm	2	2	4	1	2.2
Flash Flood	2	2	3	2	2.15
River Flood	2	2	2	2	2
Terrorism	1	4	1	1	1.9
Infrastructure Failure	1	1	2	1	1.15
Animal/Crop/Plant Disease*	0	0	0	0	0
Drought*	0	0	0	0	0
Earthquake*	0	0	0	0	0
Expansive Soils*	0	0	0	0	0
Grass/Wild Land Fire*	0	0	0	0	0
Landslides*	0	0	0	0	0
Radiological Incident*	0	0	0	0	0
Sinkholes*	0	0	0	0	0

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

*Hazard were deemed to have no impact on the jurisdiction, thus no specific action strategy was developed.

Hazard Mitigation Goals

North Butler Community School District

The following list of goals was developed by planning committee participants from the associated jurisdiction. Goals 1 through 7 were developed in the previous 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan. The planning committee participants chose to adopt the same goals and add additional goals after review.

- Goal #1** Minimize to the greatest possible extent the number of injuries and/or loss of life associated with all identified hazards.
- Goal #2** Reduce or eliminate property damage due to the occurrence of disasters.
- Goal #3** Improve response operations in the event of a disaster.
- Goal #4** Return the community to either a pre-disaster or improved conditions in a timely manner in the wake of a disaster.
- Goal #5** Develop strategies that can be used to reduce the community's overall risk to the negative effects of natural, technological, and man-made disasters.
- Goal #6** Reconvene the planning committee annually to review the plan document, check for compliance with the plan goals, and track progress in achieving the mitigation strategies.
- Goal #7** Maintain the Countywide Multi-Jurisdictional format for future updates.

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

Butler County Emergency Management Agency

The School District works with the Butler County Emergency Management Coordinator, based out of the City of Allison, on various safety and emergency events as well as the Grundy County Emergency Management Coordinator based in Grundy Center. 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 Butler County Emergency Management Coordinator is Chris Showalter. The Grundy County Emergency Management Coordinator is Chase Babcock.

Law Enforcement

The City of Allison contracts with the Butler County Sheriff's Department to provide law enforcement services. The Sheriff's Department is located in Allison at 428 6th Street. They handle a range of essential services, including routine patrols, emergency response, and criminal investigations.

Fire Protection and EMS Services

Fire protection for the City of Allison is provided by the Allison Fire Department. There are 23 volunteer fire fighters that serve in the department currently. Each of the members is HAZMAT certified Firefighter 1 trained. There are several members that have Firefighter 2 training, and others with driver/operator training. Dispatch is provided via a paging system called I Am Responding app that is accessible through a phone app.

The Allison Fire Department maintains 28E agreements with surrounding communities to provide additional support when needed and required.

EMS Services

Butler County EMS represents all 8 of the EMS service in the County. Butler County Board of Supervisors deemed EMS an Essential Service for the County according to Iowa Code Chapter 422D and recently hired an EMS Coordinator to provide coverage and support for EMS services within the county.

2025 North Butler CSD Hazard Mitigation Plan

Medical Facilities

The City of Allison does not have any medical clinics. The City of Greene has MercyOne Greene Family Medicine which offers a full range of services for community members.

The Waverly Health Center in Waverly is located approximately 18 miles east and 30 miles southeast of Allison and Greene respectively.

HAZMAT Response Teams

The City of Allison 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 hazard 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 the containment of the site and disposal of hazardous chemicals.

Warning Systems in Allison

1. Tornado Sirens

The City of Allison has an activation system of warning sirens that are activated and operated by a central command system operated by the Butler County Rescue Squad in Allison, IA.

2) Alert Iowa Mass Communication System

Butler County has implemented the use of Alert Iowa, a mass communication notification system. The system features are controlled through the Butler 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. There is an optional way to receive the same alert for events such as: excessive heat warnings, hazardous materials warnings, heavy snow warning, high wind warnings, ice storm warnings, law enforcement warnings, shelter in place warnings, sleet warnings, wind chill warnings, and winter storm warnings.

2025 North Butler CSD Hazard Mitigation Plan

Current Mitigation Activities

The school district continues to take actions necessary to protect itself from hazards. Some of those activities include:

- A safety committee that meets on a regular basis to address issues.
- The entire campus is smoke-free.
- The District updates their emergency operations plan (EOP) regularly per state requirements.
- Regular safety drills and review of policies and implementation.

How to Use the Implementation Guide in this Plan

Notes about the tasks (listed as line items) on the tables on the following pages.

- 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.

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

- 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 the City's 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 & 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. The time frame to complete the column is based on four designations (see table to the left).

Timeframe	Description
Immediate	1 - 6 months
Short Term	1-3 years
Mid-Term	3-5 Years
Long-Term	More than 5 Years

North Butler Community School District Hazard Mitigation Strategy

Table 5: North Butler Community School District Hazard Mitigation Action Steps							
Priority	Mitigation Action/Program/Project	Associated Hazard(s)	Primary Agency Responsible for Implementation	Timeline	Estimated Cost (\$)	Associated Goal(s)	Funding Source(s)
High	Continue mandated tornado drills and fire drills with students regularly as scheduled.	All	School Board, Superintendent, City Fire/Police	Active	Minimal	1, 5	School District General Fund
High	Maintain clear signage for rooms with flammable gases.	HAZMAT incident	School Board, Superintendent	On-going	Minimal	1, 2, 5	School District General Fund
High	Systematically review and update, as needed, hazard response policies and procedures through the EOP.	All	School Board, Superintendent	Active	Minimal	All	School District General Fund
High	Identify and Evaluate Critical Facilities for Accessibility, Vulnerability, and Risk Potential through the EOP.	Terrorism	School Board, Superintendent	On-going	Minimal	1, 2	School General Fund, HMGP
High	Maintain a cooperative and effective relationship with the County Health Department for outbreak information.	Pandemic Human Disease	School Board, Superintendent, County Health Dept.	On-going	Minimal	1, 2, 6, 7	School District General Fund
High	Encourage students and their families to register their households on Alert Iowa.	All	School Board, Superintendent, County EMA	Short term	Minimal	1, 3, 5, 7	School District General Fund
Medium	Ensure school maintenance crews continue to improve facilities to protect against extreme heat and drought scenarios.	Drought, Extreme Heat	School Board, School Maintenance, Superintendent	Active	Moderate	1, 2, 5	School General Fund, HMGP
Medium	Work with Butler County EMA Coordinator to develop more disaster preparedness and awareness activities with students.	All	School Board, Superintendent, County EMA	Short term	Minimal	1, 2, 6, 7	School District General Fund
High	Coordinate with Butler County Emergency Management Agency on emergency school plans and emergency preparedness drills.	All	School Board, Superintendent, County EMA	Mid-term	Minimal	1, 2, 6, 7	School District General Fund
High	Consider the addition of a tornado safe room and retrofitting of building with wind-resistant framing as needed.	Windstorm, Tornado, Infrastructure Failure	School Board, Superintendent	Mid-term	Minimal	1, 2, 5	School General Fund, HMGP

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Waverly-Shell Rock Community School District

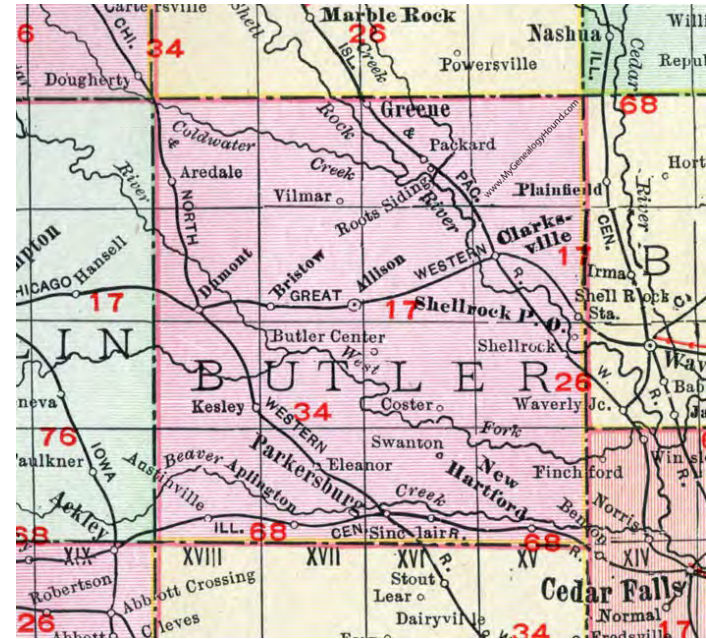
Hazard Mitigation Plan 2025 Update

Appendix O of Butler County Multi-Jurisdictional Hazard Mitigation Plan

Funded by the Butler County Emergency
Management Agency

Prepared by Iowa Northland Regional Council
of Governments (INRCOG)

January 2025



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Adopting Resolution by Waverly-Shell Rock School Board

A RESOLUTION OF THE SCHOOL BOARD OF WAVERLY-SHELL ROCK COMMUNITY SCHOOL DISTRICT, ADOPTING A HAZARD MITIGATION PLAN.

WHEREAS, the Waverly-Shell Rock Community School District (or School District) recognizes the threat that natural hazards pose to people and property within Shell Rock and Waverly, Iowa; and

WHEREAS, the Butler County Emergency Management Agency has funded the development of a plan in order to become eligible for federal hazard mitigation grant programs; and

WHEREAS, Superintendent Hill, representing the School District, served and participated in the formulation of the hazard mitigation plan, hereby known as the Waverly-Shell Rock Community School District Hazard Mitigation Plan 2025 (or Plan) as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS, said Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to students, faculty, staff, and property from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on said Plan; and

WHEREAS, adoption by the School Board of Directors demonstrates the School District's commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE SCHOOL BOARD OF DIRECTORS OF WAVERLY-SHELL ROCK COMMUNITY SCHOOL DISTRICT HEREBY:

Section 1: In accordance with school regulations, school board directors adopt Waverly-Shell Rock Community School District Hazard Mitigation Plan 2025. While content related to the School District may require revisions to meet the plan approval requirements set by Iowa Homeland Security and Emergency Management Department or FEMA, changes occurring after adoption will not require the school board of directors to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 10th day of February, 2025.

ATTEST:


Board Secretary


School Board President

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2025 Waverly-Shell Rock CSD Hazard Mitigation Plan

About

The Waverly-Shell Rock CSD developed this Plan as part of the 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan update process. The 2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan is a sequential 5-year update to the previous document. Federal regulations regarding how local governments may receive funding from FEMA require that the specified jurisdiction (city, school district, county) have an approved hazard mitigation plan that is in good standing (updated and FEMA approved) to remain eligible for grant funding. This Plan was developed to meet the requirements in Title 44 CFR § 201.6.

Elected officials, city clerks, planners, first responders, and other stakeholders were invited to attend planning committee meetings as participants to learn about hazard mitigation and complete data gathering assignments. These assignments were submitted to the plan development coordinators: Butler County Emergency Management Agency (EMA) and Iowa Northland Regional Council of Government (INRCOG). Butler County's EMA initiated and funded this effort for all participating communities and contracted INRCOG to coordinate the plan development process with a multi-jurisdictional approach.

Participating communities included all ten (10) incorporated municipalities of Butler County. County staff participating in the committee were representing their respective County departments. School district superintendents for four public school districts attended and completed the data gathering assignments for their district communities. Four (4) committee

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.

meetings were held between October 1st and December 12th wherein each participant provided data and completed work sheets to develop their hazard mitigation plans.

The Benefits of Hazard Mitigation for Local Governments

For local governments, there are benefits in knowing how specific hazards may affect their communities, its potential to cause negative impacts, and develop pre-disaster actions or activities to lessen or avoid those anticipated negative impacts. Benefits include:

- ✓ An increased understanding of how natural and human caused hazards develop under certain conditions which may inform a level of magnitude or intensity.
- ✓ Take advantage of the opportunity to create more sustainable and disaster-resistant communities.
- ✓ Participating in this collaborative intergovernmental effort is cost effective for all participants.
- ✓ Using limited resources to address the threat from hazard events that may have the biggest impact on the community.
- ✓ Reducing or preventing damage to existing structures and reducing their subsequent repair costs.
- ✓ Identifying vulnerable populations to establish equitable outcomes.

- ✓ Hazard mitigation involves a commitment to long-term goals that focus on lessening or reducing negative impacts of natural, and human caused hazards.

The Planning Process

In order to reduce the threat of negative impacts from natural hazards, a risk informed approach was used in this planning process. A risk informed approach is a multi-step process. This Plan also involves collaboration among participants in the planning committee. The process involved learning the historical occurrence of when such hazards may have occurred in Butler County.

Participants in the Butler County Multi-Jurisdictional Hazard Mitigation Plan Planning Committee determined the level of risk facing their communities by completing a risk assessment. Data gathering by committee participants involved giving updates to existing mitigation activities by the local government.

Participants in the Plan followed a general 5 step process. (below)



Community School District Profile

Jurisdiction: Waverly-Shell Rock Community School District

Counties: Butler, Bremer, Black Hawk, and Chickasaw County

School Enrollment (2023-24): 2,228.68

The Waverly Shell-Rock Community School District is based in the cities of Waverly and Shell Rock. The district provides pre-kindergarten through 12th grade education to over 2,200 students.

The school district conducts fire drills 4 times a year, tornado drills 4 times a year. There is 1 tabletop active shooter drill, and 2 bus safety drills each year. The school district has a safety team made up of 9 members to review all safety issues within the district.

The school district has four tornado safe rooms/areas. They are in Prairie West Elementary (Kindergarten Rooms), North Ridge Elementary (Kindergarten Rooms), Waverly-Shell Rock Middle School (Auditorium), and Waverly-Shell Rock High School (Classrooms/Offices).

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

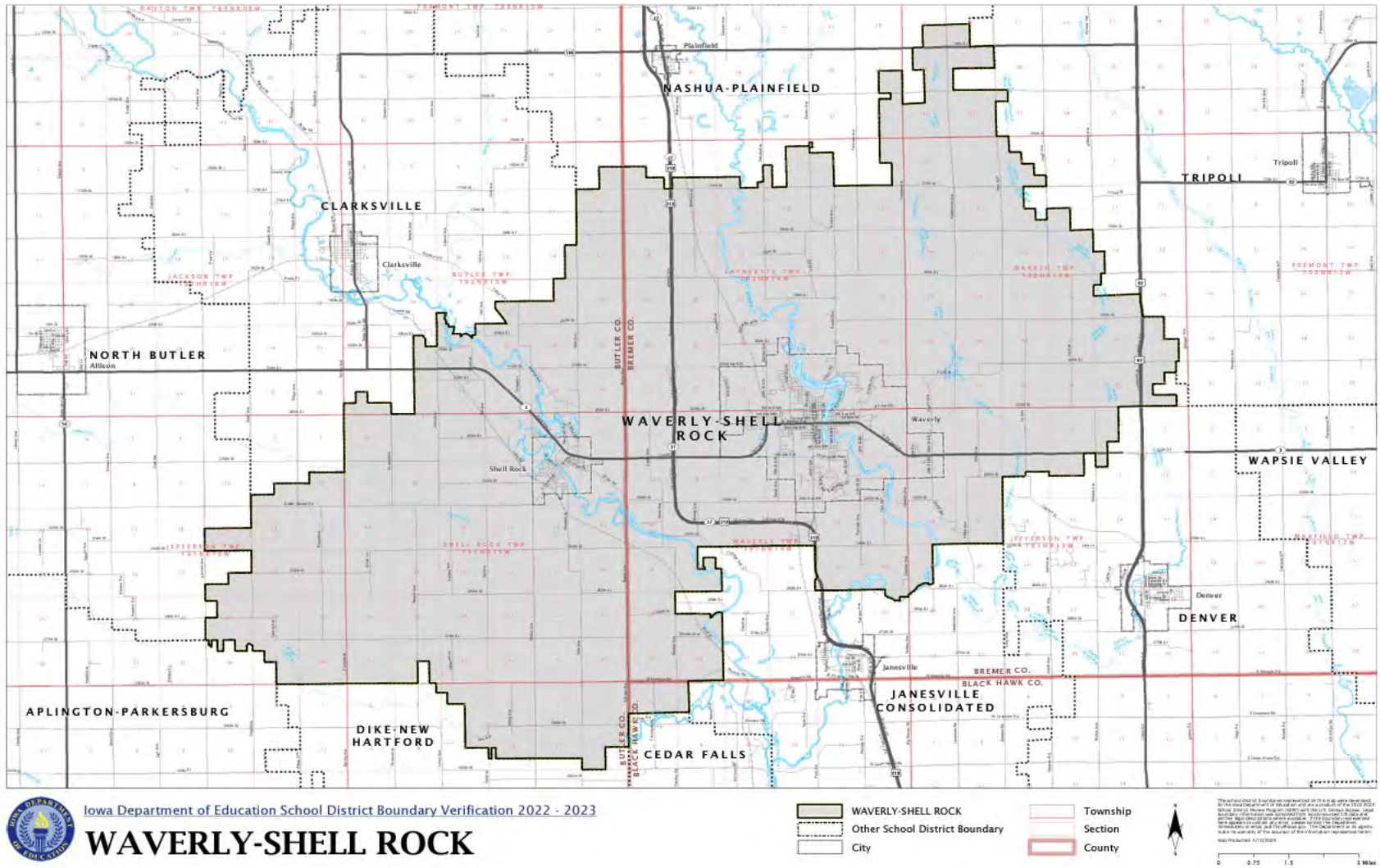
The district has approximately 20 bus routes with around 850 students a day, covering 1,200 miles.

Finally, the School District has two emergency and safety plans that were updated in 2024: District Emergency Response Plan and Building Level Emergency Operations Plan.

Table 1: District Schools

Table 1: District Schools					
Little Go-Hawk Learning Center	Shell Rock Elementary School	Prairie West Elementary School	North Ridge Elementary School	Waverly-Shell Rock Middle School	Waverly-Shell Rock High School
120 Jefferson Street Waverly, IA 50677	214 N Cherry Street Shell Rock, IA 50670	3000 5 th Ave NW Waverly, IA 50677	101 North Ridge Pkwy Waverly, IA 50677	501 Heritage Way Waverly, IA 50677	1405 4 th Ave SW Waverly, IA 50677

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



Critical Facilities

The school district has 6 critical buildings shown in the table below.

Table 2: Critical Facilities	
Little Go-Hawk Learning Center	809 4 th Street Waverly, IA 50677
Shell Rock Elementary School	214 N Cherry Street Waverly, IA 50677
Prairie West Elementary School	3000 5 th Ave NW Waverly, IA 50677
North Ridge Elementary School	101 North Ridge Pkwy Waverly, IA 50677
Waverly-Shell Rock Middle School	501 Heritage Way Waverly, IA 50677
Waverly-Shell Rock High School	1405 4 th Ave SW Waverly, IA 50677

Community Utility Providers

Table 3: Utility Providers	
Utility	Provider
<i>Electric</i>	MidAmerican Energy, Waverly Utilities
<i>Natural Gas</i>	MidAmerican Energy
<i>Water</i>	City of Waverly, Shell Rock
<i>Sewer</i>	City of Waverly, Shell Rock
<i>Sanitation</i>	City of Waverly, Shell Rock
<i>Telephone</i>	Waverly Utilities, Butler-Bremer Communications
<i>Internet</i>	Waverly Utilities, Butler-Bremer Communications

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.

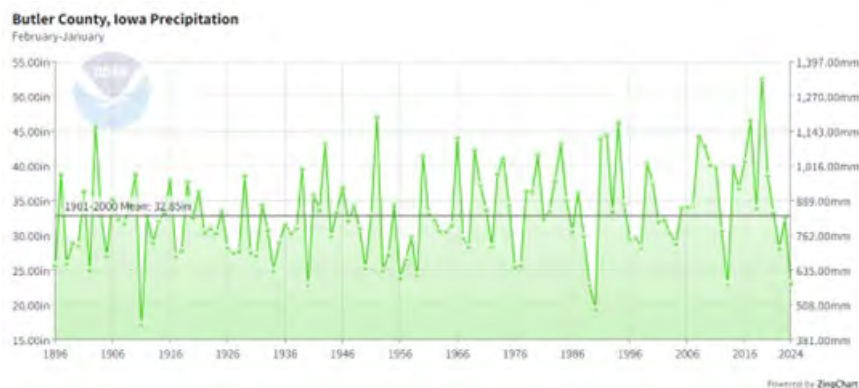
Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section.¹ The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use,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

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

Annual Precipitation Levels in Butler County

Taking the monthly precipitation records from January to December between 1895 and 2024 is shown in Figure 6. The values hover between 20 - 50 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 6. The trend shows a growing level of annual precipitation on average of 32.80 inches. Based on this historical trend, precipitation is likely to continue to increase in the coming years.

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



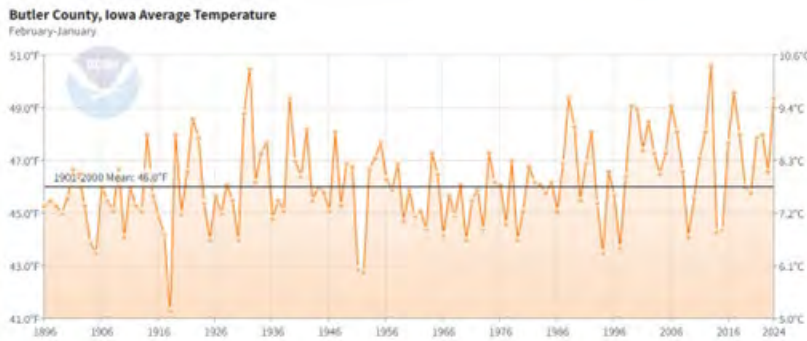
Average Annual Temperatures in Butler County

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

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 Butler County, Iowa²



Climate Patterns from Increasing Precipitation and Higher Temperatures

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 evaporate 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 more frequently 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.

2025 Waverly-Shell Rock CSD Hazard Mitigation Plan

Projected Trends of Natural Hazards in Butler County

- Prologued drought may occur as the atmosphere holds more moisture (even pulling moisture from plants) as the temperature increases. Longer periods between weather events mean 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. 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. Hazardous Materials
2. Flash Flood
3. Severe Winter Storms



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 are shown below.

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.

2025 Waverly-Shell Rock CSD Hazard Mitigation Plan

Probability

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

Probability Score Definitions		
Score	Description	
1	Unlikely	<i>Less than 10% 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.</i>
2	Occasional	<i>Between 10% and 20% 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.</i>
3	Likely	<i>Between 20% and 33% 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.</i>
4	Highly Likely	<i>More than 33% 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.</i>

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.

2025 Waverly-Shell Rock CSD Hazard Mitigation Plan

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.

The table below displays rated risk scores for each associated hazard. This assessment was completed by city 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

Table 4: Hazard Risk Assessment					
Hazards	Probability	Magnitude	Warning Time	Duration	Score
Hazardous Materials	3	3	4	4	3.25
Flash Flood	3	3	3	4	3.1
Severe Winter Storm	4	3	1	2	3.05
Extreme Heat	4	2	1	3	2.85
Thunderstorm/Lightning/Hail	3	3	2	2	2.75
River Flood	3	3	1	3	2.7
Tornado/Windstorm	3	2	3	2	2.6
Pandemic Human Disease	2	3	1	4	2.35
Transportation Incident	2	2	4	1	2.2
Infrastructure Failure	1	3	4	2	2.15
Animal/Crop/Plant Disease*	2	2	1	4	2.05
Drought	2	1	1	4	1.75
Terrorism*	1	1	4	3	1.65
Sinkholes*	1	1	3	4	1.6
Earthquake*	1	1	4	1	1.45
Landslides*	1	1	4	1	1.45
Grass/Wild Land Fire*	1	1	3	2	1.4
Radiological Incident*	1	1	2	3	1.35
Levee/Dam Failure*	1	1	2	2	1.25
Expansive Soils*	1	1	1	1	1

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

*Hazard were deemed to have no impact on the jurisdiction, thus no specific action strategy was developed .

Hazard Mitigation Goals

Waverly-Shell Rock Community School District

The following list of goals was developed by planning committee participants from the associated jurisdiction. Goals 1 through 7 were developed in the previous 2020 Butler County Multi-Jurisdictional Hazard Mitigation Plan. The planning committee participants chose to adopt the same goals and add additional goals after review.

- Goal #1** Minimize to the greatest possible extent the number of injuries and/or loss of life associated with all identified hazards.
- Goal #2** Reduce or eliminate property damage due to the occurrence of disasters.
- Goal #3** Improve response operations in the event of a disaster.
- Goal #4** Return the community to either a pre-disaster or improved conditions in a timely manner in the wake of a disaster.
- Goal #5** Develop strategies that can be used to reduce the community's overall risk to the negative effects of natural, technological, and man-made disasters.
- Goal #6** Reconvene the planning committee annually to review the plan document, check for compliance with the plan goals, and track progress in achieving the mitigation strategies.
- Goal #7** Maintain the Countywide Multi-Jurisdictional format for future updates.

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

Butler County Emergency Management Agency

The School District works with the Butler County Emergency Management Coordinator, based out of the City of Allison, on various safety and emergency events as well as the Bremer County Emergency Management Coordinator based in Waverly. 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 Butler County Emergency Management Coordinator is Chris Showalter. The Bremer County Emergency Management Coordinator is Aaron Goodenbour.

Law Enforcement

The City of Waverly has its own police force. They handle a range of essential services, including routine patrols, emergency response, and criminal investigations. The City of Shell Rock is covered by the Butler County Sheriff's Department located in Allison, IA.

Fire Protection and EMS Services

Fire protection for the City of Shell Rock is provided by the Shell Rock Fire Department. There are 23 volunteer fire fighters that serve in the department currently. Each of the members is HAZMAT certified Firefighter 1 trained. There are several members that have Firefighter 2 training, and others with driver/operator training. Dispatch is provided via a paging system called I Am Responding app that is accessible through a phone app.

The Shell Rock Fire Department maintains 28E agreements with surrounding communities to provide additional support when needed and required.

EMS Services

Butler County EMS represents all 8 of the EMS service in the County. Butler County Board of Supervisors deemed EMS an Essential Service for the County according to Iowa Code Chapter 422D and recently hired an EMS Coordinator to provide coverage and support for EMS services within the county.

2025 Waverly-Shell Rock CSD Hazard Mitigation Plan

Medical Facilities

The City of Shell Rock has one medical clinic associated with the Waverly Health Center.

The Waverly Health Center is located in Waverly, approximately 5 miles east of Shell Rock.

HAZMAT Response Teams

The City of Shell Rock and Waverly 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 hazard 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 the containment of the site and disposal of hazardous chemicals.

Warning Systems in Shell Rock

1. Tornado Sirens

The City of Shell Rock has an activation system of warning sirens that are activated and operated by a central command system operated by the Butler County Rescue Squad in Allison, IA.

2) Alert Iowa Mass Communication System

Butler County has implemented the use of Alert Iowa, a mass communication notification system. The system features are controlled through the Butler 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. There is an optional way to receive the same alert for events such as: excessive heat warnings, hazardous materials warnings, heavy snow warning, high wind warnings, ice storm warnings, law enforcement warnings, shelter in place warnings, sleet warnings, wind chill warnings, and winter storm warnings.

2025 Waverly-Shell Rock CSD Hazard Mitigation Plan

Current Mitigation Activities

The school district continues to take actions necessary to protect itself from hazards. Some of those activities include:

- Perimeter fencing at 2 elementary buildings in 2024
- Tornado safe rooms at 2 elementary buildings in 2024
- Access control improvements in 2024-2025
- Camera improvements in 2024-2025

How to Use the Implementation Guide in this Plan

Notes about the tasks (listed as line items) on the tables on the following pages.

- 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).

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

This implementation strategy is presented to help with the general understanding of how hazard mitigation may feed into the school district's 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 & 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. The time frame to complete the column is based on four designations (see table to the left).

Timeframe	Description
Immediate	1 - 6 months
Short Term	1-3 years
Mid-Term	3-5 Years
Long-Term	More than 5 Years

Waverly-Shell Rock Community School District Hazard Mitigation Strategy

Table 5: Waverly-Shell Rock Community School District Hazard Mitigation Action Steps

Priority	Mitigation Action/Program/Project	Associated Hazard(s)	Primary Agency Responsible for Implementation	Timeline	Estimated Cost (\$)	Associated Goal(s)	Funding Source(s)
High	Continue mandated tornado drills and fire drills with students regularly as scheduled.	All	School Board, Superintendent, City Fire/Police	Active	Minimal	1, 5	School District General Fund
High	Maintain clear signage for rooms with flammable gases.	HAZMAT incident	School Board, Superintendent	On-going	Minimal	1, 2, 5	School District General Fund
High	Systematically review and update, as needed, hazard response policies and procedures through the EOP.	All	School Board, Superintendent	Active	Minimal	All	School District General Fund
High	Identify and Evaluate Critical Facilities for Accessibility, Vulnerability, and Risk Potential including evaluating terrorism mitigation efforts through the EOP.	Terrorism	School Board, Superintendent	On-going	Minimal	1, 2	School General Fund, HMGP
High	Maintain a cooperative and effective relationship with the County Health Department for outbreak information.	Pandemic Human Disease	School Board, Superintendent, County Health Dept.	On-going	Minimal	1, 2, 6, 7	School District General Fund
High	Encourage students and their families to register their households on Alert Iowa.	All	School Board, Superintendent, County EMA	Short term	Minimal	1, 3, 5, 7	School District General Fund
Medium	Ensure school maintenance crews continue to improve facilities to protect against extreme heat and drought scenarios.	Drought, Extreme Heat	School Board, School Maintenance, Superintendent	Active	Moderate	1, 2, 5	School General Fund, HMGP
Medium	Work with Butler County EMA Coordinator to develop more disaster preparedness and awareness activities with students.	All	School Board, Superintendent, County EMA	Short term	Minimal	1, 2, 6, 7	School District General Fund
High	Coordinate with Butler County Emergency Management Agency on emergency school plans and emergency preparedness drills.	All	School Board, Superintendent, County EMA	Mid-term	Minimal	1, 2, 6, 7	School District General Fund
High	Develop a “Tornado Safe Room” Awareness program including improving signs and access awareness.	Windstorm, Tornado, Infrastructure Failure	School Board, Superintendent	Mid-term	Minimal	1, 2, 5	School General Fund, HMGP

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2025 BUTLER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

APPENDIX P

PLAN ADOPTION RESOLUTIONS

RESOLUTION #22-2025

A RESOLUTION OF THE BOARD OF SUPERVISORS, OF BUTLER COUNTY, IOWA, ADOPTING A MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BUTLER COUNTY.

WHEREAS, the Board of Supervisors of Butler County, Iowa has authorized the development of a Multi-Jurisdictional Hazard Mitigation Plan for Butler County; and

WHEREAS, the Multi-Jurisdictional Hazard Mitigation Planning Committee of the Butler County has participated in the formulation of said Plan; and has recommended the adoption of said Multi-Jurisdictional Hazard Mitigation Plan; and

WHEREAS, a Public Hearing has been held in the County Courthouse for the purpose of obtaining citizen input on the Multi-Jurisdictional Hazard Mitigation Plan; and

NOW THEREFORE BE IT RESOLVED THAT the Board of Supervisors of Butler County, Iowa herewith adopts the Butler County Multi-Jurisdictional Hazard Mitigation Plan, incorporating into the Plan citizen comment and future FEMA and IHSEMD recommendations.

Passed and adopted this 22nd day of April 2025.


Chair

ATTEST:


County Auditor

#25-03.4

Resolution

A RESOLUTION OF THE CITY COUNCIL OF ALLISON, IOWA, ADOPTING THE CITY OF ALLISON, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Allison City Council recognizes the threat that natural hazards pose to people and property within Allison; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Allison served and participated in the formulation of the Plan, hereby known as the City of Allison, Iowa Hazard Mitigation Plan 2025 Update, as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Allison from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

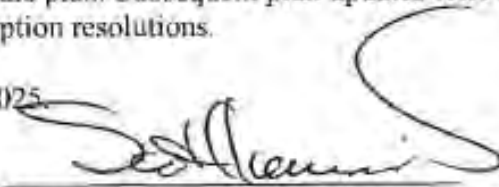
WHEREAS adoption by the City Council of Allison demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF ALLISON, IOWA, THAT:

Section 1: In accordance with local regulations, the Council adopts the City of Allison, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Allison may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Allison to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 10th day of March 2025

Motioned by Heuer
seconded by Henning
Ayes: Bangasser, Galey, Henning, Heuer
ATTEST: None
absent: Stirling



Mayor

Adrian M. Weymann
City Clerk

Resolution 548-25

A RESOLUTION OF THE CITY COUNCIL OF APLINGTON, IOWA, ADOPTING THE CITY OF APLINGTON, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Aplington City Council recognizes the threat that natural hazards pose to people and property within Aplington; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Aplington served and participated in the formulation of the Plan, hereby known as the City of Aplington, Iowa Hazard Mitigation Plan 2025 Update, as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Aplington from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of Aplington demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.


NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF APLINGTON, IOWA, THAT:

Section 1: In accordance with local regulations, the Council adopts the City of Aplington, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Aplington may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Aplington to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 12th day of February 2025.

ATTEST:


City Clerk


Mayor

Resolution 2025A

A RESOLUTION OF THE CITY COUNCIL OF AREDALE, IOWA, ADOPTING THE CITY OF AREDALE, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Aredale City Council recognizes the threat that natural hazards pose to people and property within Aredale; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Aredale served and participated in the formulation of the Plan, hereby known as the City of Aredale, Iowa Hazard Mitigation Plan 2025 Update, as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Aredale from the impacts of future hazards and disasters; and

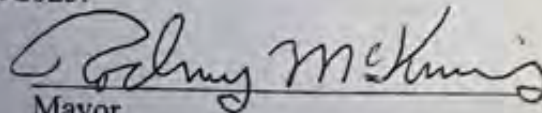
WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of Aredale demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

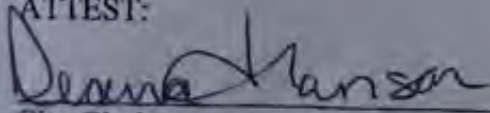
NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF AREDALE, IOWA, THAT:

Section 1: In accordance with local regulations, the Council adopts the City of Aredale, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Aredale may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Aredale to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 10th day of March 2025.


Mayor

ATTEST:


City Clerk

A RESOLUTION OF THE CITY COUNCIL OF BRISTOW, IOWA, ADOPTING THE CITY OF BRISTOW, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Bristow City Council recognizes the threat that natural hazards pose to people and property within Bristow; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Bristow served and participated in the formulation of the Plan, hereby known as the City of Bristow, Iowa Hazard Mitigation Plan 2025 Update, as part of the the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Bristow from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of Bristow demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF BRISTOW, IOWA, THAT:

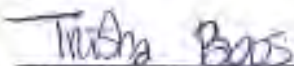
Section 1: In accordance with local regulations, the Council adopts the City of Bristow, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Bristow may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Bristow to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 13th day of February 2025.



Mayor

ATTEST:



City Clerk

Resolution 25-1

A RESOLUTION OF THE CITY COUNCIL OF CLARKSVILLE, IOWA, ADOPTING THE CITY OF CLARKSVILLE, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Clarksville City Council recognizes the threat that natural hazards pose to people and property within Clarksville; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Clarksville served and participated in the formulation of the Plan, hereby known as the City of Clarksville, Iowa Hazard Mitigation Plan 2025 Update, as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Clarksville from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of Clarksville demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF Clarksville, IOWA, THAT:


Section 1: In accordance with local regulations, the Council adopts the City of Clarksville, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Clarksville may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Clarksville to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 6th day of January 2025.

Roll Call Vote Ayes: 5

Nays: 0

Absent: 0


Jerald Heuer, Mayor

Attest: 
Molly Bohlen, City Clerk

"I hereby certify that the foregoing constitutes a true and complete copy of a resolution duly adopted by the City Council of the City of Clarksville, at a regular meeting held on January 6, 2025, at which all council members were present except, none .

I further certify that Saulsbury moved for adoption of said resolution and that Kielman seconded said motion.


Molly Bohlen, City Clerk

Resolution 2025-3

A RESOLUTION OF THE CITY COUNCIL OF DUMONT, IOWA, ADOPTING THE CITY OF DUMONT, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Dumont City Council recognizes the threat that natural hazards pose to people and property within Dumont; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Dumont served and participated in the formulation of the Plan, hereby known as the City of Dumont, Iowa Hazard Mitigation Plan 2025 Update, as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Dumont from the impacts of future hazards and disasters; and

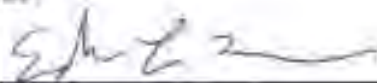
WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of Dumont demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF DUMONT, IOWA, THAT:


Section 1: In accordance with local regulations, the Council adopts the City of Dumont, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Dumont may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Dumont to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 13th day of March 2025.



Mayor

ATTEST:



City Clerk

RESOLUTION 2025-01

A RESOLUTION OF THE CITY COUNCIL OF GREENE, IOWA, ADOPTING THE CITY OF GREENE, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Greene City Council recognizes the threat that natural hazards pose to people and property within Greene; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Greene served and participated in the formulation of the Plan, hereby known as the City of Greene, Iowa Hazard Mitigation Plan 2025 Update, as part of the the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Greene from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of Greene demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

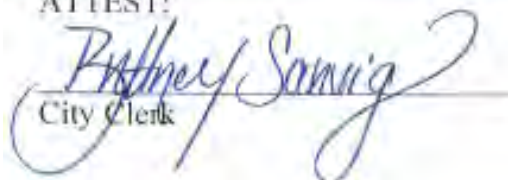
NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF GREENE, IOWA, THAT:

Section 1: In accordance with local regulations, the Council adopts the City of Greene, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Greene may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Greene to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted 10th day of February 2025.


Mayor

ATTEST:


City Clerk

Resolution 1010AF2025

A RESOLUTION OF THE CITY COUNCIL OF NEW HARTFORD, IOWA, ADOPTING THE CITY OF NEW HARTFORD, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of New Hartford City Council recognizes the threat that natural hazards pose to people and property within New Hartford; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing New Hartford served and participated in the formulation of the Plan, hereby known as the City of New Hartford, Iowa Hazard Mitigation Plan 2025 Update, as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in New Hartford from the impacts of future hazards and disasters; and

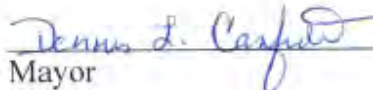
WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of New Hartford demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

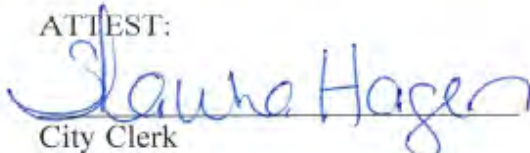
NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF NEW HARTFORD, IOWA, THAT:

Section 1: In accordance with local regulations, the Council adopts the City of New Hartford, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of New Hartford may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of New Hartford to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 2nd day of April 2025.



Mayor

ATTEST:


City Clerk

RESOLUTION 1146

A RESOLUTION OF THE CITY COUNCIL OF PARKERSBURG, IOWA, ADOPTING THE CITY OF PARKERSBURG, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Parkersburg City Council recognizes the threat that natural hazards pose to people and property within Parkersburg; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Parkersburg served and participated in the formulation of the Plan, hereby known as the City of Parkersburg, Iowa Hazard Mitigation Plan 2025 Update, as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Parkersburg from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of Parkersburg demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF PARKERSBURG, IOWA, THAT:

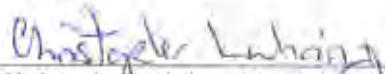
Section 1: In accordance with local regulations, the Council adopts the City of Parkersburg, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Parkersburg may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Parkersburg to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 7th day of April 2025.



Mayor Mike Timmer

ATTEST:



Christopher Luhring, City Administrator/Clerk

A RESOLUTION OF THE CITY COUNCIL OF SHELL ROCK, IOWA, ADOPTING THE CITY OF SHELL ROCK, IOWA HAZARD MITIGATION PLAN 2025 UPDATE.

WHEREAS, the City of Shell Rock City Council recognizes the threat that natural hazards pose to people and property within Shell Rock; and

WHEREAS, Butler County Emergency Management Agency has funded the development of a plan update in order to remain eligible for hazard mitigation grant programs; and

WHEREAS, the participants representing Shell Rock served and participated in the formulation of the Plan, hereby known as the City of Shell Rock, Iowa Hazard Mitigation Plan 2025 Update, as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Shell Rock from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on the Plan; and

WHEREAS adoption by the City Council of Shell Rock demonstrates its commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF SHELL ROCK, IOWA, THAT:

Section 1: In accordance with local regulations, the Council adopts the City of Shell Rock, Iowa Hazard Mitigation Plan 2025 Update. While content related to the City of Shell Rock may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Shell Rock to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 8th day of April 2025.

Roll Call Vote

AYES: Berglund, Fox, Krull, Beenen, Schuidt


Mayor

ATTEST:



City Clerk

Hold for CLARKSVILLE CSD Adoption

A RESOLUTION OF THE SCHOOL BOARD OF DIKE NEW-HARTFORD COMMUNITY SCHOOL DISTRICT, ADOPTING A HAZARD MITIGATION PLAN.

WHEREAS, the Dike-New Hartford Community School District (or School District) recognizes the threat that natural hazards pose to people and property within New Hartford and Dike, Iowa; and

WHEREAS, the Butler County Emergency Management Agency has funded the development of a plan in order to become eligible for federal hazard mitigation grant programs; and

WHEREAS, Superintendent Stockdale, representing the School District, served and participated in the formulation of the hazard mitigation plan, hereby known as the Dike-New Hartford Community School District Hazard Mitigation Plan 2025 (or Plan) as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS, said Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to students, faculty, staff, and property from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on said Plan; and

WHEREAS, adoption by the School Board of Directors demonstrates the School District's commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE SCHOOL BOARD OF DIRECTORS OF DIKE-NEW HARTFORD COMMUNITY SCHOOL DISTRICT HEREBY:

Section 1: In accordance with school regulations, school board directors adopt Dike-New Hartford Community School District Hazard Mitigation Plan 2025. While content related to the School District may require revisions to meet the plan approval requirements set by Iowa Homeland Security and Emergency Management Department or FEMA, changes occurring after adoption will not require the school board of directors to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 16th day of April, 2025.



School Board President

ATTEST:



Board Secretary

A RESOLUTION OF THE SCHOOL BOARD OF NORTH BUTLER COMMUNITY SCHOOL DISTRICT, ADOPTING A HAZARD MITIGATION PLAN.

WHEREAS, the North Butler Community School District (or School District) recognizes the threat that natural hazards pose to people and property within Greene and Allison, Iowa; and

WHEREAS, the Butler County Emergency Management Agency has funded the development of a plan in order to become eligible for federal hazard mitigation grant programs; and

WHEREAS, Superintendent Boysen, representing the School District, served and participated in the formulation of the hazard mitigation plan, hereby known as the North Butler Community School District Hazard Mitigation Plan 2025 (or Plan) as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS, said Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to students, faculty, staff, and property from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on said Plan; and

WHEREAS, adoption by the School Board of Directors demonstrates the School District's commitment to hazard mitigation and achieving the goals outlined in said Plan.


NOW THEREFORE, BE IT RESOLVED THAT THE SCHOOL BOARD OF DIRECTORS OF NORTH BUTLER COMMUNITY SCHOOL DISTRICT HEREBY:

Section 1: In accordance with school regulations, school board directors adopt North Butler Community School District Hazard Mitigation Plan 2025. While content related to the School District may require revisions to meet the plan approval requirements set by Iowa Homeland Security and Emergency Management Department or FEMA, changes occurring after adoption will not require the school board of directors to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 14th day of April, 2025.


School Board President

ATTEST:


Board Secretary

A RESOLUTION OF THE SCHOOL BOARD OF WAVERLY-SHELL ROCK COMMUNITY SCHOOL DISTRICT, ADOPTING A HAZARD MITIGATION PLAN.

WHEREAS, the Waverly-Shell Rock Community School District (or School District) recognizes the threat that natural hazards pose to people and property within Shell Rock and Waverly, Iowa; and

WHEREAS, the Butler County Emergency Management Agency has funded the development of a plan in order to become eligible for federal hazard mitigation grant programs; and

WHEREAS, Superintendent Hill, representing the School District, served and participated in the formulation of the hazard mitigation plan, hereby known as the Waverly-Shell Rock Community School District Hazard Mitigation Plan 2025 (or Plan) as part of the Butler County Multi-Jurisdictional Hazard Mitigation Planning Committee; and

WHEREAS, INRCOG has helped prepare said Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS, said Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to students, faculty, staff, and property from the impacts of future hazards and disasters; and

WHEREAS, a Public Hearing has been held for the purpose of obtaining citizen input on said Plan; and

WHEREAS, adoption by the School Board of Directors demonstrates the School District's commitment to hazard mitigation and achieving the goals outlined in said Plan.

NOW THEREFORE, BE IT RESOLVED THAT THE SCHOOL BOARD OF DIRECTORS OF WAVERLY-SHELL ROCK COMMUNITY SCHOOL DISTRICT HEREBY:


Section 1: In accordance with school regulations, school board directors adopt Waverly-Shell Rock Community School District Hazard Mitigation Plan 2025. While content related to the School District may require revisions to meet the plan approval requirements set by Iowa Homeland Security and Emergency Management Department or FEMA, changes occurring after adoption will not require the school board of directors to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Passed and adopted this 10th day of February, 2025.



