GRANT COUNTY
HAZARD MITIGATION PLAN
2023-2028

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This hazard mitigation plan is owned by Grant County Emergency Management.
Plan support was provided by Southwestern Wisconsin Regional Planning Commission.

Executive Summary

What is Hazard Mitigation Planning?

A hazard is a situation that poses a threat to the life, health, prosperity, or the environment of a community. Hazard Mitigation is any sustained action taken to eliminate or reduce the long-term risk to human life and property from natural and technological hazards. The objective of this plan is to explore which hazards pose the greatest risk to Grant County and recommend actions to mitigate future risk.

According to the Disaster Mitigation Act of 2000, local governments must prepare, adopt, and update a Hazard Mitigation Plan in order to be eligible for certain types of post-disaster FEMA assistance. This plan works to assess risk, decrease impact, and prevent future damages. The organization and contents of this plan are driven by the requirements of the FEMA and the input of the local community.

Grant County's Planning Process

The county prepared its previous hazard mitigation plan in 2018. Grant County Emergency Management (GCEM) and Southwestern Wisconsin Regional Planning Commission (SWWRPC) guided the development of the 2023 plan update through existing knowledge of the communities, research, and local input. Local input was gained through four public meetings, one school district leadership meeting, and two stakeholder meetings.

Grant County Hazard Mitigation Goals

The following goals describe the desired long-term outcomes from hazard mitigation planning:

- Protect human lives and ensure environmental health, both today and for future generations, and empower people to protect themselves.
- Protect utilities, infrastructure, and critical facilities, including police, fire, and EMS stations.
- Build resilience to long-term risks through collaboration and proactive planning and action.
- Maximize the use of state and federal funds and promote county-wide planning that invests in reduction of future risk, and which avoids transferring risk from one community to another.

Action Recommendation Development

Actions outlined in Chapters 6 & 7 were developed by the planning team with input from local stakeholders, officials, and residents. The actions intend to reduce or avoid long-term vulnerabilities to the people, economy, infrastructure, and environment of Grant County. Each action was developed with a brief description of priority, estimated cost, potential funding sources, responsibility, and timeline to accomplish.

Approval and Implementation

The completed plan was sent to Wisconsin Emergency Management (WEM) on May 17th, 2023. Following approval by WEM and FEMA, the plan was adopted at the county level on TBD, 2023. After the county adopted the plan, cities and villages within the county had one year to adopt the plan. Adoption of this plan provides Grant County a framework of actions to prioritize hazard mitigation. Using the plan, the county and local communities will coordinate to undertake the identified actions.

Chapter 1: Plan Goals and Process

Purpose of the Plan

Every natural disaster takes a toll on the social, environmental, and economic well-being of local communities and residents. Many natural disasters have occurred in Grant County in just the last five years, including flooding in 2018, 2019, 2020, and 2022, the COVID-19 pandemic beginning in 2020, and a tornado in 2021 (data from Grant County Emergency Management). This plan works to address the many hazards Grant County is susceptible to and mitigate the potential damages from those hazards.

Disaster Mitigation Act of 2000

The development and update of the Grant County Hazard Mitigation Plan is a response to the passage of the Disaster Mitigation Act of 2000 (DMA), which was signed into law on October 30th, 2000, with the **goal of reducing losses and future public and private expenditures and improving response and recovery from disasters.** This act, Public Law 106-390, amended the Robert T. Stafford Relief and Emergency Assistance Act. The following is a summary of the portions of the DMA that relate to local governments:

- Local governments and tribal organizations must prepare a multi-hazard mitigation plan in order to be eligible for funding from the FEMA Pre-Disaster Mitigation Assistance Program and Hazard Mitigation Program.
- Natural hazards need to be addressed in a risk assessment and vulnerability analysis sections of the multi-hazard mitigation plan. Assessment of human-caused hazards such as hazardous waste spills is encouraged but not required.
- Authorizes up to seven percent of Hazard Mitigation Grant Program funds available to a state following a federal disaster declaration to be used for development of state, local, and tribal organization multi-hazard mitigation plans.
- Without an up-to-date multi-hazard mitigation plan, local governments and tribal organizations cannot obtain funds from the Pre-Disaster Mitigation Grant Program.

Local Context

In order to comply with Section 322 of the Disaster Mitigation Act of 2000 and qualify for future hazard mitigation grant awards, Grant County must develop a county-wide hazard mitigation plan. GCEM received a planning grant through the Hazard Mitigation Grant Program in October of 2022. In December of 2022, GCEM partnered with SWWRPC to complete the update to the Grant County Hazard Mitigation Plan.

Per FEMA requirements, this hazard mitigation plan includes a description of the following:

Planning Process: A general description of the purpose of the plan and what is included in the plan. This section includes an identification of the county and municipalities included in the plan, a description of plan development, public involvement and input process, and coordination with other plans.

Planning Area: A description of the geography of the planning area. This section documents the demographic and economic characteristics of the planning area.

Hazard Identification and Risk Assessment: Each of the hazards affecting the planning area are addressed in the risk assessment. The risk assessment documents the history and impact of the hazard's occurrence in the planning area, the vulnerability of the planning area to each risk, and the probability and potential cost associated with future occurrences.

Mitigation Strategy: Incorporates the mitigation goals, actions, and projects into the local communities and county-wide. Strategies identify how the mitigation goals identified will be prioritized, implemented, and administered by the local jurisdictions in Grant County.

Plan Maintenance Process and Adoption: Describes the method and schedule that will be used to monitor, evaluate, review progress, make revisions and update the Mitigation Plan within a five-year cycle and how public participation will be sought in this plan maintenance process. The plan approval process describes and documents how the plan was formally adopted by the governing bodies within the planning area.

Work on the Grant County Multi-Hazard Mitigation Plan began in December 2022. FEMA and WEM determined the plan met requirements on TBD, 2023. The plan was adopted by the Grant County Board on TBD, 2023.

Planning Process

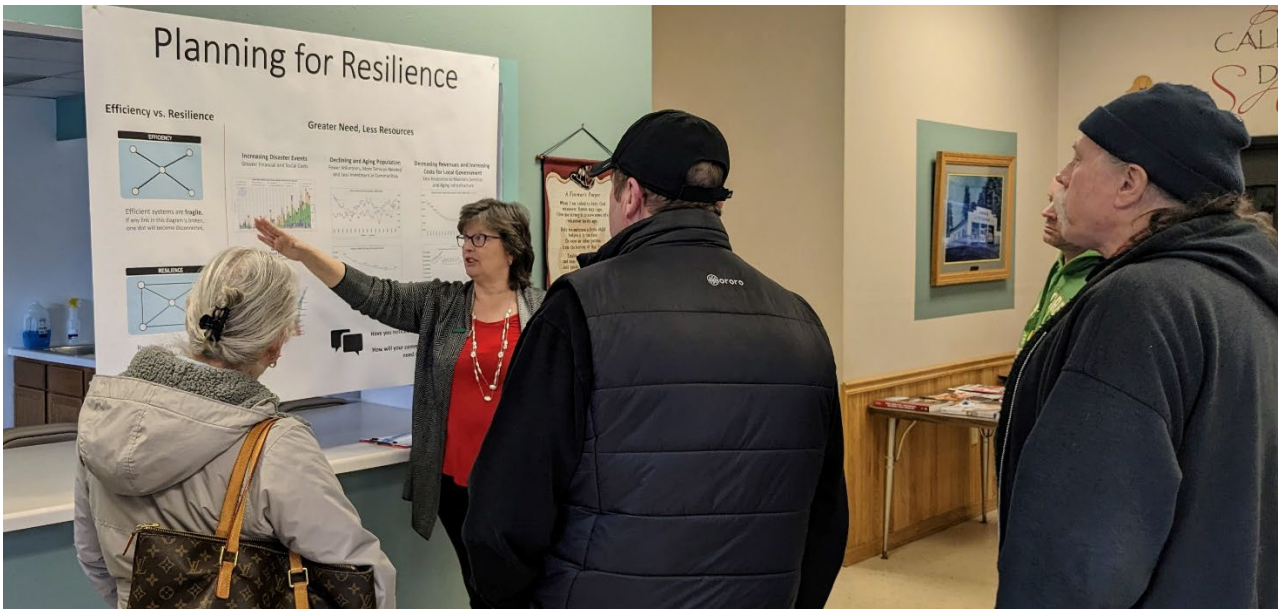
Planning Team

The first step in the planning process was to identify and organize a planning team made up of professional staff and county officials with expertise related to effective planning and hazard mitigation. See the table below for a list of planning team members and their organizational affiliation. Planning team members met throughout the planning process to review the previous plan, prepare and review outreach efforts, and work on developing strategies for the updated 2023 Plan.

Hazard Mitigation Planning Team	
Name	Title
Steve Braun	Director, GCEM
Jason Wagner	Planner, GCEM
Troy Maggied	Executive Director, SWWRPC
Ellen Tyler	Community Resiliency Planner, SWWRPC

Outreach

The planning team prioritized the need for community outreach in creating a successful hazard mitigation plan. In order to create plans that result in useful action, a planning process should involve both those with knowledge about needed actions, as well as those who have agency to implement those actions. To accomplish this, the planning team convened a stakeholder group for two workshop sessions, lead a meeting with a group of school district leaders from across the county, and gathered input from local representatives and residents during four public meetings, as described in the following paragraphs. See Appendix A for dates, attendance, and content of the stakeholder group and public meetings.



Stakeholder Group

A stakeholder group was convened by the planning team to gather an informed perspective on the many facets of community life in Grant County. This group was comprised of interdisciplinary community leaders with a variety of knowledge domains, ranging from school district superintendents to local business representatives. The planning team made an effort to engage Amish representatives in the stakeholder group, but despite their decline to participate, it was noted that the Amish community possesses a strong internal network to pursue and implement their desired mitigation actions. See the table below for a list of stakeholder group members and their organizational affiliation. Members of this group met for two workshop sessions, once before and once after the public meetings, and they participated in the public meetings.

Hazard Mitigation Stakeholder Group	
Name	Organization
Andrea Droessler	City of Platteville Police Department
Bev Doll	UW-Extension Grant County
Bob Keeney	Grant County Board
Brian Allen	Southwest Health EMS
Brian Kitelinger	Southwest Wisconsin Technical College
Erik Heagle	Grant County Conservation, Sanitation, and Zoning
Jason Wagner	Grant County Emergency Management
Jeff Kindrai	Grant County Health Department
Jim Abitz	Southwest Health EMS
John Schmitt	Foremost Farms Lancaster
Jon Knautz	Grant County Highway Department
Katrina Hecimovic	UW-Platteville
Kevin Raisbeck	Community First Bank
Kurt Cohen	Potosi School District Administration
Lisa Wallin-Kapinus	Boscobel Area School District Administration
Lori Reid	Grant County Aging and Disability Resource Center
Marc Myhre	Crawford County Emergency Management
Mike Stone	Wisconsin Department of Natural Resources
Steve Braun	Grant County Emergency Management
Sue Krause	Cassville Village Board

School District Leadership

All twelve school districts within or partially within Grant County were invited to participate in the planning process. Of these districts, eleven completed participation (see table below) during a group workshop on February 8th. School leaders, listed below, discussed risks and opportunities for their districts and explored how they may be able to learn from each other or work together. Following group discussion, participants drafted action recommendations for their districts, which were revisited after the meeting and are included in the relevant geography for each district in Chapter 6.

School District Leadership Participating in Hazard Mitigation Meeting		
School District	Name	Role
Boscobel	Lisa Wallin-Kapinus	Administrator
Boscobel	Nate Copsey	Director of Facility and Grounds/Safety Coordinator
Cassville	Isaac Okey	School Counselor, Homeless Liaison, & DAC
Cuba City	Heather Droessler	Business Manager
Fennimore	Jane Wonderling	Administrator
Fennimore	Hillary Day	Assistant Principal
Highland	Randy Refsland	Administrator
Lancaster	Rob Wagner	Administrator
Lancaster	Mark Uppena	High School Principal
Platteville	Jim Boebel	Administrator
Platteville	Josh Stowe	Community Resource Officer
Potosi	Kurt Cohen	Administrator
Potosi	Jamie Pierce	Facilities Manager
River Ridge	Clay Koenig	Administrator
River Ridge	Wade Winkers	Dean of Students
Riverdale	Jon Schmidt	Administrator
Riverdale	Jeff Campbell	Junior High/High School Principal
Southwestern	John Costello	Administrator
Southwestern	Ron Beaver	Maintenance Director

Municipal Representatives

Every city, village, and township in Grant County was represented during the public meetings held in February and March. These meetings were strategically located in different parts of the county to ensure attendee convenience. At the public meetings, representatives moved through five discussion stations where they learned about and provided input related to the following topics: previous hazard events and future hazard risk in the county, vulnerable populations, resilience challenges, identification of needs and potential mitigation strategies based on community-specific maps, and climate change.

Participating Jurisdictions and Community Representatives		
Community	Name and Role	Meeting Attended
Blue River Village	Sheila Sperry, Clerk	February 15th, Boscobel
Blue River Village	Deb Schwingle	February 15th, Boscobel
Montfort Village	Charles Piper, President	February 15th, Boscobel
Montfort Village	Kayla Spurley, Clerk	February 15th, Boscobel
Muscoda Village	Cinda Johnson, Clerk	February 15th, Boscobel
Woodman Village	Todd Miller	February 15th, Boscobel
Boscobel City	Patricia A. Smith, Administrator/Treasurer/Clerk	February 15th, Boscobel
Boscobel Township	Courtney Rounds, Clerk	February 15th, Boscobel
Castle Rock Township	Lavern Hrubes, Clerk	February 15th, Boscobel
Hickory Grove Township	Allen Wester, Clerk	February 15th, Boscobel
Hickory Grove Township	Gary Northouse, Chairman	February 15th, Boscobel
Hickory Grove Township	Rhonda Gildersleeve, Supervisor	February 15th, Boscobel
Hickory Grove Township	Gary Klein, Supervisor	February 15th, Boscobel
Marion Township	Judi Boughton, Clerk	February 15th, Boscobel
Marion Township	Steve Peer, Chairman	February 15th, Boscobel
Millville Township	Kirk Hamann, Chairman	February 15th, Boscobel
Millville Township	Van Schwab	February 15th, Boscobel
Mount Ida Township	Robert Oechsle	February 15th, Boscobel
Muscoda Township	Gary Bird, Supervisor	February 15th, Boscobel
Muscoda Township	Levi Heffner, Supervisor	February 15th, Boscobel
Watterstown Township	Charles Baumeister, Chairman	February 15th, Boscobel
Watterstown Township	Darlene Larson, Clerk	February 15th, Boscobel
Watterstown Township	Al Hendrick, Supervisor	February 15th, Boscobel
Woodman Township	Mark Knowles, Supervisor	February 15th, Boscobel
Livingston Village	Christina Christianson, Clerk	February 21st, Lancaster
Mount Hope Village	Bob Keeney, Clerk	February 21st, Lancaster
Fennimore City	John Murray, Director of Public Works	February 21st, Lancaster
Fennimore City	Jordan Fritche, Electrical Department	February 21st, Lancaster
Lancaster City	John Hauth, Public Works Director	February 21st, Lancaster
Lancaster City	Stuart Harper, Mayor	February 21st, Lancaster
Lancaster City	David Carlson, Administrator	February 21st, Lancaster
Platteville City	Ryan Simmons, Fire Chief	February 21st, Lancaster
Cassville Township	Doug Schauff, Chairman	February 21st, Lancaster
Cassville Township	Denny Bausch, Supervisor	February 21st, Lancaster
Ellenboro Township	Kevin G. Tanner, Supervisor	February 21st, Lancaster

Community	Name and Role	Meeting Attended
Ellenboro Township	Angie Mitchell, Supervisor	February 21st, Lancaster
Fennimore Township	Robert Reynolds, Chairman	February 21st, Lancaster
Harrison Township	Michelle Olson, Supervisor	February 21st, Lancaster
Liberty Township	Pat Schroeder, Chairman	February 21st, Lancaster
Lima Township	Leland Sander, Supervisor	February 21st, Lancaster
Mount Hope Township	Thomas Keeney, Chairman	February 21st, Lancaster
Potosi Township	Kevin Udelhoven, Chairman	February 21st, Lancaster
South Lancaster Township	Gary Schneider, Chairman	February 21st, Lancaster
Wingville Township	Kevin Bickford, Chairman	February 21st, Lancaster
Wyalusing Township	Michelle Newhouse, Clerk	February 21st, Lancaster
Bagley Village	Ryne Jackley, Public Works	March 2nd, Bloomington
Bagley Village	Andy Bruggeman, Fire Dept.	March 2nd, Bloomington
Bagley Village	Chris Trautsch, President	March 2nd, Bloomington
Bloomington Village	Robert McLimans, President	March 2nd, Bloomington
Bloomington Village	Mary A. Culligan, Clerk	March 2nd, Bloomington
Bloomington Village	Mark Moris, Public Works	March 2nd, Bloomington
Bloomington Village	Tim Senn, Trustee	March 2nd, Bloomington
Bloomington Village	Dennis Moris, Trustee	March 2nd, Bloomington
Cassville Village	Molly Roskams, Clerk	March 2nd, Bloomington
Cassville Village	Ron Hampton, Fire Dept.	March 2nd, Bloomington
Cassville Village	Trenton Wood, Fire Dept.	March 2nd, Bloomington
Patch Grove Village	Kim Curtis, Trustee	March 2nd, Bloomington
Beetown Township	Bart Breuer, Supervisor	March 2nd, Bloomington
Beetown Township	Sharon Bontreger, Clerk	March 2nd, Bloomington
Bloomington Township	Greg Patterson, Chairman	March 2nd, Bloomington
Bloomington Township	Jane Patterson, Clerk	March 2nd, Bloomington
Clifton Township	Steve Barth, Chairman	March 2nd, Bloomington
Glen Haven Township	Roger Ploessl, Chairman	March 2nd, Bloomington
Glen Haven Township	Lois Nemitz, Clerk	March 2nd, Bloomington
Little Grant Township	Greg Klein, Chairman	March 2nd, Bloomington
Little Grant Township	Tom Martin, Supervisor	March 2nd, Bloomington
Little Grant Township	Rodger Irish, Supervisor	March 2nd, Bloomington
Millville Township	Michael Mason, Supervisor	March 2nd, Bloomington
North Lancaster Township	Randy Oyen, Supervisor	March 2nd, Bloomington
Patch Grove Township	Roy Quick, Chairman	March 2nd, Bloomington
Platteville Township	Tom Weigel, Chairman	March 2nd, Bloomington
Platteville Township	Nathan Niehaus, Clerk	March 2nd, Bloomington
Dickeyville Village	Dallas Dietzel, EMS Chief	March 7th, Dickeyville
Dickeyville Village	Dale Neis, Director of Public Works	March 7th, Dickeyville
Dickeyville Village	Troy J. Trost, Fire Dept.	March 7th, Dickeyville
Dickeyville Village	Luke Freiburger, Public Works Operator	March 7th, Dickeyville
Hazel Green Village	Sally Bauer, Clerk	March 7th, Dickeyville
Hazel Green Village	John Berning, Director of Public Works	March 7th, Dickeyville
Potosi Village	Jessie Gavinski, Clerk/Treasurer	March 7th, Dickeyville