School Board President

ATTEST:



Board Secretary

2025 BUTLER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

APPENDIX Q

UPDATES TO PREVIOUS MITIGATION ACTIVITIES BY JURISDICTION

Butler County 2015-2020 Implementation Strategy Update

Mitigation Action / Program / Project	Completed (Yes/No)	If No, Short Explanation	Will you include this action item/activity in your 2025 plan? Is it relevant? Is it actionable? Is it reachable in 5 or 10 years?
Establish & Conduct a Public Awareness & Education Program (Notices, Newsletters, Brochures, Website, Warnings, Shelter Information, Importance of Vaccinations, Hazard Information, At-Home Improvements - plant trees, rain barrels, etc.)	NO	NOT ALL AREAS HAVE BEEN COMPLETED.	YES
Establish an Emergency Notification System and Conduct Drills	YES		YES. MAINTAIN NOTIFICATION SYSTEM
Maintain Mutual Aid Agreement with Surrounding Communities and IMAC	YES		YES
Complete and Maintain Secondary Off-Site Dispatch Center	NO	ADDITIONAL EQUIPMENT NEEDS TO BE PURCHASED	YES
Develop and Maintain an Emergency Response Plan	YES		YES MAINTAIN RESPONSE PLAN
Develop and Maintain Continuity of Operations Plan (COOP)	NO	PLAN IS IN THE DEVELOPMENT STAGE	YES
Develop and Maintain Command Procedures & Center	NO	PLAN IS CURRENTLY IN THE REVIEW/UPDATE PHASE	YES
Develop Plan / Procedures to Assist At-Risk Populations during an Event (Transport to Shelters, Home Visits, etc.)	YES		YES MAINTAIN PLANS/PROCEDURES
Maintain Well-Trained Personnel (Fire, First Responders Police, EMS, Weather Spotters, and other Critical Services – includes Multi-Jurisdictional Training and Cooperation for all Hazards)	YES		YES
Ensure Schools and Other Buildings / Structures with Large Populations have Evacuation Plans	YES		YES MAINTAIN PLANS
Provide Off-Site Backup of Essential Data	YES		NO

NOAA Weather Radio Awareness Program	NO	THIS PROGRAM NEEDS TO BE DEVELOPED	YES
Identify & Maintain Relationships with Users of Hazardous Materials/Chemicals & Radiological or Nuclear Substances	NO	NEED TO CONTINUE BUILDING AND MAINTAINING RELATIONSHIPS	YES
Continue Agreement with NE Iowa Response Group	YES		YES
Ensure Tier II Reports are Completed and Reported per Applicable Laws	YES		YES
Provide an Adequate Number of Safe Rooms/Tornado Rooms for General Public Use	NO	THIS WOULD FALL MORE IN LINE WITH COMMUNITIES RATHER THAN COUNTY	NO
Maintain Membership of National Flood Insurance Program	YES		YES
Maintain Wellness Clinics and Public Health Department	YES		YES
Develop a Clean Up/Recovery Procedure / Plan	NO	BASIC RECOVERY PLAN COMPLETE DEBRIS MANAGEMENT PLAN IN DEVELOPMENT	YES
Install Signage at Critical Transportation Sites (i.e., RR, Dangerous Intersections, etc.)	NO	SOME RR SIGNS/LIGHTS HAVE BEEN INSTALLED	YES CONTINUE WITH MORE RR SIGNS/LIGHTS
Maintain a County-Wide Household Hazardous Waste Disposal Site	YES		YES
Develop Groundwater Protection Plan or Drinkable Water Distribution Plan (inspections, testing, security, etc.)	NO	THIS PLAN STILL NEEDS TO BE FINISHED	YES
Maintain and Update Bioterrorism Response Plan	NO	THIS IS PART OF OUR BASIC RESPONSE PLAN ESF'S	NO
Identify and Improve Security at Critical Facilities	NO	NEED TO CONDUCT ASSESSMENTS	YES

Either Purchase & Remove Structures in 100-YR Floodplain or Elevate Structures to at Least 1-FT Above 100-YR Floodplain, or Both	NO	NO IMPROVEMENTS HAVE BEEN MADE	YES
Develop & Enforce an Inspection & Repair Program for Public Infrastructure	NO	THIS IS ONGOING	YES
Maintain Roadside Vegetation Management Program	NO	NEED TO DEVELOP A FORMAL ROADSIDE VEGETATION PLAN	YES
Conduct necessary Studies, Engineering, Construction, etc. on Existing Infrastructure that are in need (i.e., Ridge Road, T55 Bridge, etc.)	NO	THIS IS AN ONGOING STUDY Narrow bridge on T55 has been replaced. Grade adjustments and new Culverts on Ridge Ave have been completed	YES



DO WE NEED TO LIST SPECIFICS?
IF NOT PLEASE REMOVE THE
STRIKE THROUGH **(RED)**

Allison 2015-2020 Implementation Strategy Update

Mitigation Action / Program / Project	Completed (Yes/No)	If No, Short Explanation	Will you include this action item/activity in your 2025 plan? Is it relevant? Is it actionable? Is it reachable in 5 or 10 years?
Establish and Conduct A Public Awareness and Education Program (Notices, Newsletters, Brochures, Website, Warnings, Shelter Info, Importance of Vaccinations, Hazard Info, At-Home Improvements)	NO	EMA does this	
Maintain Mutual Aid Agreements with Surrounding Communities And IMAC	yes		
Develop and Maintain an Emergency Response Plan	NO	EMA	
Maintain, Purchase and Update (As Needed) Essential Equipment and Supplies for Fire, Police, First Responders, Public Works, Streets, EMS, Etc. (Radios, Trucks, River Gauges, Sandbags, Boats, Pumps, Signs, Barricades, Foam, Etc.)	yes		
Develop Plan/Procedures to Assist At-Risk Populations During an Event (Transport to Shelters, Home Visits, Etc.)	NO	EMA	
Maintain Well-Trained Personnel (Fire, First Responders, Police, EMS, Weather Spotters, And Other Critical Services; Includes Multi-Jurisdictional Training and Cooperation for All Hazards)	yes		
Ensure Schools and Other Buildings/Structures with Large Populations Have Evacuation Plans	NO	EMA	
Develop, Enforce and Update (As Needed) Local Ordinances and Regulations (Snow Removal, Zoning, Subdivision, Open Burning, Sewer/Water, Storm Water)	yes		
Develop A Clean-Up/Recovery Procedure/Plan	NO	EMA	
Maintain Bulk Supply and Storage of Critical Elements (Fuels, Water, Nonperishable Food, Etc.) A	NO	EMA	

Purchase Natural Gas Generators for Critical Facilities and Shelters	NO	EMA	
Identify and Establish Facilities to Use as Shelters and Cooling/Heating Sites	NO	EMA	
Purchase Additional Warning Sirens for Underserved Areas of Community	yes		
Update Local Ordinances to Require Installation of Warning Sirens in New Developments Over a Certain Size	NO	EMA	
Identify and Maintain Relationships with Users of Hazardous Materials/Chemicals and Radiological/Nuclear Substances	NO	↑	
Continue Agreement with NE Iowa Response Group	NO		
Ensure Tier II Reports Are Completed and Reported Per Applicable Laws	NO		
Provide an Adequate Number of Safe Rooms/Tornado Rooms for General Public Use	yes		
Develop Groundwater Protection Plan or Drinkable Water Distribution Plan (Inspections, Testing, Security, Etc.)	yes		
Conduct Annual Fire Inspections of Industries and Businesses	NO	EMA	
Maintain Wellness Clinics and Public Health Department	yes		
Maintain Mosquito Spraying Program	yes		
Establish an Emergency Notification System and Conduct Drills	NO	EMA	

Complete and Maintain Secondary Off-Site Dispatch Center	NO	EMIA ↑	
Develop and Maintain Continuity of Operations Plan	NO		
Develop and Maintain Command Procedures Center	NO		
Develop and Maintain an Internal Procedural/Communication Plan with Contact Info (Local, State, Regional), Local Suppliers, Backup Plan/Equipment, Etc.	NO		
Provide Off-Site Backup of Essential Data	NO		
Establish a Tree-Trimming Program/Ordinance (Inspections, Trimming, Disposal, Etc.)	yes		
Install Signage at Critical Transportation Sites (Railroad, Dangerous Intersections, Etc.)	yes		
Establish, Adopt and Enforce Building Codes	NO	EMIA ↑	
NOAA Weather Radio Awareness Program	NO		
Encourage Installation of Surge Protectors on Electrical Lines	NO		
Establish A Community-Wide Household Hazardous Waste Disposal Site or Event	NO		
Install Dry Hydrants in Rural Areas and Underserved Areas	NO		
Update Existing Water Mains and Hydrants for Improved Potable Water Service and Emergency Services	NO		

Develop an Evacuation Plan for Community and Necessary Signage (Evacuation Route, Detour Signs, Etc.)	NO		
Establish Best Management Practices for Storm Water Management (Detention Ponds, Retention Ponds, Buffer Strips, Etc.)	NO		
Maintain and Update Bioterrorism Response Plan	NO		
Identify and Improve Security at Critical Facilities	NO		
Develop A Water Rationing Plan	NO		
Bury Overhead Powerlines	NO		
Upgrade Sanitary Sewer Collection Lines (Including the Removal of Inflow and Infiltration) and Upgrade Wastewater Plant and Treatment Process	yes in progress		

Aplington 2015-2020 Implementation Strategy Update

Mitigation Action / Program / Project	Completed (Yes/No)	If No, Short Explanation	Will you include this action item/activity in your 2025 plan? Is it relevant? Is it actionable? Is it reachable in 5 or 10 years?
Install Signage at Critical Transportation Sites (Railroad, Dangerous Intersections, Etc.)	Yes		
Establish, Adopt, & Enforce Building Codes	Yes		
Purchase Additional Warning Sirens for Underserved Areas of Community	No	One covers the city	
Update Local Ordinances to Require Installation of Warning Sirens in New Developments Over a Certain Size	No	No Developments in 5 year future	not in 5 year future
Identify & Maintain Relationships with Users of Hazardous Materials/Chemicals & Radiological or Nuclear Substances	Yes	See Department	Keep Fire Department with City + Ag
Continue Agreement with NE Iowa Response Group	Yes		
Ensure Tier II Reports are Completed and Reported Per Applicable Laws	Yes		
Conduct Annual Fire Inspections of Industries and Businesses	Yes		
Develop an Evacuation Plan for Community and Necessary Signage (Evac Route, Detour Signs, Etc.)	Yes		
Flood Proof Critical Facilities	Yes		
Develop & Enforce an Inspection & Repair Program for Public Infrastructure	Yes		

Identify and Improve Security at Critical Facilities	yes		
Maintain Wellness Clinics and Public Health Department	yes		
Maintain Mosquito Spraying Program	yes		
Establish an Emergency Notification System and Conduct Drills	yes		
Ensure Schools and Other Buildings / Structures with Large Populations have Evacuation Plans	yes		
Purchase Natural Gas Generators for Critical Facilities & Shelters	yes		
Establish a Tree Trimming Program/Ordinance (Inspections, Trimming, Disposal, Etc.)	yes		
Identify and Establish Facilities to Use as Shelters & Cooling/Heating Sites	yes		
NOAA Weather Radio Awareness Program	yes		
Establish a Community-Wide Household Hazardous Waste Disposal Site or Event	No	take to Butler County Waste	
Develop Groundwater Protection Plan or Drinkable Water Distribution Plan (Inspections, Testing, Security, Etc.)	yes		
Install Dry Hydrants on Rural Areas and In Underserved Areas	yes No	Iowa Rural Water Has	
Update Existing Water Mains and Hydrants for Improved Potable Water Service and Emergency Services	yes		

Maintain and Update Bioterrorism Response Plan			
Conduct Necessary Studies, Engineering, Construction, Etc. On Existing Infrastructure That Are in Need (I.E., Ridge Road, T55 Bridge, Etc.)	Yes		
Complete and Maintain Secondary Off-Site Dispatch Center	No	Butler County	not in future
Develop A Clean Up/Recovery Procedure / Plan	Yes		
Maintain Bulk Supply and Storage of Critical Elements (Fuels, Water, Nonperishable Food, Etc.)	No	Citizens can do that City keeps fuel on hand	
Place GPS Units in All Critical Service Vehicles	No		may in future
Provide Off-Site Backup of Essential Data	Yes		
Bury Overhead Power Lines	Yes		
Encourage Installation of Surge Protector on Electrical Lines	Yes		
Provide an Adequate Number of Safe Rooms/Tornado Rooms for General Public Use	No	cost too much	maybe down in the future
Either Purchase & Remove Structures In 100-YR Floodplain or Elevate Structures To At Least 1-FT Above 100-YR Floodplain, Or Both	Yes No	we have nothings in 100yr Flood Plain	
Establish Best Management Practices for Storm Water Management (I.E., Detention Ponds, Retention Ponds, Buffer Strips, Etc.)	Yes		
Develop a Water Rationing Plan	No	IF we need to we can come up with plan	

Maintain Roadside Vegetation Management Program	yes		
Establish a Drainage District	No	we maintain our own drainage	
Acquire and/or Annex Land for Relocation of Community	yes		

Dumont 2015-2020 Implementation Strategy Update

Mitigation Action / Program / Project	Completed (Yes/No)	If No, Short Explanation	Will you include this action item/activity in your 2025 plan? Is it relevant? Is it actionable? Is it reachable in 5 or 10 years?
Maintain Mutual Aid Agreement with Surrounding Communities and IMAC	N	Conting	—
Develop and Maintain an Emergency Response Plan			Yes
Develop and Maintain an Internal Procedural/ Communication Plan with Contact Information (local, state, regional), Local Suppliers, Backup Plan/Equipment, Etc.			Yes
Maintain, Purchase, and Update, as needed, Essential Equipment and Supplies for Fire, Police, First Responders, Public Works, Streets, EMS, etc. (i.e., Radios, Trucks, River Gauges, Sandbags, Boats, Pumps, Signs, Barricades, Foam, etc)			Yes
Develop Plan / Procedures to Assist At-Risk Populations during an Event (Transport to Shelters, Home Visits, etc.)			Yes
Maintain Well-Trained Personnel (Fire, First Responders, Police, EMS, Weather Spotters, and other Critical Services – includes Multi-Jurisdictional Training and Cooperation for all Hazards)			Yes
Ensure Structures with Large Populations have Evacuation Plans			Yes
Develop, Enforce, and Update, as needed, Local Ordinances and Regulations (Snow Removal, Zoning, Subdivision, Open Burning, Floodplain, Sewer/Water, Storm Water, etc.)			Yes
Develop a Clean Up/Recovery Procedure / Plan			Yes
Maintain Bulk Supply and Storage of Critical Elements (Fuels, Water, Nonperishable Food, etc.)			We feel this needs to be implemented in the next 5 years
Place GPS Units in all Critical Service Vehicles			Yes - obtained with new radios purchased through grants. This will be ongoing due to technology

Provide Off-Site Backup of Essential Data			Yes
Purchase Natural Gas Generators for Critical Facilities & Shelters			Yes
Establish a Tree Trimming Program/Ordinance (inspections, trimming, disposal, etc.)			Yes
Identify and Establish Facilities to Use as Shelters & Cooling/Heating Sites			Yes
Establish, Adopt, & Enforce Building Codes	no	County	Yes
NOAA Weather Radio Awareness Program	no	County	—
Bury Overhead Power Lines			Hope this is reachable in 20 years
Purchase Additional Warning Sirens for Underserved Areas of Community			Ours is heard all over town - need to keep it updated
Encourage Installation of Surge Protector on Electrical Lines			Hope to do a newsletter within 5 years
Continue Agreement with NE Iowa Response Group	N	—	—
Establish a Community-Wide Household Hazardous Waste Disposal Site or Event			Hope to do within 5 years
Provide an Adequate Number of Safe Rooms/Tornado Rooms for General Public Use			Yes
Update Existing Water Mains and Hydrants for Improved Potable Water Service and Emergency Services			Hydrant replacement began with ARPA funds - hope to finish within 10 years. At this time, water mains are fixed when there is an issue

Conduct Annual Fire Inspections of Industries and Businesses			Library does this yearly businesses we assume take care of themselves
Join or Maintain Membership of National Flood Insurance Program			Yes
Develop an Evacuation Plan for Community and Necessary Signage (Evac Route, Detour Signs, etc.)			Yes - main Street sign and City Facebook page
Maintain Mosquito Spraying Program			Yes
Either Purchase & Remove Structures in 100-YR Floodplain or Elevate Structures to at Least 1-FT Above 100-YR Floodplain, or Both			Obtainable in 20 years
Establish an Emergency Notification System and Conduct Drills			Yes
Develop and Maintain Command Procedures & Center			Yes
Ensure Tier II Reports are Completed and Reported per Applicable Laws	no	County	—
Develop Groundwater Protection Plan or Drinkable Water Distribution Plan (Inspections, testing, security, etc.)			Yes
Maintain Wellness Clinics and Public Health Department	no	County	—
Develop a Water Rationing Plan			Yes
Establish & Conduct a Public Awareness & Education Program (Notices, Newsletters, Brochures, Website, Warnings, Shelter Information, Importance of Vaccinations, Hazard Information, At-Home Improvements - plant trees, rain barrels, etc.)			We do some of those but mostly County - we would like to do more
Flood Proof Critical Facilities			Yes

Complete and Maintain Secondary Off-Site Dispatch Center	no	County	—
Install Signage at Critical Transportation Sites (i.e., RR, Dangerous Intersections, etc.)			Yes
Update Local Ordinances to Require Installation of Warning Sirens in New Developments over a Certain Size	no	—	—
Identify & Maintain Relationships with Users of Hazardous Materials/Chemicals & Radiological or Nuclear Substances			Yes
Identify and Improve Security at Critical Facilities			Yes

Greene 2015-2020 Implementation Strategy Update

Mitigation Action / Program / Project	Completed (Yes/No)	If No, Short Explanation	Will you include this action item/activity in your 2025 plan? Is it relevant? Is it actionable? Is it reachable in 5 or 10 years?
Maintain Mutual Aid Agreement with Surrounding Communities and IMAC	Y		YES RELEVANT
Provide an Adequate Number of Safe Rooms/Tornado Rooms for General Public Use	Y		YES RELEVANT
Either Purchase & Remove Structures in 100-YR Floodplain or Elevate Structures to at Least 1-FT Above 100-YR Floodplain, or Both	N	ONGOING PROCESS AS THEY BECOME AVAILABLE	YES ACTIONABLE
Maintain, Purchase, and Update, as needed, Essential Equipment and Supplies for Fire, Police, First Responders, Public Works, Streets, EMS, etc. (i.e., Radios, Trucks, River Gauges, Sandbags, Boats, Pumps, Signs, Barricades, Foam, etc)	N	ONGOING PROCESS AS NEEDED	YES ACTIONABLE
Join or Maintain Membership of National Flood Insurance Program	Y		YES
Identify and Establish Facilities to Use as Shelters & Cooling/Heating Sites	Y		YES
Complete and Maintain Secondary Off-Site Dispatch Center			
Conduct necessary Studies, Engineering, Construction, etc. on Existing Infrastructure that are in Need (i.e., Ridge Road, T55 Bridge, etc.)	Y	ONGOING	YES
Maintain an Internal Procedural/ Communication Plan with Contact Information (local, state, regional), Local Suppliers, Backup Plan/Equipment, Etc.	Y	ONGOING	YES
Maintain an Emergency Response Plan	Y	ONGOING	YES
Provide Off-Site Backup of Essential Data	Y		YES

Install Signage at Critical Transportation Sites (i.e., RR, Dangerous Intersections, etc.)	N	ONGOING	YES ACTIONABLE
Maintain Mosquito Spraying Program	Y		YES
Establish, Adopt, & Enforce Building Codes	Y	ONGOING	YES
Encourage Installation of Surge Protector on Electrical Lines	N		YES ACTIONABLE
Identify & Maintain Relationships with Users of Hazardous Materials/Chemicals & Radiological or Nuclear Substances	Y	ONGOING	YES
Develop an Evacuation Plan for Community and Necessary Signage (Evac Route, Detour Signs, etc.)	N		YES ACTIONABLE
Develop & Enforce an Inspection & Repair Program for Public Infrastructure	Y	ONGOING	YES
NOAA Weather Radio Awareness Program	Y		YES
Continue Agreement with NE Iowa Response Group			
Develop and Maintain Continuity of Operations Plan (COOP)	Y	ONGOING	YES
Develop and Maintain Command Procedures & Center	Y	ONGOING	YES
Develop Plan / Procedures to Assist At-Risk Populations during an Event (Transport to Shelters, Home Visits, etc.)	Y		YES
Maintain Well-Trained Personnel (Fire, First Responders, Police, EMS, Weather Spotters, and other Critical Services – includes Multi-Jurisdictional Training and Cooperation for all Hazards)	Y		YES

Ensure Schools and Other Buildings / Structures with Large Populations have Evacuation Plans	Y		YES
Develop, Enforce, and Update, as needed, Local Ordinances & Regulations (Snow Removal, Zoning, Subdivision, Open Burning, Floodplain, Sewer/Water, Storm water, etc.)	Y	مستوردة قانونا	YES
Maintain Bulk Supply and Storage of Critical Elements (Fuels, Water, Nonperishable Food, etc.)	N		YES ACTIONABLE
Place GPS Units in all Critical Service Vehicles	N		NO
Establish a Tree Trimming Program/Ordinance (inspections, trimming, disposal, etc.)	Y		YES
Purchase Additional Warning Sirens for Underserved Areas of Community	N		YES 5-10 YEARS
Update Local Ordinances to Require Installation of Warning Sirens in New Developments over a Certain Size	Y	مستوردة قانونا	YES ACTIONABLE
Establish & Conduct a Public Awareness & Education Program (Notices, Newsletters, Brochures, Website, Warnings, Shelter Information, Importance of Vaccinations, Hazard Information, At-Home Improvements - plant trees, rain barrels, etc.)	Y		YES
Establish an Emergency Notification System and Conduct Drills	Y		YES
Establish a Community-Wide Household Hazardous Waste Disposal Site or Event	N		NO
Ensure Tier II Reports are Completed and Reported per Applicable Laws	Y		YES
Develop Groundwater Protection Plan or Drinkable Water Distribution Plan (inspections, testing, security, etc.)	Y		YES

Install Dry Hydrants in Rural Areas and in Underserved Areas	Y		YES
Update Existing Water Mains and Hydrants for Improved Potable Water Service and Emergency Services	Y	CRITICAL	YES
Conduct Annual Fire Inspections of Industries and Businesses	Y		YES
Establish a Drainage District	N		YES 5-10 YEARS
Acquire and/or Annex Land for Relocation of Community	N		YES ACTIONABLE
Establish Best Management Practices for Storm Water Management (i.e., detention ponds, retention ponds, buffer strips, etc.)	Y		YES
Maintain and Update Bioterrorism Response Plan	N		YES ACTIONABLE
Identify and Improve Security at Critical Facilities	Y	CRITICAL	YES
Maintain Wellness Clinics and Public Health Department	Y		YES
Develop a Water Rationing Plan	Y		YES ACTIONABLE
Maintain Roadside Vegetation Management Program	Y		YES

New Hartford 2015-2020 Implementation Strategy Update

Mitigation Action / Program / Project	Completed (Yes/No)	If No, Short Explanation	Will you include this action item/activity in your 2025 plan? Is it relevant? Is it actionable? Is it reachable in 5 or 10 years?
Maintain, Purchase, and Update, as needed, Essential Equipment and Supplies for Fire, County Sheriff, First Responders, Public Works, Streets, EMS, etc. (i.e., Radios, Trucks, River Gauges, Sandbags, Boats, Pumps, Signs, Barricades, Foam, etc.)	yes		yes
Conduct necessary Studies, Engineering, Construction, etc. on Existing Infrastructure that are in Need (i.e., Ridge Road, T55 Bridge, etc.)	NO	study is in progress	yes
Establish a Drainage District	NO	within Butler CO.	no
*Flood-Proof Critical Facilities	NO	lack of funding	yes
Establish Best Management Practices for Storm Water Management (i.e., detention ponds, retention ponds, buffer strips, etc.)	NO	projects in process	yes
Maintain Well-Trained Personnel (Fire, First Responders, Police, EMS, Weather Spotters, and other Critical Services – includes Multi-Jurisdictional Training and Cooperation for all Hazards)	yes		yes
Maintain Mosquito Spraying Program	yes		yes
Ensure Schools and Other Buildings / Structures with Large Populations have Evacuation Plans		Butler EMA	NO
Develop, Enforce, and Update, as needed, Local Ordinances & Regulations (Snow Removal, Zoning, Subdivision, Open Burning, Floodplain, Sewer/Water, Storm water, etc.)	yes		yes
Develop an Evacuation Plan for Community and Necessary Signage (Evac Route, Detour Signs, etc.)	yes		yes

Identify & Maintain Relationships with Users of Hazardous Materials/Chemicals & Radiological or Nuclear Substances	NO	Butler EMA	NO
Develop and Maintain Command Procedures & Center	NO	Butler EMA	NO
Continue Agreement with NE Iowa Response Group	NO	Butler EMA	NO
Widen T-55 Bridge to increase flow under bridge to 400 ft. wide	NO	Scup in progress	yes
Develop plan to add culverts to relieve emergency flows to protect city from flooding	NO	on going	yes
Establish & Conduct a Public Awareness & Education Program (Notices, Newsletters, Brochures, Website, Warnings, Shelter Information, Importance of Vaccinations, Hazard Information, At-Home Improvements - plant trees, rain barrels, etc.)	NO	Butler EMA	NO
Join or Maintain Membership of National Flood Insurance Program	NO	Butler Co. EMA	NO
Complete and Maintain Secondary Off-Site Dispatch Center	NO	Butler Co. EMA	NO
Develop and Maintain an Emergency Response Plan	NO	Butler EMA	NO
Develop and Maintain Continuity of Operations Plan (COOP)	yes		yes
Develop and Maintain an Internal Procedural/Communication Plan with Contact Information (local, state, regional), Local Suppliers, Backup Plan/Equipment, Etc.	NO	Butler EMA	NO
Develop Plan / Procedures to Assist At-Risk Populations during an Event (Transport to Shelters, Home Visits, etc.)	NO	Butler EMA	NO

MAINTAIN Develop a Clean Up/Recovery Procedure / Plan	yes		yes - MAINTAIN PLAN
Identify and Establish Facilities to Use as Shelters & Cooling/Heating Sites	yes		yes
Provide an Adequate Number of Safe Rooms/Tornado Rooms for General Public Use	NO	Lack of Funding	yes
Update Existing Water Mains and Hydrants for Improved Potable Water Service and Emergency Services	yes		yes
Develop & Enforce an Inspection & Repair Program for Public Infrastructure	yes		yes maintain plan
Acquire and/or Annex Land for Relocation of Community	NO	NO need	NO
Establish, Adopt, & Enforce Building Codes	yes		yes
Purchase Natural Gas Generators for Critical Facilities & Shelters	NO	Lack of funding	yes
Install Signage at Critical Transportation Sites (i.e., RR, Dangerous Intersections, etc.)	NO	NO NEEDS	NO
Establish a Community-Wide Household Hazardous Waste Disposal Site or Event	NO	Butler EMA	NO
Place GPS Units in all Critical Service Vehicles	NO	NO need	NO
Establish a Tree Trimming Program/Ordinance (inspections, trimming, disposal, etc.)	yes		yes
Maintain Bulk Supply and Storage of Critical Elements (Fuels, Water, Nonperishable Food, etc.)	NO	NO need	NO

Install Dry Hydrants in Rural Areas and in Underserved Areas	NO	CO. EMA	NO
Maintain and Update Bioterrorism Response Plan	NO	CO. EMA	NO
Identify and Improve Security at Critical Facilities	NO	on going	YES
Establish an Emergency Notification System and Conduct Drills	NO	Put in EMA	NO
Develop a Water Rationing Plan	YES		NO
Maintain Roadside Vegetation Management Program	NO	CO.	NO
Ensure Tier II Reports are Completed and Reported per Applicable Laws	NO	CO.	NO
Conduct Annual Fire Inspections of Industries and Businesses	NO	CO.	NO
Maintain Mutual Aid Agreement with Surrounding Communities and IMAC	NO	CO.	NO
NOAA Weather Radio Awareness Program	NO	CO.	NO
Purchase Additional Warning Sirens for Underserved Areas of Community	YES		NO
Update Local Ordinances to Require Installation of Warning Sirens in New Developments over a Certain Size	YES		NO
Either Purchase & Remove Structures in 100-YR Floodplain or Elevate Structures to at Least 1-FT Above 100-YR Floodplain, or Both	NO	no need	YES

Shell Rock 2015-2020 Implementation Strategy Update

Mitigation Action / Program / Project	Completed (Yes/No)	If No, Short Explanation	Will you include this action item/activity in your 2025 plan? Is it relevant? Is it actionable? Is it reachable in 5 or 10 years?
Establish an Emergency Notification System and Conduct Drills	Yes		Yes
Maintain Mutual Aid Agreement with Surrounding Communities and IMAC	Yes		Yes
Develop and Maintain Continuity of Operations Plan (COOP)			
Develop and Maintain Command Procedures & Center			
Maintain, Purchase, and Update, as needed, Essential Equipment and Supplies for Fire, Police, First Responders, Public Works, Streets, EMS, etc. (i.e., Radios, Trucks, River Gauges, Sandbags, Boats, Pumps, Signs, Barricades, Foam, etc)	Yes		Yes
Maintain Well-Trained Personnel (Fire, First Responders, Police, EMS, Weather Spotters, and other Critical Services – includes Multi-Jurisdictional Training and Cooperation for all Hazards)	Yes		Yes
Ensure Schools and Other Buildings / Structures with Large Populations have Evacuation Plans			
Provide Off-Site Backup of Essential Data	NO	Financial in cloud. Permanent records not yet scanned.	Yes
Purchase Natural Gas Generators for Critical Facilities & Shelters	NO	funds not available	Yes
Purchase Additional Warning Sirens for Underserved Areas of Community	NO		NO
Continue Agreement with NE Iowa Response Group	Yes		Yes

Establish a Community-Wide Household Hazardous Waste Disposal Site or Event	NO		NO
Provide an Adequate Number of Safe Rooms/Tornado Rooms for General Public Use	NO	lack of funding	Yes
Acquire and/or Annex Land for Relocation of Community	NA		
Maintain Wellness Clinics and Public Health Department	NR		
Establish & Conduct a Public Awareness & Education Program (Notices, Newsletters, Brochures, Website, Warnings, Shelter Information, Importance of Vaccinations, Hazard Information, At-Home Improvements - plant trees, rain barrels, etc.)	NO	Fire Chief has plans to implement in future.	Yes
Complete and Maintain Secondary Off-Site Dispatch Center	NA		
Develop and Maintain an Emergency Response Plan	Yes		Yes
Develop and Maintain an Internal Procedural/Communication Plan with Contact Information (local, state, regional), Local Suppliers, Backup Plan/Equipment, Etc.			
Develop Plan / Procedures to Assist At-Risk Populations during an Event (Transport to Shelters, Home Visits, etc.)			
Develop, Enforce, and Update, as needed, Local Ordinances & Regulations (Snow Removal, Zoning, Subdivision, Open Burning, Floodplain, Sewer/Water, Storm water, etc.)	Yes		Yes
Develop a Clean Up/Recovery Procedure / Plan	NO		
Maintain Bulk Supply and Storage of Critical Elements (Fuels, Water, Nonperishable Food, etc.)	NO		
Identify and Establish Facilities to Use as Shelters & Cooling/Heating Sites	Yes		Yes

Conduct necessary Studies, Engineering, Construction, etc. on Existing Infrastructures that are in Need (i.e., Ridge Road, T55 Bridge, etc.)	YES		NO
Place GPS Units in all Critical Service Vehicles	NA		NO
Establish a Tree Trimming Program/Ordinance (inspections, trimming, disposal, etc.)	Yes		Yes
Install Signage at Critical Transportation Sites (i.e., RR, Dangerous Intersections, etc.)	Yes		
Establish, Adopt, & Enforce Building Codes	NO		NO
Update Local Ordinances to Require Installation of Warning Sirens in New Developments over a Certain Size			
Update Local Ordinances to Require Installation of Warning Sirens in New Developments over a Certain Size			
Encourage Installation of Surge Protector on Electrical Lines	NA		
Install Dry Hydrants in Rural Areas and in Underserved Areas	NA		
Establish a Drainage District	NA		
Flood Proof Critical Facilities	Yes	moved electrical panel higher @ main lift station	Yes
Develop & Enforce an Inspection & Repair Program for Public Infrastructure	NO		
Maintain Mosquito Spraying Program	Yes		Yes

NOAA Weather Radio Awareness Program			
Bury Overhead Power Lines	NA		
Identify & Maintain Relationships with Users of Hazardous Materials/Chemicals & Radiological or Nuclear Substances	NA		
Ensure Tier II Reports are Completed and Reported per Applicable Laws	Yes		
Develop Groundwater Protection Plan or Drinkable Water Distribution Plan (inspections, testing, security, etc.)	Yes		yes
Update Existing Water Mains and Hydrants for Improved Potable Water Service and Emergency Services	NO	on going leaky funds	yes
Conduct Annual Fire Inspections of Industries and Businesses	NO		no
Join or Maintain Membership of National Flood Insurance Program	Yes		yes
Develop an Evacuation Plan for Community and Necessary Signage (Evac Route, Detour Signs, etc.)	NO	lack of funds	yes
Either Purchase & Remove Structures in 100-YR Floodplain or Elevate Structures to at Least 1-FT Above 100-YR Floodplain, or Both	NO	lack of funds	yes
Establish Best Management Practices for Storm Water Management (i.e., detention ponds, retention ponds, buffer strips, etc.)	NO	lack of funds	
Maintain and Update Bioterrorism Response Plan	NO		
Identify and Improve Security at Critical Facilities	NO		

Develop a Water Rationing Plan	NO		NO
Maintain Roadside Vegetation Management Program	NO		NO

Dike New-Hartford CSD 2015-2020 Implementation Strategy Update

Mitigation Action / Program / Project	Completed (Yes/No)	If No, Short Explanation	Will you include this action item/activity in your 2025 plan? Is it relevant? Is it actionable? Is it reachable in 5 or 10 years?
Educate the Student Population/Public through: continued cooperation with local service organizations (American Red Cross, County EMA, etc.) to educate residents on how to prepare for and respond to various hazards	YES		
Consider the Construction of Community Tornado Shelters and Safe Rooms	YES		INCLUDED ALREADY
Identify Locations (all school facilities, shelter locations) where it would be beneficial to have Backup Power Generation or maintain backup power generation	NO		THE CITY OF NEW HARTFORD IS OUR SUPPLIER/PROVIDES ON/RESISTANT.
Continue to Work to Safeguard against Potential Fire and Explosion Hazards throughout the Community	NO		TAKEN CARE OF BY ALL FIRE DEPT.
Maintain and Update as Needed, 28E Agreements with Surrounding Entities	YES		
Continue Participation in the National Flood Insurance Program (NFIP)	YES		
Systematically Review and Update, as needed, Hazard Responses Policies and Procedures	YES	COMPLETED JULY 2023	
Identify and Evaluate Critical Facilities for Accessibility, Vulnerability, and Risk	YES	ANNUAL WALK THROUS BY LAW ENFORCEMENT/EMS	
Continue to Test and Chlorinate Drinking Water	NA	THE CITY CREW TAKES CARE OF THIS.	
Continue to Cooperate with Local Medical Facilities and Health Department to increase likelihood of detection and proper response to outbreaks	YES	STRONG PARTNERSHIP W/ GRUNDY COUNTY MEM. HOSP.	
Place Air Conditioning in Schools	YES	ALL SCHOOLS ARE NOW CLIMATE CONTROLLED AS OF 23-24 SCHOOL YEAR.	

Develop and Maintain Tree-Trimming Program in Order to Reduce the Chances of Falling Branches on Infrastructure and Property	YES	DNR SCHOOLS HAS AN ANNUAL REVIEW OF TREES / PRUNING SCHEDULE.	
Develop and Maintain a List of Interpreters in order to Enhance Communication Barriers within the community	NO		
Restrict Water Usage, as necessary, to Maintain Water Supply	YES	INCREASED THE # OF BOTTLE FILLERS IN DISTRICT. ALSO ADDED AUTOMATED SINKS.	
Construct New or Retrofit Current Facilities to Include Tornado Safe Rooms	YES	COMPLETED 2022.	
Maintain and evaluate existing terrorism mitigation Procedures	YES	ANNUAL EVACUATION DRILL COMPLETED w/ LAW ENFORCEMENT (IOWA STATE PATROL, BUTLER COUNTY SHERIFF,	

Waverly-Shell Rock CSD 2015-2020 Implementation Strategy Update

Mitigation Action / Program / Project	Completed (Yes/No)	If No, Short Explanation	Will you include this action item/activity in your 2025 plan? Is it relevant? Is it actionable? Is it reachable in 5 or 10 years?
Develop a "Tornado Safe Room" Awareness Program.	No	We do have GREAT tornado safe rooms in most of our buildings, but other than signs at the entrances and inclusion in our Emergency Operations Plans, we have not done anything to increase awareness. This would be especially applicable when outside community organizations are making use of our facilities.	Yes
Research and Secure Grant Dollars for Shelter and Safe Room Construction.	No	Grant dollars were not secured, but the district DID use bond proceeds to fund the construction of two new safe rooms in our new elementary buildings.	No
Retrofit Current Facilities to Include Tornado Safe Rooms.	Yes		No
Encourage the Inclusion of Tornado Safe Rooms in Newly Constructed Public Facilities.	Yes		No
Evaluate Current Terrorism Mitigation Efforts.	No		Yes
Construct Storm Shelters and Tornado Safe Rooms.	Yes		No
Maintain Procedures for Severe Weather Events.	Yes		Yes
Maintain and Evaluate Existing Terrorism Mitigation Procedures.	No		Yes

2025 BUTLER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

APPENDIX R

PLANNING COMMITTEE MATERIALS

**- PUBLIC MEETING AGENDA-
Butler County Multi-Jurisdictional
Hazard Mitigation Plan Committee Meeting #1**

Date: Tuesday, October 1, 2024

Time: 6 PM – 7:30 PM

Place: Butler County Courthouse (Basement Meeting Room)
428 Sixth Street
Allison, Iowa 50659

1. Welcome and Quick Introductions
2. Intro to Hazard Mitigation
3. Hazard Mitigation Grant Program and FEMA Requirements
4. Hazard Mitigation Implementation
5. Regional Impacts of Hazard Mitigation – *Other counties, watershed, agricultural stakeholders*
 - a. Guests Invited to Share/Talk with Committee
6. Assignments:
 - a. Update Each Action Item in 2020 Mitigation Strategy Tables (handout)
 - b. Community Profile Update
7. Project Timeline and Future Meetings
8. Adjourn

THIS IS A PUBLIC MEETING

**MEMBERS OF THE COMMUNITY, NEIGHBORING COUNTIES, COMMUNITY ORGS, STAKEHOLDERS ARE
INVITED TO ATTEND THIS MEETING**

For Questions of Comments, contact:
Isaiah Corbin / INRCOG / Office: (319) 235-0311 / icorbin@inrcog.org

Butler County Multi-Jurisdictional Hazard Mitigation Plan Update

October 1, 2024

Meeting #1 - Attendance Sign-In Sheet

	Name (please print & sign)	Position/Title Agency/Department	Jurisdiction/ Organization	Email Address
1	Ronda Schmidt Ronda & Schmidt	City Clerk	Dunest	citydunmont@ntins.net
2	Dearce Hanson Dearce Hanson	City Clerk	Aredale	city@aredale.net
3	Jason Mehner	Mayor	Apolington	
4	Jason S. Johnson	ShariFF	Butler Co. Johnson	johnson@butlercountynv.gov
5	Tom Mansfeld	Lawrence J. F. Burg		tmansfeld@qmail.com
6				
7				
8				
9				
10				
11				
12				

Name (please print & sign)	Position/Title Agency/Department	Jurisdiction/ Organization	Email Address
13 CHRIS SHOWALTER <i>[Signature]</i>	EMA COORDINATOR	Butler County	cshowalter@butlercounty.ohio.gov
14 Matt Behrends <i>[Signature]</i>	Clarksville Fire	Butler County	GOT2213@gmail.com
15 Jerral Hauer Jerral Hauer	Clarksbury Mayor	Butler Co.	Clarksburle.com
16 Jennifer Kielman Jennifer Kielman	Clarksville Council	Butler Co	jenkj2002@gmail.com
17 John R. Hurd <i>[Signature]</i>	Engineer Butler County	Butler	jrhurd@butlercounty.ohio.gov
18 David Hill David Hill	Waverly-Shelby Rock Superior Schools	Butler Co WSE Schools	david.hill@wssr.k12.oh.us
19 Jessi Reints Jessi Reints	Charesville City Council	Butler Co	jessireints@gmail.com
20 Leslie Green <i>[Signature]</i>	County Auditor	Butler Co	lgreen@butlercounty.ohio.gov
21			
22			
24			
25			

Butler County Multi-Jurisdictional Hazard Mitigation Plan Update

Schedule of Committee Meetings

Meeting	Date	Agenda Items and Tasks
#1	<u>Tuesday, Oct 1, 2024</u>	<p>Agenda Items</p> <ol style="list-style-type: none"> 1. Overview of What to Expect 2. Purpose of a Multi-Jurisdictional Approach 3. Local Disaster Management: Hazard Mitigation <p>Resources to Know</p> <ul style="list-style-type: none"> • Hazard Mitigation Grant Program • National Flood Insurance Program • Regional Impacts and Making Equitable Outcomes • Local Mitigation Planning Policy Guide (Appendix A: Review Tool) <p>Tasks</p> <ul style="list-style-type: none"> • Community Profile Worksheet • 2020 Action Plan Update Responses
#2	<u>End of October</u>	<p>Agenda Items</p> <ol style="list-style-type: none"> 1. Assessing Hazards and Risk 2. Hazard Type Profiles 3. County Disaster History (Impacts, Level of Risk) <p>Tasks</p> <ul style="list-style-type: none"> • Local Hazard Risk Assessment • Capability Assessment
#3	<u>Early November</u>	<p>Agenda Items</p> <ol style="list-style-type: none"> 1. Review Hazard Assessment Results 2. Assemble Hazard Mitigation Strategy <p>Tasks</p> <ul style="list-style-type: none"> • Problem Statements – How to Build Hazard Mitigation Goals in 3 Steps
#4	<u>December</u>	<p>Agenda Items</p> <ol style="list-style-type: none"> 1. Finalize and Prioritize Your Action Items 2. Finalize Community Profiles 3. Review Draft Plan

Plan Adoption and Review


#	Tasks	Date	Description
1	<p>INRCOG will finalize your local plan draft and post online for public comment period.</p> <p>Participants will need to review as needed.</p>	<u>December 2024</u>	<p>Each participating jurisdiction will have a draft of a local hazard mitigation plan developed for them that meets requirements for approval by FEMA</p> <p>Drafts of each plan will be posted online for <u>7</u>-day public comment period (INRCOG).</p> <p>Review grammar, names, titles. Format if needed to your city templates if needed. Add a few pics, etc. Limit moving around content, in order pass state and federal review.</p>
2	<p>Share with your city leaders/boards and hold a public hearing for comments, input by community at city council/school district meeting.</p> <p>INRCOG will publish notice in the paper between 4-20 days prior to the board meeting.</p>	<u>January 2025</u>	<p>Confirm council/board meeting dates and location with Isaiah.</p> <p>We will attend to answer questions/concerns regarding document information if requested.</p> <p>Boards will approval plan with resolution provided by INRCOG.</p>
3	<p>INRCOG will submit the county MJ-HMP to Butler County Board of Supervisors for approval and adoption of resolution.</p>	<u>February 2025</u>	<p>Update plans to include resolutions and public feedback.</p>
4	<p>INRCOG: Prepare and submit entire plan for 1st review by state mitigation office (Iowa Homeland Security).</p>	<u>February 2025</u>	<p>45-day review period.</p> <p>Make any necessary changes from review.</p>
5	<p>Iowa Homeland Security will submit the reviewed plan for FEMA review.</p>	<u>March 2025</u>	<p>60-day review period.</p>
6	<p>Plan is APPROVED and Jurisdictions are eligible for FEMA program funds until 2030.</p>	<u>May 2025</u>	<p>Get FEMA approval letter. See you in 5 years!</p>



1

<h2>Introductions</h2>
Jurisdiction, Title

2

	<h3>What is the Purpose of the Hazard Mitigation Plan?</h3> <ul style="list-style-type: none"> • To reduce the county's overall vulnerability to natural and man-made types of hazards. • Ensure that the County, participating communities, and school districts are eligible to apply for disaster recovery federal funds that are released when a disaster proclamation is announced (state or federal). • Be risk informed during the planning process so your hazard mitigation strategies chosen by you are actionable, protect health, safety, and welfare of the community, cost effective, and socially inclusive during the planning process so that any community wide efforts will have equitable outcomes when using federal and state funds/grants. • Participating jurisdictions will become eligible for mitigation grant dollars made available through FEMA to assist in big ticket items like tornado safe rooms, warning sirens, etc.

3

<h2>What is Hazard Mitigation?</h2>	
<p><i>Mitigation is defined as any sustained action taken to reduce or eliminate long-term risk to human life and property from a hazard event.</i></p> 	<p>The emergency management cycle generally has four phases:</p> <ul style="list-style-type: none"> • Preparedness is what we develop or update activities, programs and systems before an event happens. These activities are often tested (or exercised) in non-emergency situations. This tests their effectiveness. Emergency managers also assess potential risks, hazards and vulnerabilities in this phase. • Response focuses on the immediate and short-term effects of a disaster. It is usually focused on life safety and preventing immediate damage. • Recovery is a long-term phase that looks to return a community to normal, or to a more resilient state, after a disaster. • Mitigation focuses on building (or rebuilding) in ways that reduce the risk more permanently. It is an activity that can occur at any point in the emergency management cycle. For example, communities can undertake mitigation actions before a disaster (the preparedness phase) or while rebuilding after a disaster (the recovery phase).

4

Reflecting on Your Prior Plan

1. What was your previous experience with Hazard Mitigation Planning?
2. How did you use your plan in the past 5-years?
3. What hazards, responses, training, capabilities, etc. keep you up at night?

5

BEGINNING WITH THE END IN MIND: IMPLEMENTATION

Moving the Plan Forward

- **Maintain** and update the plan through the regular monitoring and evaluation of the plan's implementation.
- **Integrate** the plan into other relevant planning mechanisms (e.g., climate action plans, comprehensive plans, stormwater management plans). This can increase implementation successes and support multiple benefits.
- **Engage** the public after plan adoption and during plan implementation and maintenance.



6

Leverage the Mitigation Planning Process for Implementation



Planning Process:

- Engage with groups that can support plan implementation.
- Involve partners early in the planning process. Get buy-in for implementing actions after plan adoption.



Capabilities Assessment:

- Assess your area's capabilities for implementation. Include regulatory, administrative, financial and educational capabilities.



Mitigation Strategy:

- Include detailed actions in your mitigation strategy.
- Prioritize the actions that are most needed and feasible to implement in your community.

7


Plan Implementation Best Practices




Use the post-disaster recovery period window of opportunity.




Focus on the highest needs.




Encourage champions.



Integrate into other local planning initiatives.



Maintain your engagement.



Celebrate your successes!

8

Partnerships in Plan Implementation

- Partners play an important role in keeping the plan current. They can provide updates to maintain the plan, report on the progress of actions, and participate in continued coordination.
- Partners should shepherd the actions within their influence. Partners can link resources and funding to mitigation actions.
- Implementation is more successful when it connects the [Whole Community](#). Coordinate with groups that support underserved communities and vulnerable populations to make implementation more equitable.



9

2020 Action Steps Review

Now that you understand implementation,
review what took place (or didn't) from
your prior plan's action steps

10

Next Steps: Review Timeline	COMPLETE COMMUNITY PROFILE
	QUESTIONS/COMMENTS? Isaiah Corbin, Director of Development icorbin@inrcoq.org 319-235-0311

- PUBLIC MEETING AGENDA-
Butler County Multi-Jurisdictional
Hazard Mitigation Plan Committee Meeting #2

Date: Tuesday, October 22, 2024

Time: 6:30 PM

Place: Butler County Courthouse
Basement Meeting Room
428 Sixth Street
Allison, Iowa 50602

1. Welcome
2. Overview of Hazards
3. Community Partners Discussion
4. County's Historical Hazard Information (w/ probability, magnitude, duration, and warning time)
5. Handout: Hazard Risk Assessment Summary Worksheet (**Complete and Turn In**)
6. Handout: Capability Assessment (**Bring Back to Next Meeting**)
7. Previous Meeting Assignments
 - a. 2020 Mitigation Strategy Update
 - b. Community Profile
 - c. Communities Yet to Complete: A-P CSD, Allison, Greene, New Hartford, Shell Rock
8. Next Meeting
 - a. Tuesday, November 12, 2024, at 6:30 PM – Butler County Courthouse
 1. Problem Statements
 2. Mitigation Goal Setting
9. Adjourn

Members of the public are welcome to attend and observe the meeting.
Committee participants are expected to attend and complete meeting materials.

For Questions or Comments, contact meeting coordinator:
Isaiah Corbin / INRCOG / Office: (319) 235-0311 / icorbin@inrcog.org

Butler County Multi-Jurisdictional Hazard Mitigation Plan Update
 October 22, 2024 – 428 Sixth Street, Allison, Iowa 50502
 Meeting #2 - Attendance Sign-In Sheet

	Name (please print & sign)	Jurisdiction/ Organization	Email Address
1	CHRIS SHOVALT <i>Chris Shovalt</i>	BUTLER EMA	chshovalt@butlercounty.iowa.gov
2	JUSTIN STRICKLAND <i>Justin Strickland</i>	DUNE AREA ADVERTISED	justin.strickland@adnsd.org
3	DEWALD HEYER <i>Dewald Heyer</i>	CLARKSVILLE MAYOR	clarksvilleia@mayorofyahon.com
4	TRISHA BOOS <i>Trisha Boos</i>	BOSTON CITY WORK	cityofboston@netins.net
5	SCOTT HENRICHS <i>Scott Henrichs</i>	Allison Mayor	henrichs.scot@yahoo.com
6	Jessica Meyer <i>Jessica Meyer</i>	Shall Road Dune	cityofsr@butler-dune.com
7	JEFF KOLB <i>Jeff Kolb</i>	BIDA	dwest@bktgundys.com
8	DANIEL VANSON <i>Daniel Vanson</i>	CITY OF ARDELIA	cityofardale@netins.net
9	John Richard Zebby <i>John Richard Zebby</i>	Butler Co	johnr@butlercounty.iowa.gov
10	Jessi Reints <i>Jessi Reints</i>	CLARKSVILLE	jessreints@gmail.com
11	Jason Michner <i>Jason Michner</i>	Applington	
12	Tom Minfield <i>Tom Minfield</i>	Parthsbury	

John Richard

OVERVIEW OF HAZARDS

HAZARD IDENTIFICATION

The 2023 Iowa Hazard Mitigation Plan includes 20 different hazards. This includes 13 natural hazards and 7 non-natural hazards.

2023 Iowa Hazard List
Natural Hazards
Drought
Earthquake
Expansive Soils
Extreme Heat
Flooding - Flash
Grass/Wildland Fire
Landslide
Levee/Dam Failure
Flooding - Riverine
Severe Winter Storm
Sinkholes
Thunderstorm/Lighting/Hail
Tornado/Windstorm
Other Hazard Types
Animal/ Crop/ Plant Disease
Pandemic/ Endemic Human Disease
Hazardous Materials
Infrastructure Failure
Radiological
Terrorism
Transportation Incidents

It is important to note that the focus of mitigation is on reducing long-term risks of damage or threats to public health and safety. Not all hazards will impact or affect all participating communities, and each hazard can have different magnitudes depending on the location.

This is why you will each individually complete a hazard risk assessment in the form of a scoring sheet. Fill out the hazard risk assessment scoring sheet based on your jurisdiction.

Each hazard has four factors that will be scored between 1 and 4. See the following pages for descriptions of the ratings for each associated factor. Note that each factor does not have the same description so make sure to review the descriptions and assign accordingly.

Hazard Risk Assessment

Scoring Descriptions

PROBABILITY		
The probability score reflects the likelihood of the hazard occurring again in the future. Consider the historical occurrence.		
Score		Description
1	Unlikely	Less than 10% probability in any given year (up to 1 in 10 chance of occurring), history of events is less than 10% likely or the event is unlikely but there is a possibility of its occurrence.
2	Occasional	Between 10% and 20% 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	Between 20% and 33% 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	More than 33% 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 / SEVERITY		
The magnitude is the impact of a hazard event and the extent that hazards affect the County and is measured using technical measures specific to the hazard.		
Score		Description
1	Negligible	Less than 10% of property severely damaged, 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	
<i>The speed of onset is the amount of warning time available before the hazard occurs. For many of the atmospheric natural hazards there is a considerable amount of warning time as opposed to the human caused accidental hazards that occur instantaneously or without any significant warning time.</i>	
Score	Description
1	More than 24 hours warning time.
2	12 to 24 hours warning time.
3	6 to 12 hours warning time
4	Minimal or no warning time (up to 6 hours warning)

DURATION	
This consists of the typical amount of time that the jurisdiction is impacted by the hazard. As an example, a snowstorm will likely last several hours, whereas a lightning strike would last less than a second.	
Score	Description
1	Less than 6 hours
2	Less than 1 day
3	Less than 1 week
4	More than 1 week

Hazard Risk Assessment Summary for: _____ (Jurisdiction)				
Hazards	Probability	Magnitude	Warning Time	Duration
Drought				
Earthquake				
Expansive Soils				
Extreme Heat				
Flooding - Flash				
Grass/Wildland Fire				
Landslide				
Levee/Dam Failure				
Flooding - Riverine				
Severe Winter Storm				
Sinkholes				
Thunderstorm/ Lighting/ Hail				
Tornado/Windstorm				
Animal/ Crop/ Plant Disease				
Pandemic/ Endemic Human Disease				
Hazardous Materials				
Infrastructure Failure				
Radiological				
Terrorism				
Transportation Incidents				
Completed by: _____				

Please complete the scores for Probability, Magnitude, Warning Time, and Duration based on the numeric criteria provided above. The weights in the assessment formula will be factored in later to generate the final risk assessment score.

Butler County Hazard Risk Assessment

County Info

Population (2016)	14,867
Building Value (\$)	1,786,089,000
Agricultural Value (\$)	291,478,000
Area (sq mi)	580

Ratings Summary

Risk Index	Relatively Low
Expected Annual Loss	Relatively Low
Social Vulnerability	Relatively Moderate
Community Resilience	Very High

Risk Index

Rating	Relatively Low
Score	11.68
National Percentile	65.34
State Percentile	60.61

Expected Annual Loss

Rating	Relatively Low
Score	15.05
National Percentile	68.43
State Percentile	62.63
Total (\$)	7,128,143
Building Value (\$)	2,289,675
Population	0.18
Population Equiv. (\$)	1,299,989
Agricultural Value (\$)	3,538,480

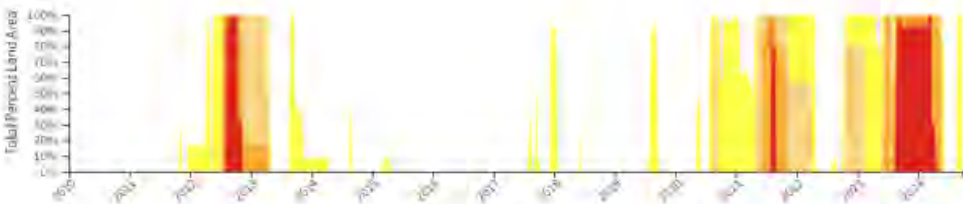
Social Vulnerability

Rating	Relatively Moderate
Score	39.77
National Percentile	56.30
State Percentile	42.42
Source Value	0.36

Community Resilience

Rating	Very High
Score	59.23
National Percentile	95.23
State Percentile	85.86
Source Value	2.96

5

<p>Drought</p>	<p>Definition: a period of prolonged abnormally low precipitation producing severe dry conditions.</p>
<p>Historical Occurrences in Butler County</p>	<p>The last exceptional drought period in Butler County was 2024. The National Integrated Drought Information System reports no prolonged (> 6 month) drought event for Butler County (or even Iowa) within the last decade. The Drought.gov depicts the intensity of drought in the county since 2010.</p> <div> <p>U.S. Drought Monitor Category</p> <ul style="list-style-type: none"> D0 - Abnormally Dry D1 - Moderate Drought D2 - Severe Drought D3 - Extreme Drought D4 - Exceptional Drought Total Area in Drought (D1-D4) </div> 
<p>Location</p>	<p>Droughts have the potential to occur throughout the county with the greatest impacts being realized on agricultural lands as well as on water supplies for cities within the county. The occurrence of a drought within the county would likely impact the entirety of the planning area.</p>
<p>Probability and Extent</p>	<p>It is probable to see moderate drought conditions within the next 5 years. It is also doubtful to see extreme drought conditions in Northeast Iowa. Droughts are observed by its impacts on agriculture, food production, energy production when there is a lack of soil moisture due to low precipitation levels. Butler County is not susceptible to severe drought that has had impacts on agriculture, response, or the local economy. Droughts directly affect agricultural crops, livestock, wildlife, and steam habitats (fish).</p>

	Economic and environmental impacts are more critical for agricultural economies like Butler County's own.
Duration	Droughts occur over prolonged, consecutive time periods (days, week, months).
Warning Time	Conditions predicting a drought are often not known. Most droughts are declared until a period of low precipitation has occurred, and the effects are significant on agriculture, wildlife, and farming economies. No warning time, but forecasts are tracked daily and often change by the day.


Earthquakes	Definition: Sudden, rapid shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface. This shaking can cause buildings and bridges to collapse; disrupt gas, electric, and phone service; it sometimes triggers other hazards including landslides, flash floods, and fires. The three (3) general classes of earthquakes are, tectonic, volcanic, and induced.
Historical Occurrences in Butler County	None in Butler County Iowa has experienced the effects of only three earthquakes in the past 175 years. The most recent occurrence was a 2.7 magnitude earthquake located east of Rembrandt, Iowa in June 2021.
Probability and Extent	There is minimal possibility of an earthquake occurring in Butler County within the next 50 years that could be of damaging magnitude.



The National Seismic Hazard Map is a U.S. Geological Survey hazard planning tool.

To the left is the probabilistic map which illustrates the probability of a damaging earthquake occurring in Iowa within the next 50 years.

Magnitude	Relatively low damage based on historical data. The entire county is likely to feel an earthquake.
Duration	A couple seconds to a minute. Smaller intensity aftershocks occur sparingly over the next few hours.
Warning Time	Minimal or no warning time

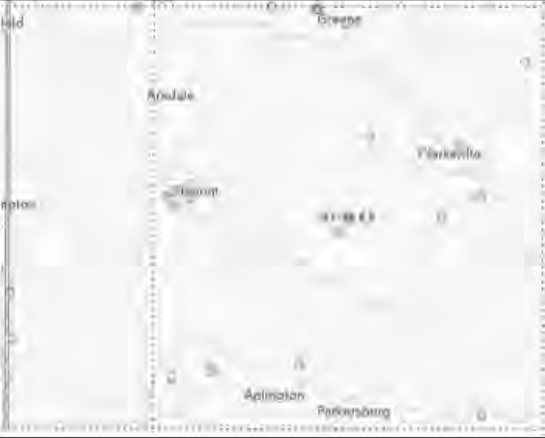
Expansive Soils	Definition: Expansive clay soils, also known as shrink-swell soils or swelling clays, are types of soil that undergo significant changes in volume as their moisture content varies. They may cause damage to infrastructure, roadways, and create costly repairs.
Historical Occurrences in Butler County	No record keeping of this hazard in Butler County
	There have been no recorded disaster declarations or major incidences of this hazard occurring in Iowa. Expansive soils are still a significant concern, particularly in regions where clay-rich soils are prevalent. Expansive soils in Iowa pose challenges for construction, agriculture, and infrastructure development.
Probability and Extent	Expansive soils events are unlikely given their historical occurrence.
<p>Based on part of a swelling clays map produced by the U.S. Geological Survey, most of Butler County has soils that have little or no swelling clay or soils with a composition of less than 50% with swelling potential.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; margin: 0;">COLOR-CODE EXPLANATION FOR SWELLING-CLAY MAP</p> <ul style="list-style-type: none"> Unit contains abundant clay having high swelling potential. Part of unit, generally less than 50 percent, contains clay having high swelling potential. Unit contains abundant fine silt having slight to moderate swelling potential. Part of unit, generally less than 50 percent, contains clay having slight to moderate swelling potential. Unit contains little or no swelling clay. Data insufficient to indicate clay content of unit and soil swelling potential of clay. Shown to conform with Bureau code. </div>  </div>	
Warning Time	Varies/Unknown Expansive soils occur on a geologic time scale. This means that the consistent duration to observe the effects of expansive soils occurring is unknown.
Duration	Varies, the specific duration required to observe the effects of expansive soils varies depending on various factors such as climate, soil composition, and geological conditions.

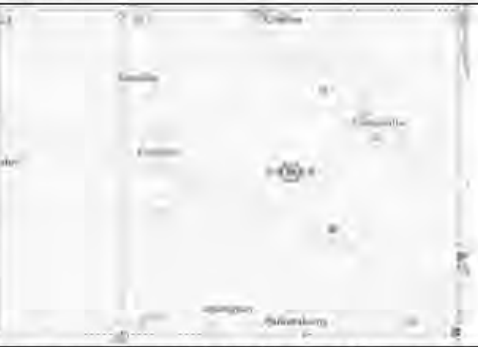
Extreme Heat (Heat Wave)	Definition: Conditions for extreme heat are defined by summertime weather that is substantially hotter and/or more humid than average for a location at that time of year.
Historical Occurrences in Butler County	Butler County issued an excessive heat warning on August 22-24, 2023, for heat indices exceeding 100 degrees F each day. No deaths, injuries, or crop damages were reported. USDA's RMA data show \$1.8 million in damages from heat from 1989 to 2022 while NCEI Storm events Database shows three excessive heat events since 1990.
Location	The occurrence of a heat wave would likely impact the entire planning area, especially individuals and agricultural livestock.
Probability and Extent	Based on historical occurrences, the probability of extreme heat occurring is likely. It will likely last for a few days. As occurrences have grown, people are becoming more familiar with heat exhaustion, heat stroke, and remaining hydrated/indoors, and its severity.

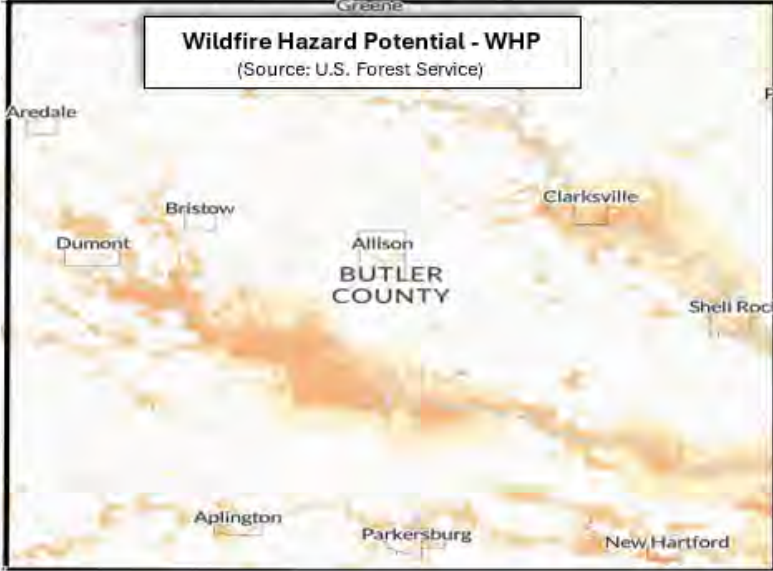
Heat Index	Historical	Mid-Century	End-of-Century
SUMMER			
Maximum Avg Temperature (Degrees F)	80.91	85.33	90.57
Minimum Avg Temperature (Degrees F)	59.51	64.14	69.8
Days with Max Heat Index Over 105 (Days)	1.31	7.01	17.41
Days with Max Heat Index Over 115 (Days)	0.13	3.57	7.96
Days with Max Heat Index Over 125 (Days)	0.03	2.86	4.91

According to the Center for Climate Resilience and Decision Science's CLIMRR statistics, Butler County has a Maximum Average Temperature of 80.91 Degrees F. By the Mid Century, that is expected to rise to 85.33 and by the End-of-Century, it will be 95.56 Degrees F. Days with Max Heat Index over 115 Degrees F will increase from 0.13 historically to 3.57 and 7.96 days in the Mid-Century and End-of-Century, respectively.

Warning Time	The National Weather Service can issue a Heat Advisory or Excessive Heat Warning roughly 10-14 days in advance.
Duration	Multiple days; excessive heat events occur when the temperatures are over the 95 th percentile of the region's historical weather data for at least 2 days.

Flash Flooding	Definition: A flash flood is an event that occurs with little or no warning where water levels rise at an extremely fast rate. Flash flooding results from intense rainfall over a brief period, sometimes combined with rapid snowmelt, ice jam release, frozen ground, saturated soil, or impermeable surfaces. Most flash flooding is caused by slow-moving thunderstorms or thunderstorms repeatedly moving over the same area.	
<p>Historical Occurrences of Flash Flooding in Butler County</p> <p><i>Source: NOAA National Centers for Environmental Information</i></p>		<p>According to the NOAA Storm Events Database Explorer, there have been a total of 166 events between 1997 and 2021. The map includes the locations in which those events took place. As part of three watersheds (Middle Cedar, Upper Iowa, and Middle Iowa), areas adjacent to the rivers and creeks, and its main tributaries are at significantly higher risk. Flash flooding has the potential to occur throughout the planning area, especially in cities that lack sufficient infrastructure to handle heavy rain events. Allison, Aplington, Aredale, Bristow, Clarksville, Dumont, Greene, and Parkersburg are located next to rivers and streams are especially prone to flash flooding events</p>
Probability and Extent	Flash flooding is likely to occur in the planning area with June being the most common month for flash floods, but they can occur from May through September.	
Warning Time	Usually a sudden event during an unusually heavy rainfall. Warnings are issued from the National Weather Service, IAWAS, and local officials.	
Duration	The duration of flash flooding events is dependent on the severity of the event with the duration likely being less than one day. However, cleanup from an event may take several days.	

River Flooding	Definition: Waterways such as streams and rivers exceed the capacity of their natural or constructed channels to accommodate a sudden increase in flow before the river overflows the banks, spilling out into adjacent low-lying, dry land.	
<p>Historical Occurrences in Butler County</p>		<p>According to data from the National Climatic Data Center Storm Events Database, there have been 81 reported flood events in Butler County between 1996 and 2021. The image displays the location of each flood event that has occurred since 1996.</p>
Probability and Extent	Based on historical data of the last 25 years, the probability of river flooding occurring is likely. The annualized frequency is 3.68 flooding events occurring each year given the historical recordings coming from multiple sources and more accurately capture the frequency of flooding within the planning area.	
Warning Time	River flooding can be forecasted to allow for at least 24 hours or more notice.	
Duration	The duration of a flooding event varies based on the severity and location of the flooding event. Duration can range from a few hours to several days or longer.	
Butler County's Risk Index Score for Hazard:	22.09 out of 100 (Relatively Moderate)	
Annualized Frequency of Hazard Occurring	3.68 events	
Expected Annualized Loss:	\$2,011,627 (Relatively High)	
<i>Source: FEMA Risk Index by County (2024)</i>		


Grass/Wildland Fire	Definition: A grass or wild-land fire is an uncontrolled fire that threatens life and property in a rural or a wooded area. Dry weather can also lead to a wildfire threat, especially in the spring before foliage has emerged (i.e. before green up) or in the fall after vegetation has started to die off.	
Historical Occurrences in Butler County	A grass fire or wildland fire is an uncontrolled fire that threatens life and property in a rural or wooded area. This is not the same as a cropland fire. Damage to crops from fire is often covered by insurance and occurs in human-made environments. Wildland or grassfires occur in natural, wild areas. No deaths or injuries reported.	
Probability and Extent	Wildland fires are more likely to occur when conditions are favorable, such as during periods of drought when natural vegetation is drier and more combustible.	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">  </div> <div style="width: 45%;"> <p>Wildfire likelihood</p> <p>Less likely More likely</p> <p>WHP is an index that quantifies the relative potential for wildfire that may be difficult to control, used as a measure to help prioritize where fuel treatments may be needed. The map indicates that given the conditions of vegetation in Butler County, the potential hazard of wildfires that are difficult to control is very low for the entire county. According to the Wildfire Risk To Communities database, Butler County has a low risk of wildfire – lower than 83% of counties in the U.S. There have been two recent wildfires in the county. One occurred in April 2015 northwest of Parkersburg and the other occurred April 2019 south of Aplington. Source: https://datacentral.press-citizen.com/wildfire-history/?page=1&query=lowa&anc=active#ftbl</p> </div> </div>		
Warning Time	The wildfire history map indicates that Iowa possesses few areas with significant wildfire potential, with the majority classified as "Non-burnable Lands," primarily agricultural fields. Furthermore, the vast majority of the state exhibits a "Very Low" wildfire hazard potential, indicating minimal risk of extreme fire behavior. Consequently, wildfires in Iowa tend to be limited in scope and severity due to the absence of areas conducive to significant fire spread or extreme behavior.	
Duration	Usually contained in a few hours. Less than 24 hours.	
Butler County’s Risk Index Score for Hazard: Expected Annualized Loss: <i>Source: FEMA Risk Index by County (2024)</i>	2.33 out of 100 (Very Low) \$1,357	



<p>Hazardous Materials Incidents</p>	<p>Definition: A HAZMAT (hazardous materials) incident is the accidental release of chemical substances or mixtures which presents a danger to the public health or safety during production or handling at a fixed facility. Fixed hazardous material incidents usually affect a localized area, and the use of planning and zoning can minimize the area of impact.</p> <p>This hazard includes fixed hazardous materials, pipeline transportation, and transportation of hazardous materials. A HAZMAT or Radiological Transportation Incident is the accidental release of chemical substances or mixtures that presents danger to the public health or safety during transportation. A hazardous substance is one that may cause damage to persons, property, or the environment when released to soil, water, or air. Chemicals that are manufactured and used in ever increasing types and quantities. As many as 500,000 products pose physical or health hazards and can be defined as "hazardous chemicals." Each year, over 1,000 new synthetic chemicals are introduced and transported across the country via semi-trucks and trains. Hazardous substances are categorized as toxic, corrosive, flammable, irritant, or explosive.</p> <p>A pipeline transportation incident occurs when a break in a pipeline creates the potential for an explosion or leak of a dangerous substance (oil, gas, etc.) possibly requiring evacuation. A pipeline incident can be caused by environmental disruption, accidental damage, or sabotage. Incidents can range from a small, slow leak to a large rupture where an explosion is possible. Inspection and maintenance of the pipeline system along with marked gas line locations and an early warning and response procedure can lessen the risk to those near the pipelines.</p>
<p>Historical Occurrences in Butler County</p>	<p>According to the Iowa Department of Natural Resources, there were 17 incidents of hazardous material spills in Chickasaw county from 2017-2023 (see below for a list of occurrences). There are no known occurrences of transportation incidents involving radiological materials.</p>
<p>Probability and Extent</p>	<p>Large quantities of hazardous materials are transported daily throughout the county on their various highways. Freight transportation transports hazardous materials across these roadways across the county. The U.S. Department of Transportation regulates U.S. routes and speed limits are used by carriers and monitors the types of hazardous materials crossing state lines. Despite increasing safeguards, more and more potentially hazardous materials are being used in commercial, agricultural, and domestic uses and are being transported on neighboring roads, highways, and railways. Based on the information, the likelihood of this occurring is more than 33% probability in any given year, making it highly likely.</p>


	Date	Incident Report #	Hazardous Substance	Amount	Responsible Party
<p>Historical Occurrences of Hazardous Incidents that have caused occurred in Butler County from 2017-2023</p>	01/04/14	052223-JDD-1817	Callisto Herbicide (mesotrione)	2 gal	Koopa, Steve
<p><i>Source: Iowa DNR Hazardous Material Release Database (10/08/2024)</i></p>	06/12/14	101022-CEB-1115	Atrazine	75 lbs	Cornbelt Power Cooperative
	01/27/15	082822-JGK-0029	Ammonium sulfate	102 lbs	MidAmerican Energy
	02/18/16	121621-DAK-1235	TripleFLEX Herbicide	20 gal	American Colloid Blending
	09/01/16	121621-CEB-0520	Roundup Herbicide	20 gal	MidAmerican Energy
	09/22/16	071521-DHB-0810	Diesel Fuel	Unknown	MidAmerican Energy
	05/02/17	070321-DAK-1359	Transformer Oil (Non PCB)	1300 gal	Rambling Wheels M.C.
	07/26/17	021021-DAK-1456	Transformer Oil (Non PCB)	153 gal	Flint Hills Resources
	10/31/17	110619-CEB-0840	Hydraulic Oil	15 gal	Agvantage FS
	01/12/18	042419-CEB-1724	Transformer oil (PCB)	81 gal	Agvantage FS
	12/06/18	020719-JLC-0242	Transformer oil (PCB)	27 gal	Iowa Northern Railway Company
	04/06/20	102718-CEB-1612	Hydraulic Fluid	2 gal	SJB
	04/19/20	102618-CEB-1530	Ethanol (denatured alcohol)	20 gal	Tres M
	05/24/20	092618-TRL-1136	N-Serve Nitrogen Stabilizer	25 gal	Iowa Select Farms
	07/23/20	022118-SJW-1030	Urea Ammonium Nitrate (UAN)	200 gal	Kwik Star, Inc
	04/16/21	111717-RMG-0920	Diesel Fuel	890 gal	Landus Cooperative
	08/27/21	110317-DWW-2138	Manure	6200 gal	Jefferson Finisher

Magnitude or Severity	<p>Most of the hazardous materials are localized and contained by trained first responders that work with hazardous materials teams. Depending on the type of hazardous material or the volume spill in the incident, an affected area is likely to include a 5-mile radius.</p> <p>Immediate dangers from hazardous materials include fires and explosions. The release of some toxic gases may cause immediate death, disablement, or sickness if absorbed through the skin, injected, ingested, or inhaled. Contaminated water resources may be unsafe and unusable, depending on the amount of contamination. Contamination of air, ground, or water may result in harm to fish, wildlife, livestock, and crops. The occurrence of a hazmat incident often shuts down transportation corridors for hours at a time while the scene is stabilized.</p>
Warning Time	The warning time is minimal. When accidents do occur, response time is crucial since hazardous materials can pose a significant risk to the population. Hazardous material incidents usually occur very rapidly with little or no warning.
Duration	The duration of a hazardous materials event will vary upon the amount of hazardous material released and location of the incident. Typical incidents last under a day but could last for days or weeks.

Landslide	Definition: Occur when susceptible rock, earth, or debris moves down a slope under the force of gravity and water. Landslides may be very small or very large and can move at slow to very high speeds. A natural phenomenon, landslides have been occurring in slide-prone areas of Iowa since long before the state was created. Landslides can occur due to rainstorms, fires, or human activities that modify slope and drainage
Historical Occurrences in Butler County	<p>There have been no occurrences of landslides in Butler County.</p> <p>No deaths or injuries reported.</p>
Probability and Extent	There are no large slopes in Butler County thus the extent of impact is negligible.
<p>Map of Landslide Potential</p> <p>Red = Very High Potential; Yellow = High Potential; Green = Moderate Potential; Black = Low Potential</p> <p>Source: US Geological Survey</p>	
Warning Time	
Duration	Usually contained landslides are typically over within hours of occurring. Less than 24 hours.
Butler County's Risk Index Score for Hazard	17.93 out of 100 (Relatively Low)
Source: FEMA Risk Index	Expected Annualized Loss: \$69,987



<p>Levee/Dam Failure</p>	<p>Definition: Dam/Levee failure is the uncontrolled release of water resulting from a structural failure in a dam, wall, dike, berm, or area of elevated soil that causes flooding. Possible causes of the breach could include flooding, earthquakes, blockages, landslides, lack of maintenance, improper operation, poor construction, vandalism, terrorism, erosion, piping, saturation, or under seepage.</p>	
<p>Historical Information on Butler County</p>		<p>According to the National Inventory of Dams, there are 7 total dams in Butler County. They include the Koop, Winkowitsch, Holm, Wedeking, Hunemiller, Greene Mill, and Shell Rock Dams. Each dam is classified as a low hazard potential. The Greene Mill dam is used for hydroelectric purposes and the Shell Rock Dam is used for recreation purposes. The others are for fire protection, stock, or small fish pond usage. None of the dams require an emergency action plan. According to the National Levee Database, there are no federally registered levees.</p>
<p>Probability and Extent</p>	<p>The probability and extent of a dam failure due to a breach in the structural integrity of the system is also minimal. The hazard risk for the dams in unincorporated Butler County was removed due to no hazard dams or levees being in the county. The probability and extent of a catastrophic dam failure or other dam-related hazard was determined to be unlikely. If failure were to occur, the extent has is likely to be insignificant.</p>	
<p>Warning Time and Duration</p>	<p>A sudden failure of a portion of the levee may send floodwaters gushing from this break within seconds. Normally, occupants of the floodplain can be warned about potential levee breaches or breaks when high water encroaches upon the levee. The length of time that a dam or levee failure would impact the surrounding area depends largely on the amount of water the specific dam or levee held back. The duration of a failure's impact could feasibly range from hours to months.</p>	
<p>Severe Winter Storm</p>	<p>Severe winter weather conditions that can affect day-to-day activities include blizzard conditions, heavy snow, blowing snow, freezing rain, heavy sleet, and extreme cold. Winter storms are common during the months of October through April in Iowa.</p>	
<p>Historical Occurrences and Location</p>	<p>According to data from the National Climatic Data Center, there have been 73 reported winter storm events in Butler County between 2015 and 2021. Severe Winter Storms are likely to occur throughout the entire planning area. The table below displays the date, location, and impact of storms that caused damage.</p> <p>No fatalities or injuries reported. Estimates of damage are \$378,045.</p>	
<p>Probability and Extent</p>	<p>Based on historical occurrences it is highly likely a severe winter storm will affect Butler County on an annual basis, likely multiple times in a year. The extent of such a storm can be evaluated using the Northeast Snowfall Impact Scale (NESIS). The five categories include notable, significant, major, crippling, and extreme (rated on a scale of 1-5) depending on the event. It has an annualized frequency of 5.6 events per year, indicating a high probability.</p>	
<p>Warning Time</p>	<p>The National Weather Service has developed effective weather advisories, which are promptly and widely distributed. There are several notifications made by the National Weather Service. These include winter storm watch, winter storm warning, blizzard warning, winter weather advisory, and a frost/freeze advisory.</p>	
<p>Duration</p>	<p>Depending on the type, duration, and the size of the event the entire population could feel the effect of a winter storm. Generally, due to existing snow removal services and other community services the effects of winter storms on incorporated communities in Chickasaw County are short term; however, the more rural, unincorporated areas tend to be impacted longer due to rural nature of the county. Although more of an inconvenience, and somewhat more dangerous, travel and communication are usually an option in less than 24 hours of any given event.</p>	
<p>Butler County's Risk Index Score for Hazard</p> <p>Source: FEMA Risk Index</p>	<p>23.14 out of 100 (Relatively Moderate)</p> <p>Expected Annualized Loss: \$378,869</p> <p>Source: FEMA Risk Index by County (2024)</p>	

Sinkholes	<p>Definition: A sinkhole is the loss of surface elevation due to the removal of subsurface support. Sinkholes range from broad, regional lowering of the land surface to abrupt localized collapse. The primary causes of most subsidence are human activities such as underground mining of coal, groundwater/petroleum withdraw, or drainage of organic soils. Sinkholes can aggravate flooding potential, collapse of an abandoned mine may destroy buildings, roads, and utilities.</p>
Historical Occurrences in Butler County	<p>According to Iowa DNR AFO siting maps, there are approximately 15-30 sinkholes located within Butler County (See below). These mainly occur over Karst formations in the ground. There is no data on historical/annual losses, and it is not in FEMA Risk Index. No fatalities or injuries reported. No damage to property or crops. No fatalities or injuries reported. No damage to property or crops.</p>
Probability and Extent	<p>This hazard affects less than 2% of land in the County. Given the lack of historical occurrences, the severity of future events is likely to be negligible and unlikely to occur.</p>
	<p>The dark blue areas denote groundwater stored within the bedrock's crevices, constituting the shallow aquifer and accessible to the depicted well. The diagram illustrates the porous nature of the bedrock, facilitating groundwater storage and movement. It also shows how the land surface and visible stream directly interface with the bedrock-stored water. In Karst systems, soil infiltration, surface runoff, and streams can directly feed into the shallow bedrock, contributing to the shallow groundwater and aquifer, potentially carrying contaminants from the surface to wells drawing from this source.</p>
	<p>Sink holes growing in mass is a slow yet gradual process. Land use practices in the area, soil type in addition to a number of other factors will impact the speed of onset. By identifying these areas city agencies and property owners will be able to implement the necessary precautions to slow and potentially eliminate the development of a sink hole. Catastrophic sinkholes can provide little visible warning, setting in in as little as a few minutes. A sinkhole can affect the location in which it occurred for weeks.</p>
Thunderstorm with Lighting or Hail	<p>Definition: Thunderstorms are created from a combination of moisture, rapidly raising warm air, and the lifting mechanism such as that caused when warm and cold air masses collide. Thunderstorms occur in the community on an annual basis. Lightning is an electrical discharge that results from the buildup of positive and negative charges within a thunderstorm. Hailstorms are a product of a severe thunderstorm in which pellets or lumps of ice (of most concern when greater than 1 inch in diameter) fall with rain.</p>
Historical Occurrences in Butler County	<p>According to the NOAA Storm Events Database Explorer, there have been 121 thunderstorm events with hail and lightning reported from 2017 to 2021. No fatalities or injuries were report for this hazard. The expected annual loss for is \$1,125,580 for hail events, \$12,861 for lightning events, and \$1,367,079 for strong winds.</p>
Probability and Extent	<p>Hail and thunderstorms have the potential to impact all of Butler County. According to the Lightning Risk Index score, Butler County has a very low risk of thunderstorms occurring when compared to the rest of the United States in regard to the severity of such an event. As such, it is likely to occur on a yearly basis.</p>
Warning Time	<p>The National Weather Service has developed effective weather advisories, which are promptly and widely distributed.</p>
Duration	<p>Less than 24 hours.</p>
Butler County's Risk Index Score for Hazard	<p>Hail: 14.86 out of 100 (Relatively Moderate) Lightning: 8.96 out of 100 (Very Low) Strong Wind: 26.69 (Relatively Moderate) Source: FEMA Risk Index by County (2024)</p>

Tornados	Definition: A tornado is a violent whirling wind characteristically accompanied by a funnel shaped cloud extending down from a cumulonimbus cloud that progresses in a narrow, erratic path. a severe thunderstorm in which pellets or lumps of ice (of most concern when greater than 1 inch in diameter) fall with rain.
Historical Occurrences and Location of Impact	According to the NOAA Storm Events Database, the expected annual loss total for tornados in Butler County is \$581,927.
Probability and Extent	It is likely greater than 25% likelihood for a tornado occurring in any given year. According to the NOAA National Risk Index, the annualized frequent rate is 9.76. Butler County has a relatively low risk rating in regard to the severity of such an event.
Historical Occurrences of Hazard in Butler County	 <p>From 2016-2021, there have been 23 total tornado events according to the NOAA Storm Events Database Explorer. Of those events, there was 1 injury reported</p>
Warning Time	Tornado and thunderstorm watches can warn of likely conditions hours in advance of an upcoming storm. Although an imminent tornado warning may occur with 95% accuracy and those can be issued at least 15 minutes.
Duration	Less than 24 hours.
Butler County's Risk Index Score for Hazard	7.36 out of 100 (relatively low) <i>Source: FEMA Risk Index by County (2024)</i>

Animal/Plant/Crop Disease	Definition: A pathogen that may cause stress, infection, illness, and death. Communicable among livestock flocks, interactions with wild animals, crops, and bug infestations. Naturally occurring but hazard is not in the natural hazard section because of human induced causes such as tiling in agriculture, rising temperatures from climate change, etc. may induce more of a hazard.
Historical Occurrences in Butler County	Instances of plant, crop, or animal disease are common across Iowa and Butler County. However, according to available data and input, there have been no widespread recorded occurrences of plant, crop, or animal diseases having a long-term significant impact in the planning area. No fatalities or injuries reported for this hazard.
Probability and Extent	Plant and livestock diseases occur regularly. Iowa DNR tracks and notifies the public of any new or confirmed cases of a pathogen. Butler County has an agricultural crop value of \$291,478,000. This is all potentially at risk of an infestation and loss.
<p>In the past decade, there have been confirmed infestations of tar spot in corn crops in the County (2018). Emerald Ash borer insects infested the region in 2014 and have caused the widespread decline of ash trees. Tree removal of dying trees with falling limb hazards has been a top concern for many rural Iowan communities.</p> <p>Highly pathogenic avian flu cases have been confirmed in Butler County and across the State of Iowa throughout the past decade. Hog numbers remained relatively stable without major outbreaks of swine flu reported.</p>	
Warning Time	With the reporting systems set up among agricultural stakeholders, the warning time is likely a few days ahead of time, but this is set to change and varies depending on the specific contagion. Quarantines are often too late to contain pest and insect infestations or migratory bird diseases.
Duration	Weeks or months. Impacts can be years.

Pandemic/Endemic Human Disease	Definition: An epidemic as an unexpected increase in the number of disease cases in a specific geographical area. Yellow fever, smallpox, measles, and polio are prime examples of epidemics. A pandemic is an unexpected increase in disease across multiple continents where the contagion is often a virus. Often for new diseases, populations have no immunity and severity of the disease is dependent on the virus characteristics, spreading factors, and efficacy of any existing vaccines to control the spread.
Historical Occurrences in Butler County	Pandemic human disease has long been a known threat, but it was catapulted to the forefront of public thought in 2020 as the multi-year, COVID-19 pandemic caused by the novel SARS-COV2 virus swept across the globe, causing massive disruptions to public health and healthcare systems, public life and society, and economies at every scale. The reverberations from this pandemic are ongoing. Endemics of flu are regular and occur on an annual basis. Rates of infection have remained normal. Lyme Disease, Cryptosporidiosis, E-Coli, Latent tuberculosis are typical infections tracked by County public health officials that occur mostly from an environmental source (contaminated meats, water).
	Total reported deaths from COVID-19 in Butler County were 61. Most occurring during the 2020 outbreak.
Probability and Extent	Population of Butler County was 14,334 (2020 Census) As of Dec 2022, 57.41% are fully vaccinated for COVID 19. Rise in COVID-19 cases occur annually in the colder months making this an endemic that is likely to stay in the population.
In the last 20 years, 10 events occurred where contagions have occurred as pandemics or major endemics (H1N1, SARS, MERS, Polio, Ebola (2), Malaria, Zika, COVID-19). The scale and impact of each one was dependent on the contagion characteristics, vaccine efficacy, and cooperation of worldwide systems to contain these outbreaks. Based on past events, the probability is likely greater than 20% of major endemics or pandemics occurring within 10 years. However, the scale and magnitude can vary depending upon multiple factors primarily in the early weeks of appearance.	
Warning Time	Typically, a few weeks ahead of time.
Duration	Weeks or months. If not contained, pandemics can become endemics and stay in the human population indefinitely.
Terrorism	Definition: Domestic terrorism is the focus on terrorism in this assessment. This is defined as violent, criminal acts committed by individuals and/or groups to further ideological goals stemming from domestic influences, such as those of a political, religious, social, racial, or environmental nature.
Historical Occurrences in Butler County	None in Butler County.
	No injuries or deaths reported.
Probability and Extent	Population of Butler County was 14,334 (2020 Census) The 2024 Homeland Threat Assessment expects domestic terrorism to remain unchanged in the coming years.
Rural areas are not prone to foreign born terrorism attacks. Domestic terrorism is far more likely for rural areas and the likelihood increases with a variety of factors. Radicalization online and the availability of accessing weapons can make any spot prone to attack. Attacks have largely targeted schools, churches, and mass gatherings such as shopping centers.	
Warning Time	None.
Duration	Usually occurs in less than an hour. Depending on the attack.

Radiological Incidents	Definition: A radiological incident is an occurrence resulting in a release of radiological material at a fixed facility or in transit. An incident resulting in a release of radiological material at a fixed facility includes, but is not limited to, power plants, hospitals, and laboratories. Although the term "nuclear accident" has no strict technical definition, it generally refers to events involving the release of significant levels of radiation.		
Historical Occurrences in Butler County	No occurrences recorded in Butler County No deaths or injuries reported due to this hazard in County.		
Probability and Extent	Butler County is located far beyond the 50-mile hazard radius from a nuclear powerplant. Beyond a nuclear bomb attack which would likely impact only large metro areas, Butler County has no vulnerability to radiological hazard.		
<p>There are two nuclear power plants that operate close to Iowa's borders: the Quad Cities Generating Station near Cordova, Illinois, and the Cooper Nuclear Station near Brownsville, Nebraska. The map below identifies the location of each facility as well as the 10-mile and 50-mile planning buffers.</p>		<p>Nuclear Power Plants Impacting Iowa (2021).</p>  <p>Source: Iowa HSEMD</p>	
Warning Time	Usually no warning time.		
Duration	A nuclear event is likely over in a few seconds. The fallout is likely to last for decades. For a meltdown at a power plant, this can occur over a period of hours or days. If left uncontained, the radioactivity would devastate the region, and winds could carry the fallout and drop hazardous fallout a vast area for hundreds of miles.		
Transportation Incidents	<p>Definition: This hazard encompasses air transportation, highway transportation, railway transportation, and waterway incidents. A transportation incident is described as an accident involving any mode of transportation that directly threatens life, property damage, injury, or adversely impacts a community's capabilities to provide emergency services.</p>		
Historical Occurrences in Butler County		<p>There have been 142 total crashes from 2020 to 2024 that have resulted in 2 deaths and 9 serious injuries throughout the county according to the Iowa DOT. It involved 252 total occupants. Of those incidents, 6 involved rail.</p> <p>There were no reported aviation incidents from 2020 to 2024.</p> <p>The following map indicates locations of incidents from the Iowa Crash Analysis Tool.</p>	
Probability and Extent	<p>Car crashes are likely to occur. Based on historical data, 15% probability of serious car accidents each year (not many confirmed involving drugs or alcohol). Most accidents involve 2 vehicles.</p> <p>Railway and aviation accidents are not likely and there is less than 10% chance of occurring annually.</p>		
Warning Time	None		
Duration	Most transportation incidents are of short duration and limited impact.		

Capability Assessment for Implementing Your Mitigation Strategy

Please complete and return to Isaiah

Instructions: Write your jurisdiction below and answer whether your jurisdiction has the following regulatory documents or plans by writing Yes (Y) or No (N). Under the zoning ordinance section, write Yes (Y), No (N), or restricted residential (RR) ordinance. The 2020 Hazard Mitigation Plan Responses are below as a reference for you.

2025 Hazard Mitigation Plan Participant Responses									
Write your jurisdiction below and provide answers Yes or No for each column as to whether your jurisdiction has these documents or not.	Previous HMP Participant?	Comprehensive Plan?	Building Code?	Zoning Ordinance? Note: RR-restricted residential	Subdivision Regulations?	Floodplain Management Ordinance?	Tree-Trimming Ordinance?	Storm Water Ordinance?	Snow Removal Ordinance?