Community	Name and Role	Meeting Attended
Potosi Village	Mick Whitaker, President	March 7th, Dickeyville
Potosi Village	Ryne Emler, Fire Dept.	March 7th, Dickeyville
Tennyson Village	Karla Tobin Leiser, Trustee	March 7th, Dickeyville
Tennyson Village	Larry Leibfried, Trustee	March 7th, Dickeyville
City of Cuba City	Rick Hess, Alderperson	March 7th, Dickeyville
Platteville City	Barb Daus, Alderperson	March 7th, Dickeyville
Hazel Green Township	Paul Hendricks, Clerk	March 7th, Dickeyville
Hazel Green Township	Donald Splinter, Chairman	March 7th, Dickeyville
Jamestown Township	Mike Boge, Clerk	March 7th, Dickeyville
Jamestown Township	Gerry Oberbroeckling, Fire Dept.	March 7th, Dickeyville
Paris Township	Roger W. Muller, Supervisor	March 7th, Dickeyville
Paris Township	David McClain, Chairman	March 7th, Dickeyville
Paris Township	Doug Droessler, Supervisor	March 7th, Dickeyville
Smelser Township	Tom Riniker, Chairman	March 7th, Dickeyville
Waterloo Township	Chad Brinkman, Supervisor	March 7th, Dickeyville

Public Outreach

In addition to the municipal representatives, school district leadership, and stakeholder group members, the general public were invited to participate in the public meetings. Flyers for the public meetings were distributed by planning team members, stakeholder group members, and every municipal clerk in the county (Appendix A). In addition, press releases and news articles about the meetings were run in local newspapers (Appendix A). Representatives from Amish and Hispanic communities were contact directly with invitations and personalized information, but declined to participate. Attendance over the four public meetings of municipal representatives, stakeholder group members, and the general public totaled 119 people.

Public Comment

The plan was made available to the public via the GCEM website on May 18th, 2023. Municipal clerks and stakeholders were notified via email of the opportunity to send proposed revisions and comments, and all were encouraged to review the sections of the plan most relevant to them, at a minimum. All edit suggestions were reviewed by the planning team and incorporated into the plan as appropriate. The plan was presented for public comment and official adoption at the Grant County Board Meeting on TBD, 2023.

Incorporated Plans

The following is a list of references used to determine planning area characteristics, identify risk, and develop strategies for this plan.

- Wisconsin State Hazard Mitigation Plan (2021)
- State of Wisconsin Threat and Hazard Identification and Risk Assessment (2021)
- Comprehensive Plans from Grant County Communities (varies)
- Grant County Hazard Mitigation Plan (2018)
- Grant County Emergency Operations Plan (2022)

- Grant County Hazardous Material Response Plan (2022)
- Monroe County Climate Readiness and Rural Economic Opportunity Assessment – Wisconsin's Green Fire (2022)
- Wisconsin's Changing Climate: Impacts and Solutions for a Warmer Climate – WICCI (2021)

Current Mitigation Efforts

Assistance Programs: Grant County, through the work of Grant County Emergency Management, receives and coordinates state and federal disaster relief assistance to victims in affected areas. This includes assistance to individuals and households and assistance to local governments for infrastructure repair, available for both presidentially declared and non-presidentially declared disasters. Over the past 20 years, Grant County has aggressively targeted repetitive loss properties, eliminating all from the Mississippi River floodplain and acquiring/demolishing many structures in areas prone to dangerous flash flooding.

Education and Outreach: GCEM undertakes education and outreach through news releases and social media to educate the public on timely and relevant hazardous situations such as extreme storms, extreme temperatures, wildfire safety, and tornado awareness. GCEM regularly meets with local governments to educate and inform residents about emergency response and hazard mitigation.

Emergency Response and Mutual Aid: Initial emergency response in Grant County is a full-time sheriff and local police agencies. However, these agencies have limited personnel on duty at any given time and are spread over a wide geographic area. Local community Fire and EMS services are often initial responders. Emergency services, including Fire and EMS staffed by volunteers, are located in every area throughout the county as well as neighboring communities that provide services to areas within Grant County. All of Grant County's Fire and EMS departments maintain formal mutual-aid agreements, and most participate in the Mutual Aid Box Alarm System (MABAS). GCEM also has access to incident management teams through WEM and WIDNR. Police have access to the Emergency Police Services (EPS) system through WEM.

Grant County participates with surrounding counties to maintain a Regional Technical Partnership to address technical rescue situations such as swift-water, confined space, high and low angle rope, building collapse, trench collapse, and ice rescues. Grant County also maintains a Regional Hazardous Material Response Program with Lafayette and Jo Daviess Counties.

Warning Systems: An effective warning system is the single most important method for alerting the public of severe weather hazards. In addition to the use of local radio stations and National Oceanic and Atmospheric Administration (NOAA) weather radio warnings, GCEM can activate remote warning sirens in communities throughout Grant County and Emergency Alert Systems to broadcast warnings. Below are more detailed explanations of each:

> **Local Two-Way Radio:** Radio is used to link all police, fire, and EMS agencies within the County to one another. The County hosted two-way radio communication system links all highway vehicles and is available to interested towns and villages, while Grant County cities also have individual two-way radio systems for local use. Central dispatch provided by the County is the core to the county emergency two-way communications and paging system on multiple frequencies.

National Oceanic and Atmospheric Administration: NOAA Weather Radio continuously broadcast National Weather Service (NWS) forecasts, warnings, and other critical weather information. NOAA Weather Radio also provides direct warnings to the public for natural, man-made, or technological hazards, and it is the primary trigger for activating the national Emergency Alert System on commercial radio, television, and cable systems.

Sirens: Warning sirens are located in Cities and Villages throughout Grant County. Many communities have more than one siren. Significant development in townships and unincorporated areas means that much of the recent development in Grant County is being done outside of the reach of Warning Sirens. Warning sirens are maintained by individual municipalities.

Tone Alert Receivers (TAR): TARs allow county and local officials to send warning messages to special facilities such as schools, hospitals, nursing homes, industrial facilities and government buildings.

Wireless Emergency Alerts: Wireless Emergency Alerts are short emergency messages from authorized federal, state, local, tribal and territorial public alerting authorities that can be broadcast from cell towers to any WEA-enabled mobile device in a locally targeted area. Wireless providers primarily use cell broadcast technology for WEA message delivery.

National Flood Insurance Program Participation (NFIP): The table below lists the jurisdictions that participate in NFIP. Participating in this program requires the jurisdiction to follow state and federal floodplain zoning requirements and undertake substantial damage analysis following natural hazard events. Communities not participating in NFIP do not have established floodplains within their jurisdiction. Townships participate through the county.

National Flood Insurance Program Participating Jurisdictions[1]				
Community	Participation		Community	Participation
Grant County	Yes		Village of Dickeyville	No
City of Boscobel	Yes		Village of Hazel Green	Yes
City of Cuba City	No		Village of Livingston	Yes
City of Fennimore	No		Village of Montfort	No
City of Lancaster	Yes		Village of Mount Hope	No
City of Platteville	Yes		Village of Muscoda	Yes
Village of Bagley	Yes		Village of Patch Grove	No
Village of Bloomington	Yes		Village of Potosi	Yes
Village of Blue River	Yes		Village of Tennyson	No
Village of Cassville	Yes		Village of Woodman	Yes

Existing Policies, Procedures, and Ordinances: Grant County Conservation, Sanitation, and Zoning Department (CSZ) administers the county floodplain zoning ordinance that regulates floodplain development throughout the townships, and this department implements the requirements of NFIP

[1] FEMA. Community Status Book Report for Wisconsin. Accessed on 3/29/2023 via https://www.fema.gov/cis/WI.pdf.

throughout the county. All cities and villages participating in NFIP (listed in the table above) have floodplain zoning ordinances that are administered at the municipal level. The cities and villages that participate in NFIP each implement substantial improvement/substantial damage on their own, while the Grant County CSZ department implements these provisions for the townships. Grant County and the municipalities within the county also follow the Wisconsin Uniform Dwelling Code which requires all buildings be built to coded specifications.

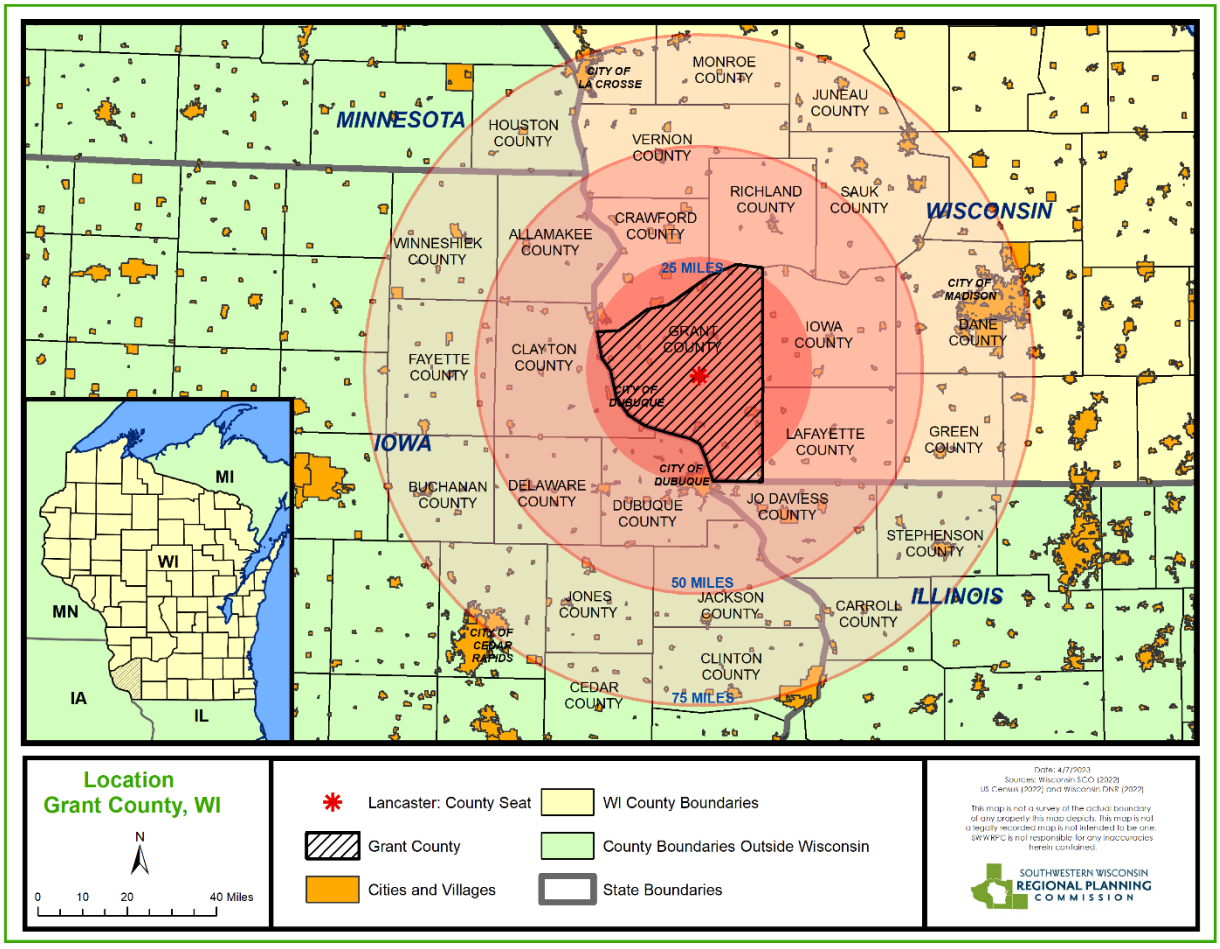
According to the Wisconsin Comprehensive Planning Law, all communities in Grant County that wish to adopt land use regulation are required to have comprehensive plans that address issues related to the following list of elements. Within these elements, communities are able to create and implement policies, procedures, and ordinances on hazard mitigation.

1. Issues and Opportunities
2. Housing
3. Transportation
4. Utilities and Community Facilities
5. Agricultural, Natural and Cultural Resources
6. Economic Development
7. Intergovernmental Cooperation
8. Land Use
9. Implementation

Chapter 2: Planning Area

Grant County is a rural county located in the southwestern corner of Wisconsin. It is 1,183.34 square miles of which approximately 36.5 square miles are water (lakes, streams, or rivers). Grant County is the 15th largest (by land area) in the State. It is bordered by the Wisconsin counties of Lafayette, Iowa, Richland, and Crawford. On its Illinois border, Jo Daviess County borders Grant County and in Iowa, Clayton and Dubuque Counties make up the border. Grant County's northern boundary is the Wisconsin River and the western boundary is the Mississippi River. Figure 1 shows the location of Grant County in the context of surrounding states, counties, and large cities. Grant County is home to five cities, fourteen villages, and thirty-three towns. The 2021 estimated population was 52,210 people[2], an estimated increase of 272 persons from the 2020 Census population of 51,938 people[3]. Grant County is considered rural, with 44 people per square mile.

Figure 1: Grant County Location



[2] United States Census Bureau. *American Community Survey: 5-year estimates 2017-2021*. data.census.gov

[3] United States Census Bureau. *Decennial Census 2020*. data.census.gov

Physical Geography

Grant County is located in a portion of Wisconsin called the "driftless area" because it was by-passed by glaciers during the last glaciation. Without the effects of glaciers, many hills and valleys remain intact in the County when they were eroded, due to glaciers, to the north and east of the region. The resulting topography has some of the most diverse and distinct elevation changes in the State. The highest point in Grant County is located on Military Ridge in the Town of Hickory Grove with an elevation of 1,240 feet.[4]

The most prominent topographical feature in Grant is Military Ridge, a steep escarpment that divides the county between the Lower Wisconsin River and the Grant-Platte River Basins. Military Ridge runs across the northern half of Grant County, through the Towns of Wingville, Castle Rock, Hickory Grove, Fennimore, Mount Ida, Mount Hope, and Patch Grove. The northern descent from Military Ridge into the Wisconsin River valley is steep creating dramatic drop offs in elevation. South of the Ridge is a long gentle slope with a gradual elevation drop of about six feet per mile.

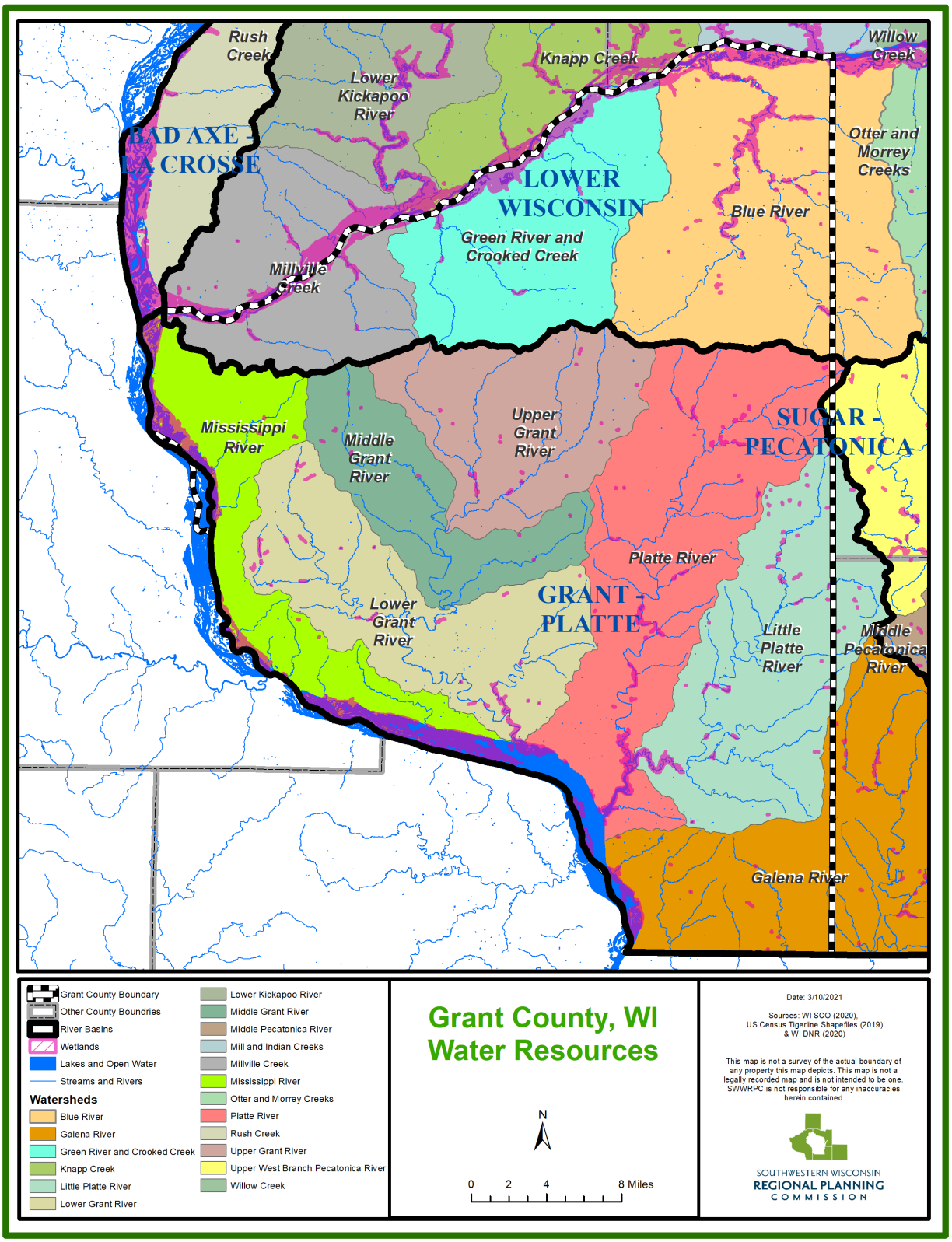
Grant County overlaps three major watersheds. The Lower Wisconsin River Basin and the Grant-Platte River Basin constitute the majority of the land area in Grant County, with the Sugar-Pecatonica Basin taking up a minimal amount of land in the northeast part of the County. The major river basins are subdivided into smaller watersheds such as ones that contain the separate branches of the Grant and Platte Rivers. See Figure 2 for Grant County watersheds and river basins.