FOR REFERENCE									
2020 Hazard Mitigation Plan Responses									
Communities	Previous HMP Participant?	Comprehensive Plan?	Building Code?	Zoning Ordinance? Note: RR-restricted residential	Subdivision Regulations?	Floodplain Management Ordinance?	Tree-Trimming Ordinance?	Storm Water Ordinance?	Snow Removal Ordinance?
Allison	Yes	Yes	No	Yes	No	No	Yes	No	Yes
Aplington	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Aredale	Yes	No	No	No	No	No	No	No	No
Bristol	Yes	No	No	Yes; RR	No	No	No	No	No
Clarksville	Yes	No	No	Yes; RR	No	Yes	Yes	Yes	Yes
Dumont	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes
Greene	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
New Hartford	Yes	Yes	Yes	Yes; RR	No	Yes	No	No	Yes

Plan Committee Meeting #2

Butler County Multi-Jurisdictional Hazard Mitigation Plan Update
Tuesday, October 22, 2024

1



- 1. Welcome
- 2. Overview of Hazards
- 3. Community Partners Discussion
- 4. County's Historical Hazard Information for probability, magnitude, duration, and warning time
- 5. Historic Hazard Risk Assessment Summary Worksheet **(Complete and Turn In)**
- 6. Hazard Capability Assessment **(Bring Back to Next Meeting)**
- 7. Previous Meeting Assignments
 - a. 2020 Mitigation Strategy Update
 - b. Community Profile
 - 1. Commission Text to Council: A.P. (SD) Greene, Neal Harford, Matt Neal
- 8. Next Meeting
 - a. Tuesday, November 12, 2024, at 4:00 PM – Butler County Courthouse
 - 1. Problem Statements
 - 2. Mitigation Goal Setting
- 9. Adjourn

2

Last Meeting Follow Up

- Were there any goals and objectives that didn't make sense as you completed your 2020 action strategies review?
- Were there goals and objectives notably missing?
- What kind of progress in the past 5 years was made?

3

Overview of Hazards in Butler County's Plan

- 20 Hazards
 - 13 Natural Hazards
 - 7 Human Caused or Technological Hazards
- *2023 State Mitigation Plan by Iowa Homeland Security and Emergency Management Department (IHSEMD)*

2023 Iowa Hazard List	
Natural Hazards	
1	Drought
2	Earthquake
3	Expansive Soils
4	Extreme Heat
5	Flooding - Flash
6	Grass/Wildland Fire
7	Landslide
8	Levee/Dam Failure
9	Flooding - Riverine
10	Severe Winter Storm
11	Sinkholes
12	Thunderstorm/Lightning/Hail
13	Tornado/Windstorm
Other Hazard Types	
14	Animal/ Crop/ Plant Disease
15	Pandemic/ Endemic Human Disease
16	Hazardous Materials
17	Infrastructure Failure
18	Radiological
19	Terrorism
20	Transportation Incidents

4

Hazard Risk Assessment

Warning Time	
The speed of onset is the amount of warning time available before the hazard occurs. For many of the atmospheric natural hazards there is a considerably amount of warning time, as opposed to the human caused accidental hazards that occur instantaneously or without any significant warning time.	
Score	Description
1	More than 24 hours warning time.
2	12 to 24 hours warning time.
3	6 to 12 hours warning time.
4	Minimal or no warning time (up to 6 hours warning).

Duration	
This consists of the typical amount of time that the jurisdiction is impacted by the hazard. As an example, a snowstorm will likely last several hours, whereas a lightning strike would last less than a second.	
Score	Description
1	Less than 6 hours
2	Less than 1 day
3	Less than 1 week
4	More than 1 week

Probability	
The probability score reflects the likelihood of the hazard occurring against the County. Consider the historical occurrence.	
Score	Description
1	Unlikely: Less than 10% probability in any given year (up to 1 in 10 chance of occurring); history of events is less than 10% likely or less than a century long (due to a decreasing of 10 occurrences).
2	Occasional: Between 10% and 20% 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: Between 20% and 30% probability in any given year (up to 1 in 3 chance of occurring); history of events is greater than 20% but less than 30% or the event is likely to occur.
4	Highly likely: More than 30% probability in any given year (events can up to a 1 in 1 change of occurring); history of events is greater than 30% likely or the event is highly likely to occur.

Magnitude / Severity	
The magnitude is the impact of a hazard event, and the extent that hazards affect the County and its residents using technical measures specific to the hazard.	
Score	Description
1	Highly likely: Less than 10% of property severely damaged, shutdown of facilities and services for less than 24 hours, and/or injurious/irreversible incidents with first aid.
2	Likely: 10% to 20% of property severely damaged, shutdown of facilities and services for more than a week, and/or injuries/deaths that do not result in permanent disability.
3	Critical: 20% to 30% of property severely damaged, shutdown of facilities and services for several days/weeks, and/or injuries/deaths that result in permanent disability.
4	Catastrophic: More than 30% of property severely damaged, shutdown of facilities and services for more than 30 days, and/or multiple deaths.

5

Reflection



As you discussed the various hazards, what hazard stood out to you and why?



What action steps are beginning to emerge as priorities in your discussion of the various hazards?



What are some considerations that your jurisdiction needs to take when addressing these hazards?

6

Capability Assessments



PLANNING AND REGULATORY
ADMINISTRATIVE AND TECHNICAL
FINANCIAL
EDUCATION AND OUTREACH



WHAT IS YOUR JURISDICTIONS CAPACITY AND
WHAT SHOULD YOU CONSIDER WHEN THINKING
ABOUT HAZARD MITIGATION PLAN?

7

Planning and Regulatory

- What kinds of plans does each participant have? Which do you use most often?
- Are there any laws or ordinances that mitigate hazards?
- How do planning and development decisions and processes account for and/or increase hazard risk?

Types of Tools

Explore planning tools that help reduce risk.



Addressing
Hazards in Plans
and Policies



Strengthening
Incentives



Protecting
Sensitive Areas



Improving Site
Development
Standards



Improving
Buildings and
Infrastructure



Enhancing
Administration
and Processes

8



Administrative and Technical

- Which staff are available to help carry out the plan?
- Who will be responsible for implementing mitigation actions?
- Are outside technical expertise or resources needed?
- Are agreements in place between participants and other organizations that can help support implementation?

9



Financial

- Property, sales, income, or special purposes taxes
- General Funds
- Utility Service Fees
- General obligation or special purpose bonds
- Federal Funding
- State Funding
- Private or nonprofit grants

10

Education and Outreach

What outreach program or venues do you use to share information?

Who are the communities and partners we need to discuss resilience with? What gaps may exist that decrease an underserved community's ability to access resources and plan for risk reduction?

Challenge: Discuss with a nonprofit, academia, business, or other stakeholder this week about what goals and objectives are important in mitigating hazards?

11

Assignment Reminders

- Risk Assessment (This Week)
- Capability Assessment (This Week)
- 2020 Mitigation Strategy (Last Week)
- Community Profile (Last Week)

12



Next Meeting

- Tuesday, November 12, 2024, at 6:30 PM

- Problem Statements
- Mitigation Goals and Objectives

Isaiah Corbin

319-235-0311

icorbin@inrcog.org

- PUBLIC MEETING AGENDA -
Butler County Multi-Jurisdictional
Hazard Mitigation Plan Committee Meeting #3

Date: Tuesday, November 12, 2024

Time: 6:30 PM

Place: Butler County Courthouse – Basement Meeting Room
428 Sixth Street
Allison, Iowa 50602

1. Handout: Identifying Critical Facilities in Your Community
 - a. Turn in before you leave
2. Handout: Problem Statements and Mitigation Action Worksheet
 - a. Turn in before you leave
3. Previous Meeting Assignments (Please turn in if you haven't already)
 - a. Strategy Update: Aplington, Dumont, Greene, New Hartford, Shell Rock, A-P CSD, NB CSD
 - b. Community Profile: Butler, Dumont, Greene, New Hartford, Shell Rock, AP CSD, NB CSD
 - c. Hazard Risk Assessment: Dumont, Greene, New Hartford, AP CSD, NB CSD, WSR CSD
 - d. Capability Assessment: Dumont, Greene, New Hartford, Shell Rock
4. Next Meeting
 - a. Tuesday, December 10, 2024, at 6:30 PM – same location
5. Adjourn

Members of the public are welcome to attend and observe the meeting.
Committee participants are expected to attend and complete meeting materials.
Parking Available in the Rear of Building

For Questions or Comments, contact meeting coordinator:
Isaiah Corbin / INRCOG / Office: (319) 235-0311 / icorbin@inrcog.org

Butler County Multi-Jurisdictional Hazard Mitigation Plan Update

Committee Meeting #3 - Attendance Sign-In Sheet

November 12, 2024

	Name (please print & sign)	Jurisdiction/ Organization	Email Address
1	Jerald Wever <i>Jerald Wever</i>	Clarksville	clarksville@clarksvilleva.com
2	Cory Weidmann <i>Cory Weidmann</i>	GREENE	greenepwde@gmail.com
3	Deana Hansen	Aredale	cityofaredale@netins.net
4	Jason Mehner	Aplington	mechnerjason@gmail.com mechnerjason@gmail.com
5	Chris Lehning	P-Dung	celhning@aol.com
6	Tom Mantel	P-Dung	thman101@gmail.com
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	Name (please print & sign)	Jurisdiction/ Organization	Email Address
17	<i>Craig Showalter</i>	<i>Butler EMA</i>	<i>cshowalter@butlercounty.inva.gov</i>
18	<i>Bryan Boyson</i>	<i>North Butler + School Clarksville, Dist</i>	<i>bryan.boyson@northbutler.org</i>
19	<i>Deana Hanson</i>	<i>City of Aredale</i>	<i>cityofaredale@netins.net</i>
20			
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Vulnerability Assessment: Critical Facilities

List critical facilities in your community. Critical facilities are important to the operation of a community, the quality of life, and may contain key components of the economic sector. Designated facilities for community emergency shelters should also be listed.

Butler County		Confirm whether the list of critical facilities is accurate by checking Y or N.	
Critical Facilities List <i>(taken from 2020 Hazmit Plan)</i>	Y	N	If you would like to change or remove any of these locations, write reason below (ex. Renamed, relocated, no longer open).
Additional facilities to add to the list of critical buildings? Write the name below.			

Vulnerability Assessment: Critical Facilities

List critical facilities in your community. Critical facilities are important to the operation of a community, the quality of life, and may contain key components of the economic sector. Designated facilities for community emergency shelters should also be listed.

City of Allison		Confirm whether the list of critical facilities is accurate by checking Y or N.	
Critical Facilities List <i>(taken from 2020 Hazmit Plan)</i>	Y	N	If you would like to change or remove any of these locations, write reason below (ex. Renamed, relocated, no longer open).
EMS Building			
Rehabilitation Center			
Mercy One Clinic			
Butler County Courthouse			
St. James Lutheran Church			
Trinity Reform Church			
AMVET Post 88			
City Hall			
Rehabilitation Center			
UCC Church			
Public Library			
Emergency Services Building			
Elementary School			
Additional facilities to add to the list of critical buildings? Write the name below.			

Vulnerability Assessment: Critical Facilities

List critical facilities in your community. Critical facilities are important to the operation of a community, the quality of life, and may contain key components of the economic sector. Designated facilities for community emergency shelters should also be listed.

City of Aplington		Confirm whether the list of critical facilities is accurate by checking Y or N.	
Critical Facilities List <i>(taken from 2020 Hazmit Plan)</i>	Y	N	If you would like to change or remove any of these locations, write reason below (ex. Renamed, relocated, no longer open).
Recreation Complex			
AP Elementary & Middle School			
Maple Manor Village			
Water Treatment Plant			
First Reformed Church			
City Hall			
Evangelical Presb Church			
Baptist Church			
First Reformed Church			
Additional facilities to add to the list of critical buildings? Write the name below.			

Vulnerability Assessment: Critical Facilities

List critical facilities in your community. Critical facilities are important to the operation of a community, the quality of life, and may contain key components of the economic sector. Designated facilities for community emergency shelters should also be listed.

City of Aredale		Confirm whether the list of critical facilities is accurate by checking Y or N.	
Critical Facilities List <i>(taken from 2020 Hazmit Plan)</i>	Y	N	If you would like to change or remove any of these locations, write reason below (ex. Renamed, relocated, no longer open).
First Security Bank & Trust			
City Hall			
Farmers Coop Elevator			
Duck's Bar & Grill			
Post Office			
City Hall			
United Methodist Church			
Tiling Businesses (2)			
Fire Station			
Additional facilities to add to the list of critical buildings? Write the name below.			

Vulnerability Assessment: Critical Facilities

List critical facilities in your community. Critical facilities are important to the operation of a community, the quality of life, and may contain key components of the economic sector. Designated facilities for community emergency shelters should also be listed.

City of Bristow		Confirm whether the list of critical facilities is accurate by checking Y or N.	
Critical Facilities List <i>(taken from 2020 Hazmit Plan)</i>	Y	N	If you would like to change or remove any of these locations, write reason below (ex. Renamed, relocated, no longer open).
City Hall			
Additional facilities to add to the list of critical buildings? Write the name below.			

Vulnerability Assessment: Critical Facilities

List critical facilities in your community. Critical facilities are important to the operation of a community, the quality of life, and may contain key components of the economic sector. Designated facilities for community emergency shelters should also be listed.

City of Clarksville		Confirm whether the list of critical facilities is accurate by checking Y or N.	
Critical Facilities List <i>(taken from 2020 Hazmit Plan)</i>	Y	N	If you would like to change or remove any of these locations, write reason below (ex. Renamed, relocated, no longer open).
City Hall			
Nursing Home			
Fire Station			
Public Library			
Clarksville Comm. Schools			
Additional facilities to add to the list of critical buildings? Write the name below.			

Vulnerability Assessment: Critical Facilities

List critical facilities in your community. Critical facilities are important to the operation of a community, the quality of life, and may contain key components of the economic sector. Designated facilities for community emergency shelters should also be listed.

City of Dumont		Confirm whether the list of critical facilities is accurate by checking Y or N.	
Critical Facilities List <i>(taken from 2020 Hazmit Plan)</i>	Y	N	If you would like to change or remove any of these locations, write reason below (ex. Renamed, relocated, no longer open).
Emergency Building			
New Hope Methodist Church			
Dumont Emergency Housing			
Harken Lumber			
First Security Bank & Trust			
Community Housing			
Additional facilities to add to the list of critical buildings? Write the name below.			

Vulnerability Assessment: Critical Facilities

List critical facilities in your community. Critical facilities are important to the operation of a community, the quality of life, and may contain key components of the economic sector. Designated facilities for community emergency shelters should also be listed.

City of Greene		Confirm whether the list of critical facilities is accurate by checking Y or N.	
Critical Facilities List <i>(taken from 2020 Hazmit Plan)</i>	Y	N	If you would like to change or remove any of these locations, write reason below (ex. Renamed, relocated, no longer open).
Community Center/ City Hall			
St. Peter's Church			
St. Mary's Church			
North Butler Comm. School			
Additional facilities to add to the list of critical buildings? Write the name below.			

Vulnerability Assessment: Critical Facilities

List critical facilities in your community. Critical facilities are important to the operation of a community, the quality of life, and may contain key components of the economic sector. Designated facilities for community emergency shelters should also be listed.

City of New Hartford		Confirm whether the list of critical facilities is accurate by checking Y or N.	
Critical Facilities List <i>(taken from 2020 Hazmit Plan)</i>	Y	N	If you would like to change or remove any of these locations, write reason below (ex. Renamed, relocated, no longer open).
United Methodist Church			
Fire Station			
School Building			
Co-Cop Elevator			
Community Building			
First Baptist Church			
Gospel Hall			
Additional facilities to add to the list of critical buildings? Write the name below.			

Vulnerability Assessment: Critical Facilities

List critical facilities in your community. Critical facilities are important to the operation of a community, the quality of life, and may contain key components of the economic sector. Designated facilities for community emergency shelters should also be listed.

City of Parkersburg		Confirm whether the list of critical facilities is accurate by checking Y or N.	
Critical Facilities List <i>(taken from 2020 Hazmit Plan)</i>	Y	N	If you would like to change or remove any of these locations, write reason below (ex. Renamed, relocated, no longer open).
Veteran's Memorial Bldg			
Civic Center			
1st Congregational Church			
St. Patrick's Church			
Bethel Lutheran Church			
United Methodist Church			
AP High School			
Elementary School			
Police Station			
Fire Station			
Emergency Services Building			
Christian Reformed Church			
Additional facilities to add to the list of critical buildings? Write the name below.			

Vulnerability Assessment: Critical Facilities

List critical facilities in your community. Critical facilities are important to the operation of a community, the quality of life, and may contain key components of the economic sector. Designated facilities for community emergency shelters should also be listed.

City of Shell Rock		Confirm whether the list of critical facilities is accurate by checking Y or N.	
Critical Facilities List <i>(taken from 2020 Hazmit Plan)</i>	Y	N	If you would like to change or remove any of these locations, write reason below (ex. Renamed, relocated, no longer open).
City Hall			
W-S Elem School			
Jehovah's Witness Church			
Community Center			
1 st United Methodist Church			
Faith Lutheran Church			
Former Hobson Bros. Bldg			
Fire Department			
Additional facilities to add to the list of critical buildings? Write the name below.			

Vulnerability Assessment: Critical Facilities

List critical facilities in your community. Critical facilities are important to the operation of a community, the quality of life, and may contain key components of the economic sector. Designated facilities for community emergency shelters should also be listed.

Aplington-Parkersburg CSD		Confirm whether the list of critical facilities is accurate by checking Y or N.	
Additional facilities to add to the list of critical buildings? Write the name below.			

Vulnerability Assessment: Critical Facilities

List critical facilities in your community. Critical facilities are important to the operation of a community, the quality of life, and may contain key components of the economic sector. Designated facilities for community emergency shelters should also be listed.

North Butler CSD		Confirm whether the list of critical facilities is accurate by checking Y or N.	
Additional facilities to add to the list of critical buildings? Write the name below.			

Vulnerability Assessment: Critical Facilities

List critical facilities in your community. Critical facilities are important to the operation of a community, the quality of life, and may contain key components of the economic sector. Designated facilities for community emergency shelters should also be listed.

Dike-New Hartford CSD		Confirm whether the list of critical facilities is accurate by checking Y or N.	
Critical Facilities List <i>(taken from 2024 Hazmit Plan)</i>	Y	N	If you would like to change or remove any of these locations, write reason below (ex. Renamed, relocated, no longer open).
DNH High School			
DNH Jr High School			
DNH Elementary School			
Dike Elementary School			
Additional facilities to add to the list of critical buildings? Write the name below.			

Vulnerability Assessment: Critical Facilities

List critical facilities in your community. Critical facilities are important to the operation of a community, the quality of life, and may contain key components of the economic sector. Designated facilities for community emergency shelters should also be listed.

Waverly Shell-Rock CSD		Confirm whether the list of critical facilities is accurate by checking Y or N.	
Additional facilities to add to the list of critical buildings? Write the name below.			

PROBLEM STATEMENTS AND MITIGATION ACTION WORKSHEET

Each of your local hazard mitigation plans will have an updated mitigation strategy. This will be put together based on your previous plan. This worksheet will help you form new mitigation activities.

There are five types of mitigation actions provided in tables below. Each has a description and examples of associated mitigation actions/activities/programs.

Problem Statements are concise, short sentences that describe one main issue or challenge that needs to be addressed. Problem statements usually consist of 2-3 sentences that outline the current situation, specific problem or obstacle, and sometimes indicates its impact or significance. See below for an example.

Write Problem Statements and Mitigation Actions/Activities Related to a Hazard Your Community is Facing

- (1) Please write 1 or more problem statement describing an issue or challenge in your community related to a hazard that is affecting your community.
- (2) List actions or activities that address the problem/issue.
- (3) Write the estimated timeline to complete each mitigation action line item
- (4) Put down the estimated cost of implementing the action/activity
- (5) Write the designated person that will carry out the action/activity
- (6) Write whether this item has a high, medium, or low priority to accomplish in the next 5 years.

Example				
(1) Write Problem Statement: <i>Dead ash trees are becoming a hazard with falling limbs especially during a wind storm or ice/snow. Personal property and people are at risk of falling limbs within right of way. There is no funding for tree removal in the city.</i>				
2) Mitigation Action/Activity	3) Timeline	4) Est. Cost	5) Designated Person	6) Priority
<i>Write down action steps or mitigation activities that you are looking to accomplish that address the issue above. For each action/activity you list below, fill out the columns to the right. All columns.</i>	Immediate = 1 month – 6 months Short-term = 6 months – 3 years Mid-term = 3 – 5 yrs Long-term = 5 yrs or more	Minimal = 0 - \$10K Moderate = \$10K - \$30K High = \$30K +	City clerk, city council, County EMA, committee, etc	High, Medium, or Low
<i>Have part time maintenance worker trim hazardous tree limbs that pose threat to public right of way.</i>	<i>Immediate</i>	<i>Minimal</i>	<i>City council, fire department</i>	<i>High</i>
<i>Update city nuisance tree removal and enforce ordinance</i>	<i>Immediate</i>	<i>Minimal</i>	<i>City Council, city clerk, mayor</i>	<i>High</i>

Instructions: Write at least one problem statement for each type of mitigation action.

Mitigation Type: Local Plans and Regulations <i>Actions by administrative or regulatory processes which direct how land and buildings are developed and built. These actions also include regulations by public entities to reduce hazard losses.</i>		Examples <ul style="list-style-type: none"> - Comprehensive plans - Land use ordinances - Development Review - Building Codes and Enforcement - Open space preservation - Stormwater management regulations 		
1) Write Problem Statement(s) here: a)				
b)				
c)				
2) Mitigation Action/Activity <i>Write down action steps or mitigation activities that you are looking to accomplish that address the issue above. For each action/activity you list below, fill out the columns to the right. All columns.</i>	3) Timeline Immediate= 1 month – 6 months Short-term = 6 months – 3 years Mid-term = 3 – 5 yrs Long-term= 5 yrs or more	4) Est. Cost Minimal = 0 - \$10K Moderate = \$10K - \$30K High = \$30K +	5) Designated Person City clerk, city council, County EMA, committee, etc	6) Priority High, Medium, or Low

Instructions: Write at least one problem statement for each type of mitigation action.

Mitigation Type: Structure and Infrastructure Projects <i>Actions that either modify existing buildings or structures to protect them from a hazard, or removal from the hazard area.</i>		Examples - Acquisitions of structures in flood prone areas	- Undergrounding utilities - Structural retrofits	- Safe rooms - Culverts
2) Write Problem Statement(s) here: a)				
b)				
c)				
2) Mitigation Action/Activity <i>Write down action steps or mitigation activities that you are looking to accomplish that address the issue above. For each action/activity you list below, fill out the columns to the right. All columns.</i>	3) Timeline Immediate= 1 month – 6 months Short-term = 6 months – 3 years Mid-term = 3 – 5 yrs Long-term= 5 yrs or more	4) Est. Cost Minimal = 0 - \$10K Moderate = \$10K - \$30K High = \$30K +	5) Designated Person City clerk, city council, County EMA, committee, etc	6) Priority High, Medium, or Low

Instructions: Write at least one problem statement for each type of mitigation action.

Mitigation Type: Natural system protection and nature-based solutions <i>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</i>		Examples - Sediment and erosion control - Stream restoration - Greenways - Rain gardens	- Controlled burns for prairie restoration & grass fire prevention	- Source water protection plans - Wetland preservation
3) Write Problem Statement(s) here: a)				
b)				
c)				
2) Mitigation Action/Activity <i>Write down action steps or mitigation activities that you are looking to accomplish that address the issue above. For each action/activity you list below, fill out the columns to the right. All columns.</i>	3) Timeline Immediate = 1 month – 6 months Short-term = 6 months – 3 years Mid-term = 3 – 5 yrs Long-term = 5 yrs. or more	4) Est. Cost Minimal = 0 - \$10K Moderate = \$10K - \$30K High = \$30K +	5) Designated Person City clerk, city council, County EMA, committee, etc	6) Priority High, Medium, or Low

Instructions: Write at least one problem statement for each type of mitigation action.

Mitigation Type: Education and Awareness Programs <i>These types of actions keep residents informed about potential natural disasters.</i>		Examples - Ready Iowa - Radio or television spots - Websites w/ maps & info	- Real estate disclosure - Outreach to underserved areas -	- Outreach materials - Awareness Week -
4) Write Problem Statement(s) here: a)				
b)				
c)				
2) Mitigation Action/Activity <i>Write down action steps or mitigation activities that you are looking to accomplish that address the issue above. For each action/activity you list below, fill out the columns to the right. All columns.</i>	3) Timeline Immediate= 1 month - 6 months Short-term = 6 months - 3 years Mid-term = 3 - 5 yrs Long-term= 5 yrs or more	4) Est. Cost Minimal = 0 - \$10K Moderate = \$10K - \$30K High = \$30K +	5) Designated Person City clerk, city council, County EMA, committee, etc	6) Priority High, Medium, or Low

Instructions: Write at least one problem statement for each type of mitigation action.

Mitigation Type: Emergency Services <i>Actions that protect people and property during and immediately after a disaster or hazard event.</i>		Examples - Warning systems - Emergency response services	- Protection of critical facilities.	
5) Write Problem Statement(s) here: a)				
b)				
c)				
2) Mitigation Action/Activity <i>Write down action steps or mitigation activities that you are looking to accomplish that address the issue above. For each action/activity you list below, fill out the columns to the right. All columns.</i>	3) Timeline Immediate- 1 month - 6 months Short-term = 6 months - 3 years Mid-term = 3 - 5 yrs Long-term= 5 yrs or more	4) Est. Cost Minimal = 0 - \$10K Moderate = \$10K - \$30K High = \$30K +	5) Designated Person City clerk, city council, County EMA, committee, etc	6) Priority High, Medium, or Low

**2025 BUTLER COUNTY
MULTI-JURISDICTIONAL
HAZARD MITIGATION
PLAN UPDATE
COMMITTEE MEETING #3**

November 12, 2024
6:30 PM
Butler County
Courthouse

1

**MEETING
AGENDA**

1. **Handout: Identifying Critical Facilities in Your Community**
 - a. Turn in before you leave
2. **Handout: Problem Statements and Mitigation/Action Worksheet**
 - a. Turn in before you leave
3. **Previous Meeting Assignments (Please turn in if you haven't already)**
 - a. **Hazard Risk Assessment Summary Worksheet**
 - b. **Vulnerability Assessment**
 - c. **2020 Mitigation Strategy Update Tables**
 - d. **Community Profile**
4. **Meal Meeting**
 - a. Tuesday, December 10, 2024, at 6:30 PM – same location
5. **Adjourn**

2

Assessing Vulnerabilities: Critical Facilities in Your Community

- Which facilities (or buildings) are crucial?
- If this building was damaged or destroyed, the impact would be significant.
- Critical facilities can be:
 - Location of community operations
 - Facilities that sustain the current quality of life
 - A place with vulnerable populations



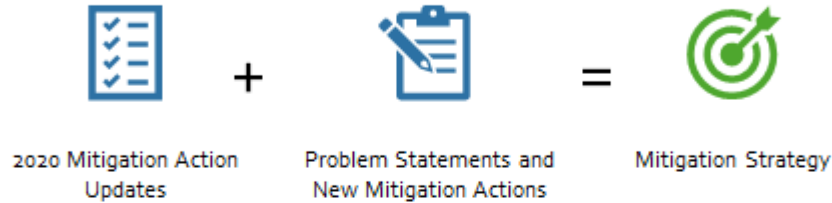
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2020 Butler County Hazard Mitigation Goals

- **Goal 1:** Minimize to the greatest possible extent the number of injuries and/or loss of life associated with all identified hazards.
- **Goal 2:** Reduce or eliminate property damage due to the occurrence of disasters.
- **Goal 3:** Identify ways that response operations, in the event of a disaster, can be improved.
- **Goal 4:** Return the community to either pre-disaster or improved conditions in a timely manner in the wake of a disaster.
- **Goal 5:** Develop strategies that can be used to reduce the community's overall risk to the negative effects of natural, technological, and man-made disasters.
- **Goal 6:** Reconvene the planning committee on an annual basis to review plan documents, check for compliance with the plan goals, and track progress in achieving the mitigation strategies.
- **Goal 7:** Maintain the Countywide Multi-Jurisdictional format for future plan updates.

4

Two Main Components to Build Your Implementation Strategy



5



Structure and Infrastructure Projects

Actions that either modify existing buildings or structures to protect them from a hazard or remove them out of the hazard area.



Natural System Protection and Nature-Based Solutions

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 and nature-based solutions.



Education and Awareness Programs

These actions keep residents informed about potential natural disasters.



Emergency Services

Actions that protect people and property during and immediately after a disaster or hazard event.



Local Plans and Regulations

Actions by administrative or regulatory processes which direct how land and buildings are developed and built. These actions include regulations by public entities to reduce hazard losses.

Types of Mitigation Actions

6

What are problem statements

- 2 or 3 sentences related to hazards in your community
- 1st Sentence:
 - A short, concise description of the main issue or challenge that needs to be addressed.
- 2nd -3rd Sentences:
 - Describe the importance or impact of this issue and/or describe who it affects.
 - May describe a possible timeframe



7

Example

Problem statement related to hazards in your community -

"Our tornado sirens are operating past their expected lifetime. It is urgent to get them replaced before they malfunction before or during an emergency. We cannot meet cost matching requirements to get awarded grants to fund new sirens until next year."

- Problem statements don't need to mention history of the problem or list reasons why this remains a problem, blame, etc.
- The problem statements have what you need to start creating list of actions to achieve the solution

8

Problem Statement Worksheet

1. Write problem statement(s) for each type of mitigation action
2. Write actions or activities that address the hazard
3. Timeline
4. Estimated Cost
5. Designated Person or Partners to Complete Action Item
6. Priority

- Breaking down a large task can make your mitigation actions achievable and pragmatic.
- See your 2020 Mitigation Strategy for ideas on potential actions/activities. Feel free to re-use and edit previous action items.
- FEMA Mitigation Ideas Workbook
- Need help? Raise your hand for assistance

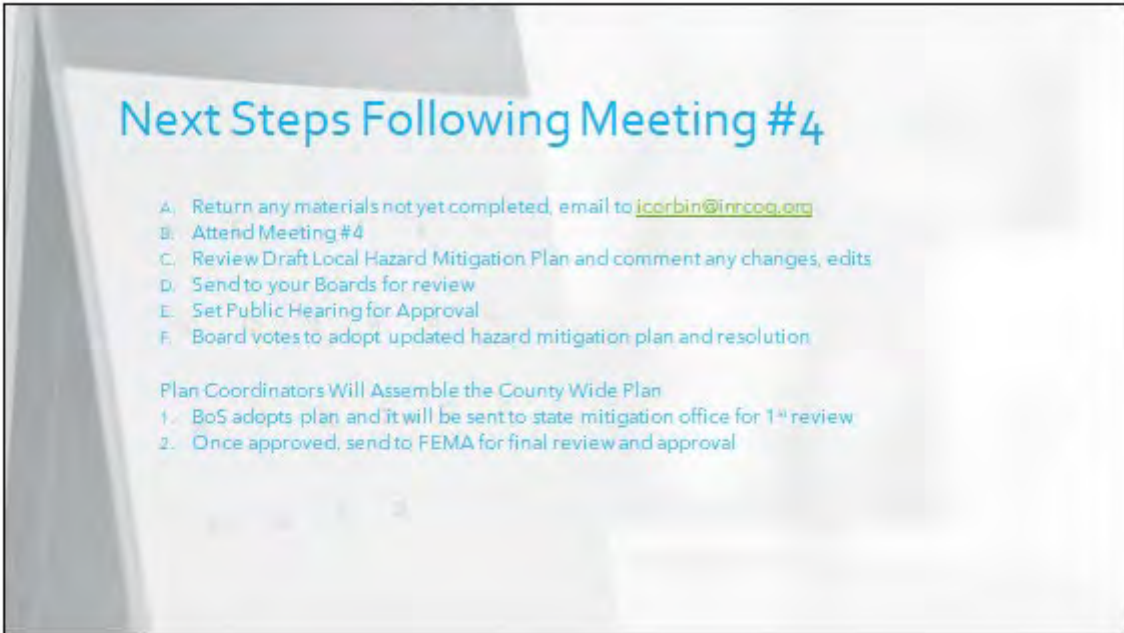
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Overview of Hazards in Butler County's Plan

- 20 Hazards
 - 13 Natural Hazards
 - 7 Human Caused or Technological Hazards
- *2023 State Mitigation Plan by Iowa Homeland Security and Emergency Management Department (IHSEMD)*

2023 Iowa Hazard List	
Natural Hazards	
1	Drought
2	Earthquake
3	Expansive Soils
4	Extreme Heat
5	Flooding - Flash
6	Grass/Wildland Fire
7	Landslide
8	Levee/Dam Failure
9	Flooding - Riverine
10	Severe Winter Storm
11	Sinkholes
12	Thunderstorm/Lighting/Hail
13	Tornado/Windstorm
Other Hazard Types	
14	Animal/ Crop/ Plant Disease
15	Pandemic/ Endemic Human Disease
16	Hazardous Materials
17	Infrastructure Failure
18	Radical
19	Terrorism
20	Transportation Incidents

10



11



12

**- PUBLIC MEETING AGENDA-
Butler County Multi-Jurisdictional
Hazard Mitigation Plan Committee Meeting #4**

Date: Tuesday, December 10, 2024

Time: 6:30 PM

Place: Butler County Courthouse – Basement
428 Sixth Street
Allison, Iowa 50602

1. Handout: Identifying Critical Facilities in Your Community
 - a. Butler, Allison, Aredale, Bristow, Dumont, New Hartford, Shell Rock, AP CSD, Clarksville CSD, WSR CSD
2. Handout: Problem Statements and Mitigation Action Worksheet
 - a. Butler, Allison, Aredale, Bristow, Dumont, New Hartford, Shell Rock, AP CSD, NB CSD, Clarksville CSD, WSR CSD
3. Previous Meeting Assignments
 - a. Strategy Update: Dumont, New Hartford, Shell Rock, A-P CSD
 - b. Community Profile: Butler, Dumont, New Hartford, Shell Rock, AP CSD, NB CSD, Clarksville CSD
 - c. Hazard Risk Assessment: Dumont, New Hartford, AP CSD, NB CSD
 - d. Capability Assessment: Dumont, New Hartford, Shell Rock
4. Next Steps – Review Final Plan and Set Public Hearing
5. Adjourn

THIS IS A PUBLIC MEETING

**MEMBERS OF THE COMMUNITY, NEIGHBORING COUNTIES, COMMUNITY ORGS, FARMERS ARE INVITED
TO ATTEND THIS MEETING**

Parking Available in the Rear of Building

For Questions or Comments, contact:
Isaiah Corbin / INRCOG / Office: (319) 235-0311 / icorbin@inrcog.org

Butler County Multi-Jurisdictional Hazard Mitigation Plan Update

Committee Meeting #4 - Attendance Sign-In Sheet

December 10, 2024

	Name (please print & sign)	Jurisdiction/ Organization	Email Address
1	Bryan Boyson	NB & Clarksville	bryan.boyson@butlercountypa.gov
2	Tim Woods	New Hartford City Council	
3	Randy Johnson	New Hartford City Council	
4	CHRIS SHAWALTER	Butler EMA	
5	Jessica Meyer	Shell Rock	clerk@shellrockia.org
6	Scott Henrichs	Allison	henrichscot@polkcoia.org
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**2025 BUTLER COUNTY
MULTI-JURISDICTIONAL
HAZARD MITIGATION
PLAN UPDATE**

December 10, 2024
6:30 PM
Butler County
Courthouse

COMMITTEE MEETING #4

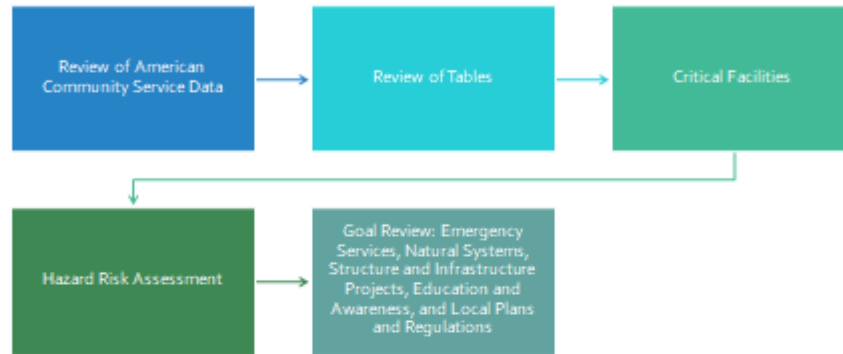
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MEETING AGENDA

1. Welcome and Introduction
2. Open Floor/Drafts
3. Review Calendar for Board Approval
4. Discuss Next Steps
5. Review and Complete Previous Meeting Assignments
6. Adjourn

2

Draft Plan Review



3

Finalizing the Calendar for Board Action

- **Step 1:** Set the Public Hearing
- **Step 2:** Publish Public Hearing Notice
- **Step 3:** Send Isaiah any final comments to address any changes or additions to draft plan before the public hearing
- **Step 4:** Hold Public Hearing for Approval
 - Isaiah will provide resolution and plan for the Board's packet

4



Next Steps Following Board Approval

1. Assemble the County Wide Plan following all approvals
2. Submit full plan to the Board of Supervisors for adoption
3. Submit final plan sent to Iowa Homeland Security for review
4. Once approved, FEMA begins 45-day Review

5

Final Worksheet Completion

Please Stay After to Complete Final Worksheets In Your Packet

1. Jurisdiction X

6



Questions or Comments

- Isaiah Corbin
- icorbin@inrcog.org
- 319-235-0311

7

2025 BUTLER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

APPENDIX S

PUBLIC NOTICES

AFFIDAVIT OF PUBLICATION

State of Florida, County of Broward, ss:

Ankit Sachdeva, being first duly sworn, deposes and says: That (s)he is a duly authorized signatory of Column Software, PBC, duly authorized agent of Parkersburg Eclipse News-Review, a newspaper printed and published in the City of Parkersburg, County of Butler, State of Iowa, and that this affidavit is Page 1 of 1 with the full text of the sworn-to notice set forth on the pages that follow, and the hereto attached:

PUBLICATION DATES:
Apr. 16, 2025

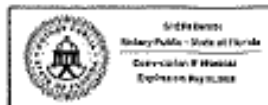
NOTICE ID: TNAZsknFx3Z4brhVVVoF
NOTICE NAME: Butler Co BOS • Public Hearing
Publication Fee: 6.81

The annexed Butler Co BOS • Public Hearing notice was published in said paper once each week for 1 consecutive weeks.

I certify under penalty of perjury and pursuant to the laws of the state of Iowa that the preceding is true and correct.

Ankit Sachdeva

(Signed) _____



VERIFICATION

State of Florida
County of Broward

Subscribed in my presence and sworn to before me on this: 04/17/2025

S. Smith

Notary Public

Notarized remotely online using communication technology via Prof.

NOTICE OF PUBLIC HEARING

Notice is hereby given that on April 22nd, 2025, at 9:00 AM at the Butler County Courthouse Supervisor's Board Room, 428 Sixth Street, Allison, IA 50602 a public hearing will be held to accept input regarding the Multi-Jurisdictional Hazard Mitigation Plan recently undertaken by the County.

Anyone interested may appear at the above stated time and place for the public hearing and be heard or may file written comments in person or mail to the County Auditor, Butler County Courthouse, 428 Sixth Street, Allison, IA 50602. Written comments must be received in the County Auditor's office before 8:00 AM on the date set for said hearing. Copies of the plan can be made available for review at Butler County Auditor's Office or online at www.inrcog.org/pub.

Published in the Eclipse News-Review on April 16, 2025

AFFIDAVIT OF PUBLICATION

State of Pennsylvania, County of Lancaster, ss:

India Johnston, being first duly sworn, deposes and says: That (s)he is a duly authorized signatory of Column Software, PBC, duly authorized agent of Butler County Tribune & Clarksville Star, a newspaper printed and published in the City of Clarksville, County of Butler, State of Iowa, and that this affidavit is Page 1 of 1 with the full text of the sworn-to notice set forth on the pages that follow, and the hereto attached:

PUBLICATION DATES:

Mar. 6, 2025

NOTICE ID: 0yVE5RbWbiKYwzIN3Abp

NOTICE NAME: City of Allison • Public Hearing

Publication Fee: 13.10

The annexed City of Allison • Public Hearing notice was published in said paper once each week for 1 consecutive weeks.

I certify under penalty of perjury and pursuant to the laws of the state of Iowa that the preceding is true and correct.

India Johnston

(Signed) _____

VERIFICATION

State of Pennsylvania
County of Lancaster

Commonwealth of Pennsylvania - Notary Seal
Nicole Burkholder, Notary Public
Lancaster County
My commission expires March 30, 2027
Commission Number 1342120

Subscribed in my presence and sworn to before me on this: 03/07/2025

Nicole Burkholder

Notary Public

Notarized remotely online using communication technology via Proof.

NOTICE OF PUBLIC HEARING

TO WHOM IT MAY CONCERN:

Notice is hereby given that on the 10th day of March 2025 at 5: 15 PM at the Allison City Hall, in Allison, Iowa, a public hearing will be held to accept input regarding the Butler County Multi-Jurisdictional Hazard Mitigation Plan recently updated by the City.

Anyone interested may appear at the above stated time and place on March 10th, 2025, for the public hearing and be heard or may file written comments in person or mail to the City Clerk, Allison City Hall, 502 Locust Street, Allison, IA 50602, Iowa to be received in the City Clerk's office before 5:00 PM on the date set for said hearing. A copy of the plan is available for review at City Hall or online at www.inrcog.org/pub.

Published in the Butler County Star Tribune on March 6, 2025

AFFIDAVIT OF PUBLICATION

State of Florida, County of Orange, ss:

Alison Farnwald, being first duly sworn, deposes and says: That (s)he is a duly authorized signatory of Column Software, PBC, duly authorized agent of Parkersburg Eclipse News-Review, a newspaper printed and published in the City of Parkersburg, County of Butler, State of Iowa, and that this affidavit is Page 1 of 1 with the full text of the sworn-to notice set forth on the pages that follow, and the hereto attached:

PUBLICATION DATES:

Feb. 5, 2025

NOTICE ID: xGvk7ZE4pB9scilS1Ags

NOTICE NAME: City of Aplington • Public Hearing

Publication Fee: 13.10

The annexed City of Aplington • Public Hearing notice was published in said paper once each week for 1 consecutive weeks.

I certify under penalty of perjury and pursuant to the laws of the state of Iowa that the preceding is true and correct.

Alison Farnwald

(signed) _____



VERIFICATION

State of Florida
County of Orange

Subscribed in my presence and sworn to before me on this: 02/10/2025

J. R. [Signature]

Notary Public

Notarized remotely online using communication technology via Proof.

NOTICE OF PUBLIC HEARING

TO WHOM IT MAY CONCERN:

Notice is hereby given that on the 12th day of February 2025 at 6:00 PM at the Aplington City Hall, in Aplington, Iowa, a public hearing will be held to accept input regarding the Butler County Multi-Jurisdictional Hazard Mitigation Plan recently updated by the City.

Anyone interested may appear at the above stated time and place on February 12, 2025, for the public hearing and be heard or may file written comments in person or mail to the City Clerk, Aplington City Hall, 409 10th Street, Aplington, IA 50604), Iowa to be received in the City Clerk's office before 6:00 PM on the date set for said hearing. A copy of the plan is available for review at City Hall or online at www.inrcog.org/pub.

Published in the Eclipse News-Review on February 5, 2025

NOTICE OF PUBLIC HEARING

TO WHOM IT MAY CONCERN: Notice is hereby given that on the 10th day of March 2025 at 6:00 PM at the Aredale City Hall, in Aredale, Iowa, a public hearing will be held to accept input regarding the Butler County Multi-Jurisdictional Hazard Mitigation Plan recently updated by the City.

Anyone interested may appear at the above stated time and place on March 10, 2025, for the public hearing and be heard or may file written comments in person or mail to the City Clerk, Aredale City Hall, 112 E Main Street, Aredale, IA 50604, Iowa to be received in the City Clerk's office before 6:00 PM on the date set for said hearing. A copy of the plan is available for review at City Hall or online at www.inrcog.org/pub.

THE NOTICE OF PUBLIC HEARING to approve Multi-Jurisdictional Hazard Mitigation Plan recently updated by the City was posted on January 30, 2025 at the following locations in Bristow, Iowa:

Bob's Feed and Seed:

Signed Bob's Feed and Seed

The Hair Corner:

Signed Trisha Boos - open, left in door

City Hall

Signed Trisha Boos

Signed Trisha Boos
Trisha Boos, city clerk

CITY OF BRISTOW

AFFIDAVIT OF PUBLICATION

State of Florida, County of Broward, ss:

Rachel Cozart, being first duly sworn, deposes and says: That (s)he is a duly authorized signatory of Column Software, PBC, duly authorized agent of Butler County Tribune & Clarksville Star, a newspaper printed and published in the City of Clarksville, County of Butler, State of Iowa, and that this affidavit is Page 1 of 1 with the full text of the sworn-to notice set forth on the pages that follow, and the hereto attached:

PUBLICATION DATES:

Dec. 26, 2024

NOTICE ID: HeGw2W8ze1c1VvREHjip

NOTICE NAME: City of Clarksville • Public Hearing

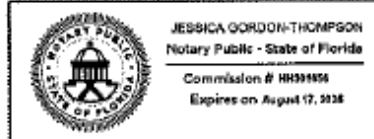
Publication Fee: 12.58

The annexed City of Clarksville • Public Hearing notice was published in said paper once each week for 1 consecutive weeks.

I certify under penalty of perjury and pursuant to the laws of the state of Iowa that the preceding is true and correct.

Rachel Cozart

(Signed) _____



VERIFICATION

State of Florida
County of Broward

Subscribed in my presence and sworn to before me on this: 12/27/2024

J. [Signature]

Notary Public
Notarized remotely online using communication technology via Proof.

**NOTICE OF PUBLIC HEARING
TO WHOM IT MAY CONCERN:**

Notice is hereby given that on the 6th day of January 2025 at 6:30 pm at the Clarksville City Hall, in Clarksville, Iowa, a public hearing will be held to accept input regarding the Butler County Multi-Jurisdictional Hazard Mitigation Plan recently updated by the City.

Anyone interested may appear at the above stated time and place on January 6, 2025 for the public hearing and be heard or may file written comments in person or mail to the City Clerk, City Hall, 115 W Superior St. Clarksville, Iowa, to be received in the City Clerk's office before 4:00 PM on the date set for said hearing. A copy of the plan available for review at City Hall or online at www.inrcog.org/pub.
Published in the Butler County Star Tribune on December 26, 2024

AFFIDAVIT OF PUBLICATION

State of Florida, County of Broward, ss:

India Johnston, being first duly sworn, deposes and says: That (s)he is a duly authorized signatory of Column Software, PBC, duly authorized agent of Hampton Chronicle, a newspaper printed and published in the City of Hampton, County of Franklin, State of Iowa, and that this affidavit is Page 1 of 1 with the full text of the sworn-to notice set forth on the pages that follow, and the hereto attached:

PUBLICATION DATES:

Mar. 5, 2025

NOTICE ID: P9hj0Fy1mpIWmssRbkm4

NOTICE NAME: Public Hearing Notice: Dumont

Publication Fee: 14,15

The annexed Public Hearing Notice: Dumont notice was published in said paper once each week for 1 consecutive weeks.

I certify under penalty of perjury and pursuant to the laws of the state of Iowa that the preceding is true and correct.

(Signed) India Johnston



VERIFICATION

State of Florida
County of Broward

Subscribed in my presence and sworn to before me on this: 03/06/2025

S. Smith

Notary Public

Notarized remotely online using communication technology via Proof.

NOTICE OF PUBLIC HEARING

TO WHOM IT MAY CONCERN:
Notice is hereby given that on the 13th day of March 2025 at 7:00 PM at the Dumont EMS Building, in Dumont, Iowa, a public hearing will be held to accept input regarding the Butler County Multi-Jurisdictional Hazard Mitigation Plan recently updated by the City.

Anyone interested may appear at the above stated time and place on March 13, 2025, for the public hearing and be heard or may file written comments in person or mail to the City Clerk, Dumont City Hall, 625 1st Street, PO Box 303, Dumont, IA 50625, to be received in the City Clerk's office before 7:00 PM on the date set for said hearing. A copy of the plan is available for review at City Hall or online at www.inrcog.org/pub.

Published in the Hampton Chronicle on March 5, 2025

Proof of Publication

STATE OF IOWA

Butler County,

The Greene Recorder

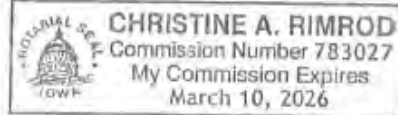
101-123 E. Traer St. • Greene, IA 50636
For questions please call (641) 816-4525

I, Christopher Hall, representing the Greene Recorder, in said county, do hereby state that I certify under penalty of perjury and pursuant to the laws of the State of Iowa that a notice, which is a true copy, has been printed and published each week for 1 consecutive weeks in the regular daily issues of said paper commencing with the issue of Wednesday on the 29 day of January 2025 A.D., 2025 and ending with the issue of, January 29, 2025

Christopher J. Hall
Representative of the Greene Recorder

Christine A. Rimrod
Notary Public in and for the State of Iowa

Acknowledgement and charges for above services \$ 14.81



Subscribed and sworn to before me this 29 day of January A.D., 2025

HEARING NOTICE

NOTICE OF PUBLIC HEARING

TO WHOM IT MAY CONCERN:
Notice is hereby given that on the 10th day of February, 2025 at 5:30 p.m. at the Greene Community Center, in Greene, Iowa, a public hearing will be held to accept input regarding the Butler County Multi-Jurisdictional Hazard Mitigation Plan recently updated by the City.

Anyone interested may appear at the above stated time and place on February 10th, 2025 for the public hearing and be heard or may file written comments in person or mail to the City Clerk, City Hall, 202 W South Street, Greene, Iowa to be received in the City Clerk's office before 5:00 PM on the date set for said hearing. A copy of the plan available for review at City Hall or online at www.inrcog.org/pub.

AFFIDAVIT OF PUBLICATION

State of Florida, County of Broward, ss:

Nicole Riegert, being first duly sworn, deposes and says: That (s)he is a duly authorized signatory of Column Software, PBC, duly authorized agent of Parkersburg Eclipse News-Review, a newspaper printed and published in the City of Parkersburg, County of Butler, State of Iowa, and that this affidavit is Page 1 of 1 with the full text of the sworn-to notice set forth on the pages that follow, and the hereto attached:

PUBLICATION DATES:

Mar. 26, 2025

NOTICE ID: KAsTKLn4h1BLeS4NEwHP

NOTICE NAME: City of New Hartford • Public Hearing

Publication Fee: 13.10

The annexed City of New Hartford • Public Hearing notice was published in said paper once each week for 1 consecutive weeks.

I certify under penalty of perjury and pursuant to the laws of the state of Iowa that the preceding is true and correct.

Nicole Riegert

(Signed) _____



VERIFICATION

State of Florida
County of Broward

Subscribed in my presence and sworn to before me on this: 03/28/2025

J. Smith

Notary Public

Notarized remotely online using communication technology via Proof.

NOTICE OF PUBLIC HEARING

TO WHOM IT MAY CONCERN:

Notice is hereby given that on the 2nd day of April 2025 at 5:30 PM at the New Hartford City Hall, in New Hartford, Iowa, a public hearing will be held to accept input regarding the Butler County Multi-Jurisdictional Hazard Mitigation Plan recently updated with the City.

Anyone interested may appear at the above stated time and place on April 2, 2025, for the public hearing and be heard or may file written comments in person or mail to the City Clerk, New Hartford City Hall, 503 Packwaukee St, New Hartford, IA 50660, Iowa to be received in the City Clerk's office before 5:30 PM on the date set for said hearing. A copy of the plan is available for review at City Hall or online at www.inrcog.org.pub.

Published in the Eclipse News-Review on March 26, 2025

AFFIDAVIT OF PUBLICATION

State of Pennsylvania, County of Lancaster, ss:

Hannah Ward, being first duly sworn, deposes and says: That (s)he is a duly authorized signatory of Column Software, PBC, duly authorized agent of Parkersburg Eclipse News-Review, a newspaper printed and published in the City of Parkersburg, County of Butler, State of Iowa, and that this affidavit is Page 1 of 1 with the full text of the sworn-to notice set forth on the pages that follow, and the hereto attached:

PUBLICATION DATES:

Mar. 26, 2025

NOTICE ID: fF2Js6tcHoc5AvfiCU9j

NOTICE NAME: City of Parkersburg • Public Hearing

Publication Fee: 15.20

The annexed City of Parkersburg • Public Hearing notice was published in said paper once each week for 1 consecutive weeks.

I certify under penalty of perjury and pursuant to the laws of the state of Iowa that the preceding is true and correct.

(signed) Hannah Ward

VERIFICATION

State of Pennsylvania
County of Lancaster

Commonwealth of Pennsylvania - Notary Seal
Nicole Burkholder, Notary Public
Lancaster County
My commission expires March 30, 2027
Commission Number 1342120

Subscribed in my presence and sworn to before me on this: 03/28/2025

Nicole Burkholder

Notary Public

Notarized remotely online using communication technology via Proof.

NOTICE OF PUBLIC HEARING

The public and the residents of Parkersburg are hereby notified that the Parkersburg City Council will hold a public hearing on Monday, April 7, 2025 at 7:00 p.m. in the lower level of the Parkersburg Civic Center at 502 3rd Street, Parkersburg, Iowa 50665. The reason for the hearing will be to accept input regarding the Butler County Multi-Jurisdictional Hazard Mitigation Plan recently updated by the City.

Anyone interested may appear at the above stated time and place on April 7, 2025, for the public hearing. Written comments may be delivered in person or by mail to: Parkersburg City Clerk, Parkersburg City Hall, 608 Highway 57, Parkersburg, IA 50665, Iowa to be received in the City Clerk's office before 4:00 PM on the date set for said hearing. A copy of the plan is available for review at City Hall or online at www.inrcog.org/pub.

Published in the Eclipse News-Review on March 26, 2025

STATE OF IOWA

ss:

Bremer County,

CERTIFICATION OF PUBLICATION

I, Carrie Wright being duly sworn depose

and say that I am Office Assistant / designer of

THE WAVERLY NEWSPAPERS, a weekly newspaper published at

Waverly, Bremer County, Iowa, and I further state that the annexed and

subjoined notice was duly published in said paper, as often as once in

each week for 1 week(s), commencing on the 20 day of

march, 2025, and ending on the 20 day of

march, 2025.

Carrie Wright

Subscribed and sworn to before me this 20

day of March, 2025.

Melaine Marie Buzynski
Notary Public in and for Bremer County, Iowa

Printer's Fee, \$ 15.80 *



*Charge for additional certificates

Public Notice
NOTICE OF PUBLIC HEARING
 TO WHOM IT MAY CONCERN:
 Notice is hereby given that on the 8th day of April 2025 at 7:00 PM at the Shell Rock City Hall, in Shell Rock, Iowa, a public hearing will be held to accept input regarding the Butler County Multi-Jurisdictional Hazard Mitigation Plan recently updated by the City.
 Anyone interested may appear at the above stated time and place on April 8, 2025, for the public hearing and be heard or may file written comments in person or mail to the City Clerk, Shell Rock City Hall, 802 N Public Road, Shell Rock, IA 50670, Iowa to be received in the City Clerk's office before 7:00 PM on the date set for said hearing. A copy of the plan is available for review at City Hall or online at www.inroog.org/pub or www.shellrockiowa.org.
 Published in the Waverly Democrat on March 20, 2025.



Clarksville CSD

April 4 · 🌐

NOTICE OF PUBLIC HEARING
CLARKSVILLE COMMUNITY SCHOOL DISTRICT
HAZARD MITIGATION PLAN

Date of Public Hearing: April 21, 2025

Time of Public Hearing: 5:35 p.m.

Location of Public Hearing: Room #109

The Board of Directors will conduct a public hearing at the above noted time and place for the purpose of the hazard mitigation plan.

***Clarksville Community School District did not publish a public notice in the newspaper**

***Dike-New Hartford Community School District did not publish a public notice**

***North Butler Community School District did not publish a public notice**



NOTICE OF PUBLIC HEARING: BUTLER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

David Hill

January 28, 2025

NOTICE OF PUBLIC HEARING

Waverly-Shell Rock Community School District: Butler County Multi-Jurisdictional Hazard Mitigation Plan

TO WHOM IT MAY CONCERN: Notice is hereby given that on the 10th day of February, 2025 at 5:30 PM at the Administrative Offices of the Waverly-Shell Rock Community School District in Waverly, Iowa, a public hearing will be held to accept input regarding the Waverly-Shell Rock Community School District Hazard Mitigation Plan. The multi-jurisdictional effort was undertaken by participating cities, school districts, and county offices in Butler County prior to adoption by the Waverly-Shell Rock Community School District.

Anyone interested may appear at the above stated time and stated above for the public hearing and be heard or may file written comments in person or mail to the Superintendent, Waverly-Shell Rock District Administrative Offices, 1415 4th Ave SW, Waverly, IA 50677 to be received in the office before 4:00 PM on the date set for said hearing. A copy of the plan is available for review at the Waverly-Shell Rock Community School District Administrative Office or online at

www.inrcog.org/pub

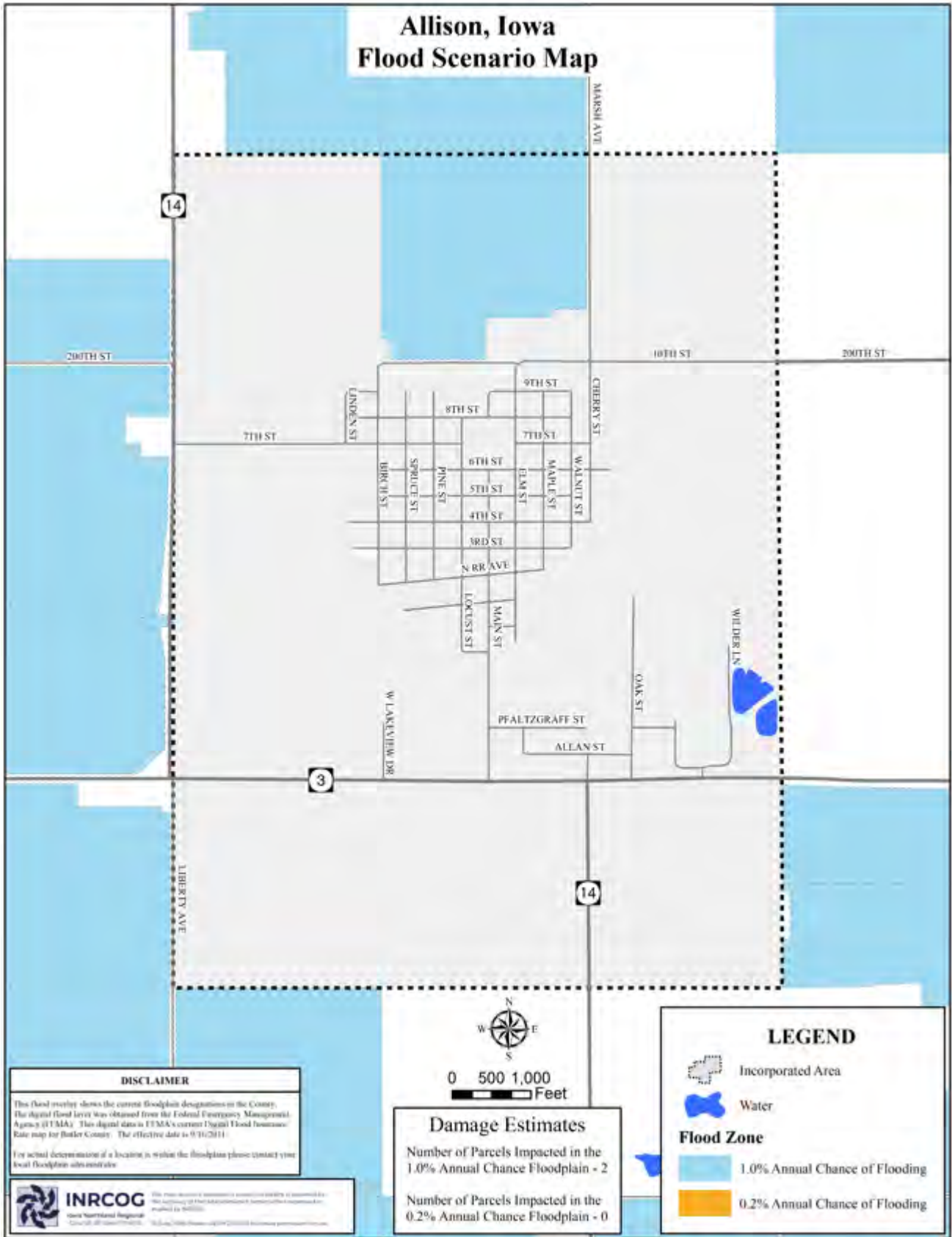
***Waverly-Shell Rock Community School District did not publish a public notice in a newspaper**

2025 BUTLER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

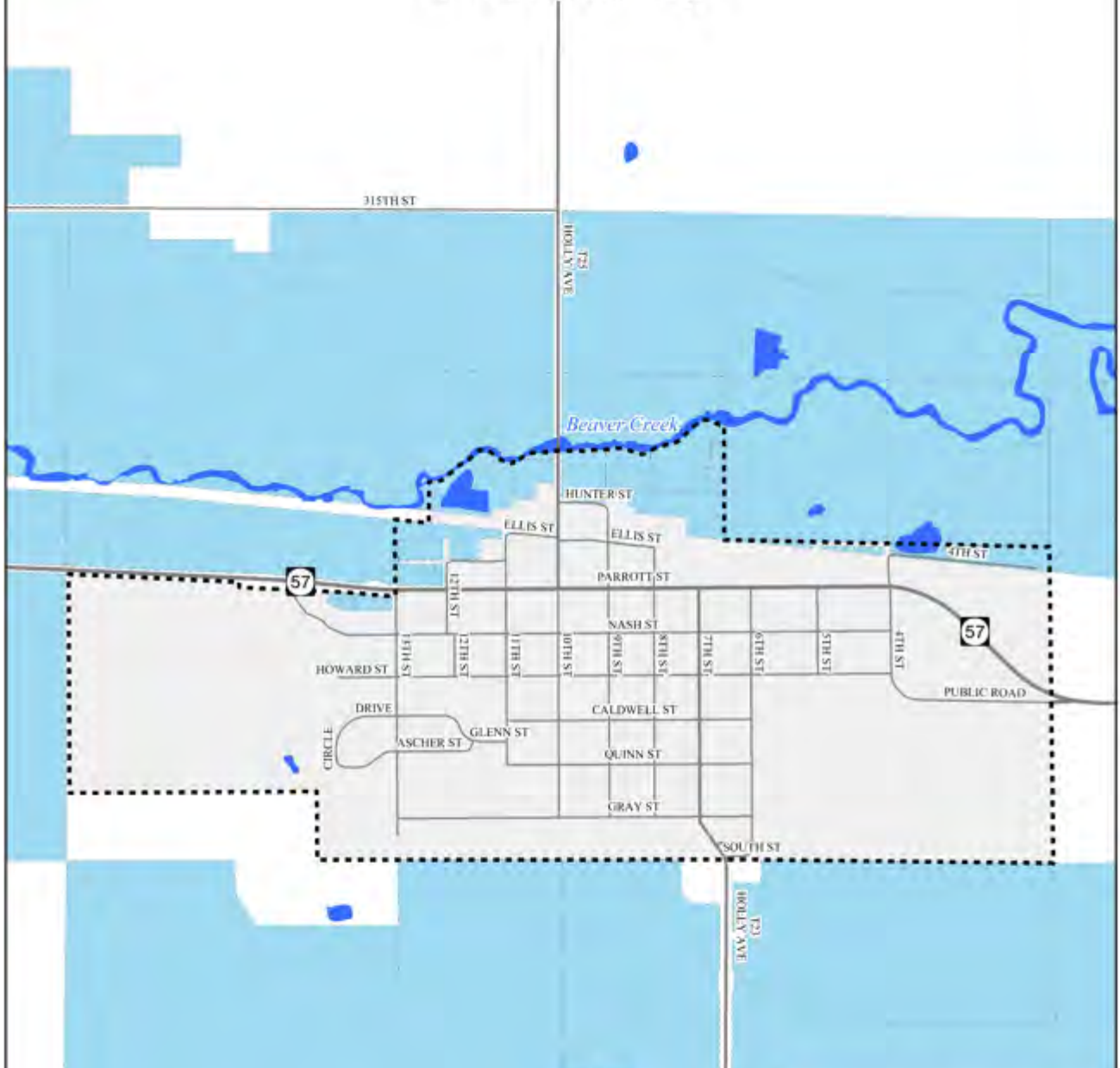
APPENDIX T

TORNADO AND FLOOD SCENARIO MAPS

Allison, Iowa Flood Scenario Map



Aplington, Iowa Flood Scenario Map



0 500 1,000
Feet

DISCLAIMER

This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Butler County. The effective date is 9/16/2011.

For actual determination of a location is within the floodplain please contact your local floodplain administrator.



Damage Estimates

Number of Parcels Impacted in the 1.0% Annual Chance Floodplain - 21

Number of Parcels Impacted in the 0.2% Annual Chance Floodplain - 0

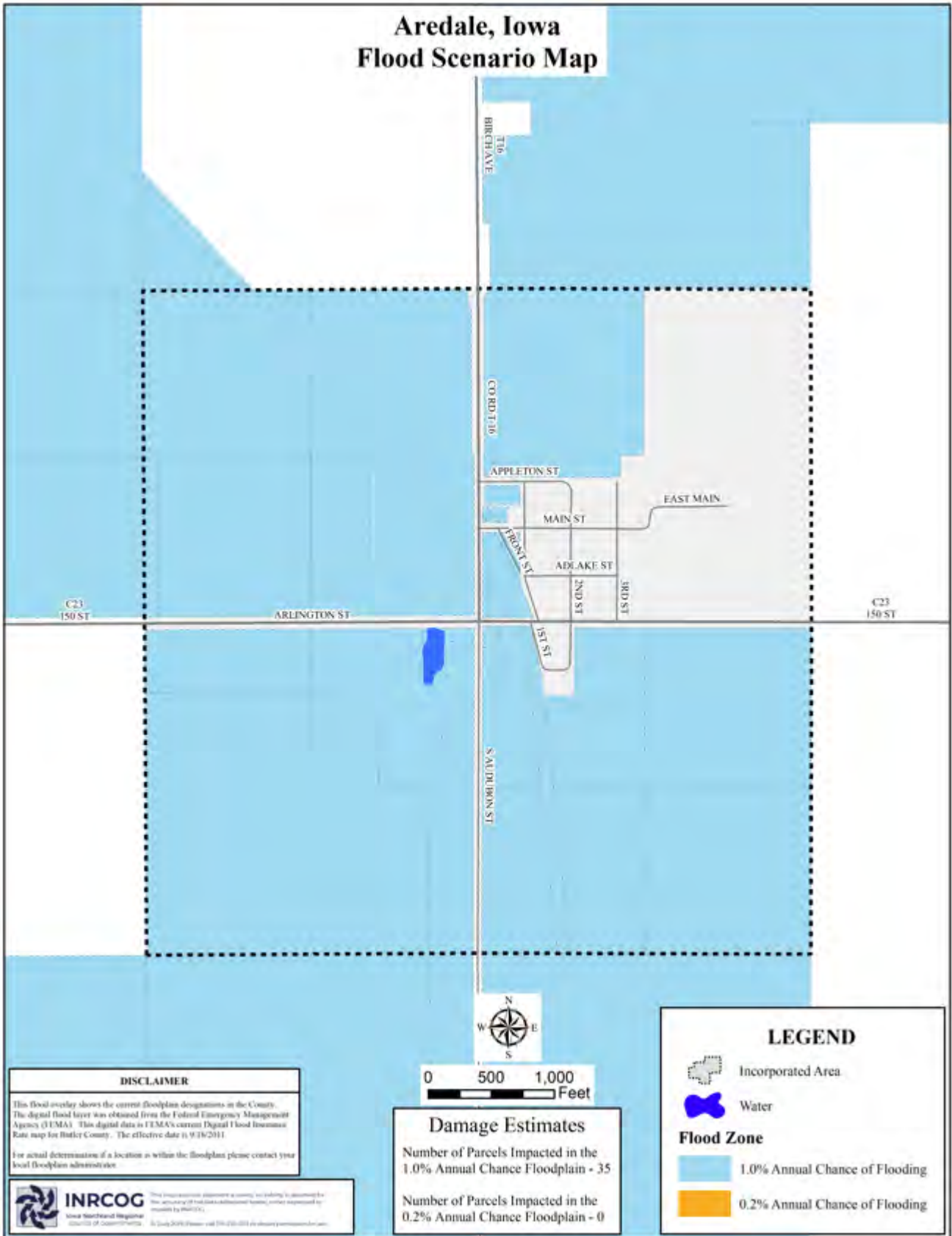
LEGEND

- Incorporated Area
- Water

Flood Zone

- 1.0% Annual Chance of Flooding
- 0.2% Annual Chance of Flooding

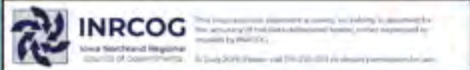
Aredale, Iowa Flood Scenario Map



DISCLAIMER

This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Butler County. The effective date is 9/19/2011.

For actual determination of a location as within the floodplain please contact your local floodplain administrator.



Damage Estimates

Number of Parcels Impacted in the 1.0% Annual Chance Floodplain - 35

Number of Parcels Impacted in the 0.2% Annual Chance Floodplain - 0

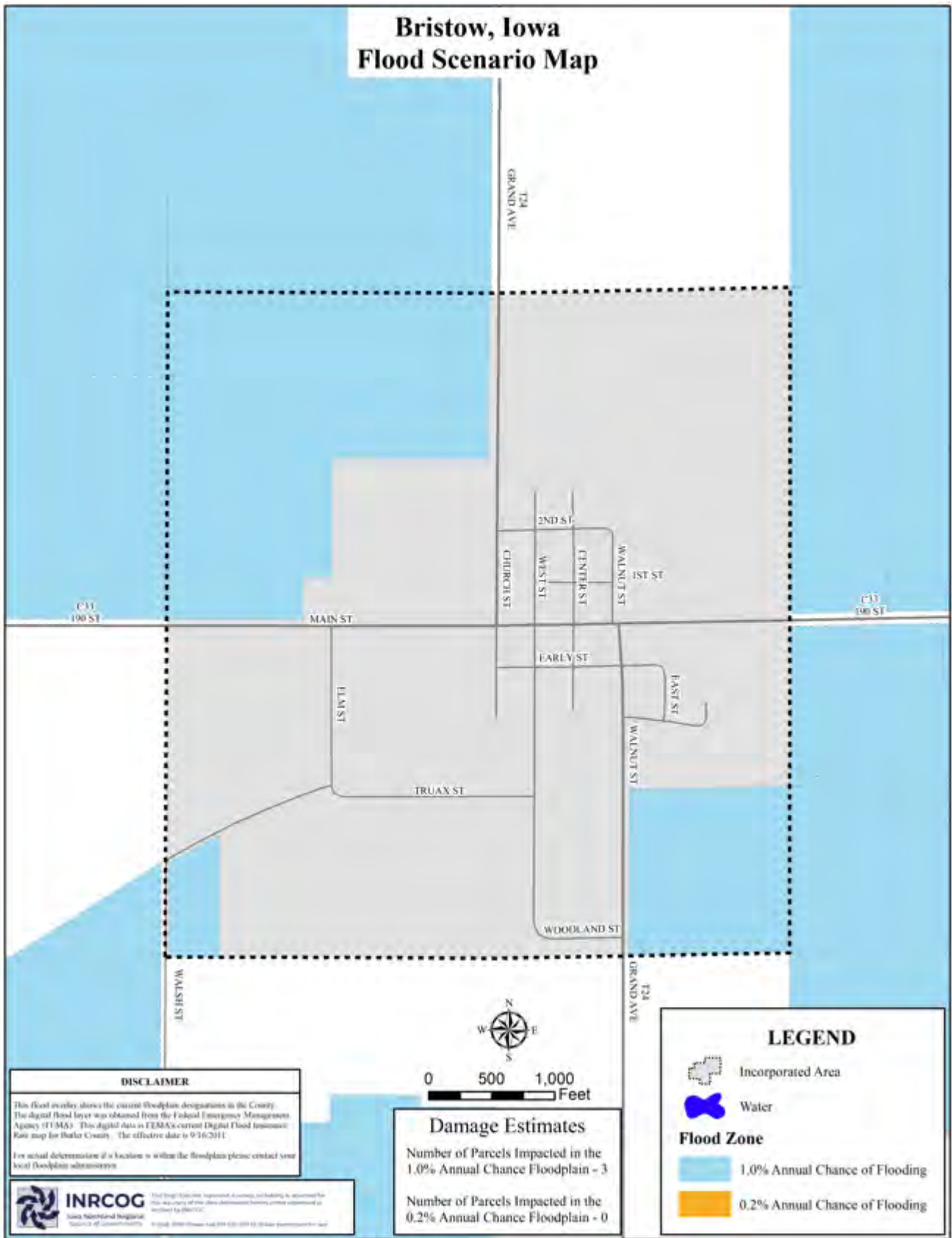
LEGEND

- Incorporated Area
- Water

Flood Zone

- 1.0% Annual Chance of Flooding
- 0.2% Annual Chance of Flooding

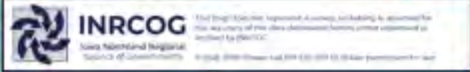
Bristow, Iowa Flood Scenario Map



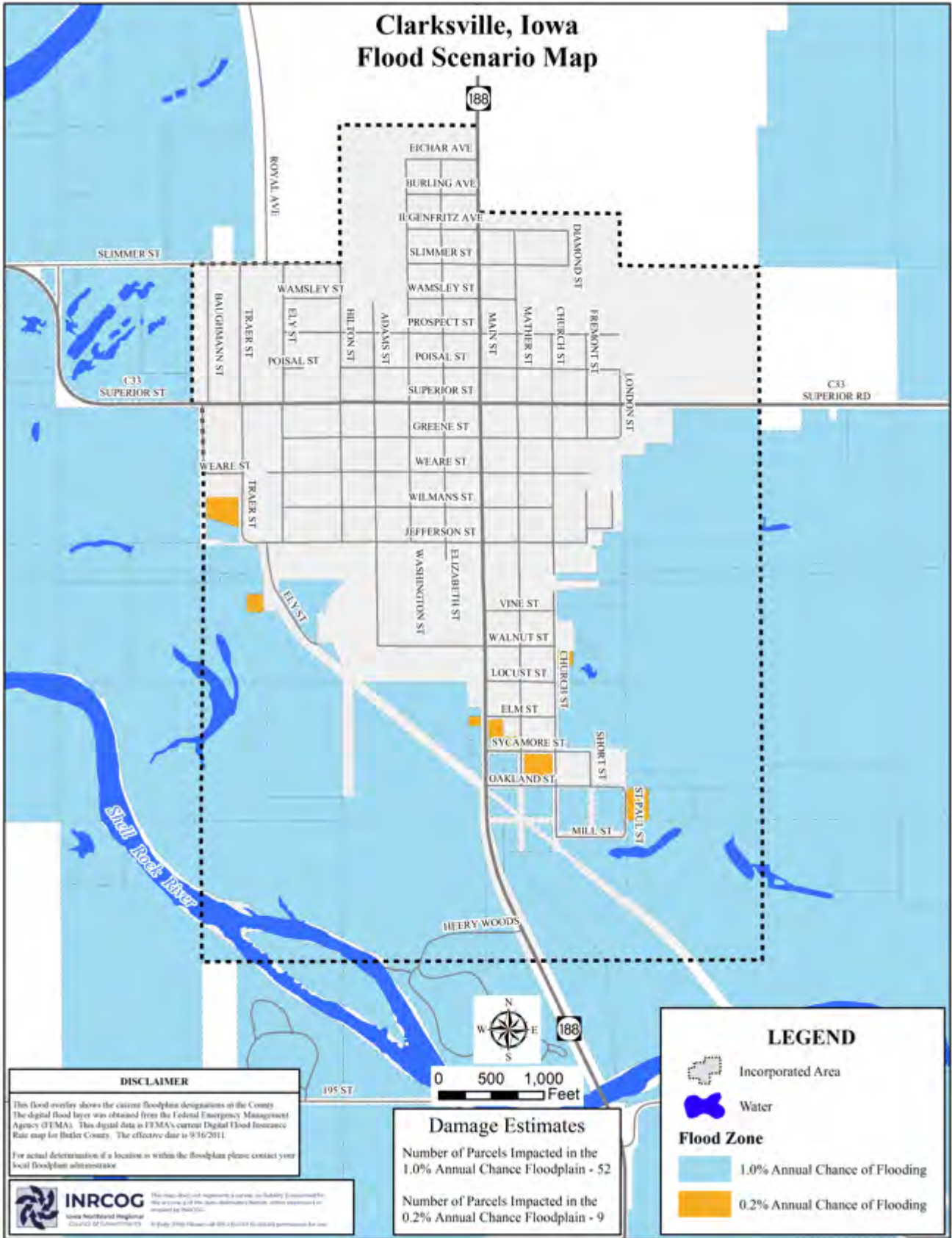
DISCLAIMER

This flood scenario shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Barker County. The effective date is 9/16/2011.

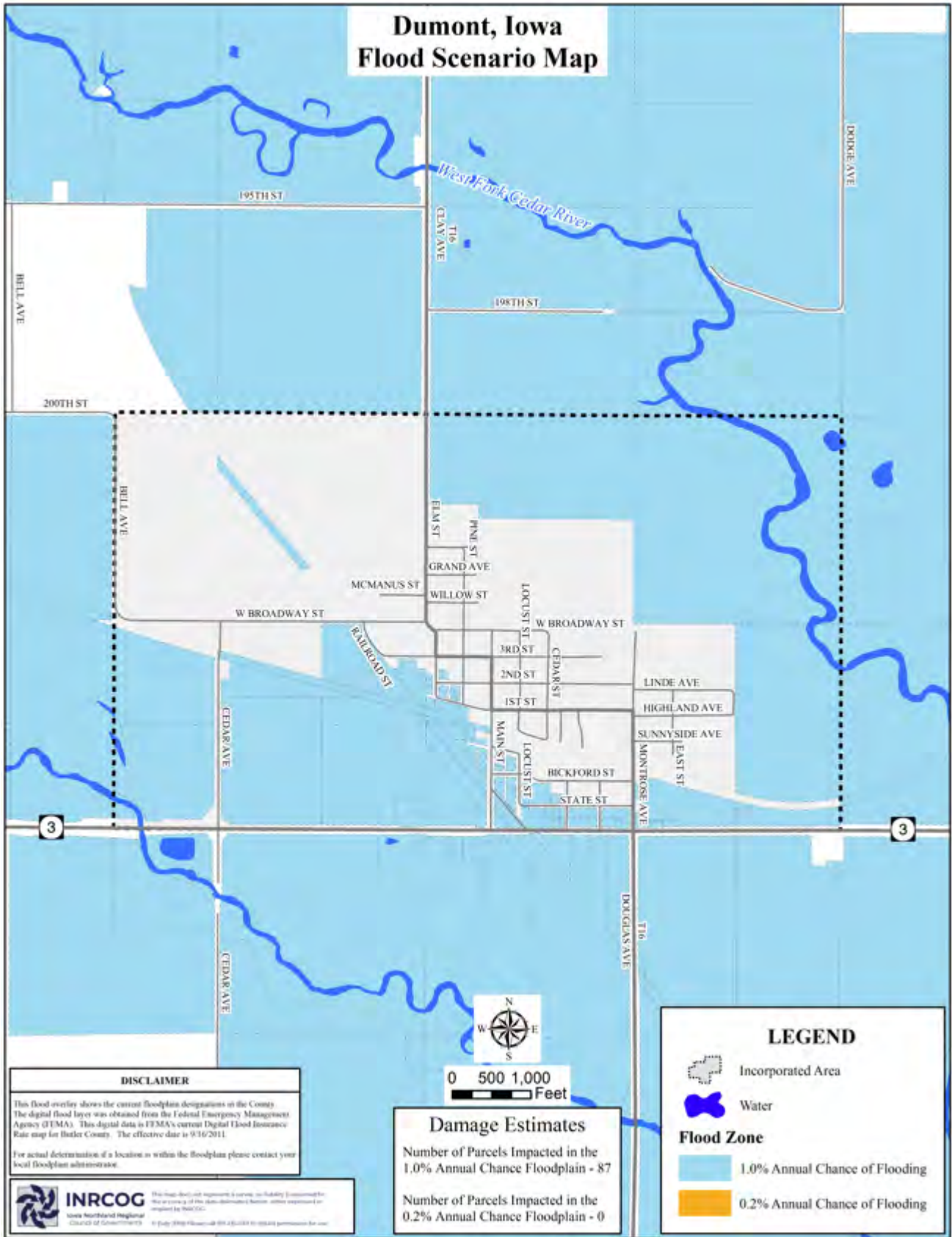
For actual determination if a location is within the floodplain please contact your local floodplain administrator.



Clarksville, Iowa Flood Scenario Map



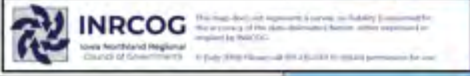
Dumont, Iowa Flood Scenario Map



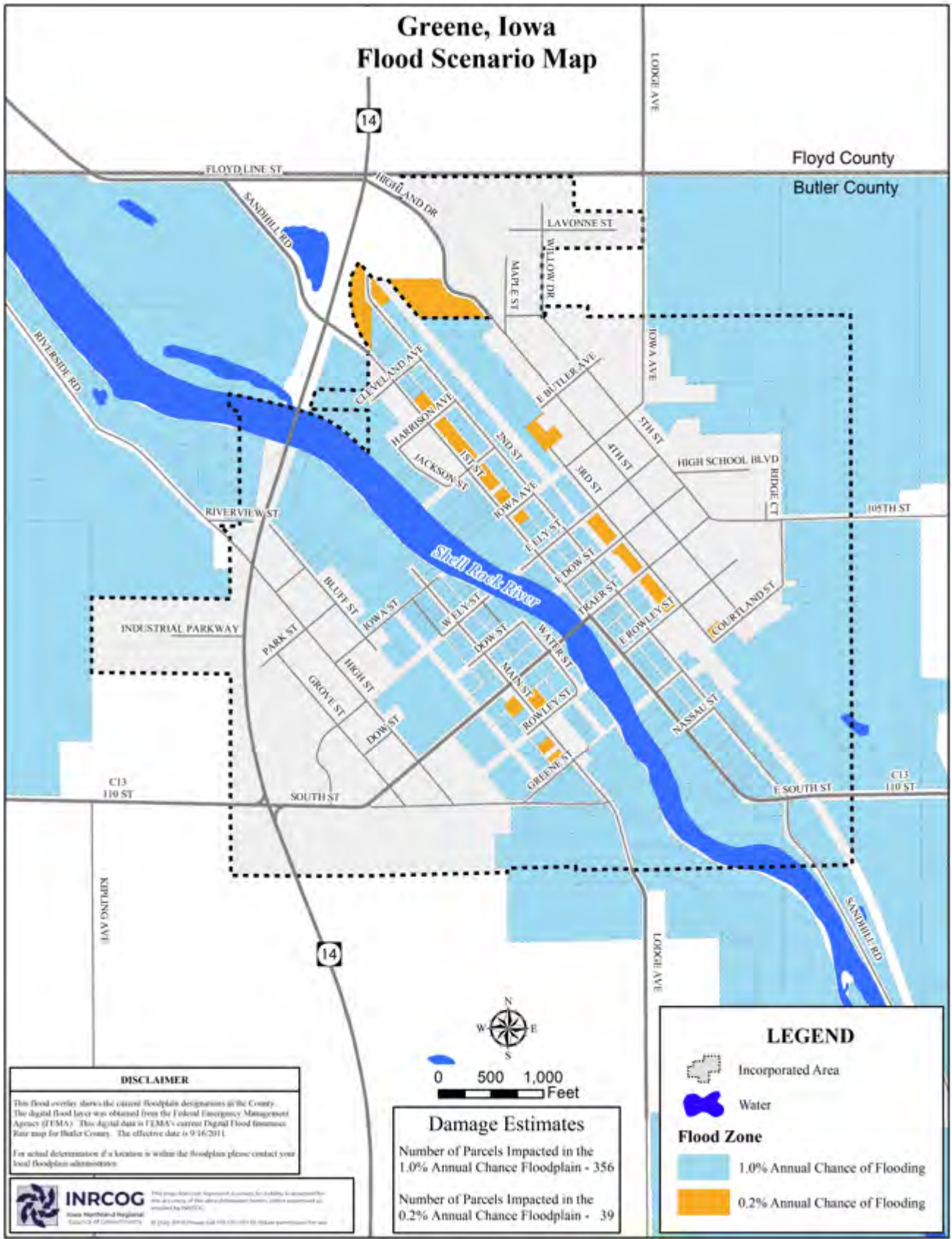
DISCLAIMER

This flood overlay shows the current floodplain designations on the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Butler County. The effective date is 9/16/2011.

For actual determination of a location as within the floodplains please contact your local floodplain administrator.



Greene, Iowa Flood Scenario Map

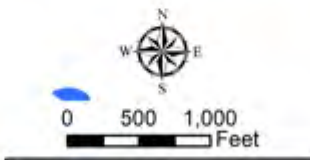
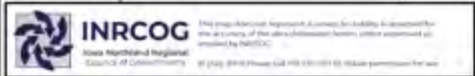


Floyd County
Butler County

DISCLAIMER

This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Butler County. The effective date is 9/16/2011.

For actual determination of a location is within the floodplain please contact your local floodplain administrator.



Damage Estimates

Number of Parcels Impacted in the 1.0% Annual Chance Floodplain - 356

Number of Parcels Impacted in the 0.2% Annual Chance Floodplain - 39

LEGEND

- Incorporated Area
- Water

Flood Zone

- 1.0% Annual Chance of Flooding
- 0.2% Annual Chance of Flooding

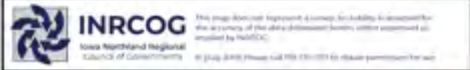
New Hartford, Iowa Flood Scenario Map



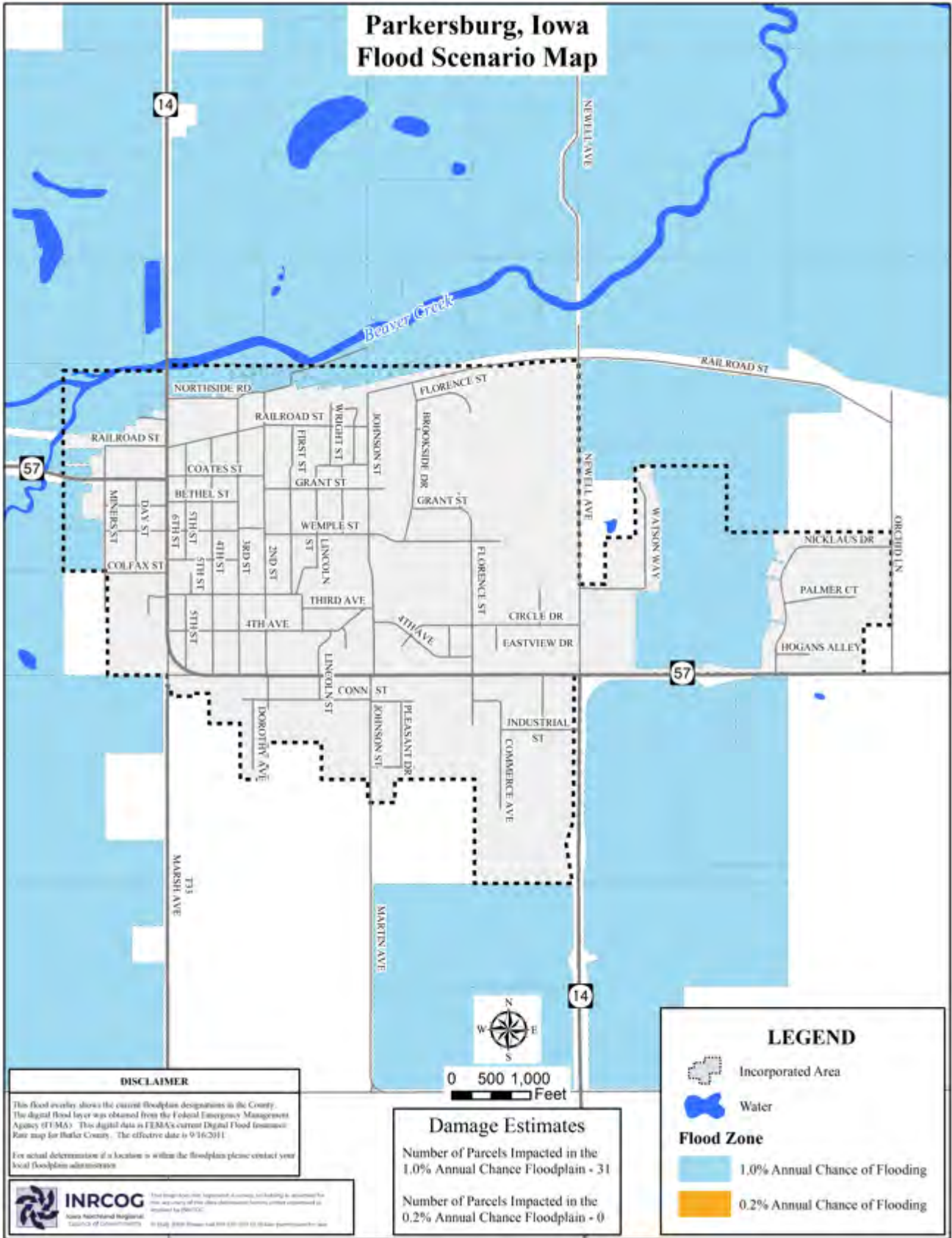
DISCLAIMER

This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Butler County. The effective date is 9/16/2011.

For actual determination of a location is within the floodplains please contact your local floodplain administrator.