There are no natural lakes or sizable reservoirs in Grant County. A number of high-quality streams, including many cold-water trout streams, are located in Grant County. The main waterbodies in Grant County are the Wisconsin River in the north and the Mississippi River on the western border.

Grant County, north of Military Ridge, is part of the Western Coulee and Ridges Ecological Landscape. Here, streams have cut deeply through the less resistant Cambrian sandstone resulting in a landscape of steep-sided valleys and rugged, more heavily forested slopes. South of the Military Ridge, the Southwest Savanna Ecological Landscape is an open and gently sloping landscape, underlain by more resistant limestone. This southern half of the County was mostly prairie and savanna before European settlement and through time has retained many prairie remnants and large areas of grassland to a degree not found elsewhere in Wisconsin. Today, this area is primarily in agricultural production with scattered woodlands, savannas, and remnant prairies. The transformation of this land into agriculture has caused extensive erosion south of Military Ridge. The descent to the Mississippi River is often dramatic, creeks and rivers have cut steep and narrow valleys as they drain large watersheds.

[4] State of Wisconsin Cartographer's Office. *Wisconsin High Points*. http://www.sco.wisc.edu/mapping-topics/wisconsin-high-points.html

Figure 2: Grant County Watersheds and River Basins

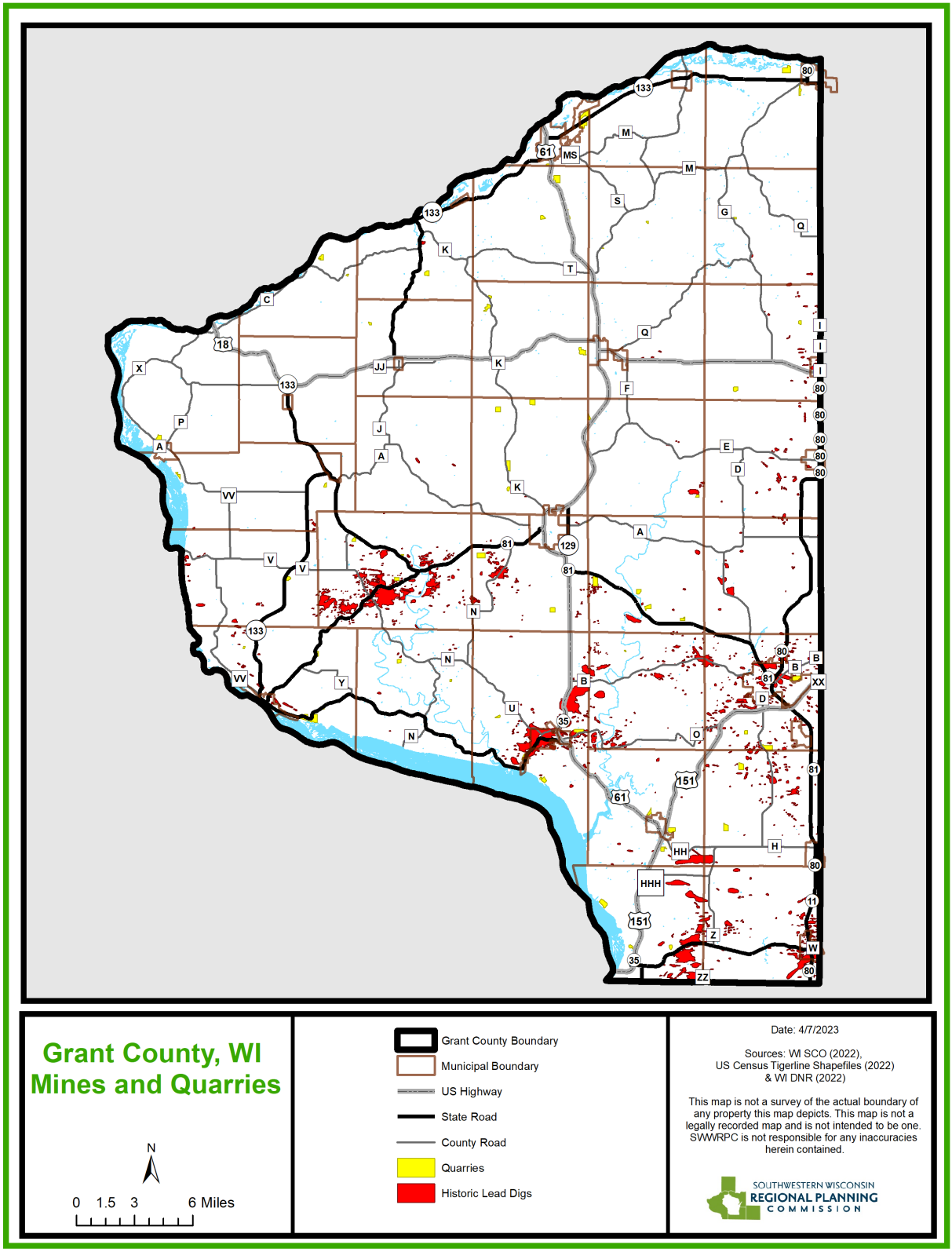


Geology

The majority of Grant County's bedrock is Ordovician, composed of Sinnipee and Prairie du Chien Group dolomite with some sandstone and shale. Dolomite is a sedimentary carbonate mineral. Due to this, it can be dissolved by weak acids in groundwater creating the potential for sinkholes. The northern boundary of the county, along the Wisconsin River has a Cambrian bedrock of sandstone with some dolomite and shale. There are minor instances of Ordovician shale in Maquoketa formation in the southern townships of the county.

Metallic resources in the region include lead and zinc. Both metals have played an important role in the history of the County. Early settlers came to what is now Southwestern Wisconsin to mine lead. In the late 1820's this area provided for 75% of the United States demand for lead. See Figure 3 for the historic mining areas of Grant County. Today, Grant County no longer mines lead or zinc. Presently, non-metallic mines actively mine sand, gravel, and limestone. Limestone is one of the most significant geological resources in the area and is used in construction and agricultural operations. See Figure 3 for a map of the mines and quarries in Grant County.

Figure 3: Grant County Mining Areas

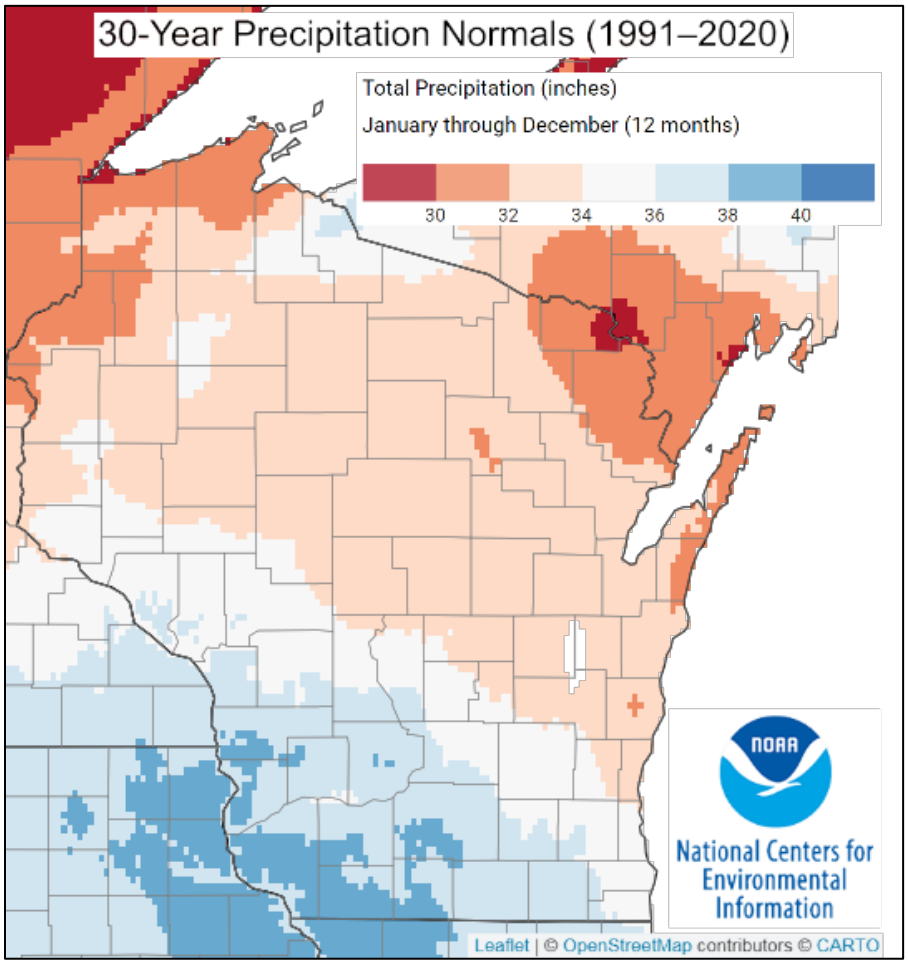


Climate

The climate of Grant County is considered continental. This means Grant County has cold enough winters to have fixed periods of snow and moderate precipitation in the summers. The County experiences wide changes of temperature in all seasons with at least three months of temperatures above 50 degrees Fahrenheit and winters with at least one full month below 32 degrees Fahrenheit.

Precipitation is distributed evenly throughout the County, approximately two-thirds of which falls during the growing season. Grant County's 30-year average annual precipitation, 1991 - 2020, was 37.82 inches. During that time frame annual precipitation ranged from 27.5 inches in 2013 up to 53.5 inches in 2019. Grant County receives greater than the overall Wisconsin yearly average of 34.12 inches of precipitation during the same time frame. The average annual snowfall from 1991 – 2020 for Grant County is on under 40 inches.[5]

Figure 4: Wisconsin 30-Year Average Annual Precipitation 1991 - 2020[6]



[5] National Oceanic and Atmospheric Administration. National Centers for Environmental Information *U.S. Climate Normals (1991-2020)* https://www.ncei.noaa.gov/products/land-based-station/us-climate-normals

[6] National Oceanic and Atmospheric Administration. *U.S. Climate Normals (1991-2020).* https://ncei-normals-mapper.rcc-acis.org/

Political Jurisdictions

Government units within Grant County include five cities, fourteen villages, and thirty-three towns. The county seat is at Lancaster, located near the center of the county. Platteville is the largest city, with an estimated population in 2020 of 11,836. Platteville is the largest city located between Madison, WI and Dubuque, IA and is home to the University of Wisconsin – Platteville, which adds a sizeable student population to the community during the school term.

Demographics

The overall population of Grant County grew by 1.4 percent between 2010 and 2020, from 51,208 to 51,938. In the same decade, the percentage of the population younger than 18 slightly increased from 21.3% in 2010 to 21.4%, reversing a trend that has continued since at least 1970. The median age of the county decreased from to 36.4 in 2010 to an estimated 36.2 in 2021. Grant County is very homogenous, with 93.8% of the county's population being white in 2020, while 80.4% of the state's population being white.

Among communities in Grant County with populations over 1,000, the communities with the highest rate of growth between 2010 and 2020 are the City of Fennimore (10.7%), the Town of Jamestown (5.1%), the City of Boscobel (1.7%), and the City of Lancaster (1.0%).[7]

Development Trends

Population growth in Grant County is concentrated in the cities and in the towns in near proximity to those cities. All cities within the county grew in population between 2010 and 2020. By contrast, the majority of villages experienced a decline in population, with the exceptions being the Villages of Blue River, Montfort, Bloomington, and Patch Grove. The townships were almost evenly split between population growth and decline in population, with an overall increase of 0.7% between 2010 and 2020.[8] New building is happening throughout the county but in concentrations around cities and along the Mississippi River bluffs.

Housing

Housing stock in the county increased from 21,581 total housing units in 2010 to 22,110 units in 2020. The occupancy rate in 2021 was estimated at 89.5%, with 69.4% of units being owner-occupied. The US Census estimated in 2021, that of the occupied housing units in Grant County, 24.4% were built prior to 1940, and only 5% were built after 2010. The median value of owner-occupied housing units in 2021 was $156,700, up 32.5% from $118,300 in 2010. However, when these values are adjusted for inflation the median home value has only risen by 2.9% from 2021 to 2010. The median rent in 2021 was $738, up 27.5% from $535 in 2010. However, when these values are adjusted for inflation, the median rent has actually risen 6.7%. Renters paying more than 35% of their household income decreased from 36% in 2010 to 31.8% in 2021. The number of mobile homes in Grant County has decreased from 6.8% of total housing units in 2010 to 5.9% of housing units in 2021.[9]

[7] United States Census Bureau. *Decennial Census (2020)*. data.census.gov
[8] *Ibid.*
[9] United States Census Bureau. *American Community Survey: 5-year estimates 2017-2021*. data.census.gov

Education and Employment

According to the American Community Survey estimate in 2021, 23.9% of Grant County's population aged 25 years or older had a bachelor's degree or higher, up from 19.2.% in 2010 but lower than the state as a whole with 31.5%. The percentage of the county population with a high school degree, equivalent, or higher was 92.3% in 2021, up slightly from 88.8% in 2010.[10]

The estimated per capita income of Grant County in 2021 was $28,820, up 38.8% from $20,758 in 2010. However, when the figures are adjusted for inflation, the per capita income of Grant County in 2021 only rose 7.9% since 2010. In Grant County in 2021 unemployment averaged 3%, which is half the percentage of the labor force unemployed as in 2010. The percentage of the population 16 years and older in the labor force has decreased from 65.2% in 2010 to 64.4% in 2021.[11]

Utilities

Communication, water and sewer, natural gas, and electricity infrastructure are critical functions of everyday life and critical to emergency response operations. These utilities are vulnerable to a variety of hazards, creating a risk if the utilities were to be restricted or damaged by natural or man-made hazards.

Cell phone reception in the county is reliable at higher elevations but unavailable in the deep and heavily forested valleys that exist on the northern and western boundaries of the county, as well as throughout the region. Broadband coverage provides high-speed internet to most villages and cities but there is a limited connection in rural areas of the county. Grant County has made significant efforts to expand the coverage of broadband through a fiber optic loop across the county. Still, there remain areas of the county unserved or underserved with broadband coverage.

Grant County has several power lines and natural gas pipelines trans-versing the county, and there are numerous electric stations throughout the county. Wind turbines are in operation in the Towns of Clifton and Wingville, and solar farms are located in Fennimore, Mount Hope, Cassville, and Potosi (Figure 5).

Grant County is served by both public and private water systems. Each village and city in Grant County has a wastewater treatment facility and a sanitary sewer system. Most villages and cities have public water services and the Towns of Liberty and Jamestown have sanitary districts to provide drinking water to residents. See Figure 6 for a detailed map of water towers, dams, wastewater treatment facilities, lift stations, and municipal wells in Grant County.