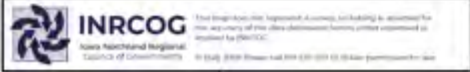
Parkersburg, Iowa Flood Scenario Map



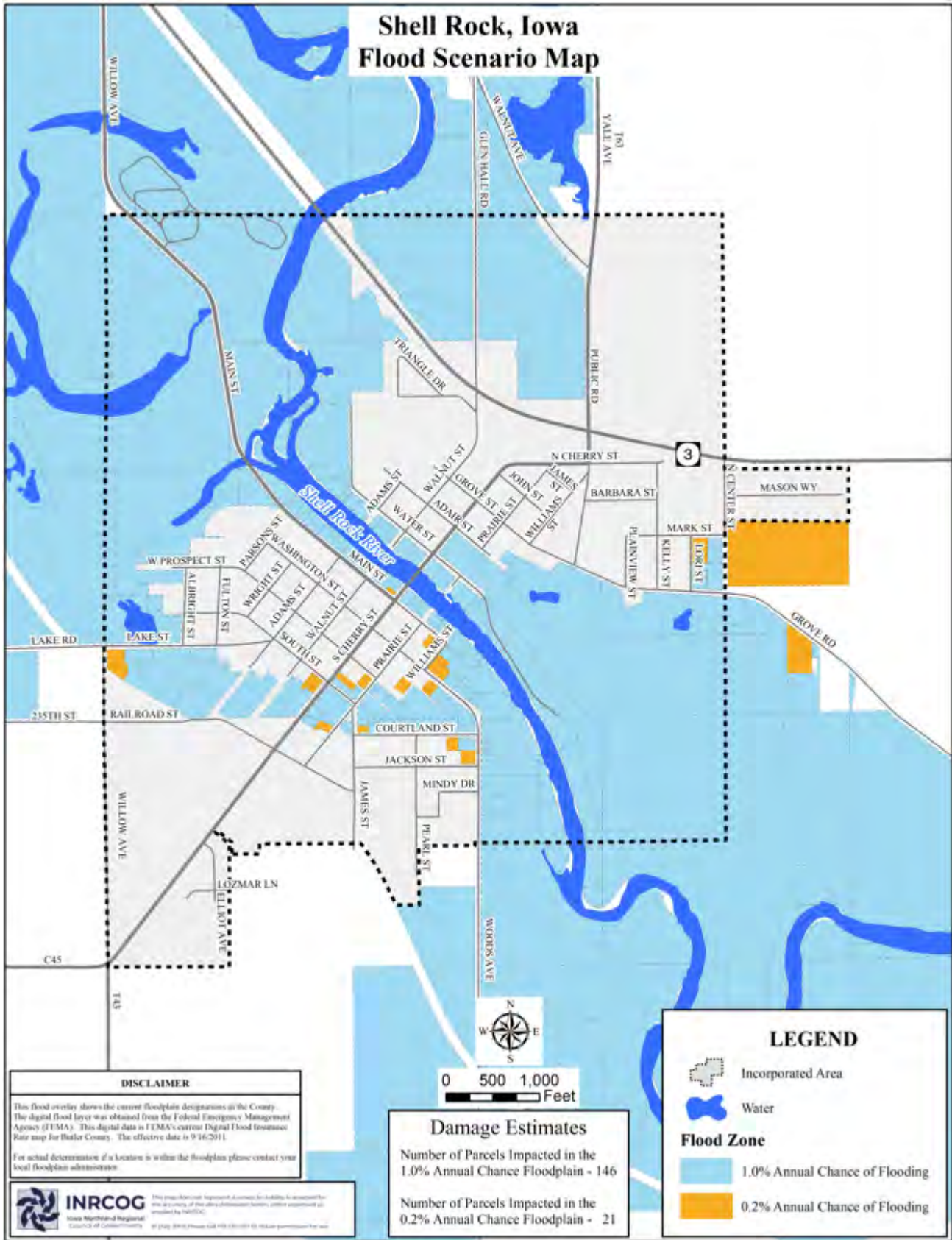
DISCLAIMER

This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Butler County. The effective date is 9/16/2011.

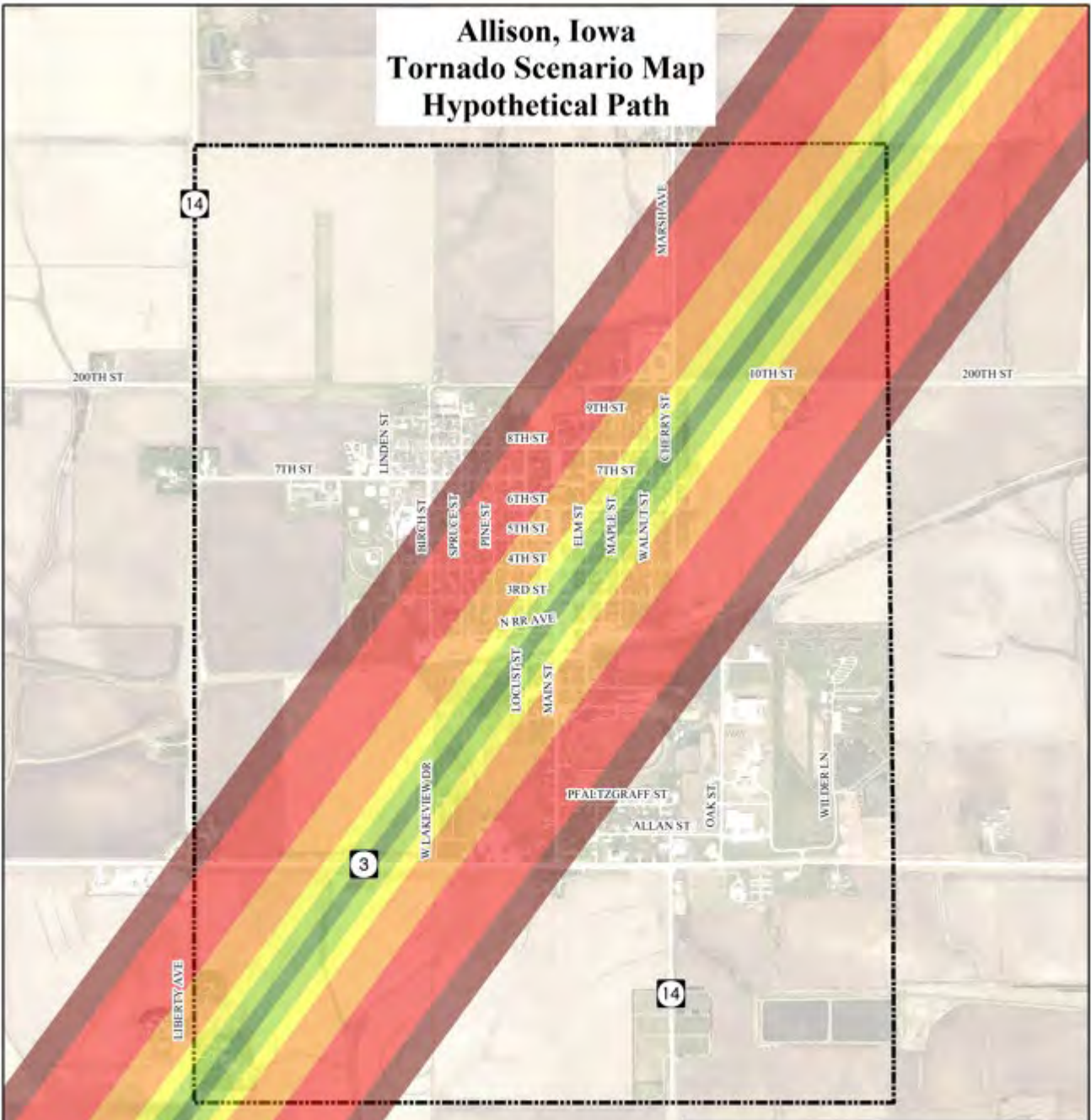
For actual determination if a location is within the floodplains please contact your local floodplain administrator.



Shell Rock, Iowa Flood Scenario Map



Allison, Iowa Tornado Scenario Map Hypothetical Path



Aerial Photograph: 2017

Tornado Scenario Path Description

The tornado path has the same bearing as an EF3 tornado that passed 2.3 Miles North West of the city on 5/20/1953.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.



This map shows one scenario or warning. No liability is assumed for the accuracy of the data displayed herein, either expressed or implied by INRCOG.
© July 2018. Please call 515-281-4839 for release permission for use.



0 0.125 0.25 Miles

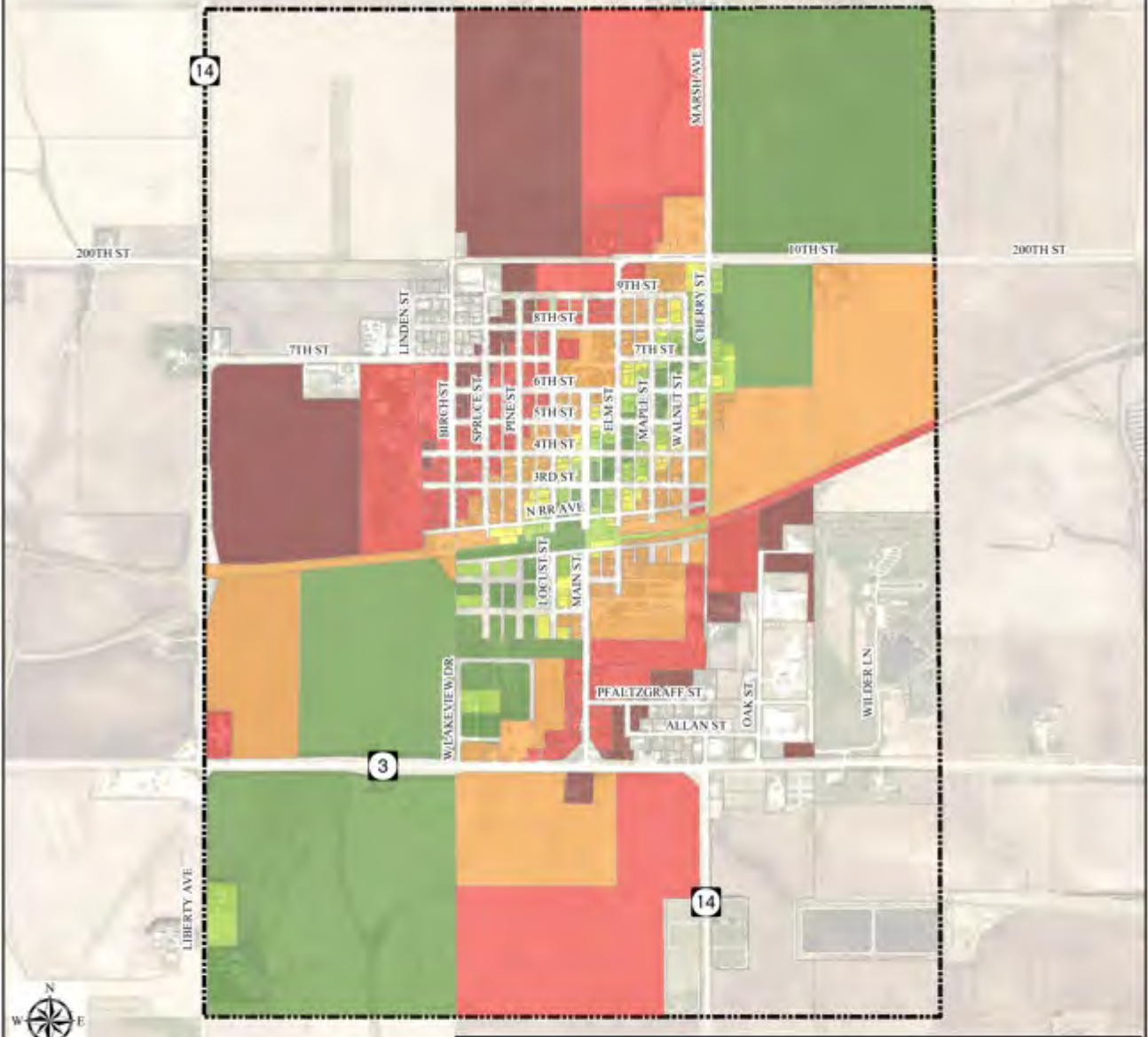
LEGEND

City Limits

Enhanced Fujita Scale

- EF0 - Path Width = 50 Meters (164 Feet)
- EF1 - Path Width = 150 Meters (492 Feet)
- EF2 - Path Width = 250 Meters (820 Feet)
- EF3 - Path Width = 500 Meters (1640 Feet)
- EF4 - Path Width = 900 Meters (2953 Feet)
- EF5 - Path Width = 1100 Meters (3609 Feet)

Allison, Iowa Tornado Scenario Map Affected Parcels



0 0.125 0.25 Miles

Aerial Photograph: 2017

Tornado Scenario Path Description

The tornado path has the same bearing as an EF3 tornado that passed 2.3 Miles North West of the city on 5/20/1953.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.



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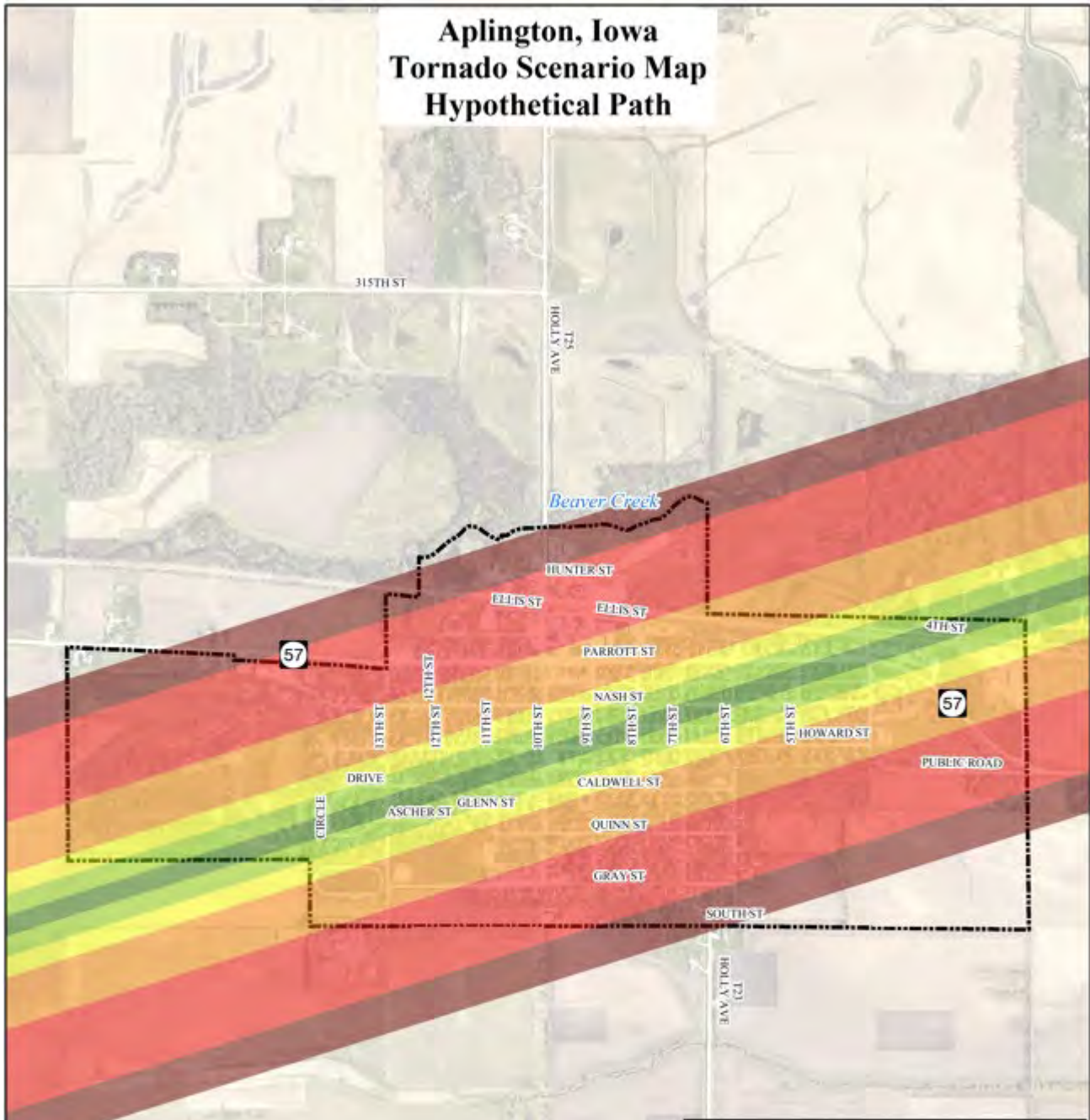
LEGEND

City Limits

Enhanced Fujita Scale

- EF0 - Path Width = 50 Meters (164 Feet) - 82 Parcels Affected - 12.26% of City
- EF1 - Path Width = 150 Meters (492 Feet) - 171 Parcels Affected - 25.56% of City
- EF2 - Path Width = 250 Meters (820 Feet) - 241 Parcels Affected - 36.02% of City
- EF3 - Path Width = 500 Meters (1640 Feet) - 385 Parcels Affected - 57.55% of City
- EF4 - Path Width = 900 Meters (2953 Feet) - 521 Parcels Affected - 77.88% of City
- EF5 - Path Width = 1100 Meters (3609 Feet) - 567 Parcels Affected - 84.75% of City

Aplington, Iowa Tornado Scenario Map Hypothetical Path




Aerial Photograph: 2017

Tornado Scenario Path Description

The tornado path has the same bearing as an EF2 tornado that passed 0.57 Miles North West of the city on 6/27/1998.

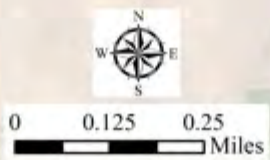
This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.




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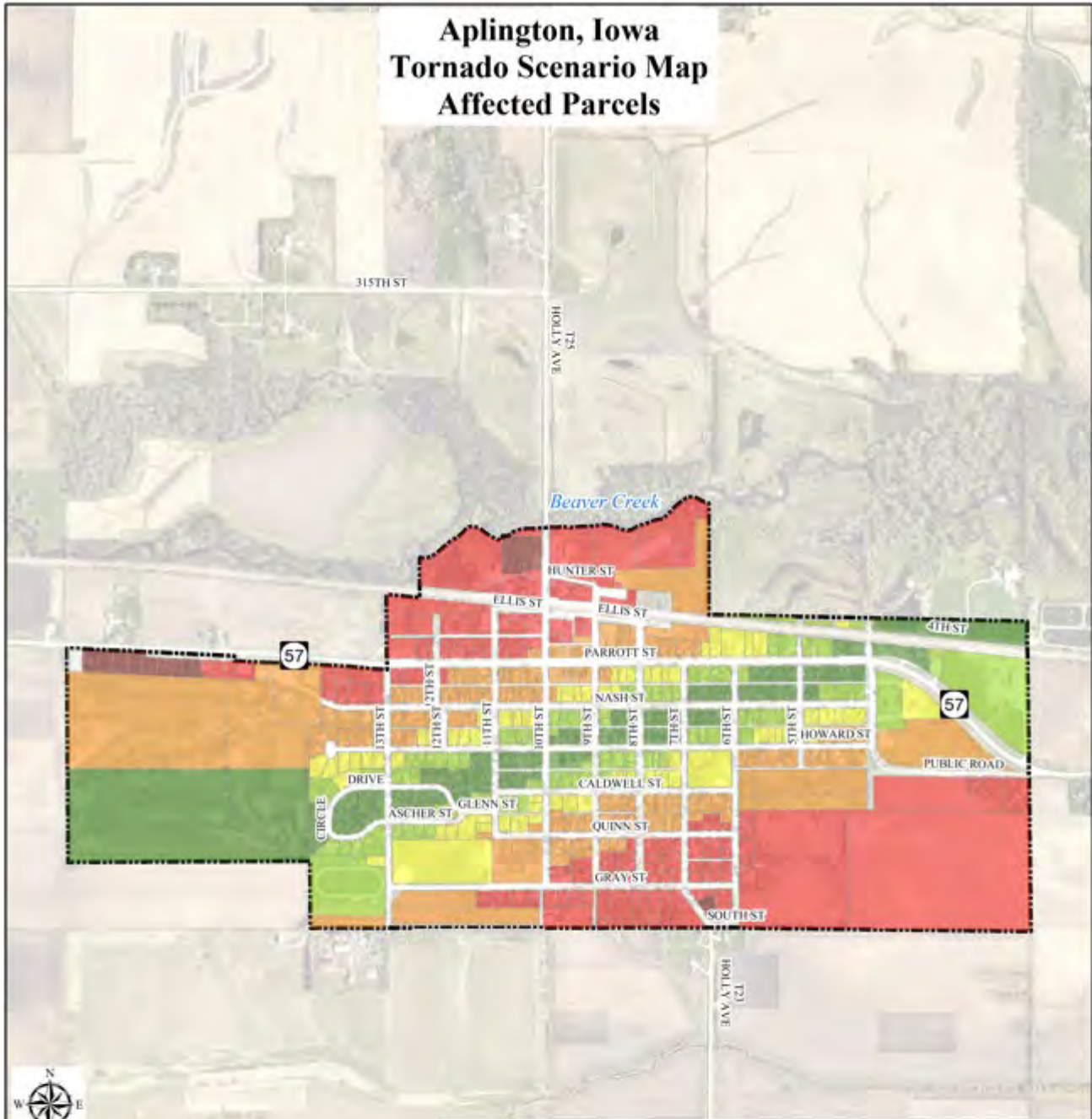
LEGEND

 City Limits

Enhanced Fujita Scale

-  EF0 - Path Width = 50 Meters (164 Feet)
-  EF1 - Path Width = 150 Meters (492 Feet)
-  EF2 - Path Width = 250 Meters (820 Feet)
-  EF3 - Path Width = 500 Meters (1640 Feet)
-  EF4 - Path Width = 900 Meters (2953 Feet)
-  EF5 - Path Width = 1100 Meters (3609 Feet)

Aplington, Iowa Tornado Scenario Map Affected Parcels



0 0.125 0.25 Miles

Aerial Photograph: 2017

Tornado Scenario Path Description

The tornado path has the same bearing as an EF2 tornado that passed 0.57 Miles North West of the city on 6/27/1998.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.



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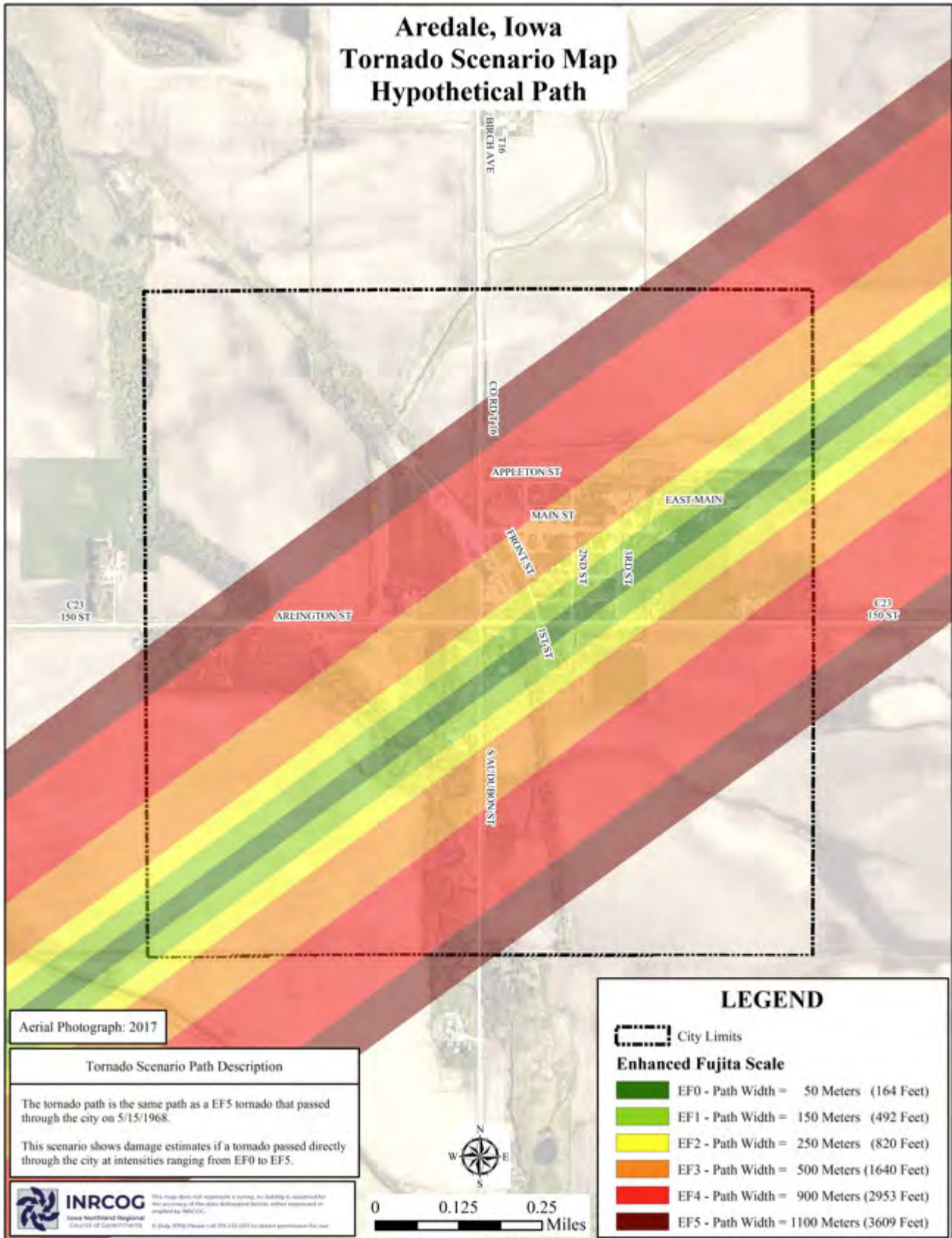
LEGEND

City Limits

Enhanced Fujita Scale

- EF0 - Path Width = 50 Meters (164 Feet) - 101 Parcels Affected - 17.47% of City
- EF1 - Path Width = 150 Meters (492 Feet) - 203 Parcels Affected - 35.12% of City
- EF2 - Path Width = 250 Meters (820 Feet) - 281 Parcels Affected - 48.62% of City
- EF3 - Path Width = 500 Meters (1640 Feet) - 436 Parcels Affected - 75.43% of City
- EF4 - Path Width = 900 Meters (2953 Feet) - 564 Parcels Affected - 97.58% of City
- EF5 - Path Width = 1100 Meters (3609 Feet) - 577 Parcels Affected - 99.83% of City

Aredale, Iowa Tornado Scenario Map Hypothetical Path




Aerial Photograph: 2017

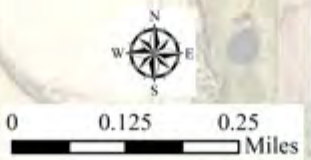
Tornado Scenario Path Description








The tornado path is the same path as a EF5 tornado that passed through the city on 5/15/1968.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

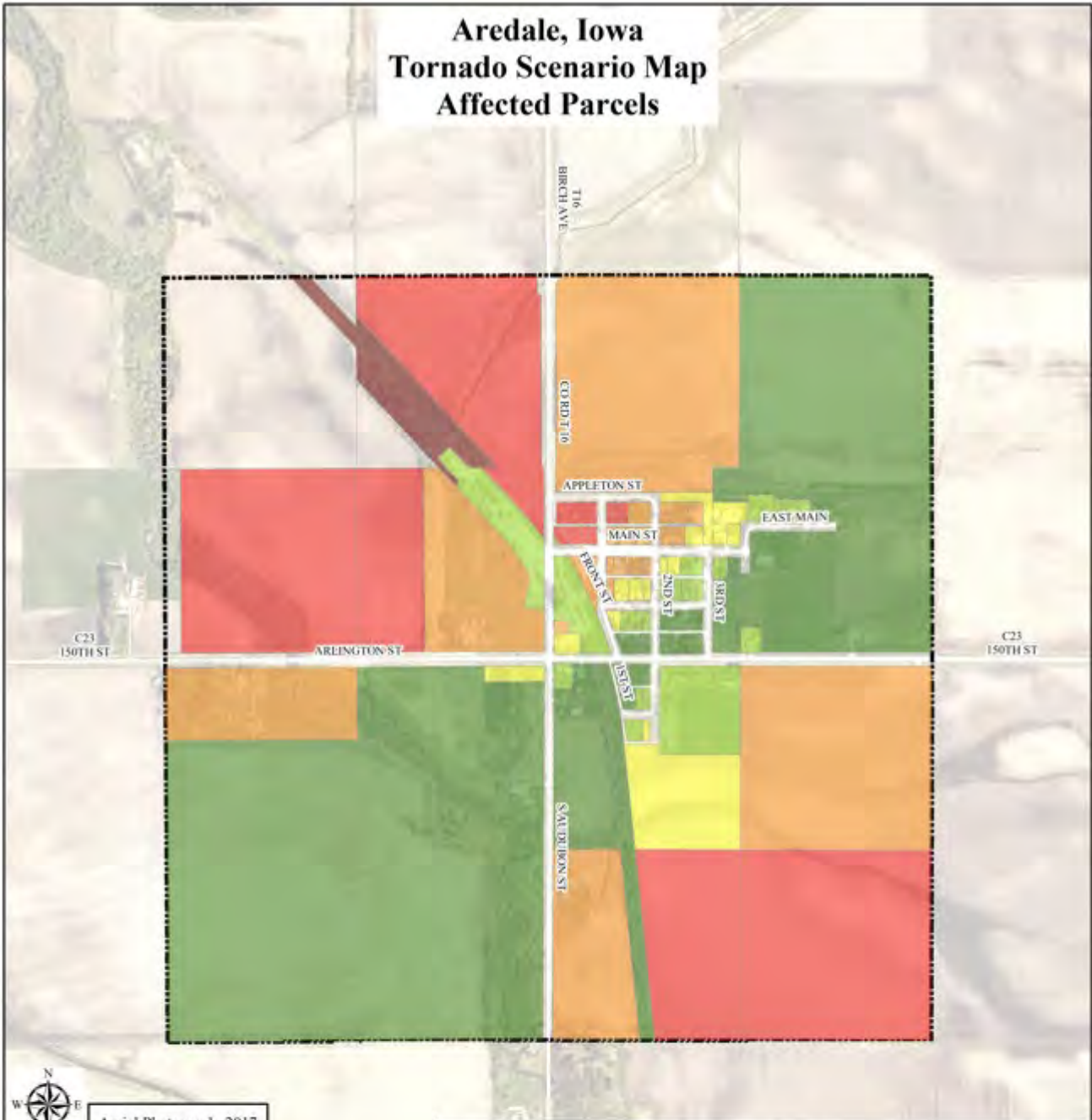


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LEGEND	
	City Limits
Enhanced Fujita Scale	
	EF0 - Path Width = 50 Meters (164 Feet)
	EF1 - Path Width = 150 Meters (492 Feet)
	EF2 - Path Width = 250 Meters (820 Feet)
	EF3 - Path Width = 500 Meters (1640 Feet)
	EF4 - Path Width = 900 Meters (2953 Feet)
	EF5 - Path Width = 1100 Meters (3609 Feet)

Aredale, Iowa Tornado Scenario Map Affected Parcels



N
W E
S


Aerial Photograph: 2017

0 0.125 0.25
Miles

Tornado Scenario Path Description


The tornado path is the same path as a EF5 tornado that passed through the city on 5/15/1968.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.









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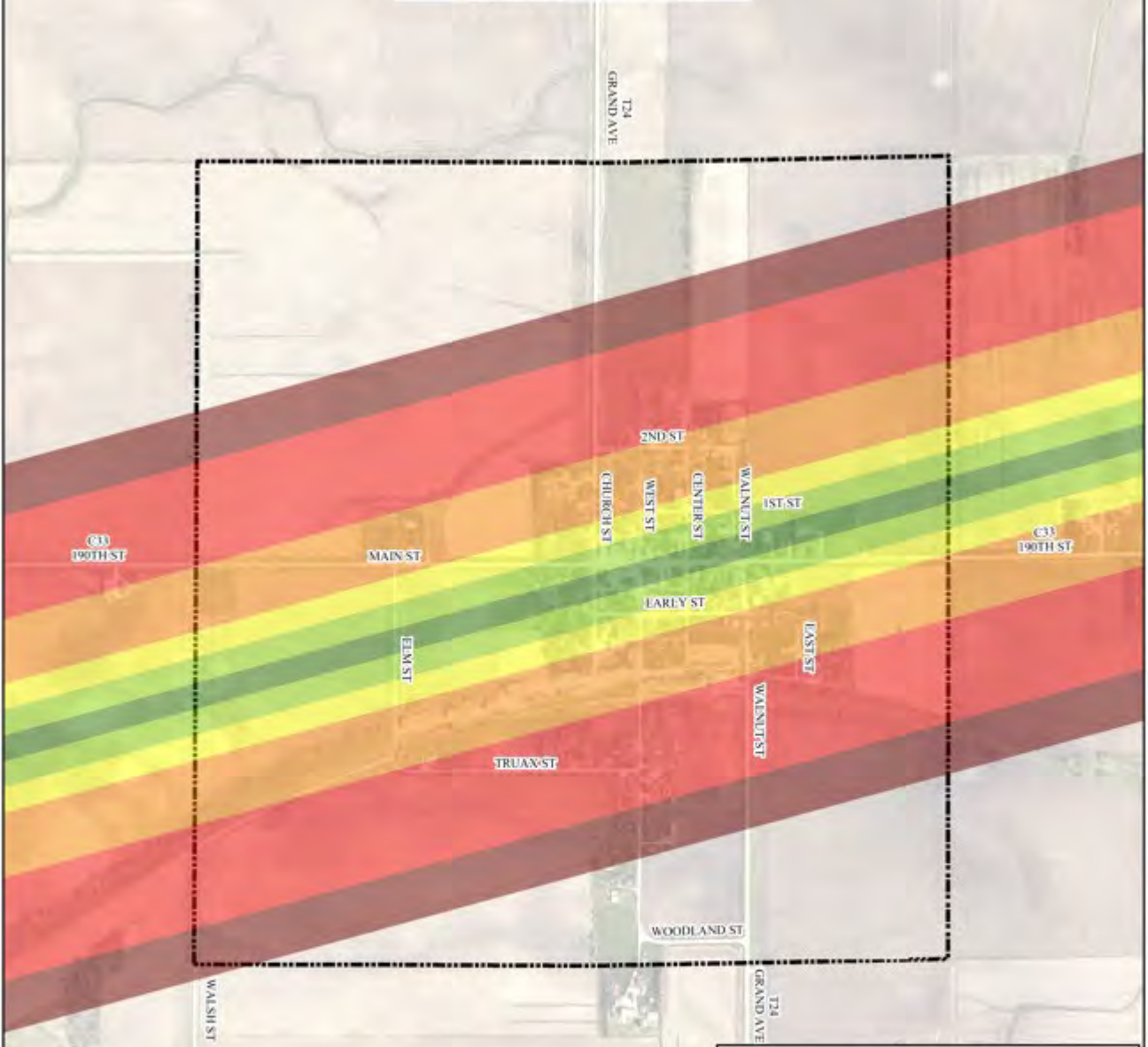
LEGEND

 City Limits

Enhanced Fujita Scale

	EF0 - Path Width = 50 Meters (164 Feet) - 33 Parcels Affected - 27.27% of City
	EF1 - Path Width = 150 Meters (492 Feet) - 59 Parcels Affected - 48.76% of City
	EF2 - Path Width = 250 Meters (820 Feet) - 75 Parcels Affected - 61.98% of City
	EF3 - Path Width = 500 Meters (1640 Feet) - 104 Parcels Affected - 85.95% of City
	EF4 - Path Width = 900 Meters (2953 Feet) - 117 Parcels Affected - 96.69% of City
	EF5 - Path Width = 1100 Meters (3609 Feet) - 118 Parcels Affected - 97.52% of City

Bristow, Iowa Tornado Scenario Map Hypothetical Path



Aerial Photograph: 2017

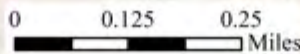
Tornado Scenario Path Description

The tornado path has the same bearing as an EF4 tornado that passed 1.69 Miles North West of the city on 9/1/1961.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.



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LEGEND

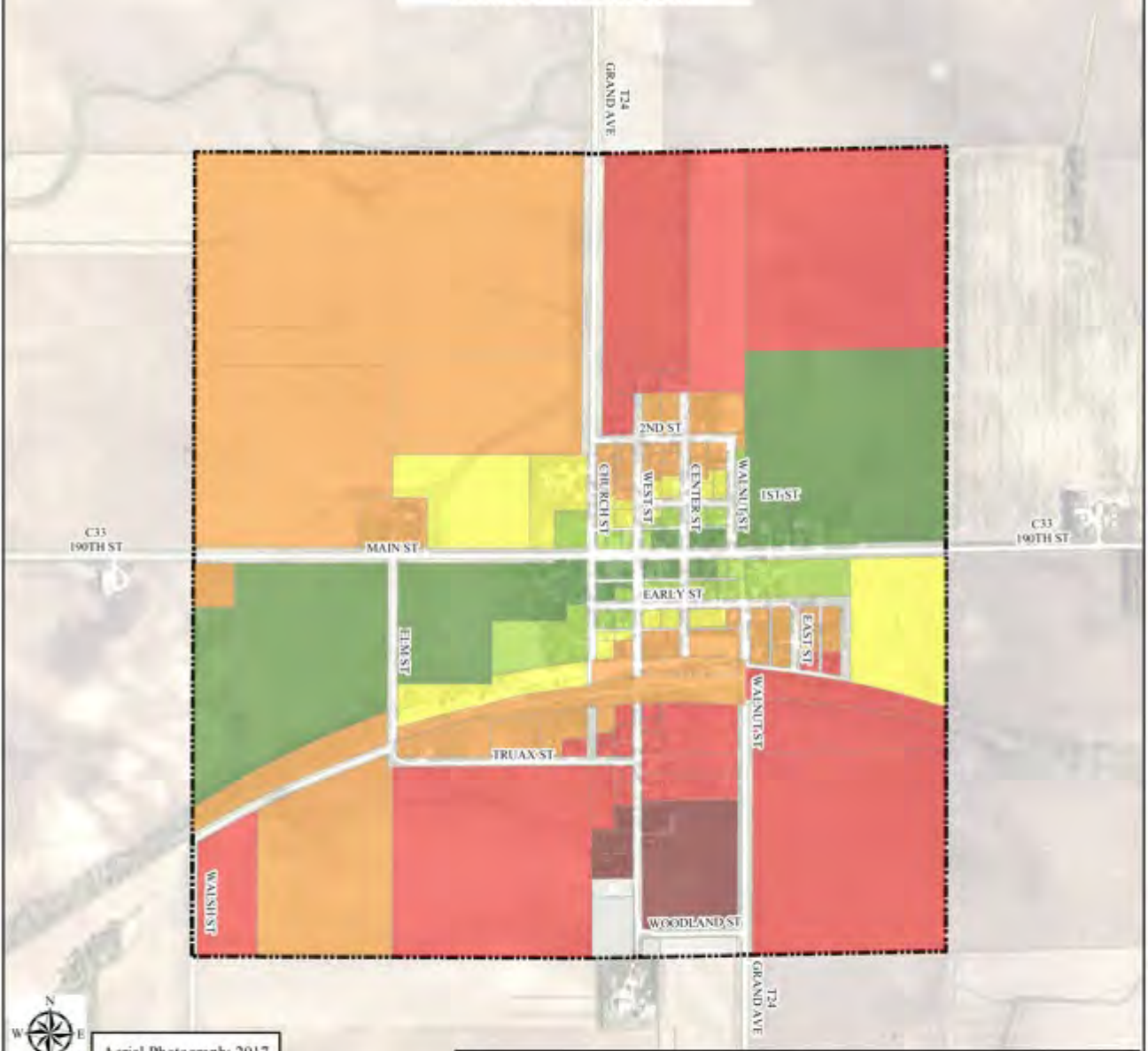


City Limits

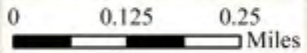
Enhanced Fujita Scale

- EF0 - Path Width = 50 Meters (164 Feet)
- EF1 - Path Width = 150 Meters (492 Feet)
- EF2 - Path Width = 250 Meters (820 Feet)
- EF3 - Path Width = 500 Meters (1640 Feet)
- EF4 - Path Width = 900 Meters (2953 Feet)
- EF5 - Path Width = 1100 Meters (3609 Feet)

Bristow, Iowa Tornado Scenario Map Affected Parcels



Aerial Photograph: 2017



Tornado Scenario Path Description

The tornado path has the same bearing as an EF4 tornado that passed 1.69 Miles North West of the city on 9/1/1961.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.



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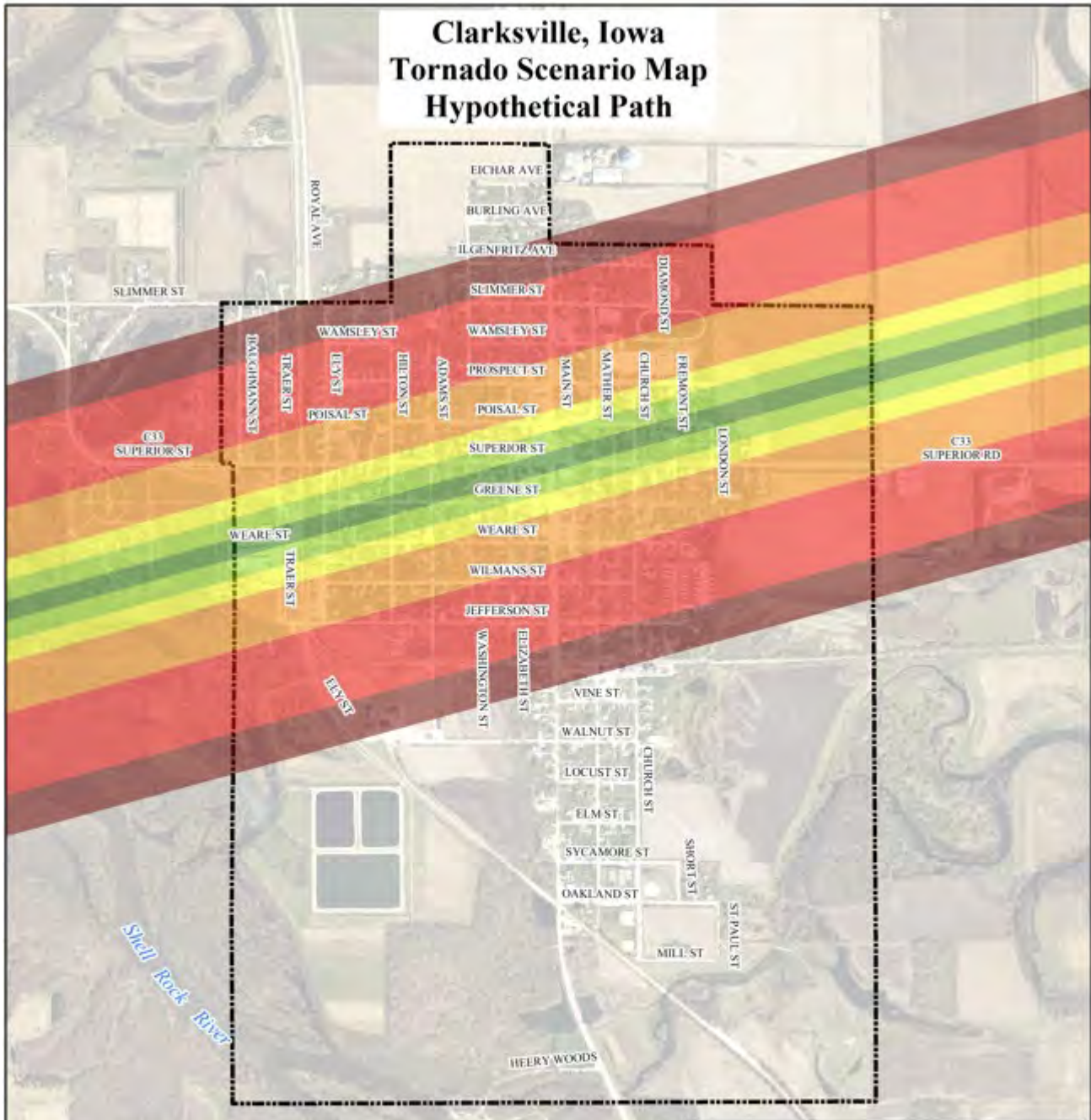
LEGEND

City Limits

Enhanced Fujita Scale

- EF0 - Path Width = 50 Meters (164 Feet) - 31 Parcels Affected - 19.02% of City
- EF1 - Path Width = 150 Meters (492 Feet) - 56 Parcels Affected - 34.36% of City
- EF2 - Path Width = 250 Meters (820 Feet) - 76 Parcels Affected - 46.63% of City
- EF3 - Path Width = 500 Meters (1640 Feet) - 127 Parcels Affected - 77.91% of City
- EF4 - Path Width = 900 Meters (2953 Feet) - 155 Parcels Affected - 95.09% of City
- EF5 - Path Width = 1100 Meters (3609 Feet) - 159 Parcels Affected - 97.55% of City

Clarksville, Iowa Tornado Scenario Map Hypothetical Path



Aerial Photograph: 2017

Tornado Scenario Path Description

The tornado path has the same bearing as an EF4 tornado that passed 4.1 Miles North West of the city on 9/1/1961.