[10] United States Census Bureau. *American Community Survey: 5-year estimates 2017-2021*. data.census.gov
[11] *Ibid.*

Figure 5: Grant County Gas and Electric Infrastructure

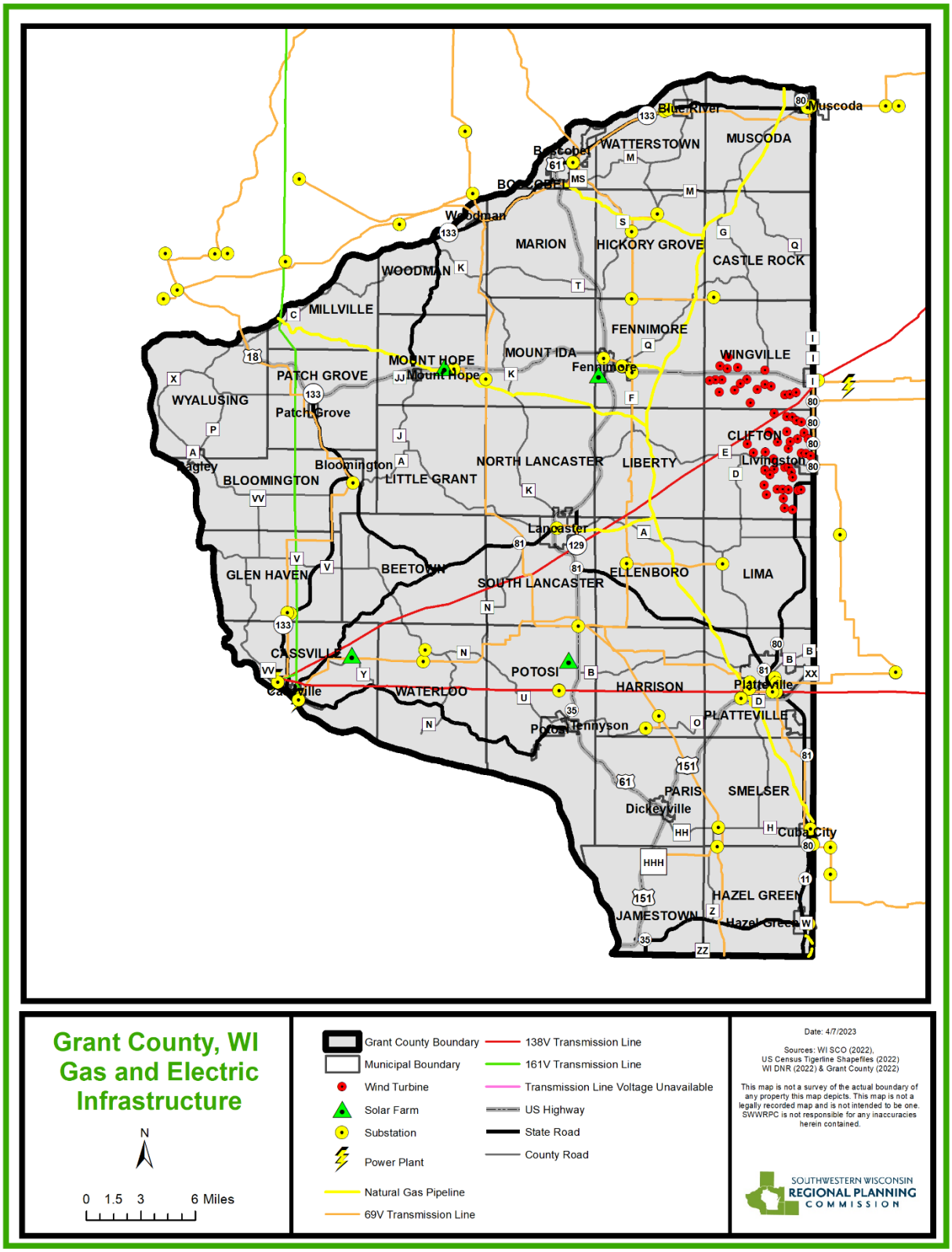
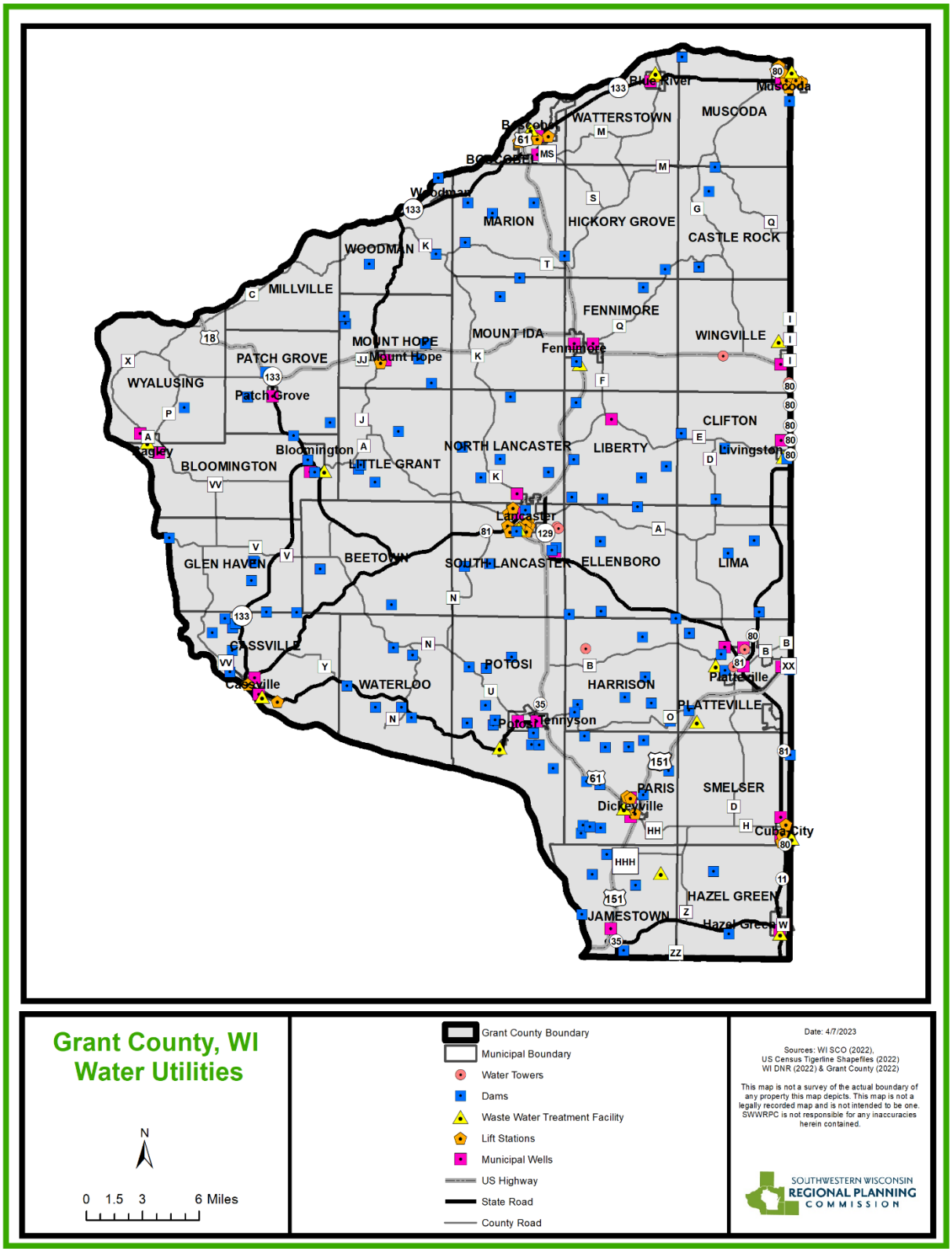


Figure 5: Grant County Gas and Electric Infrastructure



Transportation Infrastructure

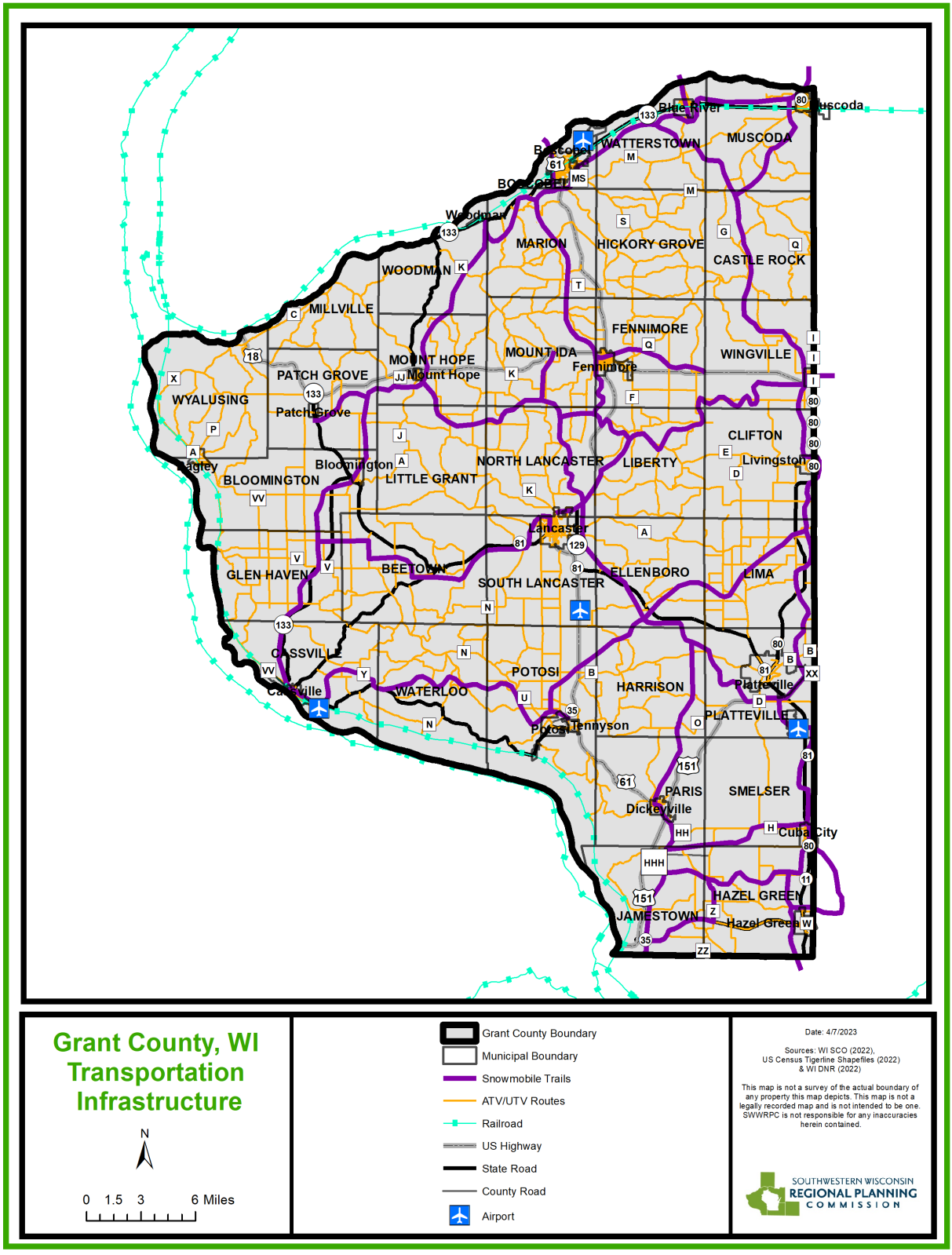
As of 2019, Grant County has approximately 2,128 miles of highway. Of these, 259 miles are State maintained, 310 are County maintained, and the rest (1,559 miles) are maintained by local governments.[12] US Highway 151 is a major highway running through Grant County connecting southwest Wisconsin to Madison to the east and to Dubuque to the west. Most recent data suggests that US Highway 151 sees the most traffic of any road in the county. Other heavily used roads in the county include US Highways 18 and 61, and State Roads 80, 81, 133, 11, and 35.

Grant County has two active rail lines along its northern and western boundaries. Wisconsin and Southern Railroad (WSOR) provides freight rail services on the northern line that enters the county by crossing the Wisconsin River between Wauzeka and Woodman, on what is known as the Wauzeka Bridge. The Burlington Northern Sante Fe (BNSF) provides freight rail service along the Mississippi River, Grant County's western boundary. The majority of products moved on these lines consist of grain, sand and aggregate, lumber, and fertilizer products. Although these are the majority of commodities shipped on these lines, other potentially hazardous materials are shipped on the lines as well. The Wisconsin and Southern rail corridor along the northern boundary is actively managed through a public private partnership between the Wisconsin Department of Transportation, the Wisconsin River Rail Transit Commission (which Grant County is a member of), and WSOR. The BNSF line is privately owned and managed.

Grant County is served by four airports located within the county. Airports are located in Boscobel, Cassville, Lancaster, and Platteville. Dubuque, IA has a regional airport, and The Dane County International Airport in Madison offers regional, national, and international flights. See Figure 7 for transportation infrastructure.

[12] Wisconsin Department of Transportation. *Grant County Highway Map 2019.* https://wisconsindot.gov/Documents/travel/road/hwy-maps/county-maps/grant.pdf

Figure 7: Grant County Transportation Infrastructure



Emergency Services

Grant County Emergency Management staff include a full-time Emergency Management Director and Planner. Fire and EMS services in the county have established mutual aid agreements among each other and with a number of surrounding municipalities in neighboring counties. Every municipality in Grant County is covered by Fire, Law Enforcement, and EMS services. The Grant County Sheriff's Office and the Platteville Police Department provide 24-hour 911 dispatch to the county. Some communities do not have a community police department and contract with the Grant County Sheriff's Office for municipal police services. The county is serviced by 21 Fire Departments (Figure 8) and 13 EMS Departments (Figure 9). Additionally, the county maintains a Regional Hazardous Material Response Program and a Regional Technical Partnership to address technical rescue situations.

Figure 8: Grant County Fire Department Service Areas

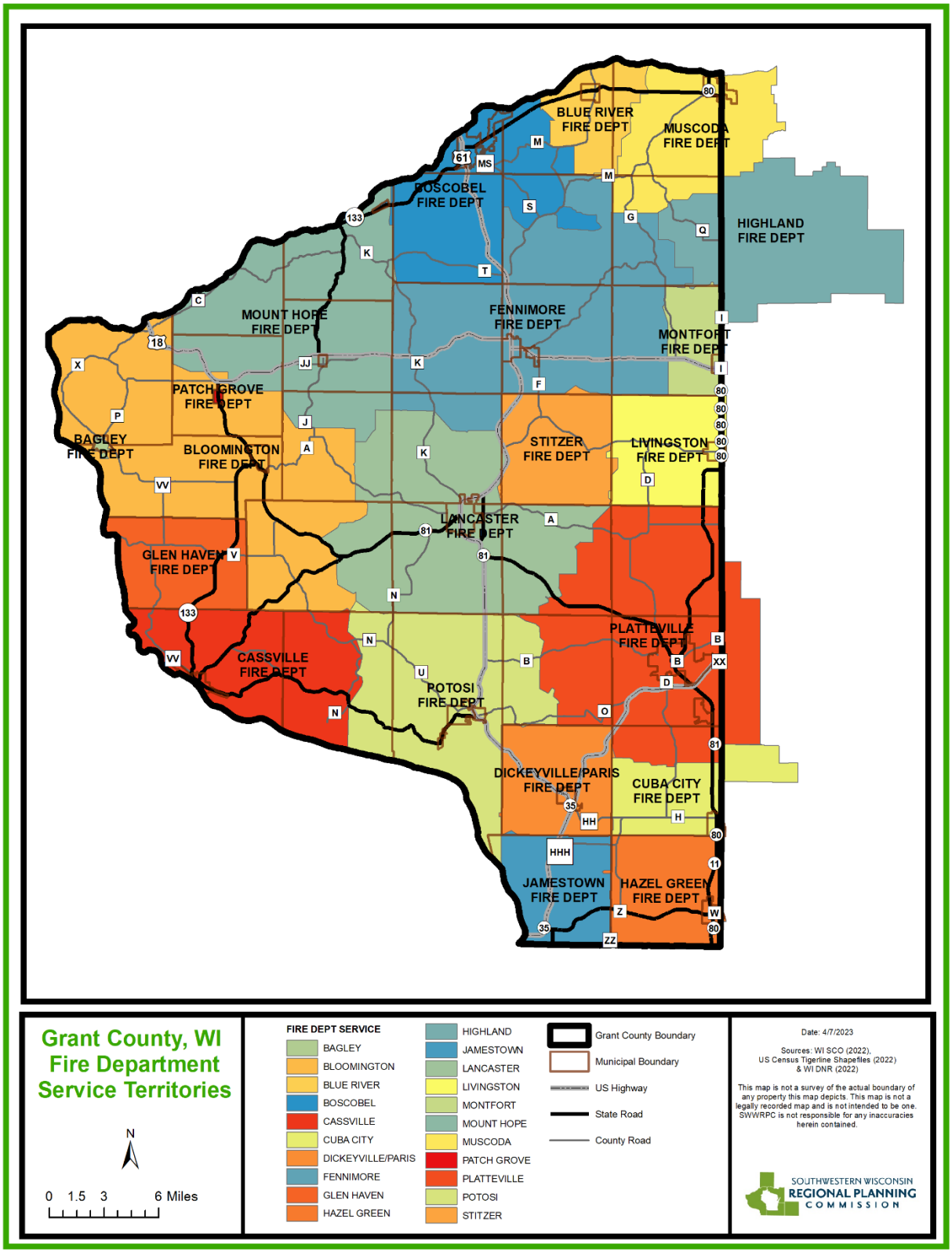
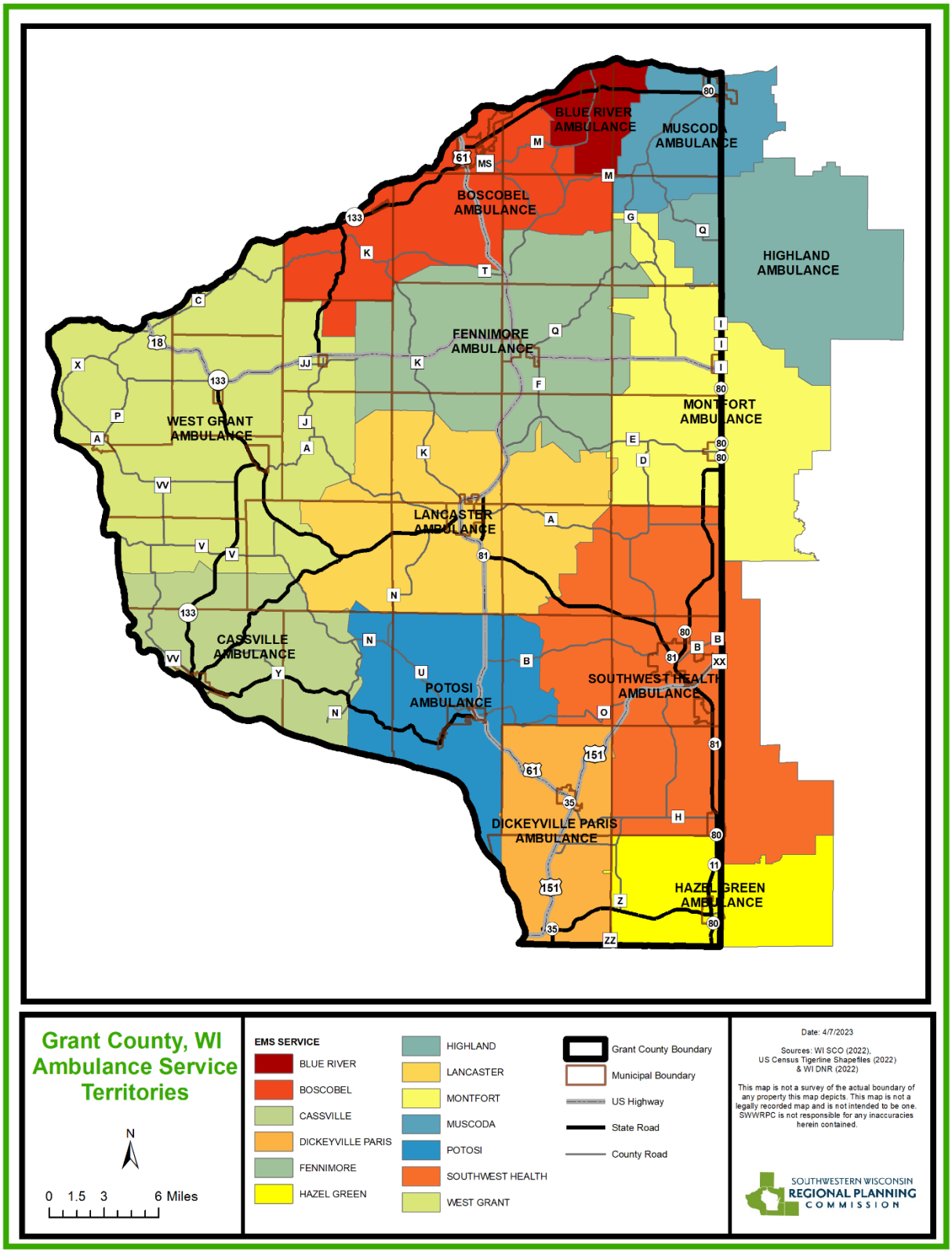


Figure 9: Grant County Emergency Medical Service Areas



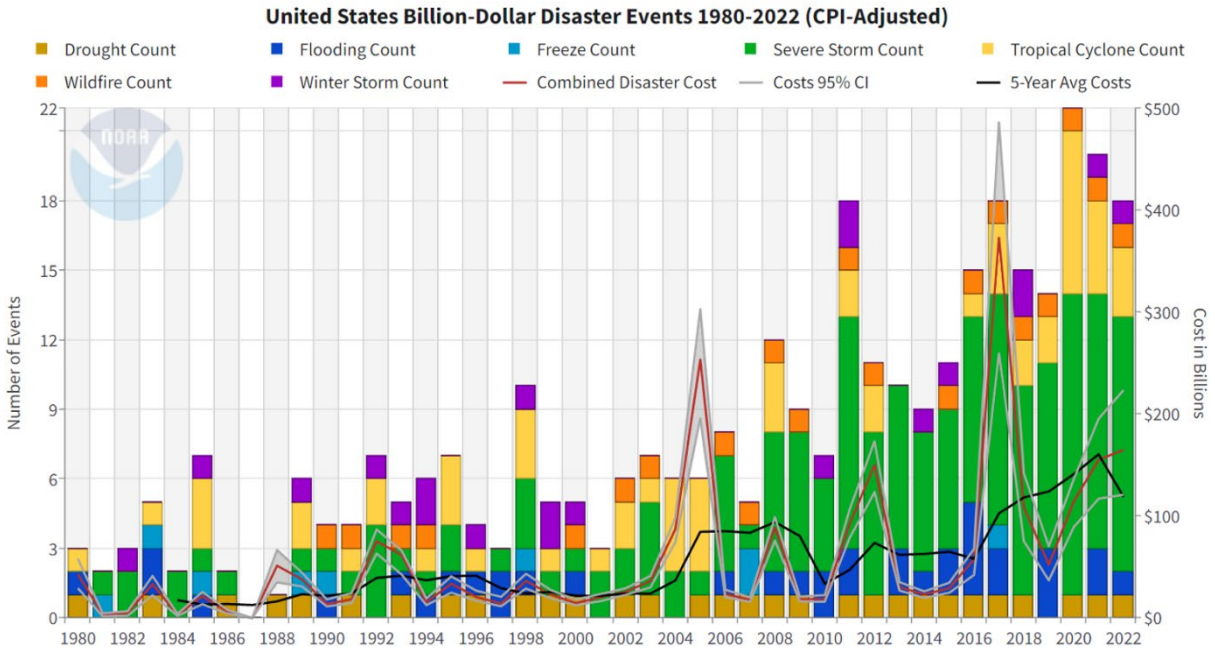
Chapter 3: Climate Change

Background

Effective mitigation of future hazard impacts requires an informed understanding of future conditions, not only the conditions of the past and present. For this reason, integrating climate change research into hazard mitigation planning is essential. Climate change has altered the severity, frequency, and types of hazard events experienced globally and in Grant County. Research indicates that climate change will have an even greater impact in the future.

Already, the U.S. has been majorly impacted by climate change. Disaster events are becoming more severe and costly (Figure 10), and communities across the world are struggling to adapt to these changes.

Figure 10: U.S. Billion-Dollar Disaster Events, Adjusted for Inflation[13]



The impacts of climate change can be seen locally in Grant County. The average temperature has risen by an average of 0.3°F per decade over the last 50 years (Figure 11), and precipitation has increased by an average of 1.44 inches per decade (Figure 12). Research from the Wisconsin Initiative on Climate Change Impacts (WICCI) has found that southern Wisconsin experienced a dramatic increase in precipitation over the last decade, and very extreme precipitation events will become more frequent in the future.[14] This is recognizable locally by the many flooding incidents experienced in Grant County in recent years (see pages 45-46 for previous flooding events). Nationally, the cost of the National Floodplain Insurance Program (NFIP) has become unsustainable, as payouts from the program have

[13] NOAA National Centers for Environmental Information (2023). *U.S. Billion-Dollar Weather and Climate Disasters.*
[14] WICCI (2021). *Wisconsin's Changing Climate: Impacts and Solutions for a Warmer Climate.*

exceeded the premiums paid in. The NFIP lost an estimated $50 billion since its inception as of March 2021, which lead to an overhaul of the program in 2022 in an effort to more accurately, equitably, and sustainably maintain NFIP.[15]

Figure 11: Grant County Annual Average Temp, 1895-2022, with 50-Year Trendline (1973-2022)[16]

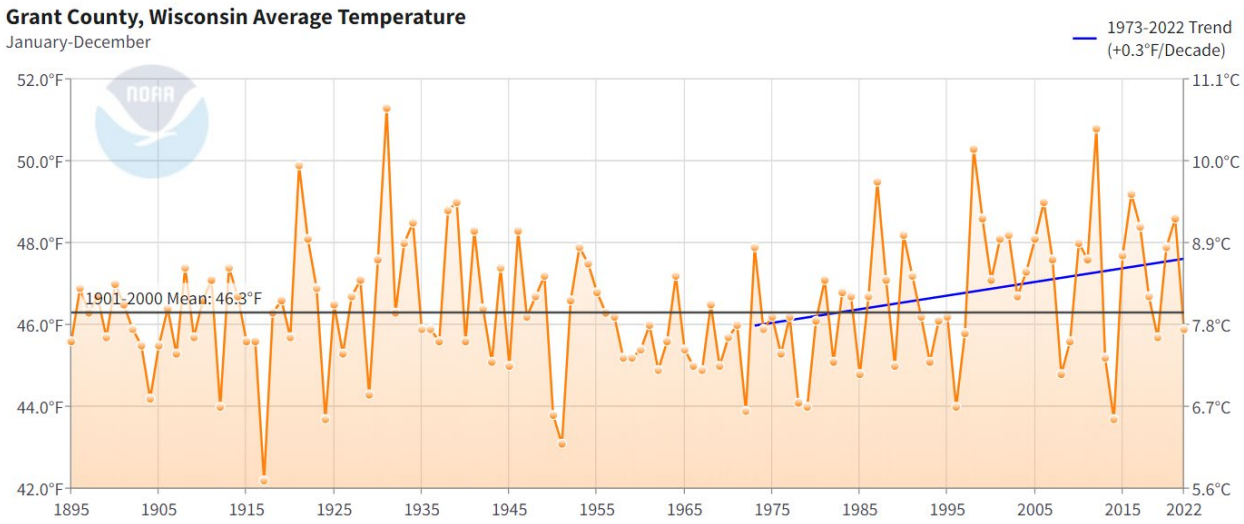
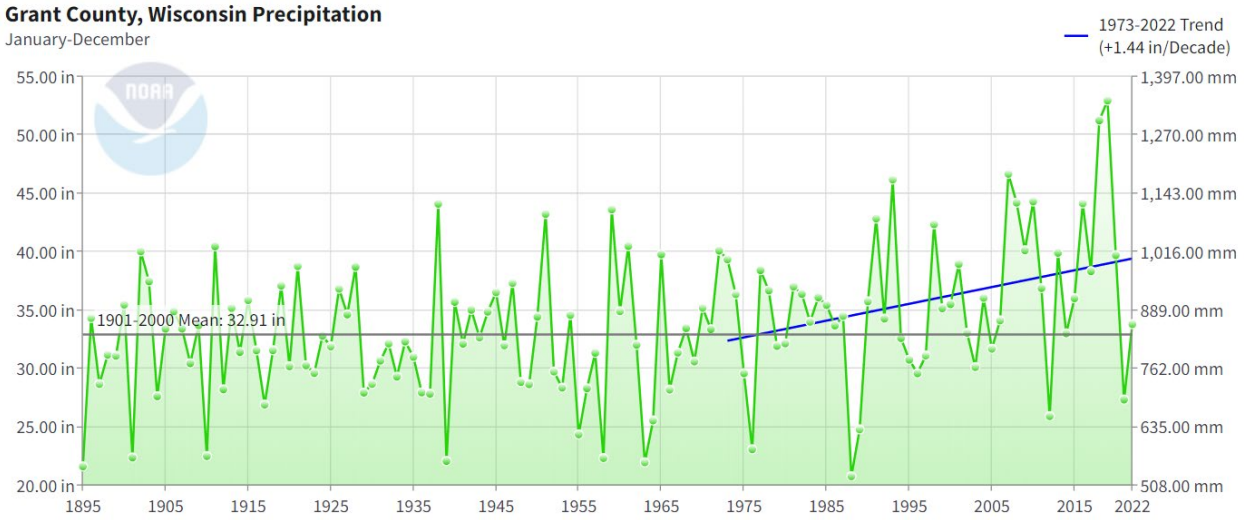


Figure 12: Grant County Annual Precipitation, 1895-2022, with 50-Year Trendline (1973-2022) [17]



[15] Forbes (2021). *FEMA's Upcoming Changes Could Cause Flood Insurance to Soar at the Shore.*
[16] NOAA National Centers for Environmental Information (2023). *Climate at a Glance County Time Series.*
[17] *Ibid.*

Anticipated Impacts

In order to effectively plan for future hazard events, some of the anticipated impacts of climate change identified by WICCI are listed below.[18] These impacts inform expectations of the future, which in turn inform recommended actions for hazard mitigation:

- More frequent and severe weather events
- More frequent and severe heat days (see Figure 13 below)
- More flooding (see Figure 14 below)
- More freeze/thaw cycles, posing issues for existing infrastructure
- Changing habitat for plants and animals, potentially resulting in loss of native species and introduction of new pests
- Water quality degradation from flooding runoff

Figure 13: Annual Days with Maximum Temperature Greater than 90°F [19]

[18] WICCI (2021). *Wisconsin's Changing Climate: Impacts and Solutions for a Warmer Climate.*
[19] Climate Mapping for Resilience and Adaptation (2023). *Grant County, WI Climate Projections.*

Figure 14: Annual Days that Exceed 99th Percentile Precipitation [20]

In addition to direct local impacts, Grant County should also anticipate the global knock-on effects from climate change. For example, though a hurricane on the gulf coast may not have local direct impacts to Wisconsin, it is a major trade port location, and could result in supply chain issues that would affect Grant County residents who rely on grain trade via the Mississippi River. Other potential knock-on effects from climate change could include:

- Climate refugees relocating to Wisconsin
- Less stable power grid
- Global supply chain issues
- Economic volatility
- Changing federal environmental regulation
- Changing FEMA funding as national disaster events increase

[20] Climate Mapping for Resilience and Adaptation (2023). *Grant County, WI Climate Projections.*

Perspectives on Climate Change from Grant County

During the four public meetings, attendees were presented with information about climate change and asked to share their expectations for how climate change will impact them. Of the 100 attendees who answered the prompt "In the next ten years, I expect that climate change…", 22 attendees selected "will majorly impact my life," 75 attendees selected "will have some impact on my life," and 3 attendees selected "will not affect my life at all." Attendees were then asked to explain why they chose the corresponding statement. The following tables summarize the responses of public meeting attendees.

Climate Change Expectations Gathered at Public Meetings		
"In the next ten years, I expect that climate change…"		
…will not affect my life at all	…will have some impact on my life	…will majorly impact my life
3 votes	75 votes	22 votes

Why? (Among participants who say "climate change WILL NOT AFFECT my life at all")	
"Not in the next 10 years, but probably in 50 years"	"Not in ten years, hasn't so far"

Why? (Among participants who say "climate change will have SOME IMPACT on my life")	
"Prices will increase, such as electricity bills"	"Infrastructure risks"
"Affecting my grandchildren"	"There will be some change in the next 10 years"
"Cost of basic needs increasing"	"Cost and availability of fuel"
"Severe weather"	"Infrastructure, fuel costs, [illegible]"
"Population shifts"	"Crops – issues with diseases and pests, flooding"
"Retired, don't need/do much"	"Cost of goods"
"Some impact but not as much as others, can raise own food"	"Water quality"
"Weather impacts"	"Effect on agriculture"
"Supply chain costs increase due to climate change"	"Infrastructure"
"Second hand impacts based on other resources (school, city, county)"	"News Stories"
"Regards to energy, land use, long-term health"	"Crops, local economy"
"Change will be gradual"	"Impacts from other states and services"
"Increasing demand on emergency services"	"Population increase in WI"
"Increasing prices, cost of healthcare, fuel, and electricity"	"Changing of land"
"Prices of products and services"	"Taxes increase, vehicle limitations (regulation due to climate change)"
"Extremely high costs"	"Restriction of self-sufficient solutions"
"Increasing prices overall, cost for all serviced supplies"	"Costs, excess heat, extreme weather"
"Affecting the next generation"	"Danger to our ability to provide food for population"
	"Higher energy costs, flooding/erosion"
	"Costs of everything"

Why? (Among participants who say "climate change will MAJORLY IMPACT my life")	
"Less power available on grid, changes/upgrades needed to infrastructure (career in electricity)"	"Cost of goods – heat or cold – infrastructure will be challenged"
"Die off of natural species, pests, new diseases"	"Changes in ag production and weather patterns"
"Infrastructure risks (electric grid)"	"Economy will change"
"More top soil runoff, biocide runoff"	"Food supply, infrastructure, water supply"
"Economy, fragile power grid, elderly will be vulnerable"	"Our ecosystem of water is in distress and growing more so every day."
"I believe that climate change will indirectly affect Wisconsin because of issues across the remainder of the country"	"Changes in ag/end of small farms"
"Issues with supplies and supply chain/transportation"	"It's happening faster than people think, and we aren't ready for the refugees"
"Transportation—semi drivers"	

Frequently listed impacts included increasing costs, impacts to the agricultural industry and larger economy, population changes, infrastructure impacts, energy and food supply availability, impacts on the next generation of people, and impacts on natural resources. In addition to sharing whether they expect climate change to impact their lives, public meeting participants also described how they anticipate their way of life changing if there are more frequent and severe hazard events. The following table summarizes participant responses.

Anticipated Changes to the Way of Life	
"How do you think the way of life here might change if there are more frequent and severe hazard events?"	
Comments Related to Infrastructure	"More expensive infrastructure" "Need greater financial readiness" "Supply chain issues (food, fuel)" "Handling/planning for flooding with roads and maintenance" "Energy self-sufficiency (solar on village buildings)" "Power outages, rolling blackouts" "Cancelling school due to heat, additional demand and lacking for broadband remote schooling" "Cause more headaches with getting the roads fixed" "Infrastructure problems" "Road repair, culvert repair after flooding (expense)" "Road closures and damage" "Stressed infrastructure"
Comments Related to Cost	"Cost more money, local money" "Inflation, less goods available" "Insurance costs" "Road maintenance costs" "Electric bills for A/C" "Increased cost of basic needs (utilities, food, etc.)" "More expense for crop inputs"

Comments Related to Natural Resources	"More erosion and ground water issues" "Water irrigation issues" "Loss of biodiversity" "Changes in recreation (fishing, trout streams)" "Water ownership issues"
Comments Related to the Economy	"More local markets, less global economy" "Economic stress leading to more crime" "Economic impact" "Seasonal tourism impacts: rental homes flooded, boat launch closures, road closures" "Not able to transport grain to other parts of the country" "Farming – impact production, pests, less revenue"
Comments Related to Population	"People would leave the area if things aren't fixed after disaster/weather" "Without having A/C, staff don't want to work at this school and students will choose other schools as more heat days come" "Already don't have more available housing, floods would lead to even less housing and people leaving the city (attrition)" "Influx of people may come to WI if there are issues in other places" "Families choose not to have kids" "Employees and volunteers will be stretched thinner, funds to keep them going will need to inc." "People with health issues need electricity" "Decrease populations, less money for road maintenance"
Comments Related to Recovery	"Local entities can't sustain themselves with more demand on resources" "Maybe more taxes or funding needed to fund recovery costs of disasters" "Municipalities will spend more time and money fixing and cleaning up after events. Less time maintaining"
Comments Related to Mental Health	"Societal anxiety and/or apathy" "Mental health, suicide"
Other Comments	"Might have to relocate my home if we keep getting floods" "Won't have availability of resources/choices we have now" "Putting houses in hard-to-reach areas for fire dept." "Not planning for it yet, but should" "We are not ready for it" "More illness due to novel disease" "Better farming technique to reduce erosion"

After sharing their perspectives on anticipated impacts of climate change, public meeting participants described how they are preparing for climate change. The following table summarizes these responses.

How People in Grant County are Preparing for Climate Change

"What are you doing to prepare for more frequent and severe hazard events in your community?"

"Bigger culverts, better bridges, wider roads, etc."

"Networking, building community locally"

"Engaging in emergency management planning, like at this meeting"

"We have a residential generator we share with others"

"Engaged in writing FEMA grant"

"Working on a capital improvements plan"

"When installing new infrastructure, choosing bigger sized culverts and storm drains"

"Installing bigger tubes (culverts), rip rap, bridges"

"Increased planning/preparedness"

"Need to build differently to prepare"

"New/different equipment to handle events"

"Plan/prepare more before events"

"Investing in renewable energy to decrease cost (perspective from banking industry)"

"More rip rap"

"Industry water reduction initiative"

"Running generators more frequently to make sure we're ready"

"Schools partnering with local businesses to prepare"

"Community members moving due to flood risk"

"Self-sufficiency (gardening, conserving, hobby farming)"

"Fallout shelters (need)"

"Changing thinking about land use on farm for drainage"

"Energy self-sufficiency (solar on village buildings)"

"Drills to prepare and identify shortfalls"

"Considering backup generator"

"Reducing fuel consumption"

"Bigger culverts"

"Planning signage for people who aren't in the area for shelter"

"Investing in a city-wide notification system"

"Considering installing renewable energy"

"Purchasing farmland"

"Getting green energy (wind turbines)"

"Carbon sequestration by farming practices (using cover crops on my farm, no till)"

"Larger culverts, clean bridges, remove trash from ditches"

"Maintaining roads"

"Handling/planning for flooding with roads and maintenance"

"School applying for FEMA grant"

"Moving students out of vulnerable infrastructure and consolidating campus"

"Better farming technique to reduce erosion"

"Rebuilding driveway to handle more severe flooding/repeat washouts"

"Health dept: putting out educational materials and more communications"

By anticipating the impact of climate change, Grant County officials and residents can be more prepared for future hazard events and the context in which hazard events will occur. In the next section, hazards that threaten Grant County are explored, many of which are expected to worsen due to climate change.