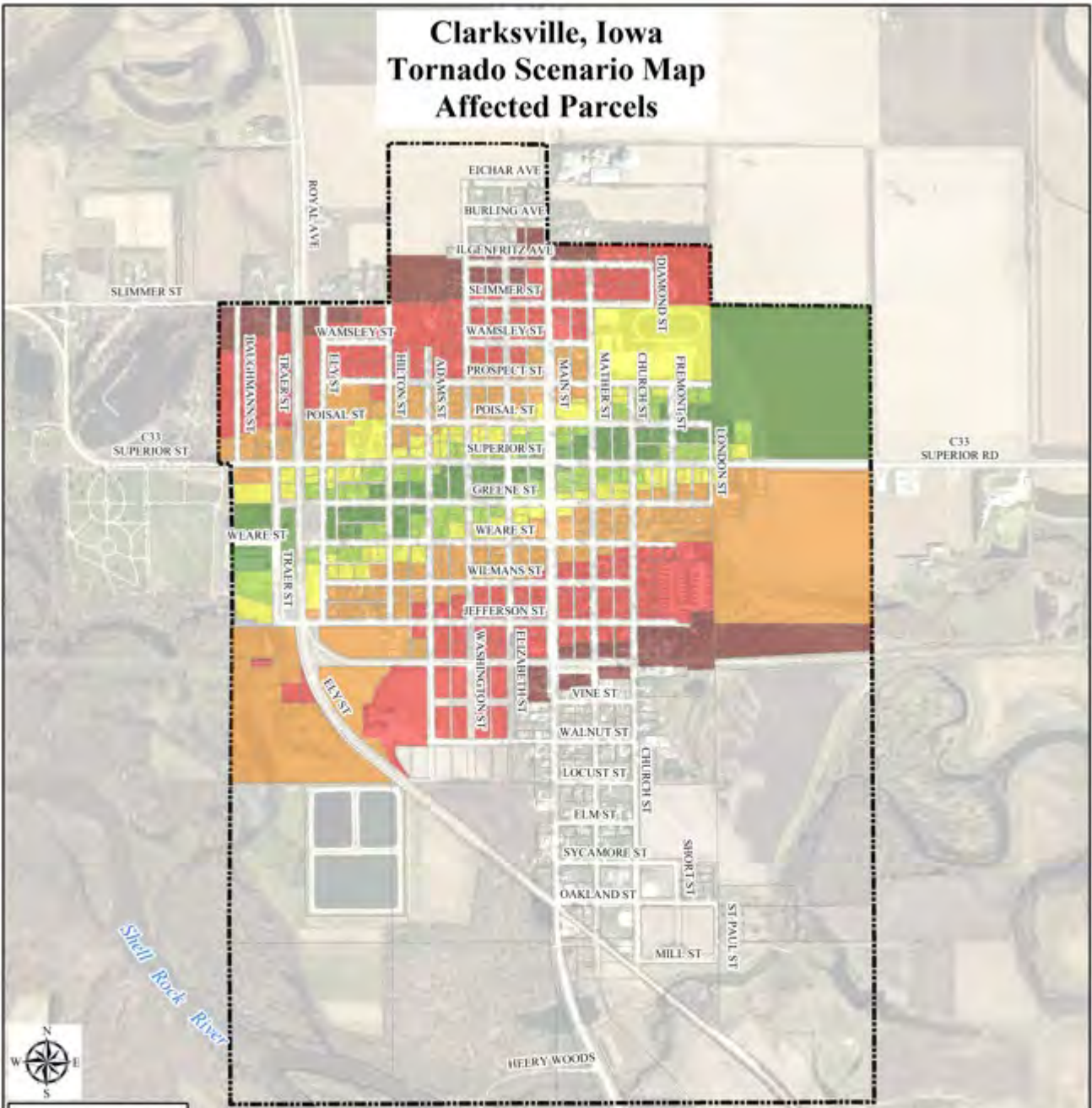
This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

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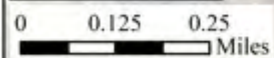


LEGEND	
	City Limits
Enhanced Fujita Scale	
	EF0 - Path Width = 50 Meters (164 Feet)
	EF1 - Path Width = 150 Meters (492 Feet)
	EF2 - Path Width = 250 Meters (820 Feet)
	EF3 - Path Width = 500 Meters (1640 Feet)
	EF4 - Path Width = 900 Meters (2953 Feet)
	EF5 - Path Width = 1100 Meters (3609 Feet)

Clarksville, Iowa Tornado Scenario Map Affected Parcels



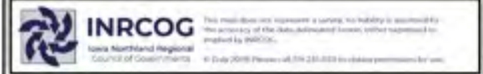
Aerial Photograph: 2017



Tornado Scenario Path Description

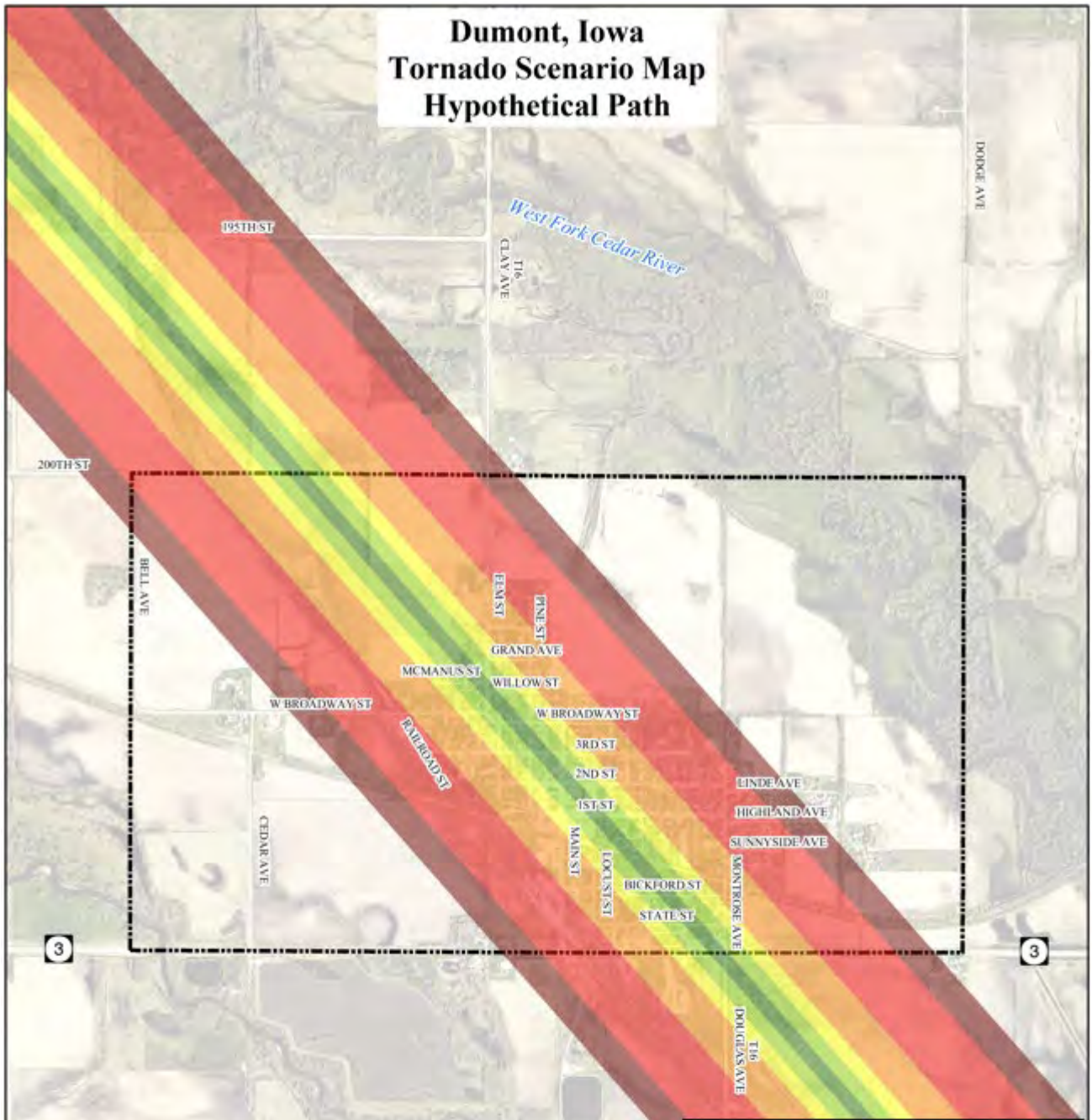
The tornado path has the same bearing as an EF4 tornado that passed 4.1 Miles North West of the city on 9/1/1961.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.



LEGEND	
	City Limits
Enhanced Fujita Scale	
	EF0 - Path Width = 50 Meters (164 Feet) - 79 Parcels Affected - 10.09% of City
	EF1 - Path Width = 150 Meters (492 Feet) - 169 Parcels Affected - 21.58% of City
	EF2 - Path Width = 250 Meters (820 Feet) - 240 Parcels Affected - 30.65% of City
	EF3 - Path Width = 500 Meters (1640 Feet) - 396 Parcels Affected - 50.57% of City
	EF4 - Path Width = 900 Meters (2953 Feet) - 595 Parcels Affected - 75.99% of City
	EF5 - Path Width = 1100 Meters (3609 Feet) - 648 Parcels Affected - 82.76% of City

Dumont, Iowa Tornado Scenario Map Hypothetical Path




Aerial Photograph: 2017

Tornado Scenario Path Description

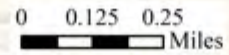
The tornado path has the same bearing as an EF1 tornado that passed 0.81 Miles South East of the city on 6/5/1997.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.




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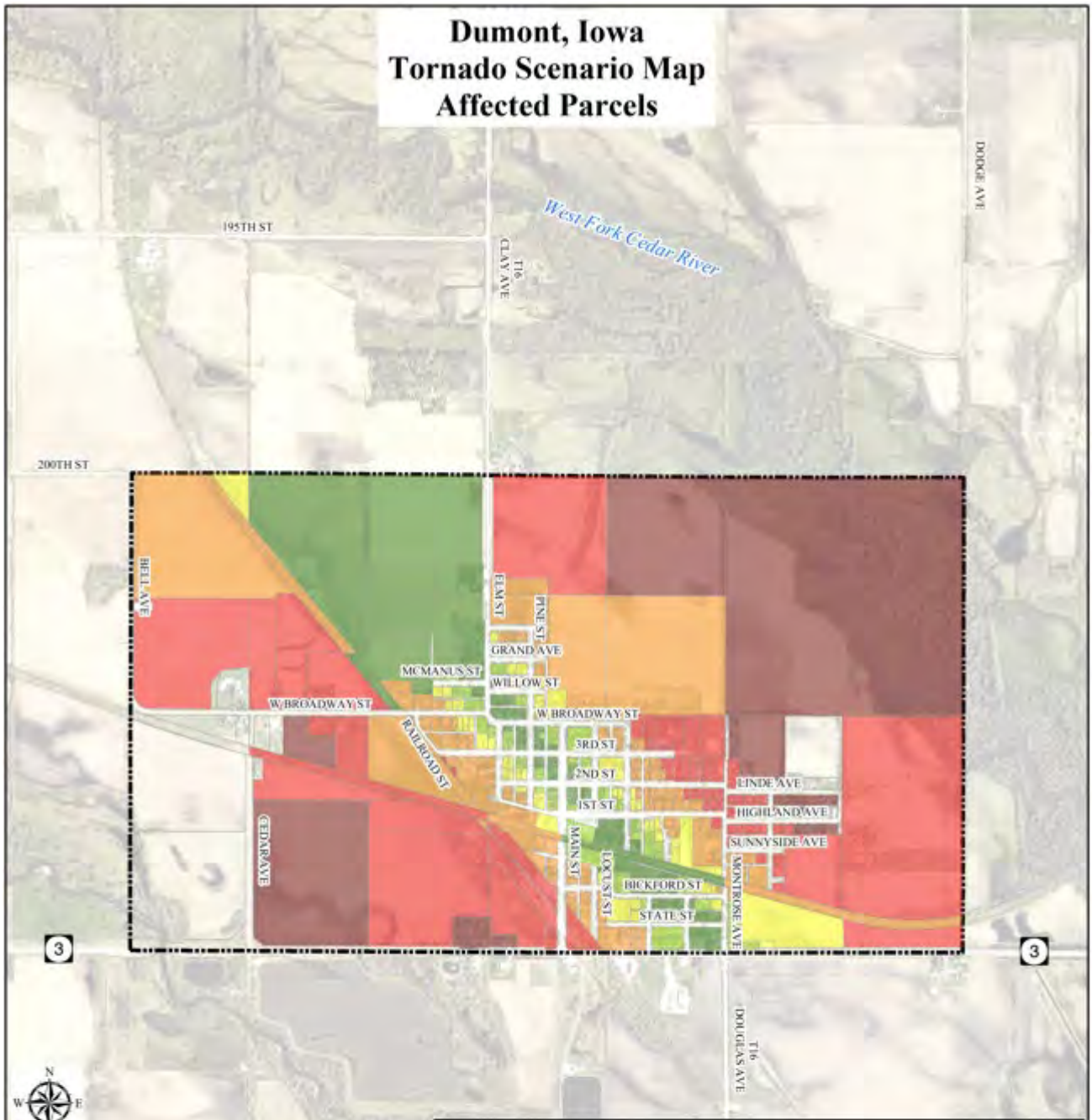
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LEGEND

-  City Limits
- Enhanced Fujita Scale**
-  EF0 - Path Width = 50 Meters (164 Feet)
-  EF1 - Path Width = 150 Meters (492 Feet)
-  EF2 - Path Width = 250 Meters (820 Feet)
-  EF3 - Path Width = 500 Meters (1640 Feet)
-  EF4 - Path Width = 900 Meters (2953 Feet)
-  EF5 - Path Width = 1100 Meters (3609 Feet)

Dumont, Iowa Tornado Scenario Map Affected Parcels



Tornado Scenario Path Description

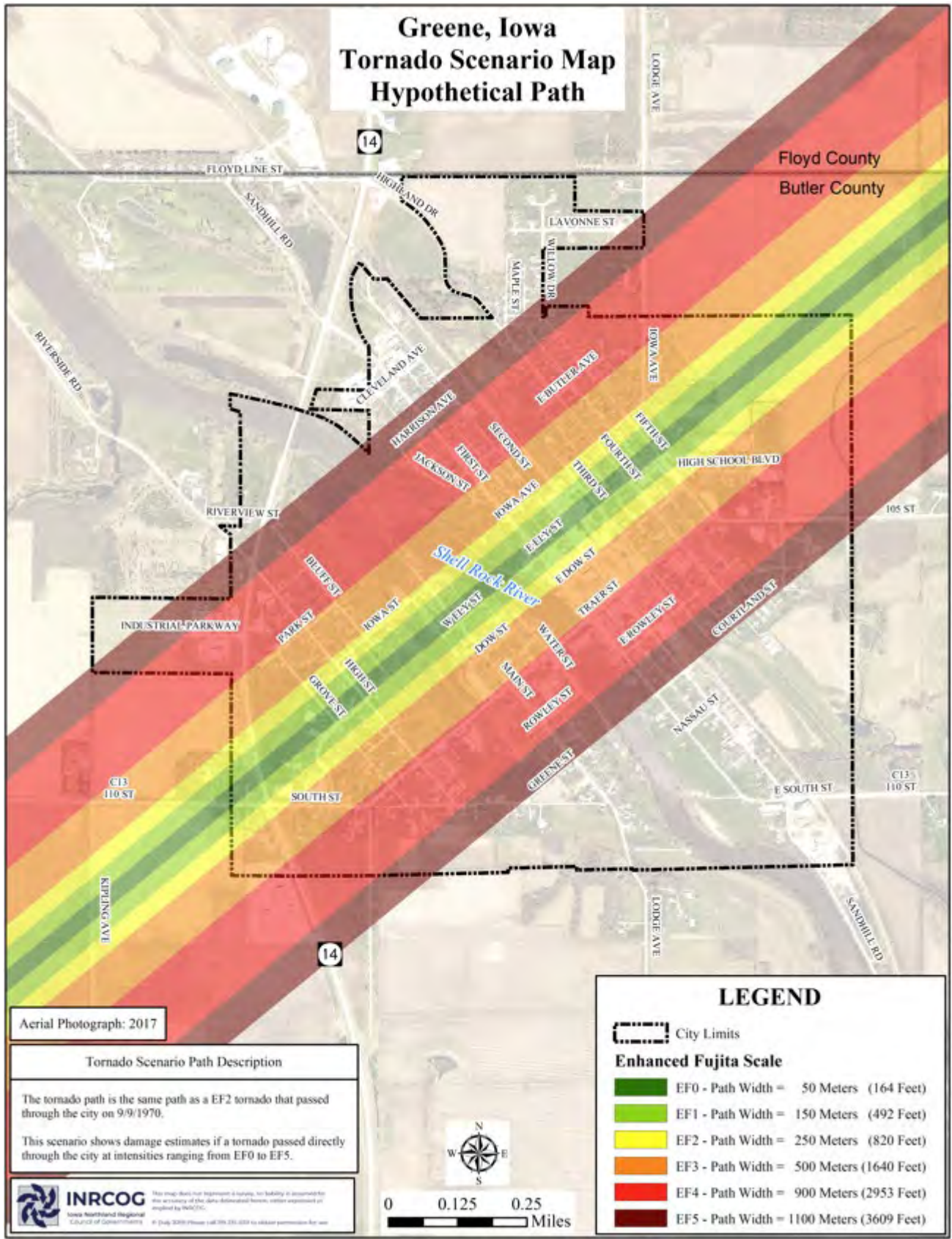
The tornado path has the same bearing as an EF1 tornado that passed 0.81 Miles South East of the city on 6/5/1997.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

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LEGEND	
	City Limits
Enhanced Fujita Scale	
	EF0 - Path Width = 50 Meters (164 Feet) - 79 Parcels Affected - 16.46% of City
	EF1 - Path Width = 150 Meters (492 Feet) - 153 Parcels Affected - 31.87% of City
	EF2 - Path Width = 250 Meters (820 Feet) - 215 Parcels Affected - 44.79% of City
	EF3 - Path Width = 500 Meters (1640 Feet) - 356 Parcels Affected - 74.17% of City
	EF4 - Path Width = 900 Meters (2953 Feet) - 435 Parcels Affected - 90.62% of City
	EF5 - Path Width = 1100 Meters (3609 Feet) - 461 Parcels Affected - 96.04% of City

Greene, Iowa Tornado Scenario Map Hypothetical Path



Aerial Photograph: 2017

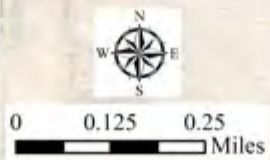
Tornado Scenario Path Description

The tornado path is the same path as a EF2 tornado that passed through the city on 9/9/1970.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

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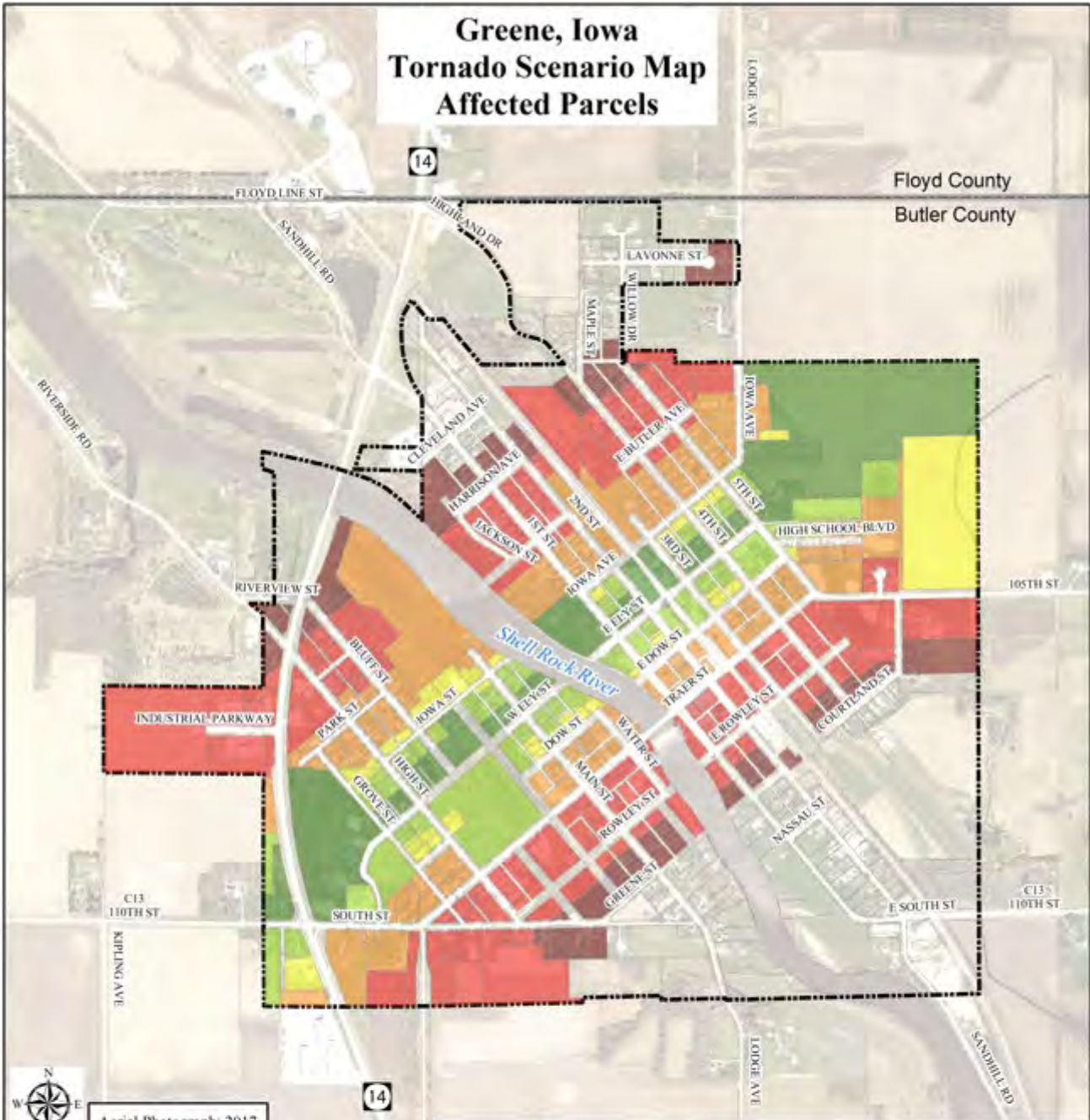
© July 2009 Please call 515.281.4200 to obtain permission for use.



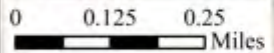
LEGEND	
	City Limits
Enhanced Fujita Scale	
	EF0 - Path Width = 50 Meters (164 Feet)
	EF1 - Path Width = 150 Meters (492 Feet)
	EF2 - Path Width = 250 Meters (820 Feet)
	EF3 - Path Width = 500 Meters (1640 Feet)
	EF4 - Path Width = 900 Meters (2953 Feet)
	EF5 - Path Width = 1100 Meters (3609 Feet)

Greene, Iowa Tornado Scenario Map Affected Parcels

Floyd County
Butler County



Aerial Photograph: 2017



Tornado Scenario Path Description

The tornado path is the same path as a EF2 tornado that passed through the city on 9/9/1970.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.



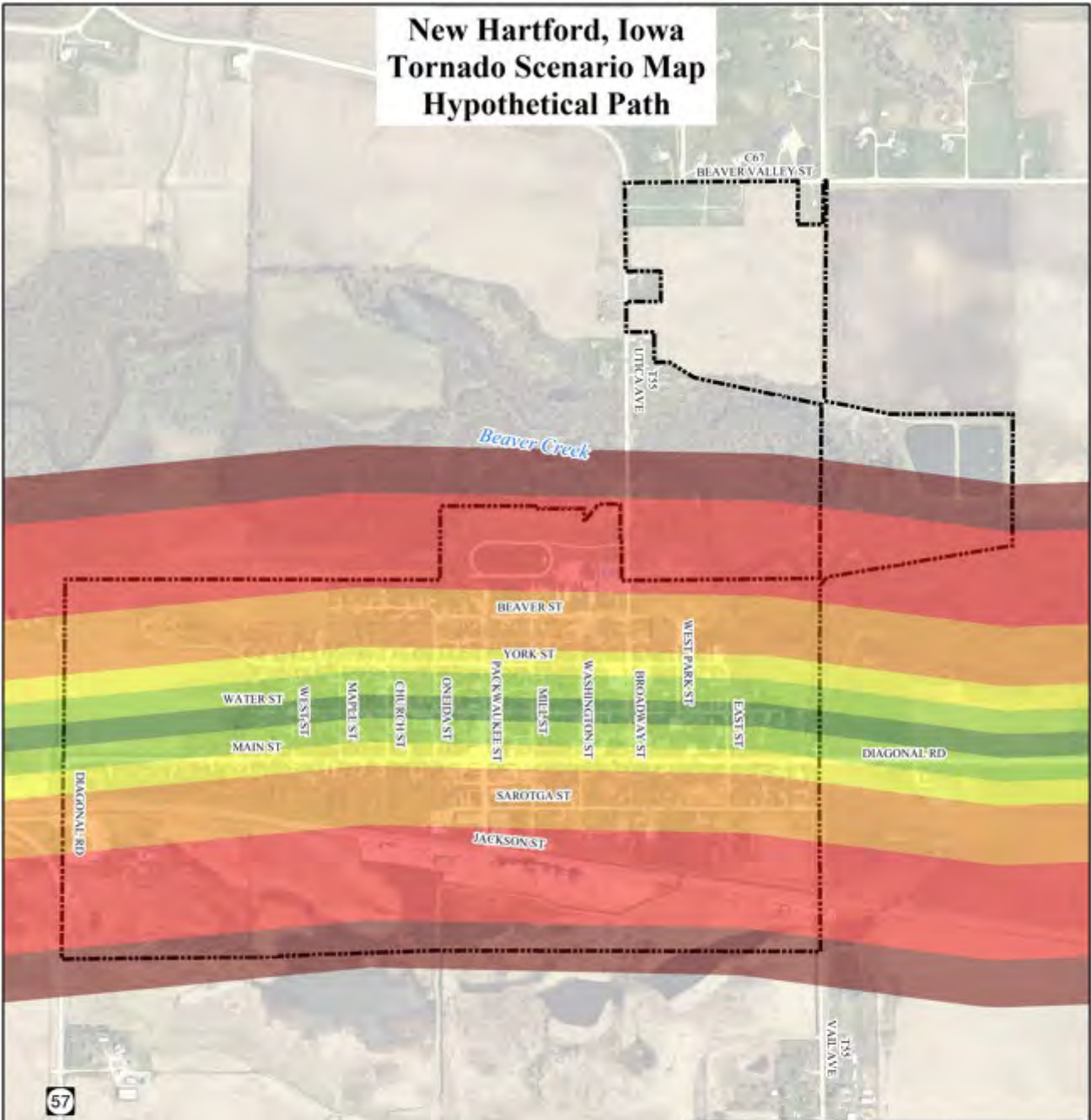
LEGEND

City Limits

Enhanced Fujita Scale

	EF0 - Path Width = 50 Meters (164 Feet) - 52 Parcels Affected - 6.18% of City
	EF1 - Path Width = 150 Meters (492 Feet) - 130 Parcels Affected - 15.44% of City
	EF2 - Path Width = 250 Meters (820 Feet) - 179 Parcels Affected - 21.26% of City
	EF3 - Path Width = 500 Meters (1640 Feet) - 370 Parcels Affected - 43.94% of City
	EF4 - Path Width = 900 Meters (2953 Feet) - 602 Parcels Affected - 71.50% of City
	EF5 - Path Width = 1100 Meters (3609 Feet) - 700 Parcels Affected - 83.13% of City

New Hartford, Iowa Tornado Scenario Map Hypothetical Path



Aerial Photograph: 2017

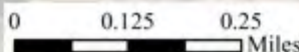
Tornado Scenario Path Description

The tornado path has the same bearing as an EF5 tornado that passed 0.74 Miles North of the city on 5/25/2008.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.



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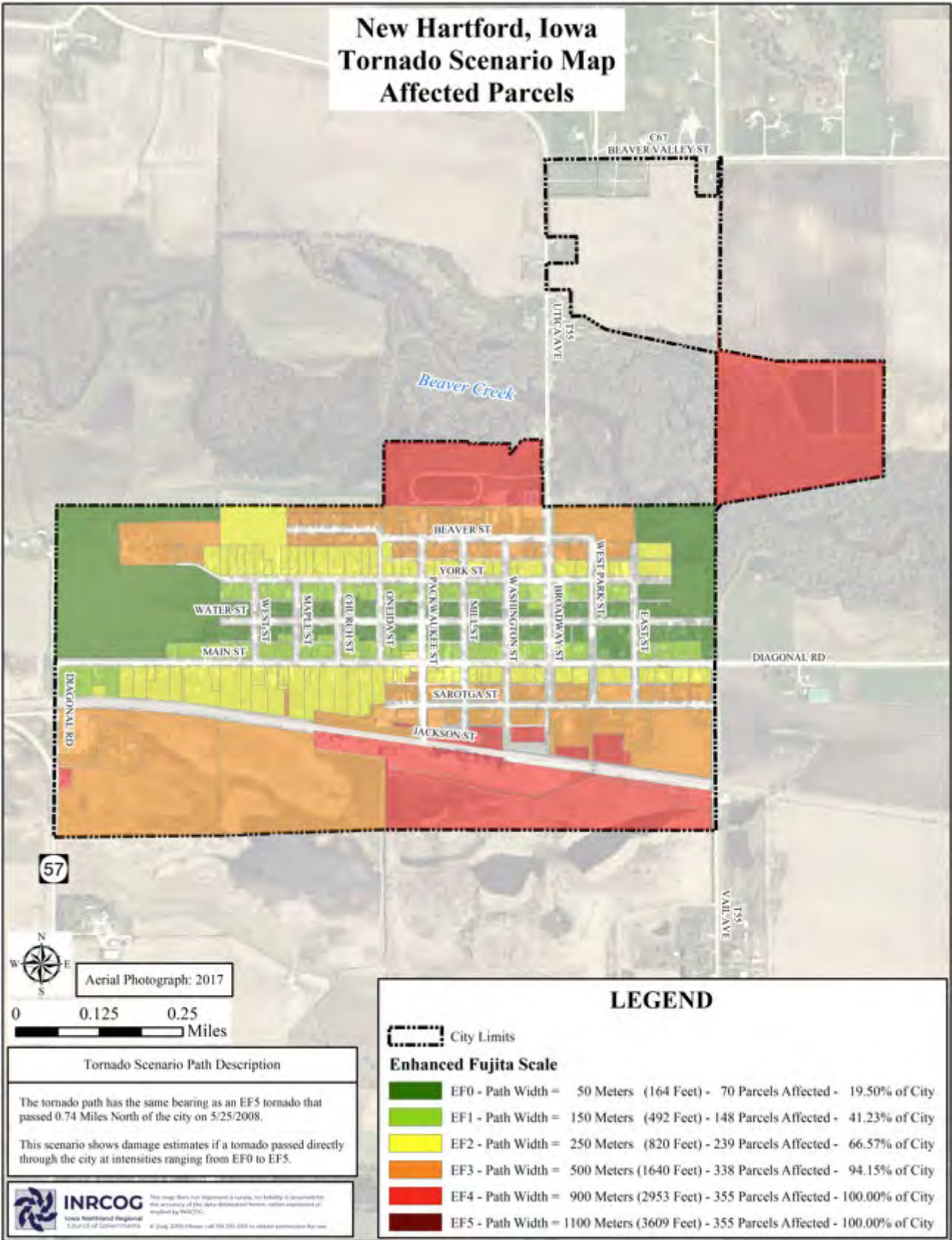
LEGEND

City Limits

Enhanced Fujita Scale

- EF0 - Path Width = 50 Meters (164 Feet)
- EF1 - Path Width = 150 Meters (492 Feet)
- EF2 - Path Width = 250 Meters (820 Feet)
- EF3 - Path Width = 500 Meters (1640 Feet)
- EF4 - Path Width = 900 Meters (2953 Feet)
- EF5 - Path Width = 1100 Meters (3609 Feet)

New Hartford, Iowa Tornado Scenario Map Affected Parcels



57



Aerial Photograph: 2017

0 0.125 0.25 Miles

Tornado Scenario Path Description

The tornado path has the same bearing as an EF5 tornado that passed 0.74 Miles North of the city on 5/25/2008.

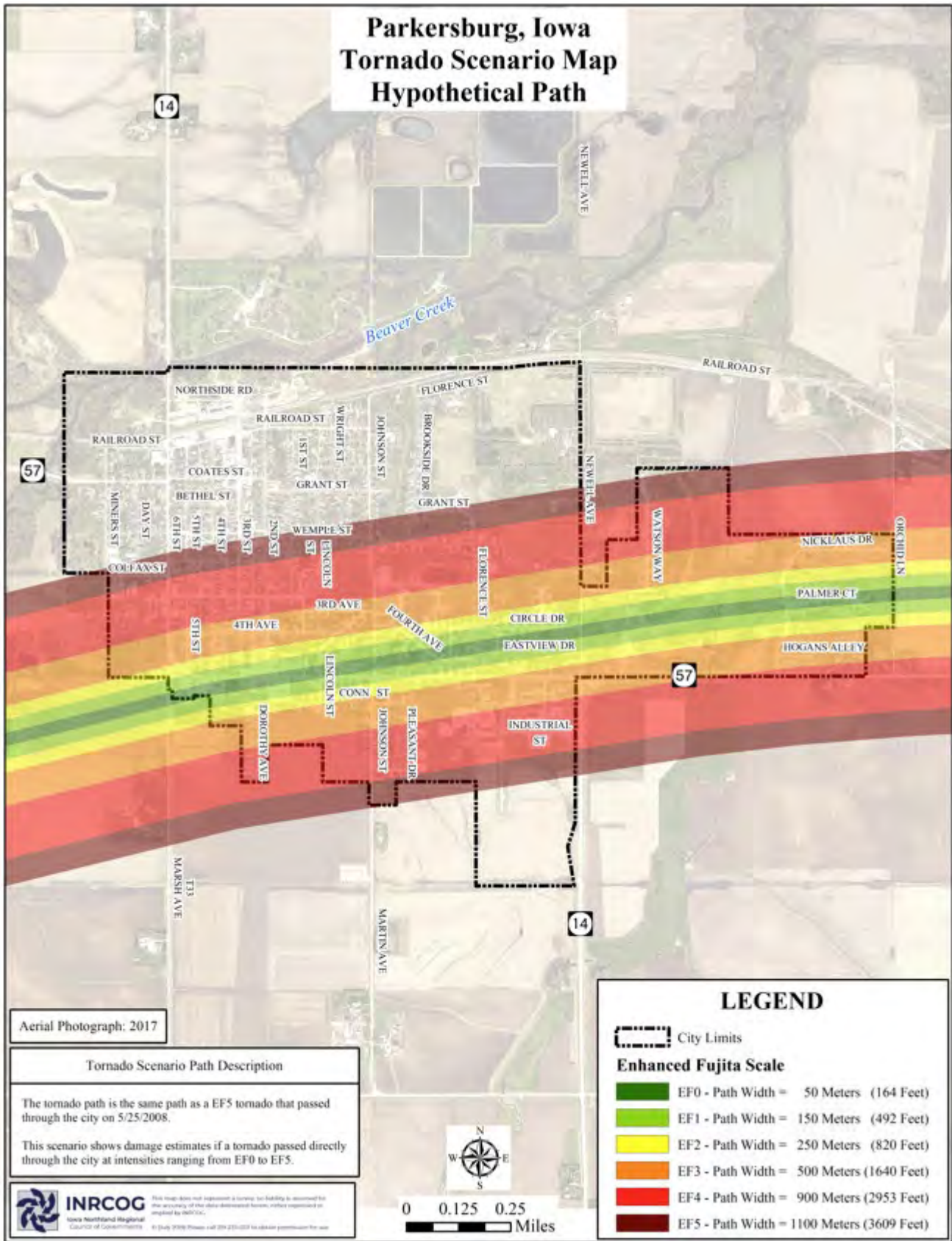
This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

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LEGEND

	City Limits
Enhanced Fujita Scale	
	EF0 - Path Width = 50 Meters (164 Feet) - 70 Parcels Affected - 19.50% of City
	EF1 - Path Width = 150 Meters (492 Feet) - 148 Parcels Affected - 41.23% of City
	EF2 - Path Width = 250 Meters (820 Feet) - 239 Parcels Affected - 66.57% of City
	EF3 - Path Width = 500 Meters (1640 Feet) - 338 Parcels Affected - 94.15% of City
	EF4 - Path Width = 900 Meters (2953 Feet) - 355 Parcels Affected - 100.00% of City
	EF5 - Path Width = 1100 Meters (3609 Feet) - 355 Parcels Affected - 100.00% of City

Parkersburg, Iowa Tornado Scenario Map Hypothetical Path



Aerial Photograph: 2017

Tornado Scenario Path Description

The tornado path is the same path as a EF5 tornado that passed through the city on 5/25/2008.

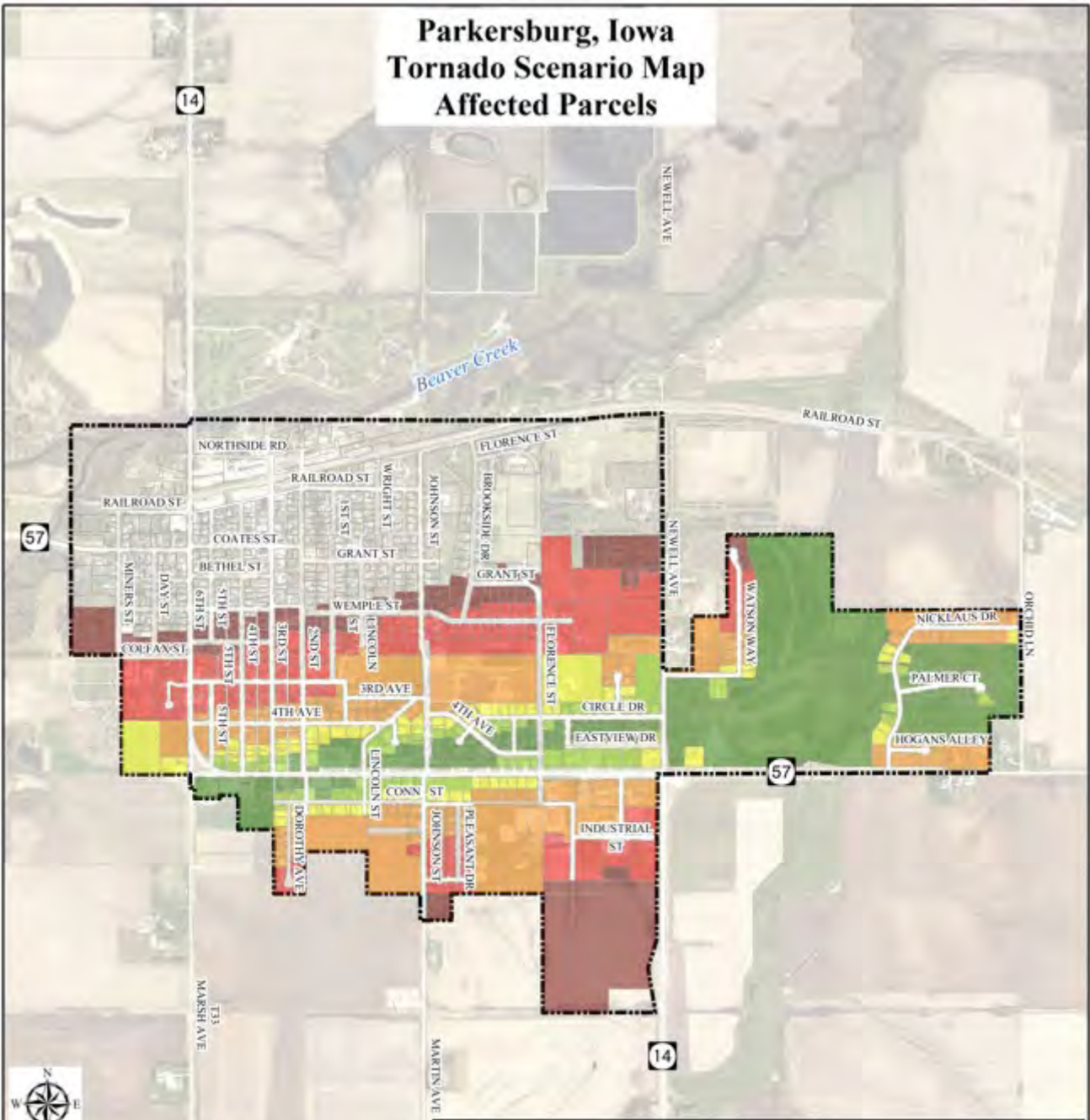
This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.



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In July 2009, INRCOG was reformed and the name was changed to INRCOG. The logo was updated to reflect this change.

Parkersburg, Iowa Tornado Scenario Map Affected Parcels



0 0.125 0.25 Miles

Aerial Photograph: 2017

Tornado Scenario Path Description

The tornado path is the same path as a EF5 tornado that passed through the city on 5/25/2008.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.



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LEGEND

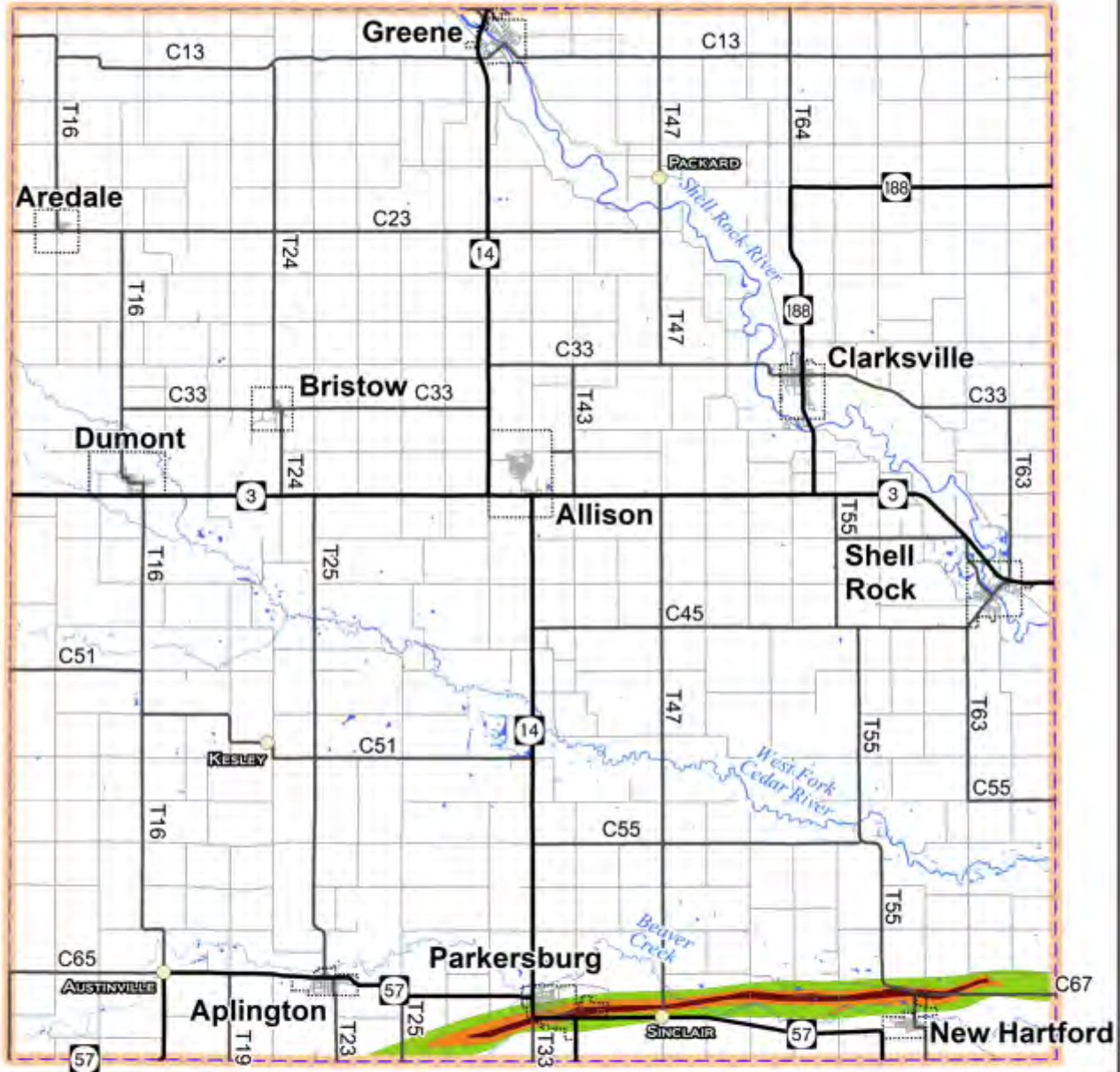
City Limits

Enhanced Fujita Scale

- EF0 - Path Width = 50 Meters (164 Feet) - 91 Parcels Affected - 7.66% of City
- EF1 - Path Width = 150 Meters (492 Feet) - 169 Parcels Affected - 14.23% of City
- EF2 - Path Width = 250 Meters (820 Feet) - 254 Parcels Affected - 21.38% of City
- EF3 - Path Width = 500 Meters (1640 Feet) - 417 Parcels Affected - 35.10% of City
- EF4 - Path Width = 900 Meters (2953 Feet) - 608 Parcels Affected - 51.18% of City
- EF5 - Path Width = 1100 Meters (3609 Feet) - 701 Parcels Affected - 59.01% of City

Butler County, Iowa

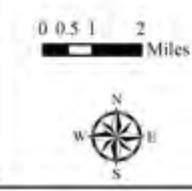
5-25-2008 Historical Tornado Map - Estimated Tornado Path



Tornado Extents were created using NOAA data that was created by Created by Karl Jungbluth, Science Officer
 NOAA information was obtained from this FTP site: <http://www.crk.noaa.gov/images/dms/parkersburg/>
 The Butler County Parcel information was current as of 10-3-2008



Damage Estimates
 Damage Based on the Enhanced Fujita Scale of Tornado Severity
 EF0- EF2 326 Properties Affected
 EF2 - EF4 171 Properties Affected
 Over EF4 114 Properties Affected
 EF0 - EF2 Path Width = 50 Meters(164 Feet) to 250 Meters(820 Feet)
 EF2 - EF4 Path Width = 250 Meters(820 Feet) to 900 Meters(2953 Feet)
 Over EF4 - Path Width = Over 900 Meters(2953 Feet)



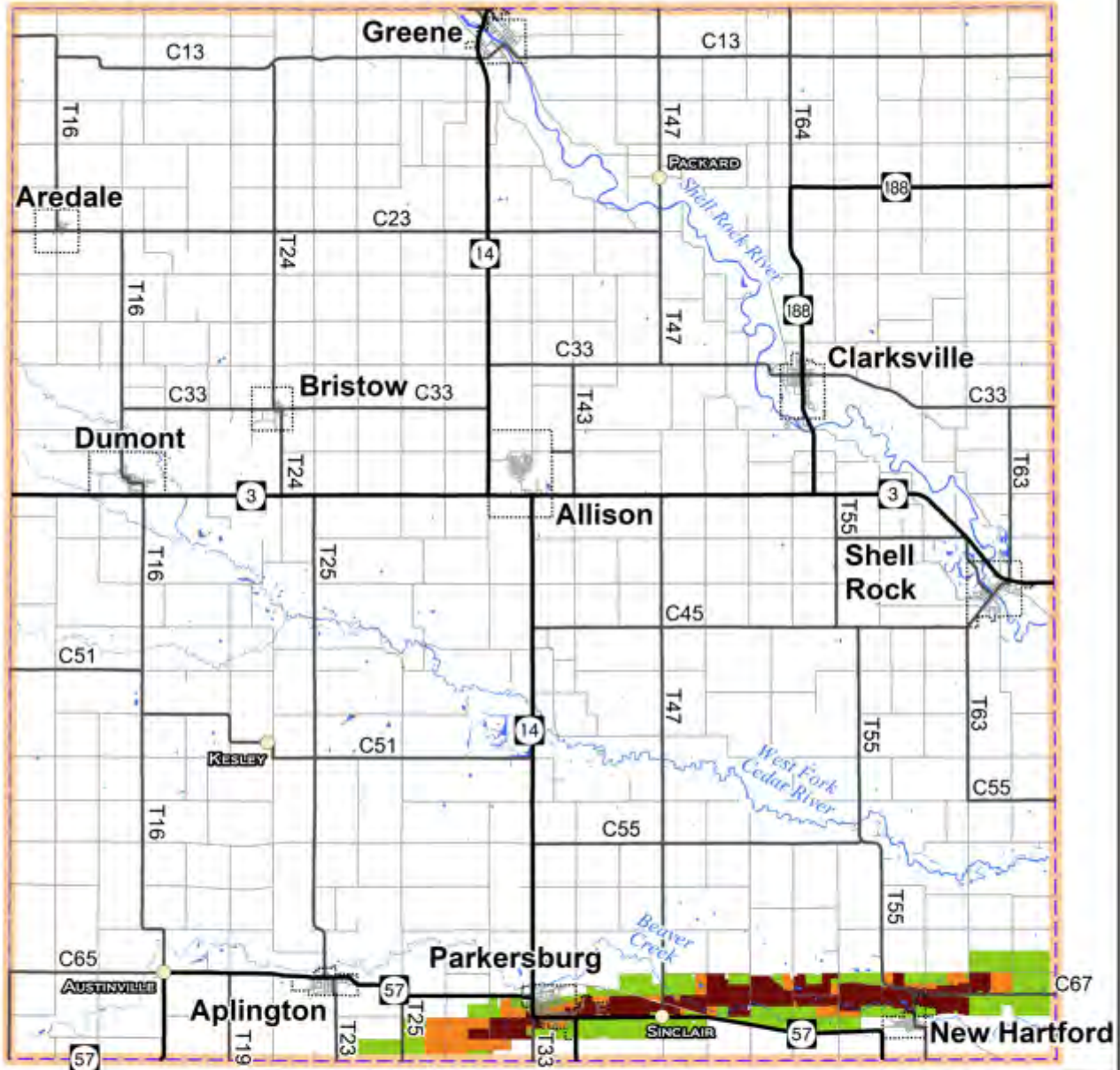
LEGEND

Enhanced Fujita Scale

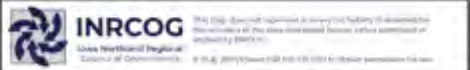
- Over EF4 Damage - 100%
- Over EF2 - Under EF4 - 50%
- Under EF2 Damage - 25%

Butler County, Iowa

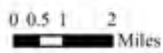
5-25-2008 Historical Tornado Map - Estimated Affected Parcels



Tornado Extents were created using NOAA data that was created by Created by Karl Jungbluth, Science Officer
 NOAA information was obtained from this FTP site: <http://www.crh.noaa.gov/images/dmx/parkersburg>
 The Butler County Parcel information was current as of 10-3-2008



Damage Estimates
 Damage Based on the Enhanced Fujita Scale of Tornado Severity
 EF0- EF2 326 Properties Affected
 EF2 - EF4 171 Properties Affected
 Over EF4 114 Properties Affected
 EF0 - EF2 Path Width = 50 Meters(164 Feet) to 250 Meters(820 Feet)
 EF2 - EF4 Path Width = 250 Meters(820 Feet) to 900 Meters(2953 Feet)
 Over EF4 - Path Width = Over 900 Meters(2953 Feet)

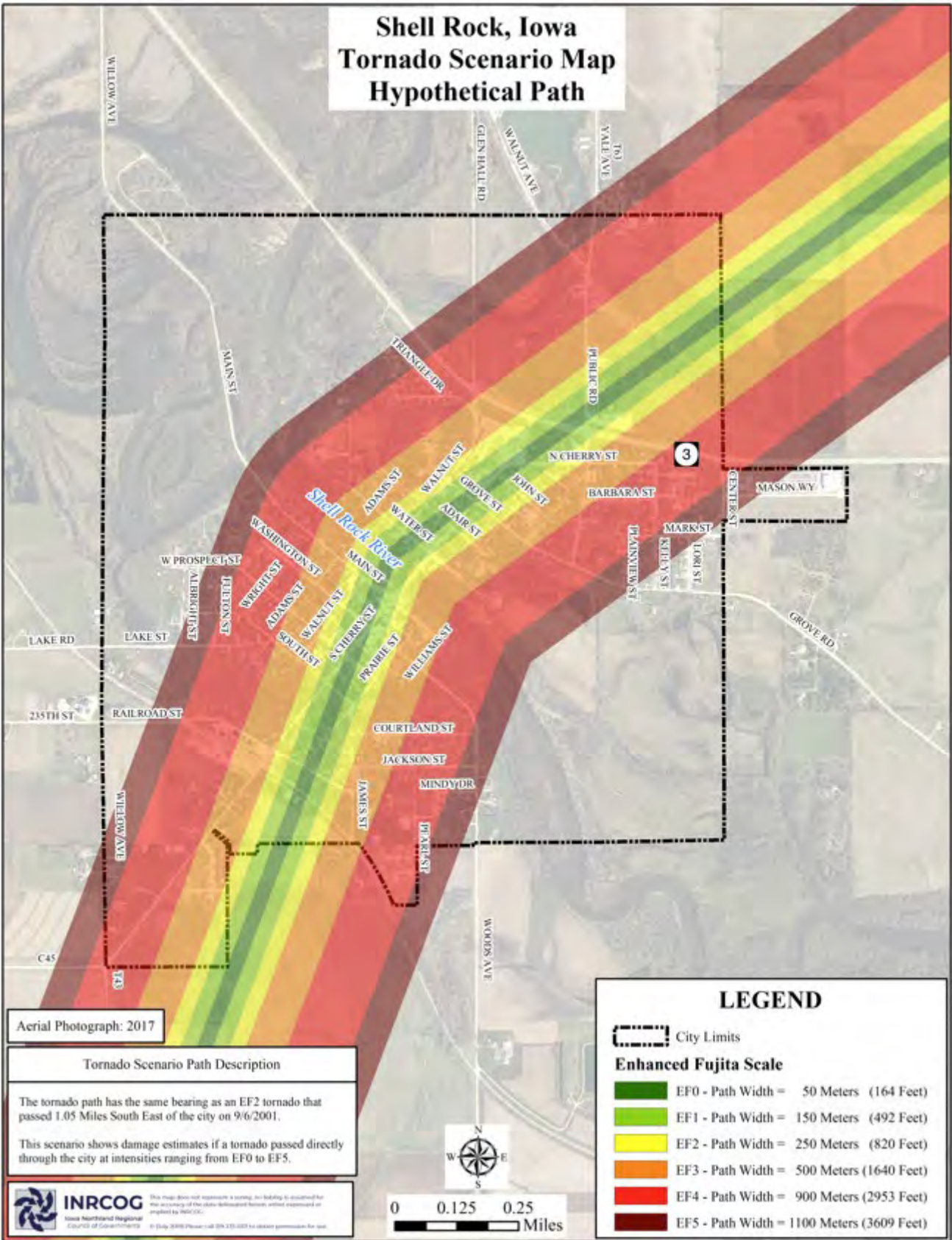


LEGEND

Enhanced Fujita Scale

- Over EF4 Damage - 100%
- Over EF2 - Under EF4 - 50%
- Under EF2 Damage - 25%

Shell Rock, Iowa Tornado Scenario Map Hypothetical Path



Aerial Photograph: 2017

Tornado Scenario Path Description

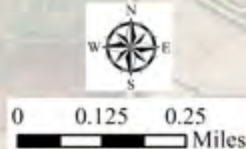
The tornado path has the same bearing as an EF2 tornado that passed 1.05 Miles South East of the city on 9/6/2001.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.



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LEGEND

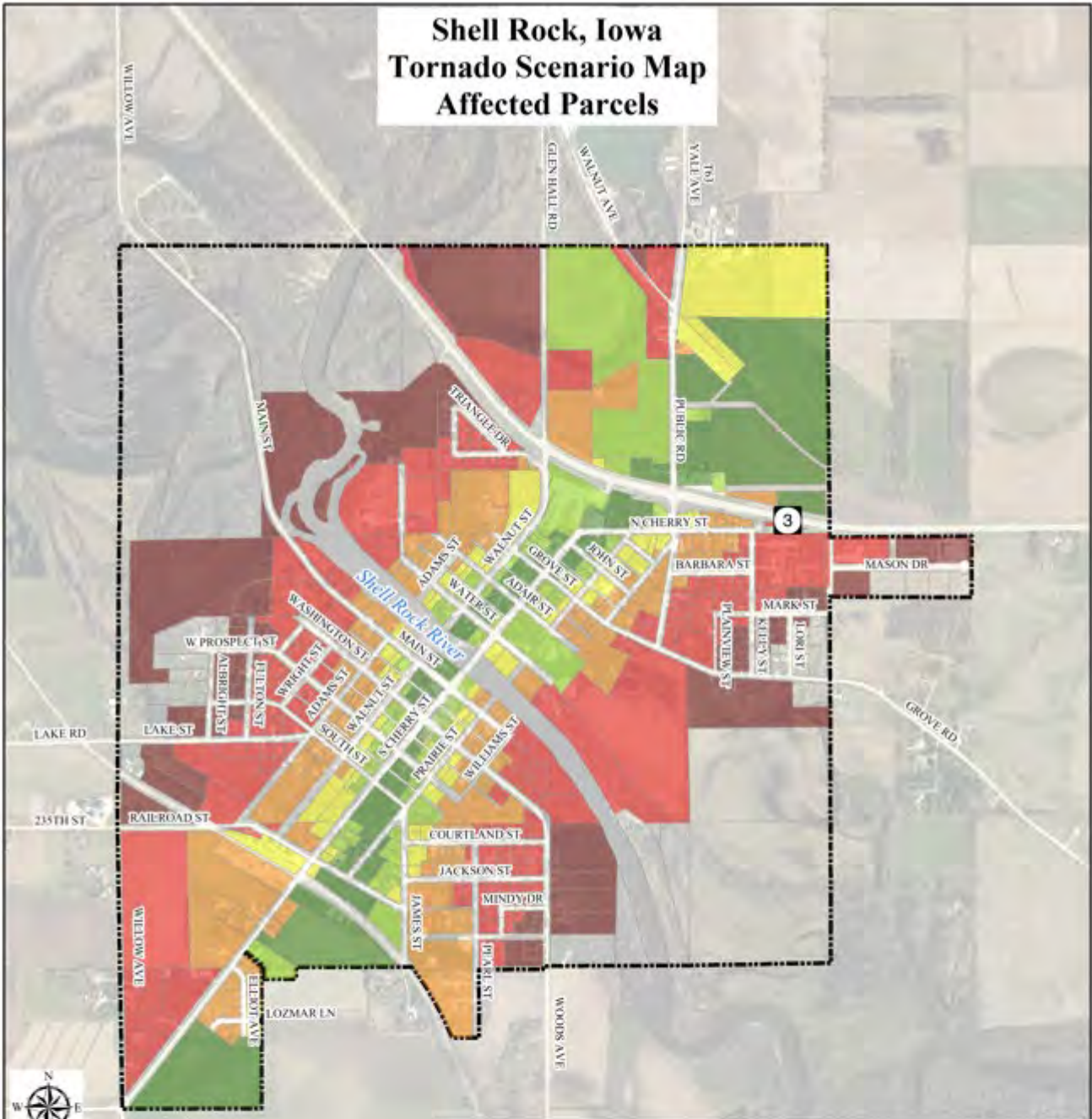


City Limits

Enhanced Fujita Scale

- EF0 - Path Width = 50 Meters (164 Feet)
- EF1 - Path Width = 150 Meters (492 Feet)
- EF2 - Path Width = 250 Meters (820 Feet)
- EF3 - Path Width = 500 Meters (1640 Feet)
- EF4 - Path Width = 900 Meters (2953 Feet)
- EF5 - Path Width = 1100 Meters (3609 Feet)

Shell Rock, Iowa Tornado Scenario Map Affected Parcels



0 0.125 0.25
Miles

Aerial Photograph: 2017

Tornado Scenario Path Description

The tornado path has the same bearing as an EF2 tornado that passed 1.05 Miles South East of the city on 9/6/2001.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.



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LEGEND

City Limits

Enhanced Fujita Scale

- EF0 - Path Width = 50 Meters (164 Feet) - 91 Parcels Affected - 11.65% of City
- EF1 - Path Width = 150 Meters (492 Feet) - 191 Parcels Affected - 24.46% of City
- EF2 - Path Width = 250 Meters (820 Feet) - 265 Parcels Affected - 33.93% of City
- EF3 - Path Width = 500 Meters (1640 Feet) - 451 Parcels Affected - 57.75% of City
- EF4 - Path Width = 900 Meters (2953 Feet) - 664 Parcels Affected - 85.02% of City
- EF5 - Path Width = 1100 Meters (3609 Feet) - 739 Parcels Affected - 94.62% of City

2025 BUTLER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

APPENDIX U

HAZARD MITIGATION PLAN REVIEW

Local Mitigation Plan Review Tool

Cover Page

The Local Mitigation Plan Review Tool (PRT) demonstrates how the local mitigation plan meets the regulation in 44 CFR § 201.6 and offers states and FEMA Mitigation Planners an opportunity to provide feedback to the local governments, including special districts.

1. The Multi-Jurisdictional Summary Sheet is a worksheet that is used to document how each jurisdiction met the requirements of the plan elements (Planning Process; Risk Assessment; Mitigation Strategy; Plan Maintenance; Plan Update; and Plan Adoption).
2. The Plan Review Checklist summarizes FEMA’s evaluation of whether the plan has addressed all requirements.

For greater clarification of the elements in the Plan Review Checklist, please see Section 4 of this guide. Definitions of the terms and phrases used in the PRT can be found in Appendix E of this guide.

Plan Information	
Jurisdiction(s)	Butler County; Cities of Allison, Aplington, Aredale, Bristow, Clarksville, Dumont, Greene, New Hartford, Parkersburg, Shell Rock; School Districts of Aplington-Parkersburg, Clarksville, Dike-New Hartford, North Butler, and Waverly-Shell Rock
Title of Plan	2025 Butler County Multi-Jurisdictional Hazard Mitigation Plan
New Plan or Update	Update
Single- or Multi-Jurisdiction	Multi-jurisdiction
Date of Plan	4/30/2025
Local Point of Contact	
Name, Title	Isaiah Corbin, Director of Development
Agency	Iowa Northland Regional Council of Governments
Address	229 E Park Ave Waterloo, IA 50703
Phone Number	319-235-0311
Email	icorbin@inrcog.org

Additional Point of Contact	
Name, Title	Chris Showalter, Butler County EMA Coordinator
Agency	Butler County Emergency Management
Address	610 Oak St Allison, IA 50602
Phone Number	319-346-6557
Email	butlercoema@butlercounty.iowa.gov

Review Information	
State Review	
State Reviewer(s) and Title	Jack Stinogel, Hazard Mitigation Planner
State Review Date	6/3/2025
FEMA Review	
FEMA Reviewer(s) and Title	Kari Snelding, Emergency Management Specialist
Date Received in FEMA Region	6/3/2025
Plan Not Approved	
Plan Approvable Pending Adoption	
Plan Approved	6/24/2025

Multi-Jurisdictional Summary Sheet

In the boxes for each element, mark if the element is met (Y) or not met (N).

#	Jurisdiction Name	A. Planning Process	B. Risk Assessment	C. Mitigation Strategy	D. Plan Maintenance	E. Plan Update	F. Plan Adoption	G. HHPD Requirements	H. State Requirements
1	Butler County (Adopted: 04/22/2025)	Y	Y	Y	Y	Y	Y	N/A	N/A
2	Allison (Adopted: 03/10/2025)	Y	Y	Y	Y	Y	Y	N/A	N/A
3	Aplington (Adopted: 02/12/2025)	Y	Y	Y	Y	Y	Y	N/A	N/A
4	Aredale (Adopted: 03/10/2025)	Y	Y	Y	Y	Y	Y	N/A	N/A
5	Bristow (Adopted: 02/13/2025)	Y	Y	Y	Y	Y	Y	N/A	N/A
6	Clarksville (Adopted: 01/06/2025)	Y	Y	Y	Y	Y	Y	N/A	N/A
7	Dumont (Adopted: 03/13/2025)	Y	Y	Y	Y	Y	Y	N/A	N/A
8	Greene (Adopted: 02/10/2025)	Y	Y	Y	Y	Y	Y	N/A	N/A
9	New Hartford (Adopted: 04/02/2025)	Y	Y	Y	Y	Y	Y	N/A	N/A
10	Parkersburg (Adopted: 04/07/2025)	Y	Y	Y	Y	Y	Y	N/A	N/A
11	Shell Rock (Adopted: 04/08/2025)	Y	Y	Y	Y	Y	Y	N/A	N/A
12	Clarksville CSD	Y	Y	Y	Y	Y	N	N/A	N/A
13	Dike-New Hartford CSD (Adopted: 04/16/2025)	Y	Y	Y	Y	Y	Y	N/A	N/A
14	North Butler CSD (Adopted: 04/14/2025)	Y	Y	Y	Y	Y	Y	N/A	N/A
15	Waverly-Shell Rock CSD (Adopted: 02/10/2025)	Y	Y	Y	Y	Y	Y	N/A	N/A

Plan Review Checklist

The Plan Review Checklist is completed by FEMA. States and local governments are encouraged, but not required, to use the PRT as a checklist to ensure all requirements have been met prior to submitting the plan for review and approval. The purpose of the checklist is to identify the location of relevant or applicable content in the plan by element/sub-element and to determine if each requirement has been “met” or “not met.” FEMA completes the “required revisions” summary at the bottom of each element to clearly explain the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is “not met.” Sub-elements in each summary should be referenced using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each element and sub-element are described in detail in Section 4: Local Plan Requirements of the Local Mitigation Planning Policy Guide.

Plan updates must include information from the current planning process.

If some elements of the plan do not require an update, due to minimal or no changes between updates, the plan must document the reasons for that.

Multi-jurisdictional elements must cover information unique to all participating jurisdictions.

Element A: Planning Process

Element A Requirements	Location in Plan (section and/or page number)	Met / Not Met
A1. Does the plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement 44 CFR § 201.6(c)(1))		
A1-a. Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan’s development, as well as who was involved?	Section I, pp. 5-11 Appendices Q, R	Met
A1-b. Does the plan list the jurisdiction(s) participating in the plan that seek approval, and describe how they participated in the planning process?	Section I, p. 10	Met

Element A Requirements	Location in Plan (section and/or page number)	Met / Not Met
A2. Does the plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development as well as businesses, academia, and other private and non-profit interests to be involved in the planning process? (Requirement 44 CFR § 201.6(b)(2))		
A2-a. Does the plan identify all stakeholders involved or given an opportunity to be involved in the planning process, and how each stakeholder was presented with this opportunity?	Section I, pp. 7-10 Appendix R	Met
A3. Does the plan document how the public was involved in the planning process during the drafting stage and prior to plan approval? (Requirement 44 CFR § 201.6(b)(1))		
A3-a. Does the plan document how the public was given the opportunity to be involved in the planning process and how their feedback was included in the plan?	Section I, p. 9 Appendices Q, R	Met
A4. Does the plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement 44 CFR § 201.6(b)(3))		
A4-a. Does the plan document what existing plans, studies, reports and technical information were reviewed for the development of the plan, as well as how they were incorporated into the document?	Section I, p. 11 Jurisdictional Appendices A-O	Met
ELEMENT A REQUIRED REVISIONS		

Required Revision:

None.

Opportunity for Improvement:

A1b – The plan follows a best practice of documenting jurisdictions participating in the plan who seek approval, documenting the planning process and having accurate records is a crucial step for plan updates. *In the next update of the plan consider listing participants who were invited but who did not participate or meet the requirements. In the next update of the plan, consider additional ways in supporting nonparticipating jurisdictions.* Documenting the planning process is a crucial step for future plan updates. By building on the work that has already been done, the community can incorporate best practices and insights learned from previous processes while avoiding past challenges.

A2a – *In the next update of the plan continue expanding on the list of stakeholders involved in Table 2. From the LMPPG ‘Documenting the planning process is a crucial step for future plan updates. In Table 2 consider including a column for each stakeholder type using the identified groups in the Local Mitigation Planning Policy Guide (LMPPG).*

A3a – The plan follows a best practice by prioritizing public engagement and making it the first step in the planning process. The plan identifies a gap worth noting in the next update of the plan ‘All meetings were open to the public and community members were welcome to attend and observe the committee. We had no guests or members of the public attending these meetings.’ *While public notices were published in the local newspaper and the task force provided outreach to local organizations it is encouraged to use multiple types of communication with the public and expand on opportunities for involvement in the planning process in the next update of the plan. Tailor communications and share through various platforms to reach the widest audience, different communities may necessitate more targeted outreach and engagement.* Having a variety of methods for community engagement allows for input from the [whole community](#). From the LMPPG: This could ‘help build widespread support for directing financial, technical and human resources toward natural hazard risk reduction. A successful planning effort includes active participation and buy-in from community leaders, stakeholders and the public.’

Strength:

A1a –

- The introduction gives a concise and clear overview of the participants in the planning process. The planning process narrative is detailed and includes a timeline of events that display involvement through meetings and events that were part of the plan’s development.
- Planners retained supporting documentation in a Plan Appendix as a record of how decisions were made and who was involved. Planners are encouraged to continue retaining supporting documentation in a Plan Appendix in the next update of the plan.

A2a – Tables include narratives of meeting descriptions and outcomes. The plan appendix includes documentation of an opportunity for stakeholders to be involved in the current planning process.

A4a – The plan included a variety of existing plans, studies, reports, and technical information.

Element B: Risk Assessment

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
<p>B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect the jurisdiction? Does the plan also include information on previous occurrences of hazard events and on the probability of future hazard events? (Requirement 44 CFR § 201.6(c)(2)(i))</p>		
<p>B1-a. Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area?</p>	<p>Section III, pp. 32-52</p>	<p>Met</p>

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
B1-b. Does the plan include information on the location of each identified hazard?	Section III, Drought: p. 36 Earthquake: p. 37 Expansive Soils: p. 38 Extreme Heat: p. 39 Flash Flooding: p. 40 River Flooding: p. 41 Grass/Wildland Fire: pp. 42-43 Landslide: p. 47 Levee/Dam Failure: pp. 48 Sever Winter Storm: p. 49 Sinkholes: p. 50 Thunderstorms: p. 51 Tornado: p. 52	Met

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
B1-c. Does the plan describe the extent for each identified hazard?	Section III, pp. 30-34 Drought: p. 36 Earthquake: p. 37 Expansive Soils: p. 38 Extreme Heat: p. 39 Flash Flooding: p. 40 River Flooding: p. 41 Grass/Wildland Fire: pp. 42-43 Landslide: p. 47 Levee/Dam Failure: pp. 48 Sever Winter Storm: p. 49 Sinkholes: p. 50 Thunderstorms: p. 51 Tornado: p. 52 Jurisdictional Appendices: A-O	Met

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
<p>B1-d. Does the plan include the history of previous hazard events for each identified hazard?</p>	<p>Section III, p. 31 Drought: p. 36 Earthquake: p. 37 Expansive Soils: p. 38 Extreme Heat: p. 39 Flash Flooding: p. 40 River Flooding: p. 41 Grass/Wildland Fire: pp. 42-43 Landslide: p. 47 Levee/Dam Failure: pp. 48 Sever Winter Storm: p. 49 Sinkholes: p. 50 Thunderstorms: p. 51 Tornado: p. 52</p>	<p>Met</p>

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
<p>B1-e. Does the plan include the probability of future events for each identified hazard, including the type, location and range of anticipated intensities?</p>	<p>Section III, pp. 30-34 Drought: p. 36 Earthquake: p. 37 Expansive Soils: p. 38 Extreme Heat: p. 39 Flash Flooding: p. 40 River Flooding: p. 41 Grass/Wildland Fire: pp. 42-43 Landslide: p. 47 Levee/Dam Failure: pp. 48 Sever Winter Storm: p. 49 Sinkholes: p. 50 Thunderstorms: p. 51 Tornado: p. 52 pp. 70-72 Jurisdictional Appendices A-O</p>	<p>Met</p>

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
<p>B1-f. For participating jurisdictions in a multi-jurisdictional plan, does the plan describe any hazards that are unique to and/or vary from those affecting the overall planning area?</p>	<p>Section III, pp. 30-33 Drought: p. 36 Earthquake: p. 37 Expansive Soils: p. 38 Extreme Heat: p. 39 Flash Flooding: p. 40 River Flooding: p. 41 Grass/Wildland Fire: pp. 42-43 Landslide: p. 47 Levee/Dam Failure: pp. 48 Sever Winter Storm: p. 49 Sinkholes: p. 50 Thunderstorms: p. 51 Tornado: p. 52 Jurisdictional Appendices A-0</p>	<p>Met</p>
<p>B2. Does the plan include a summary of the jurisdiction’s vulnerability and the impacts on the community from the identified hazards? Does this summary also address NFIP-insured structures that have been repetitively damaged by floods? (Requirement 44 CFR § 201.6(c)(2)(ii))</p>		
<p>B2-a. Does the plan provide an overall summary of each jurisdiction’s vulnerability to the identified hazards?</p>	<p>Section III, pp. 59-73 Jurisdictional Appendices A-0</p>	<p>Met</p>
<p>B2-b. For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction?</p>	<p>Section III, pp. 59-73 Jurisdictional Appendices A-0</p>	<p>Met</p>
<p>B2-c. Does the plan address NFIP-insured structures within each jurisdiction that have been repetitively damaged by floods?</p>	<p>Section III, p. 74 Jurisdictional Appendices A-0</p>	<p>Met</p>

ELEMENT B REQUIRED REVISIONS

Required Revision:

None.

Opportunity for Improvement:

B1b –

- Some maps have lower resolution making it difficult to read the map's text. *Consider including higher resolution images for the maps in the plan.*
- *Consider including more affected assets owned by participating jurisdictions that will be affected by a hazard.*
- *Consider adding a location marker to the map in Table 21 or add to the caption to include where Butler County falls on the scale. When maps are used, they must provide sufficient detail and scale to clearly identify the hazard locations within and/or affecting assets owned by the participating jurisdiction.*

B1c –

- *Consider adding the full scale for the Mercalli scale in Table 21 to more clearly identify the range of anticipated intensities.*
- *Consider adding the full scale for the NID dam classifications in Table 29 to more clearly identify the range of anticipated intensities.*
- *Consider adding the full scale for NWS hail descriptions by size in Table 32 to more clearly identify the range of anticipated intensities.*
- *Consider adding the full scale for the Enhanced Fujita tornado scale in Table 33 to more clearly identify the range of anticipated intensities.*

B1d – There is an opportunity to include a link to Iowa's Governor Disaster Proclamations and the FEMA major disaster declarations. *Consider including USDA or SBA disaster declarations that have occurred since the last plan update in the Appendix for community records.*

B1e – *Consider including either a link or incorporate the Iowa flood centers flood depth maps in Table 24 and Table 25.*

B1f –

- The risk assessment included a methodology for factoring risk on a scale of 1-4 with a hazard risk score formula. Missing from the plan is the range within each hazard risk score, *consider updating pg. 32 to include what the final hazard assessment ranges are related to the scale 1-4.*
- The risk index score for hazards is missing from some hazard profiles including Drought, Earthquakes, Expansive Soils, Extreme Heat (Heat Wave), and Flash Flooding; *consider updating hazard profiles to include the risk index score for all hazards.*
- *In the next update of the plan consider incorporating more asset information in the risk assessment. In the next update of the plan consider incorporating more jurisdiction specific unique and varied risk information in the risk assessment.*

B2a – The plan addresses the vulnerability of each to the identified hazards with the hazard risk score formula. The plan identifies hazard specific vulnerabilities in the Appendix for each plan

participant that highlight if there are development changes that increase or decrease the vulnerability. *But the risk assessment does not address element E1-a for all hazards.* While the plan includes community specific changes in development in other sections of the plan, the risk assessment is missing information identified in those sections.

- From the LMPPG ‘For plan updates, the **risk assessment** must meet element E1-a.
- E1-a. The plan must describe changes in development that have occurred in hazard-prone areas and how they have increased or decreased the vulnerability of each jurisdiction since the previous plan was approved. If no development changes affected the jurisdiction 's overall vulnerability, this must be stated with the plan.’

Update the risk assessment to include descriptions of changes in development that have occurred in hazard-prone areas and how they have increased or decreased the vulnerability of each jurisdiction since the previous plan was approved. If no development changes affected the jurisdiction's overall vulnerability, this must be stated.

B2a –

- *In the next update of the plan continue focusing on the assets at the participant level and how they are vulnerable to hazards.* From the LMPPG: ‘Assets are determined by the community and include but are not limited to: People, Structures, Systems, Natural, historic, and cultural resources, and Activities that have value to the community.’ *Continue incorporating a variety of asset types in the vulnerability sections of the risk assessment.*
- Problem Statements highlight risk in the communities and most include possible solutions, demonstrating solution-oriented management. *Consider including problem statements that include possible solutions, or potential mitigation actions, in the risk assessment to tie to the mitigation strategy in the next update of the plan.*

B2-b – From the LMPPG ‘The plan must describe the potential impacts on **each participating jurisdiction** and its identified assets. Gaps and limitations may be addressed as actions in the mitigation strategy, in particular for items that require additional assistance.’ *In the next update of the plan consider adding a section to the risk assessment for vulnerability summaries that list each jurisdiction individually to highlight community specific impacts and assets.*

Strength:

B1a – The plan aligns with Iowa’s 2023 Hazard Mitigation plan and identifies the 13 natural hazards that can affect jurisdictions in the planning area. The plan includes risk assessment tables in the jurisdictional appendices that clearly provide rationale for omitting any natural hazards that are commonly recognized to affect the planning area; consider updating Table 10 for the City of Greene to include the Asterix near hazards with a score of 0.

B1c – The plan follows a best practice by defining general descriptors at the start of the risk assessment in Tables 17-19. Strong risk assessments help the community to identify and prioritize actions for the mitigation strategy.

B1d – Historical occurrence sections within the hazard profiles show significant events for the planning area since the last update.

B1e – The plan follows a best practice by defining general descriptors at the start of the risk assessment in Table 16. Local mitigation planning is an opportunity to carefully understand the best available information about future risks and translate it into meaningful actions in the present to reduce those risks.

B2c –The plan addressed repetitively flooded NFIP structures by including the estimated numbers and types (residential, commercial, institutional, etc.) of repetitive/severe repetitive loss properties.

Element C: Mitigation Strategy

Element C Requirements	Location in Plan (section and/or page number)	Met / Not Met
C1. Does the plan document each participant’s existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement 44 CFR § 201.6(c)(3))		
C1-a. Does the plan describe how the existing capabilities of each participant are available to support the mitigation strategy? Does this include a discussion of the existing building codes and land use and development ordinances or regulations?	Section IV, pp. 76-79, 87 Jurisdictional Appendices A-0	Met
C1-b. Does the plan describe each participant’s ability to expand and improve the identified capabilities to achieve mitigation?	Section IV, pp. 76-79 Jurisdictional Appendices A-0	Met
C2. Does the plan address each jurisdiction’s participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement 44 CFR § 201.6(c)(3)(ii))		
C2-a. Does the plan contain a narrative description or a table/list of their participation activities?	Section III pp. 65, 73 Section IV pp. 85-86 Jurisdictional Appendices A-0	Met
C3. Does the plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement 44 CFR § 201.6(c)(3)(i))		
C3-a. Does the plan include goals to reduce the risk from the hazards identified in the plan?	Section IV, p. 75 Jurisdictional Appendices A-0	Met

Element C Requirements	Location in Plan (section and/or page number)	Met / Not Met
C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement 44 CFR § 201.6(c)(3)(ii))		
C4-a. Does the plan include an analysis of a comprehensive range of actions/projects that each jurisdiction considered to reduce the impacts of hazards identified in the risk assessment?	Section IV, pp. 89-94 Jurisdictional Appendices A-O	Met
C4-b. Does the plan include one or more action(s) per jurisdiction for each of the hazards as identified within the plan’s risk assessment?	Section IV, pp. 89-94 Jurisdictional Appendices A-O	Met
C5. Does the plan contain an action plan that describes how the actions identified will be prioritized (including a cost-benefit review), implemented, and administered by each jurisdiction? (Requirement 44 CFR § 201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))		
C5-a. Does the plan describe the criteria used for prioritizing actions?	Section IV, pp. 87-88	Met
C5-b. Does the plan provide the position, office, department or agency responsible for implementing/administrating the identified mitigation actions, as well as potential funding sources and expected time frame?	Section IV, pp. 89-94 Jurisdictional Appendices A-O	Met
ELEMENT C REQUIRED REVISIONS		

Required Revision:

None.

Opportunity for Improvement:

C1a – From the LMPPG ‘The plan must describe how the existing authorities, policies, programs, funding and resources of **each participant** are available to support the mitigation strategy. This must include a **discussion** of the existing building codes and land use and development ordinances or regulations.’

- While the plan describes existing authorities, policies, programs, funding and resources at a county level the plan is missing a description of each participant. Jurisdictional profiles cover planning and regulation capabilities, missing from this is identifying programs, funding and resources available for each participant. Describing the current capabilities provides a rationale for which mitigation projects can be undertaken to address the vulnerabilities identified in the Risk Assessment.

- While the capabilities may be described in a table, there is a requirement for building codes and land use and development ordinances or regulations to have discussions. While tables include State Building Code Bureau Adoption Year there are not enough details to clarify context of the existing building codes to support the mitigation strategy.

C3a – The plan follows a best practice by identifying goals in mitigation action tables for the county. Goals include language to reduce the risks of the identified hazards, this highlights consistency of the goals to both the risk assessment and the implementation of the mitigation strategy. *Consider including goals in the mitigation action tables for the jurisdictions in the plan appendix.*

C4a – For some hazards, the community had only Education and Outreach mitigation actions. From the LMPPG: ‘The mitigation strategy must include an analysis of a comprehensive range of actions or projects that the participants considered to specifically address vulnerabilities identified in the risk assessment.’ In the next update of the plan, we recommend considering a ‘comprehensive range’ of actions or projects to address vulnerabilities identified in the risk assessment; this can be accomplished by building and expanding on the Education and Outreach actions for a hazard. It is recommended to expand on mitigation actions for school districts in the next update of the plan, most actions were current capabilities and were not hazard specific.

C4b –

- *Actions could expand on the language in the action descriptions to include ‘critical facilities’; this is especially recommended for safe rooms and generator actions.*
- Overall, the plan includes a comprehensive list of actions, however, a few of the actions listed are preparedness and response in nature or highlight current capabilities; rather than mitigation. Non-mitigation actions can be included in a plan but will not be considered as part of the mitigation action requirement. We would like to note that there can be value in including preparedness and response actions or current capabilities for community records, but they may not contribute to a reduction in risk.
- Other mitigation ideas can be found in FEMA’s [Mitigation Ideas](#).
- Consider making a key that includes all the mitigation action shorthand identified on pg. 90. With 21 hazard options page 90 had to be referenced when reviewing mitigation action tables 55-59.

C5b – *Consider expanding on applicable potential funding sources in the next update of the plan.* Some actions only listed one potential funding source and could be expanded on.

Strength:

C1b – The plan follows a best practice by identifying there is little ability to expand beyond their current capacities due to no growth in the near future. Gaps and limitations for each participant may be addressed as actions in the mitigation strategy. A critical step in the development of specific hazard mitigation actions and projects is assessing existing authorities, policies, programs, and resources and capabilities to use or modify local tools to reduce losses and vulnerability from profiled hazards. The plan identifies possible mitigation actions including developing a comprehensive continuity of operation plan.

C2a – The plan includes participation details in accordance with NFIP regulatory requirements.

C4a – The plan follows a best practice by documenting all actions considered. Documenting all ideas provides a record of what actions were considered, and why. Additionally, this creates a list of actions that can be reconsidered as conditions change. The plan follows a best practice by organizing mitigation actions by mitigation type this allows for mitigation alternatives to span all types of solutions.

C5a – Pg. 88 clearly describes how actions are prioritized including weighing cost versus the benefit.

C5b – Identified specific agency and departments responsible for administering each action with specific timelines.

Element D: Plan Maintenance

Element D Requirements	Location in Plan (section and/or page number)	Met / Not Met
D1. Is there discussion of how each community will continue public participation in the plan maintenance process? (Requirement 44 CFR § 201.6(c)(4)(iii))		
D1-a. Does the plan describe how communities will continue to seek future public participation after the plan has been approved?	Section V, pp. 95-100	Met
D2. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a five-year cycle)? (Requirement 44 CFR § 201.6(c)(4)(i))		
D2-a. Does the plan describe the process that will be followed to track the progress/status of the mitigation actions identified within the Mitigation Strategy, along with when this process will occur and who will be responsible for the process?	Section V, pp. 95-100	Met
D2-b. Does the plan describe the process that will be followed to evaluate the plan for effectiveness? This process must identify the criteria that will be used to evaluate the information in the plan, along with when this process will occur and who will be responsible.	Section V, pp. 95-100	Met
D2-c. Does the plan describe the process that will be followed to update the plan, along with when this process will occur and who will be responsible for the process?	Section V, p. 97	Met
D3. Does the plan describe a process by which each community will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement 44 CFR § 201.6(c)(4)(ii))		
D3-a. Does the plan describe the process the community will follow to integrate the ideas, information and strategy of the mitigation plan into other planning mechanisms?	Section V, pp. 95-100	Met

Element D Requirements	Location in Plan (section and/or page number)	Met / Not Met
D3-b. Does the plan identify the planning mechanisms for each plan participant into which the ideas, information and strategy from the mitigation plan may be integrated?	Section V, pp. 95-100	Met
D3-c. For multi-jurisdictional plans, does the plan describe each participant's individual process for integrating information from the mitigation strategy into their identified planning mechanisms?	Section V, pp. 95-100	Met

ELEMENT D REQUIRED REVISIONS

Required Revision:

None.

Opportunity for Improvement:

D3c - *In the next update of the plan consider expanding on each participant's individual process for integration into planning mechanisms, this could help identify unique processes for integration.* The individual process for integrating information from the mitigation strategy into the planning mechanisms identifies broadly but could continue to build on this narrative and add details about each participant's own process for integrating information into planning mechanisms. It is encouraged to highlight schools individual process for integrating information as they could likely have unique processes for integration.

Strength:

D1a – Continue expanding on public participation after the plan's adoption, it can increase community involvement in mitigation efforts. Special consideration is noted for identifying a clear process for public engagement with the EMA coordination to each jurisdiction via mail and email, county website updates, a copy of the plan is available on the INRCOG website, public meetings, and public notices in accordance with Iowa's Open Meeting and Records Laws.

D2a – Included an implementation process that included funding recommendations.

D2b – From the LMPPG in the overall intent of element D: 'The mitigation plan is a living document that guides actions over time. Continually documenting the process makes the next plan update easier. The plan is a blueprint for reducing risk and protecting community investments. Having a process for maintaining the plan reflects the recognition that things change.' The plan follows a best practice by including evaluation tools and an assessment of what activities continued during the plan update. This helps to keep the plan a 'living' document and for community record to evaluate risk reduction and community investment. Plan maintenance efforts are a blueprint that guide actions over time

D2c – Included an update method for both amendments and future plan updates.

D3a – Included a clear community process to integrate the plan's data, information, and hazard mitigation goals and actions into other planning mechanisms.

D3b – There was a range of planning mechanisms identified in the plan that were reflective of the identified capabilities.

Element E: Plan Update

Element E Requirements	Location in Plan (section and/or page number)	Met / Not Met
E1. Was the plan revised to reflect changes in development? (Requirement 44 CFR § 201.6(d)(3))		
E1-a. Does the plan describe the changes in development that have occurred in hazard-prone areas that have increased or decreased each community’s vulnerability since the previous plan was approved?	Section III, p. 65, 70 Jurisdictional Appendices A-O	Met
E2. Was the plan revised to reflect changes in priorities and progress in local mitigation efforts? (Requirement 44 CFR § 201.6(d)(3))		
E2-a. Does the plan describe how it was revised due to changes in community priorities?	Section I, p. 7 Jurisdictional Appendices A-O	Met
E2-b. Does the plan include a status update for all mitigation actions identified in the previous mitigation plan?	Appendix Q	Met
E2-c. Does the plan describe how jurisdictions integrated the mitigation plan, when appropriate, into other planning mechanisms?	Section I, p. 11	Met
ELEMENT E REQUIRED REVISIONS		

Required Revision:

None.

Opportunity for Improvement:

E1a – Changes in development means recent development, or conditions that may affect the risks and vulnerabilities of the jurisdictions (for example, declining populations or projected increases in population, or foreclosures). This can also include changes in local policies, standards, codes, regulations, land use regulations and other conditions. *The plan follows a best practice by including a variety of changes in development; in the next update of the plan continue expanding on narratives to include more, or updated, changes in development.*

E2a – *Continue assessing how priorities and progress is measured and revised in future plan updates to increase implementation of local mitigation efforts.* From the LMPPG, ‘The plan update is an opportunity for the jurisdiction to assess its previous goals and action plan, evaluate progress in implementing hazard mitigation actions, and adjust its actions to address the current realities.’ This will help to continue to effectively represent the jurisdiction’s overall strategy for reducing its risks from natural hazards.

Strength:

E2b – Appendix Q implement a best practice by providing a summary of the status and stating if an action is no longer relevant to the updated plan.

E2c – The plan includes previous planning mechanisms that can be built upon, demonstrating a progress in local hazard mitigation efforts.

Element F: Plan Adoption

Element F Requirements	Location in Plan (section and/or page number)	Met / Not Met
F1. For single-jurisdictional plans, has the governing body of the jurisdiction formally adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))		
F1-a. Does the participant include documentation of adoption?	N/A	N/A
F2. For multi-jurisdictional plans, has the governing body of each jurisdiction officially adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))		
F2-a. Did each participant adopt the plan and provide documentation of that adoption?	Appendix P	Not Met
ELEMENT F REQUIRED REVISIONS		

Required Revision:

F2-a. An adoption resolution was provided all participating jurisdictions with the exception of Clarksville CSD who did not submit an adoption. For the remaining jurisdictions who have not adopted the plan, a resolution must be provided within one year of the HMP’s approval for participants to be approved. Participating jurisdictions that adopt the plan more than one year after APA status has been issued must either:

- Validate that their information in the plan remains current with respect to both the risk assessment (no recent hazard events, no changes in development) and their mitigation strategy (no changes necessary); or
- Make the necessary updates before submitting the adoption resolution to FEMA.

Element G: High Hazard Potential Dams (Optional)

HHPD Requirements	Location in Plan (section and/or page number)	Met / Not Met
HHPD1. Did the plan describe the incorporation of existing plans, studies, reports and technical information for HHPDs?		
HHPD1-a. Does the plan describe how the local government worked with local dam owners and/or the state dam safety agency?	N/A	N/A
HHPD1-b. Does the plan incorporate information shared by the state and/or local dam owners?	N/A	N/A
HHPD2. Did the plan address HHPDs in the risk assessment?		
HHPD2-a. Does the plan describe the risks and vulnerabilities to and from HHPDs?	N/A	N/A
HHPD2-b. Does the plan document the limitations and describe how to address deficiencies?	N/A	N/A
HHPD3. Did the plan include mitigation goals to reduce long-term vulnerabilities from HHPDs?		
HHPD3-a. Does the plan address how to reduce vulnerabilities to and from HHPDs as part of its own goals or with other long-term strategies?	N/A	N/A
HHPD3-b. Does the plan link proposed actions to reducing long-term vulnerabilities that are consistent with its goals?	N/A	N/A
HHPD4-a. Did the plan include actions that address HHPDs and prioritize mitigation actions to reduce vulnerabilities from HHPDs?		
HHPD4-a. Does the plan describe specific actions to address HHPDs?	N/A	N/A
HHPD4-b. Does the plan describe the criteria used to prioritize actions related to HHPDs?	N/A	N/A
HHPD4-c. Does the plan identify the position, office, department or agency responsible for implementing and administering the action to mitigate hazards to or from HHPDs?	N/A	N/A
HHPD Required Revisions		

Based on FEMA review of the National Inventory of Dams, the planning area has no eligible High Hazard Potential Dams (HHPD) and the HHPD optional planning elements have not been evaluated. Per the Rehabilitation of HHPD grant guidance, all HHPD optional planning elements must be

addressed and approved by FEMA for a sub-applicant to be eligible for the program. If dam eligibility changes within the HMP planning area and a plan participant(s) is interested in the HHPD grant program, a request to review these elements will be supported.

Element H: Additional State Requirements (Optional)

Element H Requirements	Location in Plan (section and/or page number)	Met / Not Met
This space is for the State to include additional requirements.		
N/A	N/A	N/A

Mitigation plans may include additional content to meet Element H: Additional State Requirements or content the local government included beyond applicable FEMA mitigation planning requirements. FEMA approval does not include the review or approval of content that exceeds these applicable FEMA mitigation planning requirements.