Chapter 4: County-Wide Risk Assessment

Hazard Identification

Grant County is susceptible to many hazards due to its climate, unique geography, and population. This chapter identifies the hazards most likely to occur or to have severe impacts locally. Identifying these hazards is an essential step to informing and developing the mitigation strategies and priorities.

One way to identify potential hazards is to review past FEMA disaster declarations. These are important indicators of future high-hazard susceptibility. Grant County has experienced 20 Federal Disaster Declarations since 1965 (see table below), most of which relate to severe storms and flooding.

Grant County Federal Disaster Declarations[21]	
Declaration Date	**Description**
April 4th, 2020	Covid-19 Pandemic
March 13th, 2020	Covid-19 Pandemic
October 7th, 2017	Severe Storms, Straight-line Winds, Flooding, Landslides, and Mud
August 8th, 2013	Severe Storms, Flooding, and Mudslides
April 5th, 2011	Severe Winter Storm and Snowstorm
August 11th, 2010	Severe Storms, Tornadoes, and Flooding
June 14th, 2008	Severe Storms, Tornadoes, and Flooding
August 26th, 2007	Severe Storms and Flooding
September 13th, 2005	Hurricane Katrina Evacuation
June 18th, 2004	Severe Storms and Flooding
May 11th, 2001	Flooding
June 24th, 2000	Severe Storms, Tornadoes and Flooding
July 24th, 1998	Severe Storms, Straight-line Winds, Tornadoes, Heavy Rain and Flooding
July 2nd, 1993	Flooding, Severe Storm, Tornadoes
July 13th, 1990	Flooding, Severe Storm, Tornado
June 17th, 1976	Drought
March 23rd, 1976	Severe Storms, Icing, Wind, Flooding
July 11th, 1969	Severe Storms, Flooding
May 1st, 1969	Flooding
April 21st, 1965	Tornadoes, Severe Storms, Flooding

While Federal Disaster Declarations highlight the most severe disasters in Grant County, they do not capture all of the natural hazards to which Grant County is exposed. In exploration of these hazards the following sources were consulted: NOAA National Climatic Data Center, National Weather Service, Wisconsin Department of Natural Resources, U.S. Geological Survey, and participation from local government officials, key stakeholders, and the public.

In addition, Grant County Emergency Management (GCEM) records indicate the following events and costs over the past five years:

[21] Federal Emergency Management Agency (FEMA) (2023). *List of Federal Disaster Declarations.* https://www.fema.gov/disaster/declarations

Grant County Emergency Management Records (2018-2022)		
Event Date	Event Type	Cost
2018	Flooding	$178,655.39
2019	Flooding	$205,278.95
2020	Flooding	$17,500.00
2020-2023	COVID	$315,686.71
2021	Tornado	$0 for Public Assistance ($20,000 damage to cemetery and general debris clean up)
2022	Flooding	$11,859.88

Hazard events are generally unpredictable, and any number of events can occur in any given year. Climate research indicates that natural hazard events will become more severe, longer in duration, and more unpredictable in the foreseeable future due to climate change (see Chapter 3 for further discussion of climate change). Given these challenges, understanding the frequency and severity of past natural events is one step in assessing future hazards. The table below shows the history of hazards in Grant County as collected by the NOAA and WIDNR during the years available from their databases. This is the most comprehensive available collection of hazard event data.

Grant County Risk Assessment Summary[22]							
Hazard	Years Collected	# of Past Events	Deaths	Injuries	Property Damage ($)	Crop Damage ($)	# of Events per Year
Wild/Forest Fires (minor incidents included)	2012-4/2023	87	Unknown	Unknown	Unknown	Unknown	7.91
Thunderstorm Winds	1958-12/2022	164	1	1	$6,090,300	$2,010,750	2.56
Blizzard/ Winter Storms/ Heavy Snow	1996-12/2022	77	0	2	$23,000	0	2.96
Fog	2010-12/2022	2	1	0	$20,000	$0	0.17
Hail	1966-12/2022	101	0	0	$3,520,700	$15,973,000	1.80
Tornado	1954-12/2022	47	0	12	$27,821,550	$94,500	0.69
Extreme Heat	1999-12/2022	10	0	0	$25,000	$0	0.43
Extreme Cold/ Wind Chill	1997-5/2023	13	0	1	$0	$0	0.52
Drought	2012-12/2022	13	0	0	$0	$0	1.30
Flood /Flash Flood	1997-12/2022	73	0	0	$31,386,600	$14,199,500	2.92
Lightning	2001-12/2022	7	0	1	$70,500	$0	0.33
Earthquake	-	0	0	0	0	0	0

[22] Wisconsin Department of Natural Resources (WIDNR). (2023). *Wildfire Dashboard.* https://dnrmaps.wi.gov/WAB/WildfireOccurrence_Dashboard/ ; NOAA. (April 2023). *Storm Events Database.* *https://www.ncdc.noaa.gov/stormevents/*

Hazard Assessment in Public Meetings

During the public meetings, attendees were asked to vote for which three hazards they believe will pose the biggest risk to Grant County in the next ten years. The results, shown in the table below, provide a snapshot of the concerns of public officials and residents in Grant County. Overall, the most frequently chosen hazards were "Flooding" and "High Winds and Tornadoes."

Public Meeting Vote Responses: "Which three hazards do you believe will pose the biggest risk to Grant County in the next ten years?"					
Hazard	Public Meeting				
	Boscobel 2/15/23	Lancaster 2/21/23	Bloomington 3/2/23	Dickeyville 3/7/23	Total
Flooding (including due to precipitation, water table increase, and other)	22	27	24	21	**94**
High Winds and Tornadoes	18	28	20	18	**84**
Disruption of Life Lines (electric, fuels, water, wastewater)	9	7	5	15	**36**
Winter Storms and Extreme Cold	0	8	18	2	**28**
Hazardous Materials Incident and Radiological Release	2	1	11	9	**23**
Cyber-Attack	10	7	2	3	**22**
Drought and Extreme Heat	11	5	1	2	**19**
Lightning, Thunderstorms, and Hail	2	0	0	11	**13**
Climate Change	2	4	0	3	**9**
Landslides and Land Subsidence	1	1	1	2	**5**
Dam Failure and Other Infrastructure Failure	2	2	0	1	**5**
Infectious Diseases (including pandemics)	0	3	0	1	**4**
Domestic Terrorism (including active shooter incidents and anti-government movements)	2	2	0	0	**4**
Food and Agriculture Emergencies	0	1	1	1	**3**
Wildfires	0	2	1	0	**3**

Vulnerability Assessment

The following section provides a more detailed assessment of risk associated with each of the natural and man-made hazards that have historically affected, or may affect, Grant County. The vulnerability assessment includes the following for each hazard:

- A description of the hazard
- An overview of the historical occurrences of the hazard in Grant County
- An assessment of vulnerability to the hazard throughout Grant County
- A projection of the future probability and potential damages of the hazard in Grant County

Flooding

Flooding is defined as "a general and temporary condition of partial or complete inundation of two or more acres of normally dry land area."[23] Flood events are the most common natural hazard in the U.S. and frequently occur in Grant County. Several types of flooding affect/may affect Grant County, including:

- Dam or Levee Failure: Dam failure causes flooding downstream of the dam. Prolonged rainfall is the most common cause of dam failure. See Figure 16 for a map of dam vulnerability.
- Flash Flooding: Flash floods are defined as rapid and extreme flow of water into a normally dry area, or a rapid rise in water-level, above a predetermined flood level, in a stream or creek. Flash floods define the rate of flooding and can be caused by other flood types, such as intense rainfall, dam failure, or an ice jam. Ongoing flooding can intensify to flash flooding in cases where intense rainfall results in a rapid surge of rising flood waters. Flash flood vulnerability is not perfectly indicated by FEMA floodplain maps (see Figure 15 for Grant County floodplain), as data gathered at the public meetings indicated that residents have experienced flooding in areas outside of the current maps.
- Local Drainage Floods: This type of flood occurs outside of recognized drainage channels or delineated flood plains and is caused when water has no place to travel. Heavy precipitation, a lack of infiltration, inadequate facilities for drainage and storm-water conveyance, and increased surface runoff can result in this flood type. These events frequently occur in flat areas and particularly during winter and spring in areas with frozen ground. They also occur in urbanized areas with large impermeable surface.
- Riverine: Also known as overbank flooding, riverine flooding is caused by a flooding river. In steep valleys, riverine flooding is usually rapid and deep, but short in duration. In flat areas, riverine flooding is typically slow, relatively shallow, and may last for long periods. Riverine flooding is typically caused by prolonged periods of rainfall that saturate the ground and overload streams and reservoirs.
- Storm-water: Storm-water flooding occurs when water from a storm event exceeds the capacity of local drainage systems, either man-made or natural.
- Groundwater Flooding: Flooding due to increased recharge causing the water table to rapidly rise, either forcing water to flood above the ground surface or forcing water by hydraulic pressure through cracks and crevices and into basements.[24] See Figure 17 for a water table map of Grant County.

All types of flooding occur throughout Grant County. The most common and destructive flooding in Grant County occurs during the spring and summer seasons. Deep narrow valleys that drain large watersheds contribute to flash flooding. This can be seen in communities such as Potosi and Cassville. The drainage of creeks and rivers is a common contributing factor to flooding in Grant County; drainage systems become blocked or infilled with debris and erosion, causing drainage to slow. Exacerbating the flooding problems is the increasing frequency of heavy rain events due to climate change.

[23] FEMA (2023). *National Flood Insurance Program Terminology Index.* https://www.fema.gov/flood-insurance/terminology-index

[24] WDHS (2014). *Wisconsin Flood Toolkit.* http://www.co.grant.wi.gov/docview.asp?docid=18516&locid=147

Figure 15: Grant County Floodplain

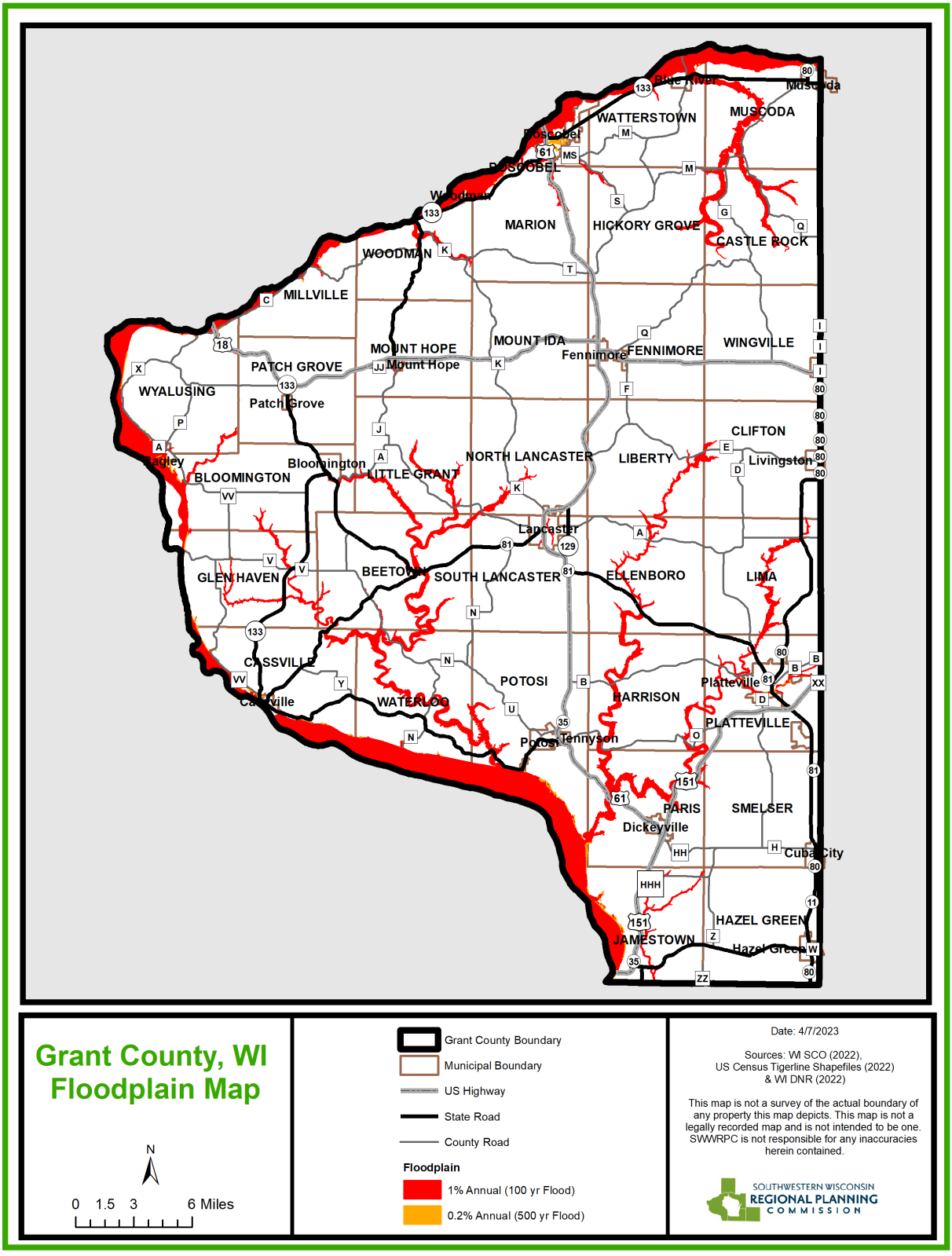


Figure 16: Dam Vulnerability in Grant County

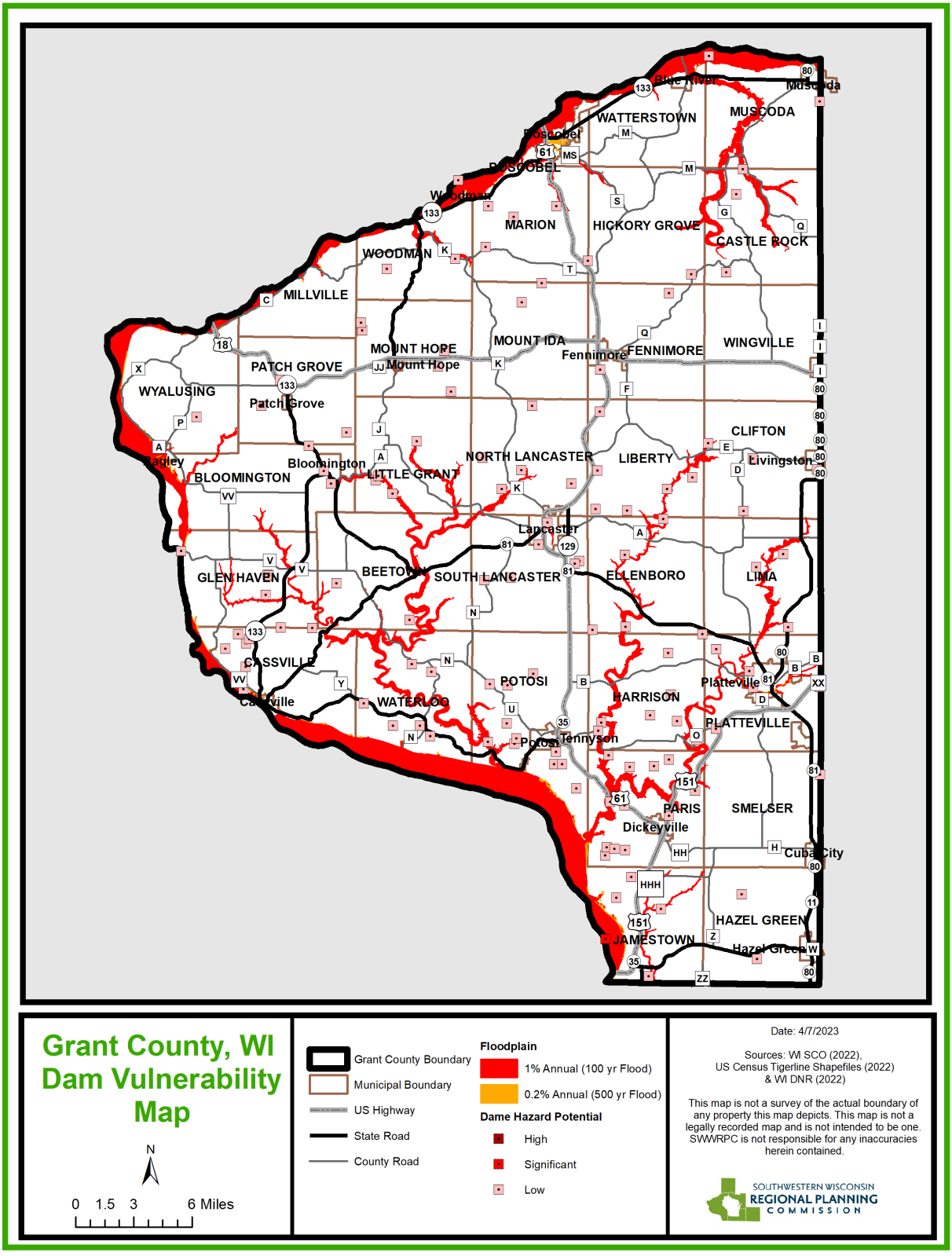
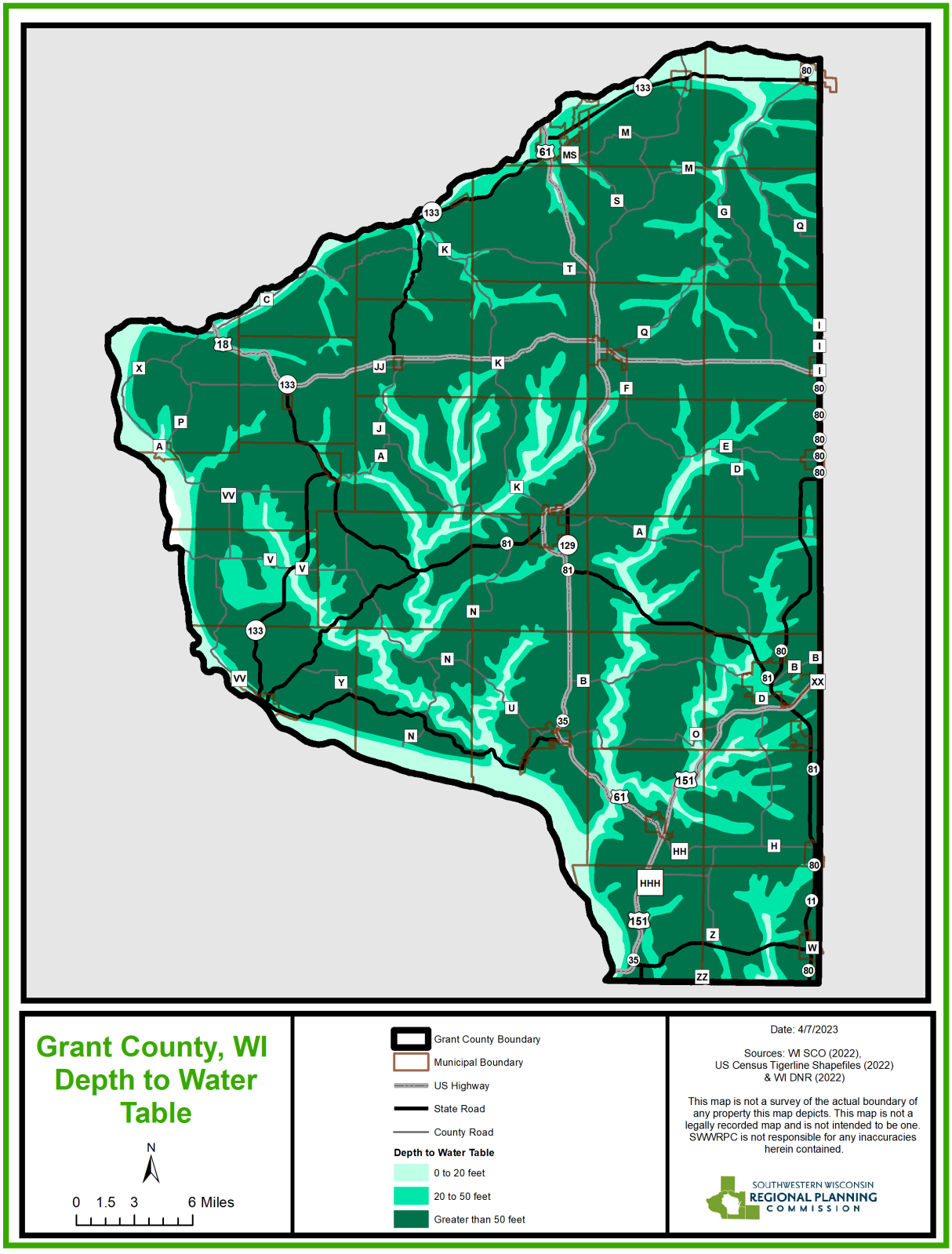


Figure 17: Depth to Water Table in Grant County



Historic Flooding Events

According to NOAA, FEMA, and local records, Grant County experienced 86 major flood events between 1997 and 2022 (see table below). The total damages caused by these flooding events were $31.39M in property damage and $14.2M in crop loss/damage. On average, that is approximately $530,071 in damages per flooding event in the county.

Grant County NOAA Recorded Flood Events 1997 – 2022[25]				
Location	Date	Flood Type	Property Damage ($)	Crop Damage ($)
Burton	2/18/1997	Flash Flood	$0	$0
Mississippi Riverfront	4/3/1997	Flood	$0	$0
Boscobel	6/15/1997	Flash Flood	$0	$0
Muscoda	3/30/1998	Flood	$2,000	$0
South Portion	5/16/1999	Flash Flood	$200,000	$80,000
County-Wide	5/31/2000	Flash Flood	$50,000	$35,000
County-Wide	6/1/2000	Flash Flood	$1,200,000	$1,600,000
South Portion	9/11/2000	Flash Flood	$15,000	$20,000
Mississippi Riverfront	4/13/2001	Flood	$2,000,000	$0
Mississippi Riverfront	5/1/2001	Flood	$2,200,000	$0
Bagley	8/2/2001	Flood	$0	$0
Mississippi Riverfront, South Portion	6/4/2002	Flash Flood, Flood	$545,000	$275,000
West Portion	7/6/2002	Flash Flood	$1,500	$3,500
Northern Portion	5/10/2003	Flash Flood	$5,000	$0
Northern Portion	5/21/2004	Flash Flood	$100,000	$100,000
County-Wide	5/22/2004	Flash Flood	$150,000	$150,000
Mississippi Riverfront, Southwest Portion	6/16/2004	Flash Flood, Flood	$250,000	$120,000
Bagley	7/18/2007	Flash Flood	$2,200,000	$250,000
Millville	8/19/2007	Flash Flood	$265,000	$18,000
Dickeyville, Elmo, Potosi	8/22/2007	Flash Flood	$2,600	$0
Bagley, Glenhaven, Lancaster	4/25/2008	Flash Flood, Flood	$1,500,000	$1,350,000
Wyalusing	6/5/2008	Flash Flood	$3,000	$0
Muscoda, Patch Grove	6/8/2008	Flash Flood, Flood	$2,700,000	$1,200,000
Cassville	6/12/2008	Flash Flood, Flood	$6,675,000	$480,000
Lancaster Junction	7/7/2008	Flood	$2,000	$0
Potosi	7/10/2008	Flash Flood	$75,000	$0
Dickeyville	7/12/2008	Flash Flood	$8,000	$0
Wyalusing	4/26/2009	Flash Flood	$0	$0
Fairplay	4/27/2009	Flood	$0	$0
Castle Rock, Werley	6/19/2009	Flash Flood	$90,000	$75,000
Ellenboro, Kieler	7/24/2009	Flash Flood	$18,000	$35,000
Platteville	7/27/2009	Flash Flood	$35,000	$20,000
North Andover	7/7/2010	Flash Flood	$10,000	$0
Burton, Dickeyville, Platteville, Rockville	7/24/2010	Flash Flood, Flood	$1,257,500	$0
Boscobel, Rockville	8/8/2010	Flood	$300,000	$0
Cuba City	8/13/2010	Flood	$0	$0

[25] NOAA. (April 2023). *Storm Events Database.* https://www.ncdc.noaa.gov/stormevents/

Continued - Grant County NOAA Recorded Flood Events 1997 – 2022[26]				
Location	Date	Flood Type	Property Damage ($)	Crop Damage ($)
Muscoda	9/28/2010	Flood	$0	$0
Muscoda	10/1/2010	Flood	$0	$0
Muscoda	4/16/2011	Flood	$0	$0
Hazel Green	7/27/2011	Flood	$0	$0
Hazel Green	7/28/2011	Flash Flood	$2,000	$0
Burton, Rockville	1/29/2013	Flood	$0	$0
Burton, Rockville	3/10/2013	Flood	$0	$0
Bagley	5/29/2013	Flash Flood	$0	$0
Boscobel	6/12/2013	Flood	$0	$0
Brodtville	6/21/2013	Flood	$0	$0
Boscobel	6/22/2013	Flash Flood	$7,100,000	$0
Bagley	6/24/2013	Flash Flood	$0	$0
Boscobel, Lancaster	6/16/2014	Flood	$0	$0
Muscoda, Potosi	6/19/2014	Flash Flood, Flood	$5,000	$0
Burton	2/19/2016	Flood	$0	$0
Bloomington, Brodtville, Burton, Castle Rock, Five Points, Mt. Hope, Rockville	7/23/2016	Flash Flood, Flood	$10,000	$0
Cassville	7/12/2017	Flash Flood	$35,000	$5,000
Burton, Glenhaven, Rockville	7/21/2017	Flash Flood, Flood	$942,000	$7,600,000
Burton, Rockville	1/22/2018	Flood	$0	$0
Burton, Rockville	2/20/2018	Flood	$0	$0
Annaton, Bagley, Beetown	6/9/2018	Flash Flood	$10,000	$0
Burton, Dickeyville, Rockville	6/10/2018	Flood	$3,000	$0
Cuba City	7/13/2018	Flood	$0	$0
Bagley, Burton, Rockville	9/20/2018	Flood	$10,000	$349,000
Bagley, Burton	10/1/2018	Flash Flood, Flood	$5,000	$77,000
Burton	10/8/2018	Flood	$0	$0
Burton	10/10/2018	Flood	$0	$0
Rockville	2/4/2019	Flood	$0	$0
Burton, Muscoda, Rockville	3/13/2019	Flood	$15,000	$0
Muscoda	4/22/2019	Flood	$0	$0
Boscobel	7/1/2019	Flash Flood, Flood	$410,000	$355,000
Beetown, Bloomington, Burton, Potosi, Rockville	9/12/2019	Flash Flood, Flood	$945,000	$2,000
Burton, Five Points, Rockville	9/15/2019	Flood	$5,000	$0
Burton, Glenhaven, Rockville	9/19/2019	Flash Flood, Flood	$10,000	$0
Burton, Rockville	10/1/2019	Flood	$0	$0
Cassville Municipal Airport	10/2/2019	Flood	$10,000	$0
Potosi	8/8/2022	Flash Flood	$10,000	$0
TOTAL			$31,386,600	$14,199,500

*NOAA estimates do not reflect actual FEMA damages due to these events.

[26] NOAA. (April 2023). *Storm Events Database.* https://www.ncdc.noaa.gov/stormevents/

Vulnerability Assessment

The most common type of flooding in Grant County is flooding due to the debris and blockages building up along the major river ways causing bridges and culverts to become inundated during heavy rain events. The northern and western borders of the county along the Wisconsin and Mississippi Rivers are prone to flooding. The geography of the northern and western portions is largely steep hills and deep valleys known as coulees. These deep ravines can concentrate runoff and rainwater during storms higher up in the watersheds of the county. Aspects of Grant County infrastructure and services most vulnerable to floods include:

- Agricultural Industry – Loss of crop, livestock illness and possible death, soil erosion
- Business/Industry Infrastructure – Property damage, loss of income
- Emergency Services – Warning systems; access to vulnerable populations such as older, low-income, children, disabled, recreational park users, and visitors
- Environmental – Soil erosion, water contamination, loss of wildlife habitat, wildlife illness, and possible death
- Residential Infrastructure – Flooded basements, collapsed foundations, damaged septic systems, collapsed wells, and destroyed/severely damaged homes
- Public Health – Harmful molds, water contamination, death or injury
- Public Infrastructure (including utilities) – Property damage, downed transmission lines and poles, damaged transformers and telecommunication networks, damaged water treatment systems, diminished water quality from overflow and backup of sanitary sewer, roadway infrastructure including culvert and bridge damage which can impact commutes and school bussing capability

Future probability and potential loss

On average there were 3.44 major flooding events per year in Grant County between 1997 and December of 2022. The majority of those events were flash floods, due to large rainfall events. Climate change research indicate that the frequency of future large rain events will increase and become more severe.[27] Since flash-flooding is localized in nature, risk will vary throughout the county, with locations of lower elevations being more vulnerable.

The average cost of a flooding event in Grant County between 1997 and December of 2022 was approximately $530K. With increased frequency and severity of flooding events, this expense is likely to increase. There are seven repetitive loss structures and one severe repetitive loss structure in Grant County, and all of these are residential homes.

Property damage and potential loss are likely to be higher than the previous average cost in the event of a dam failure. No dams in the county are considered “High Hazard.” See Figure 15 for a dam vulnerability map of Grant County. The hazard ratings are not based on physical attributes, quality, or strength of the dam itself, but instead that the failure of these dams would likely result in the loss of life and significant property damage.

[27] WICCI (2021). *Wisconsin’s Changing Climate: Impacts and Solutions for a Warmer Climate.*

Severe Thunderstorms

The National Weather Service (NWS) definition of a severe thunderstorm is a thunderstorm producing a tornado, winds of at least 58 mph, and/or hail at least 1 inch in diameter. Structural wind damage may imply the occurrence of a severe thunderstorm. A thunderstorm wind equal to or greater than 40 mph and/or hall of at least ½" is defined as approaching severe. A thunderstorm travels approximately 30-50 mph and runs its course within 30 minutes. Heavy rain, lighting, hail, tornadoes, and severe winds occur separately and in combination during severe thunderstorm events. Data from NOAA and GCEM indicate that there have been 29 significant thunderstorm events since January of 2017.[28] The following four hazards: hail, lightning, thunderstorm winds, and tornadoes are associated with thunderstorms. The entire area of Grant County is at risk for these hazards.

Severe Thunderstorms – Hail Event

The NWS defines hail as precipitation in the form of irregular pellets or balls of ice more than 1/8 inches in diameter. Hail risk is considered severe once it is larger than 3/4 inches in diameter. Hail can develop within thunderstorms when strong currents of rising air, known as updrafts, carry water droplets high within the storm. The cold air loft causes the water droplets to freeze. As the frozen droplet begins to fall toward the ground, rising currents within the storm lift the ice again. The hailstone gains an ice layer and grows increasingly larger with each ascent. Eventually, the hailstone becomes too heavy for the updraft to support, and it falls to the ground. Injury and loss of life are rarely associated with hailstorms, however, extensive property damage is possible, especially to crops.

Historical Hail Events

According to NOAA records, Grant County experienced 101 hail events between 1966 and December of 2022. The total damages caused by hail in these events was $3.52M in property damage and $15.97M in crop loss/damage. On average, that is approximately $193K in damages per hail event in Grant County. See Appendix D: Storm Event Database.

Vulnerability Assessment

Aspects of Grant County infrastructure and services most vulnerable to hail:

- Agricultural Industry – Loss of crop, livestock injury and possible death
- Business/industry infrastructure – Property damage (roof and vehicle damage), debris cleanup
- Emergency Services – Warning systems, access to vulnerable populations such as older, poor, children, park users, and visitors
- Environmental – N/A
- Residential Infrastructure – Property damage (roof and vehicle damage), debris cleanup
- Public Health – Dangerous road conditions
- Public Infrastructure (including utilities) – Property damage, downed transmission lines and poles, damaged transformers and telecommunication networks debris cleanup, road damage

[28] NOAA Storm Events Database for the events "*hail, lightning, thunderstorm winds, tornadoes*." https://www.ncdc.noaa.gov/stormevents/

Future Probability and Potential Loss

According to NOAA, on average there were 1.8 hail events per year between 1966 and December of 2022. Trends and research suggest an increase in large storm events during the spring and fall, when hail events are most likely to occur. From previous occurrences and an expected increase in events, Grant County can expect to have more than 1.8 hail events per year on average. The average cost in property and crop damages of a significant hail event in Grant County between 1966 and December of 2022 was $193K on average.

Severe Thunderstorm – Lightning Event

Lightning is a phenomenon associated with thunderstorms and occurs when the rising and descending air separates and builds up positive and negatively charged areas. Lightning results when the built-up energy is discharged between the two areas. Lightning damage occurs when humans and animals are electrocuted, fires are caused by a lightning strike, materials are vaporized along the lightning path, and/or sudden power surges cause damage to electrical or electronic equipment.

Historical Severe Lightning Events

According to NOAA records, Grant County experienced seven significant and damaging lightning events between 2001 and December of 2022. The total damages caused by lightning in these events was $70.5K in property damage. On average, that is approximately $10K in damages per significant lightning event in Grant County. See Appendix D: Storm Event Database.

Vulnerability Assessment

Aspects of Grant County infrastructure and services most vulnerable to lightning:

- Agricultural Industry – Loss of crop, livestock injury and possible death
- Business/industry infrastructure – Property damage
- Emergency Services – Warning systems, access to vulnerable populations such as older, low-income, children, disabled, recreational park users, and visitors
- Environmental – Habitat loss due to wildfires
- Residential Infrastructure – Property damage
- Public Health – Large crowds in open areas
- Public Infrastructure (including utilities) – Downed and damaged electrical lines, poles and antennae, damaged transformers, telephone lines and interrupted radio communications, debris clean-up, and road damage

Future Probability and Potential Loss

According to NOAA, on average there were 0.28 lightning events per year in Grant County between 2001 and December of 2022. Trends and research suggest an increase in large storm events during the spring and fall, when lightning events are most likely to occur.[29] From previous occurrences and an expected increase in events, Grant County can expect to have more than 0.33 lightning events per year on

[29] WICCI (2021). *Wisconsin's Changing Climate: Impacts and Solutions for a Warmer Climate.*

average. The average cost in property and crop damages of a significant lightning event in Grant County between 2001 and December of 2022 was $10K.

Severe Thunderstorm – Thunderstorm Wind Event

Thunderstorm winds are winds of 58 mph or more and can cause extensive damage. They are most common between April and September and tend to peak in June. Fast-moving bands of thunderstorms with destructive winds, called derechos, move in straight lines rather than the spirals of a tornado. Derechos are rare events that may multiply the severity of and damage from single-event thunderstorms.

Historical Severe Thunderstorm Events

According to NOAA records, Grant County experienced 164 thunderstorm wind events between 1958 and December of 2022. Total damages caused by these events was $6.09M in property damage and $2.01M in crop loss/damage. On average, that is approximately $49.4K in damages per significant thunderstorm wind event in Grant County. See Appendix D: Storm Event Database.

Vulnerability Assessment

Aspects of Grant County infrastructure and services most vulnerable to thunderstorm winds:

- Agricultural Industry – Loss of crop, livestock injury and possible death
- Business/Industry Infrastructure – Property damage (roof and vehicle damage), property loss, debris clean-up
- Emergency Services – Warning systems, access to vulnerable populations such as older, low-income, children, disabled, recreational park users, and visitors, possible human injury and/or death
- Environmental – Tree damage, pollution due to hazardous waste spills
- Residential Infrastructure – Property damage (roof and vehicle damage), property loss, debris clean-up
- Public Health – Significant risk of bodily harm due to flying debris and hazardous driving conditions
- Public Infrastructure (including utilities) – Property damage, downed transmission lines and poles, damaged transformers and telecommunication networks debris clean-up, road damage

Future Probability and Potential Loss

According to NOAA, on average there were 2.56 thunderstorm wind events per year in Grant County between 1958 and December of 2022. Trends and research suggest an increase in large storm events during the spring and fall, when thunderstorm events are most likely to occur. From previous occurrences and an expected increase in events, Grant County can expect to have more than 2.56 thunderstorm wind events per year on average. The average cost in property and crop damages of a significant thunderstorm wind event in Grant County between 1958 and December of 2022 was $49.4K.

Severe Thunderstorm – Tornado Event

A tornado is a violently rotating funnel shaped column of air that touches the ground. Using the new Enhanced Fujita Scale wind speeds can vary from as low as 65 miles per hour for an EF0 tornado to over 200 miles per hour for an EF5 tornado. Tornado paths are generally not wider than 1/4 a mile and not longer than 16 miles. A tornado's destructive power comes from its high wind and sudden pressure changes. Tornadoes are associated with storm systems and are usually accompanied by hail, torrential rain, and intense lightning. In the U.S., tornadoes are classified according to the Enhanced Fujita Scale and generally land into one of six intensity categories, EF0-EF5[30].

Historical Occurrence

According to NOAA records, Grant County experienced 47 tornadoes between 1954 and December of 2022. Total damages caused by the 47 tornado events in Grant County was $27.82M in property damage and $94.5K in crop loss/damage. On average, that is approximately $593.96K in damages per tornado event in Grant County. See Appendix D: Storm Event Database.

Vulnerability Assessment

Aspects of Grant County infrastructure and services most vulnerable to tornadoes:

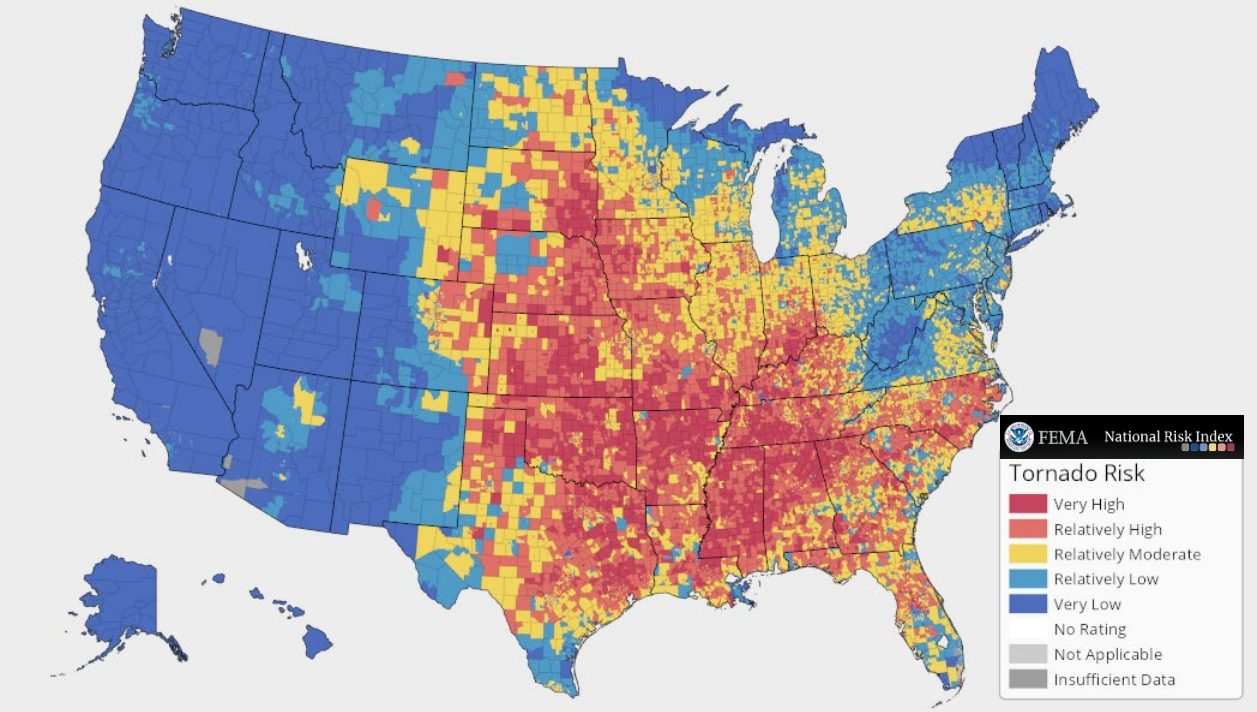
- Agricultural Industry – Loss of crop, livestock injury and possible death
- Business/Industry Infrastructure – Property damage and loss
- Emergency Services – Warning systems, access to vulnerable populations such as older, low-income, children, disabled, recreational park users, and visitors, possible human injury and/or death
- Environmental – Habitat loss
- Residential Infrastructure – Property damage and loss
- Public Health – Potential injury or death due to flying debris, downed powerlines, or collapsed structures
- Public Infrastructure (including utilities) – Property damage, downed transmission lines and poles, damaged transformers and telecommunication networks debris clean-up, road damage

Future Probability and Potential Loss

According to NOAA, on average there were 0.69 tornado events per year in Grant County between 1954 and December of 2022. Trends and research suggest an increase in large storm events during the spring and fall, when tornado events are most likely to occur.[31] From previous occurrences and an expected increase in storm events, Grant County can expect to have more than 0.69 tornado events per year on average. According to FEMA's National Risk Index (see Figure 18), Grant County has relatively moderate risk for tornadoes.

[30] National Weather Service. *The Enhanced Fujita Scale.* https://www.weather.gov/oun/efscale
[31] WICCI (2021). *Wisconsin's Changing Climate: Impacts and Solutions for a Warmer Climate.*

Figure 18: FEMA Tornado Risk in the United States



Severe Winter Storms

Winter storms include heavy snowstorms, blizzards, and ice storms. Winter storms cover broad geographical areas, and one storm can impact entire regions of the state. The winter storm season in Wisconsin is from October to March. However, severe winter weather has occurred as early as September and as late as April and the early part of May in some areas of the state. Winter storms frequently result in problems of drifting snow and hazardous roadway conditions. According to the Wisconsin State Hazard Mitigation Plan (2021), there are six elements that make up hazardous winter weather[32]:

- Heavy snowfall: Accumulation of four or more inches of snow in a 12-hour period or six or more inches in a 24-hour period
- Blizzard: Sustained wind or frequent wind gusts of at least 35 mph accompanied by considerable falling and/or blowing snow
- Ice Storm: Freezing rain produces significant or damaging accumulations of ice, usually ¼" or thicker
- Freezing Drizzle/Freezing Rain: Drizzle or rain that falls as a liquid but freezes into glaze upon contact with the ground or objects with a temperature of 32°F or below
- Sleet: Pellets of ice composed of frozen or mostly frozen raindrops or refrozen partially melted snowflakes

[32] Wisconsin Emergency Management (December 2021). *Threat & Hazard Identification and Risk Assessment* https://wem.wi.gov/wp-content/library/Mitigation/Appendix_A_THIRA.pdf Page 216

- Wind Chill: Measure of accelerated heat loss from exposed skin due to increased wind speeds

Historical Occurrences

According to NOAA records, Grant County experienced 77 severe winter storms between 1996 and December of 2022. The total damages caused by the 77 winter storm events in Grant County was $23K in property damage. Considering the frequency of these storms and the potential damages due to heavy snow and closed roads, it is likely that the number for property damage is under-reported and that loss of services/income is not included in that estimate. See Appendix D: Storm Event Database.

Vulnerability Assessment

Aspects of Grant County infrastructure and services most vulnerable to severe winter storms:

- Agricultural Industry – Livestock injury and possible death, transportation limitations
- Business/Industry Infrastructure – Property damage (roof and vehicle damage), property loss, income loss, transportation breakdown or limitations
- Emergency Services – Warning systems, access to vulnerable populations such as older, low-income, children, disabled, recreational park users, and visitors, possible human injury and/or death, transportation for emergency services hindered
- Environmental – N/A
- Residential Infrastructure – Property damage (roof), property loss, debris clean-up
- Public Health – Loss of electricity and natural gas services, limited access to transportation
- Public Infrastructure (including utilities) – Property damage, downed transmission lines and poles, damaged transformers and telecommunication networks debris clean-up, road damage, school closures, workforce impacts from school and business closures and commute impacts

Future Probability and Potential Loss

According to NOAA, there was an average of 2.96 severe winter storm events per year in Grant County between 1996 and December of 2022. Trends and research suggest a decrease in the time of freezing conditions necessary for severe winter storms, but suggest greater precipitation in the forms of both snow and rain, leading to an unknown future probability of ice storm events.[33] From previous data trends, Grant County may expect to have around 2.96 severe winter storm events per year in the future.

Wildland and Forest Fires

A forest fire is any uncontrolled fire that occurs in a woodland outside of the limits of an incorporated village or city. A wildfire is any instance of uncontrolled burning in brush, marshes, grasslands, or field lands. Types of fires include:

- *Interface or intermix fires* occur in areas where both vegetation and structures provide fuel. These are also referred to as wildland-urban interface fires.

[33] WICCI (2021). *Wisconsin's Changing Climate: Impacts and Solutions for a Warmer Climate.*

- *Firestorms* occur during extreme weather (e.g. high temperatures, low humidity, and high winds) with such intensity that fire suppression opportunities are limited. These events typically burn until the weather or fuel conditions change, reducing fire behavior.

Prescribed fire is the intentional application of fire to wildland natural fuels, under specific environmental conditions, to accomplish planned land management objectives. It is a commonly suggested management strategy and one of the most complicated and complex operations to implement.

Historical Occurrences

According to records from the WI-DNR, Grant County experienced 3 wildland and forest fires between 2012 and April of 2023. The total damage to property and crops is unknown. See Appendix E: Grant County Fire Events.

Vulnerability Assessment

See Figure 19 for a map of wildfire risk in the county. Aspects of Grant County infrastructure and services most vulnerable to wildfires and forest fires:

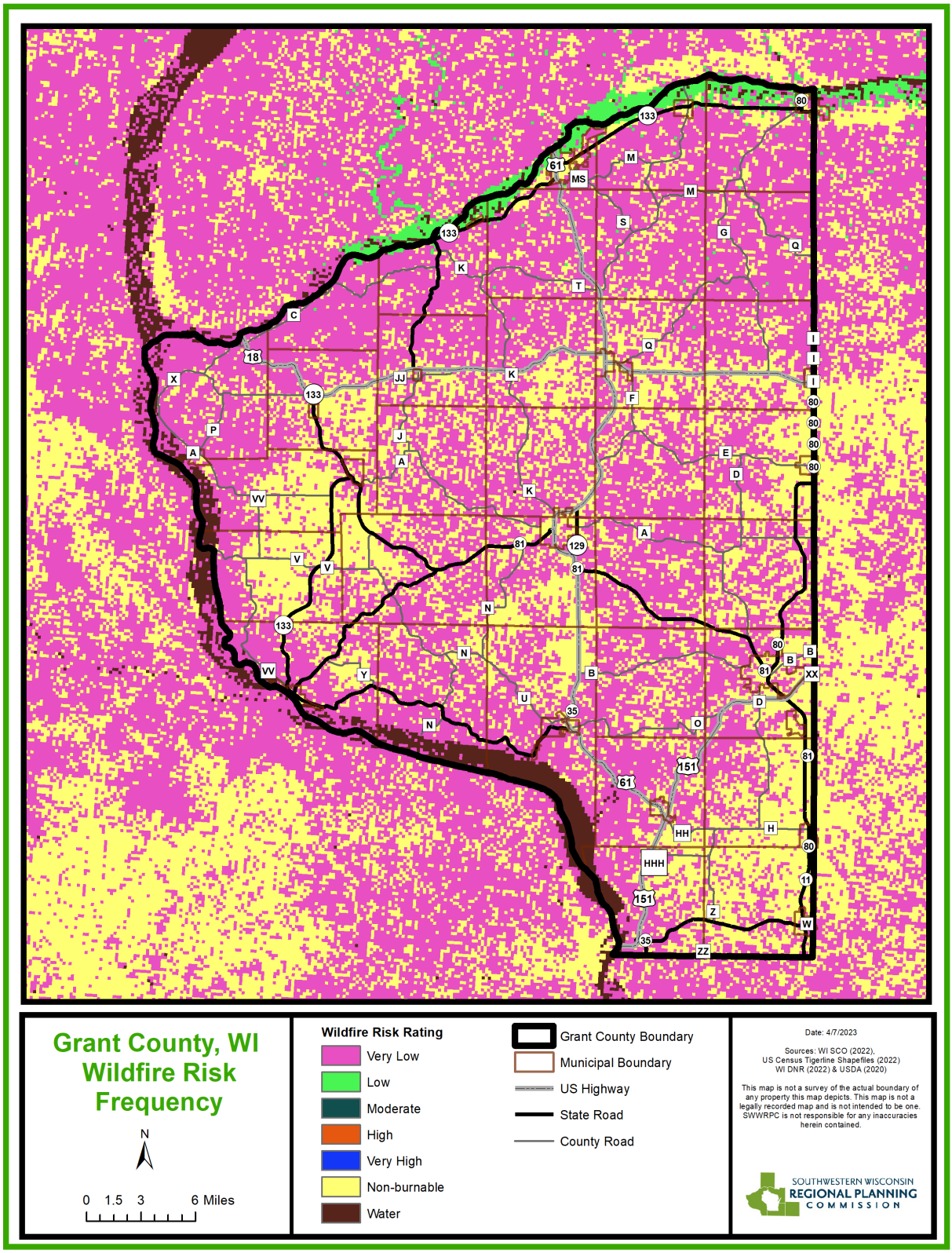
- Agricultural Industry – Loss of Crop, loss of agricultural and industry buildings, livestock injury and possible death
- Business/industry infrastructure – Property damage, property loss, income loss, transportation breakdown
- Emergency Services – Warning systems, access to vulnerable populations such as older, poor, children, recreational park users, and visitors, possible human injury and/or death, stress on volunteer fire departments and volunteer networks
- Environmental – Loss of wildlife habitat, wildlife illness and possible death, soil erosion
- Residential Infrastructure – Property damage, property loss, debris clean-up
- Public Health – Ash and smoke inhalation, fire debris, illness and loss of life
- Public Infrastructure (including utilities) – Property damage, downed transmission lines and poles, damaged transformers and telecommunication networks debris clean-up, road damage and closure, railroad track damage

Future Probability and Potential Loss

According to the Wisconsin Department of Natural Resources, on average there were 7.91 wildfire and forest fire events per year, between 2012 and April of 2023. Trends and research suggest that an increase in temperatures and droughts could increase the risk and severity of wildfires in the future.[34] According to the Risk Factor tool created by the nonprofit First Street, there are 14,546 properties in Grant County that have some risk of being affected by wildfire over the next 30 years. This represents 29% of all properties in Grant County. [35] Forest and wildfires can be naturally created through cycles of growth and death in prairies and forests. Events of greater severity could decrease the future probability of events, with underbrush being removed due to fire. Historically, events in Grant County have been small, infrequent, and the cost of damages is unknown.

[34] WICCI (2021). *Wisconsin's Changing Climate: Impacts and Solutions for a Warmer Climate.*
[35] First Street Foundation, Risk Factor (August 2023) https://riskfactor.com/county/grant-county/55043_fsid/fire

Figure 19: Wildfire Risk in Grant County



Fog

Fog, at its most basic definition, is a cloud on the ground rather than in the atmosphere. Fog occurs when the air near the ground is saturated with moisture and condenses on tiny particles suspended in the air. Once condensation occurs on these tiny surfaces, the resulting liquid drops can remain suspended in the air because their weight causes them to descend slowly to the ground or be carried by wind. Fog is often hazardous when the visibility is reduced to ¼ mile or less. While all of the county may experience fog, the most significant fog hazard concern is vehicle transportation, so transportation paths are likely the largest risk.

Historical Occurrences

According to NOAA records, Grant County experienced 2 dense fog events between 2010 and December of 2022. The total damages caused by dense fog in these events is unknown. See Appendix D: Storm Event Database.

Vulnerability Assessment

Aspects of Grant County infrastructure and services most vulnerable to fog:

- Agricultural Industry – N/A
- Business/industry infrastructure – N/A
- Emergency Services – Warning systems, possible human injury and/or death due to accidents
- Environmental – N/A
- Residential Infrastructure – N/A
- Public Health – Possible injury/death due to vehicle crashes
- Public Infrastructure (including utilities) – N/A

Future Probability and Potential Loss

According to NOAA, on average there were 0.17 dense fog events per year between 2010 and December of 2022. Fog is a regional event that affects the entire county. The largest vulnerability attributed to fog in Grant County is automobile crashes. According to the Wisconsin Department of Transportation, fog contributed to 458 car crashes in Grant County between 1994 and 2022. During these crashes nine persons were killed, 134 were injured and 315 crashes only caused property damage. [36] From previous occurrences Grant County can expect to have, on average, 0.17 dense fog events per year.

[36] Wisconsin Traffic Operations and Safety (TOPS) Laboratory. Wisconsin MV4000 crash data, Grant County crashes 1994-2022. Available from the *WisTransPortal Data Hub*, http://transportal.cee.wisc.edu/. Wisconsin Department of Transportation. Retrieved August 2017.

Drought

Drought is a deficiency in precipitation over an extended period, usually a full season or more, resulting in a water shortage, causing adverse impacts on vegetation, animals, and/or people. The severity of a drought depends upon the degree of moisture deficiency, the duration, and the size of the affected area. According to NOAA, droughts are described in four ways: meteorological, agricultural, hydrological, and socioeconomic. These drought types can occur at the same time.[37]

- *Meteorological drought* is based on the degree of dryness (rainfall deficit) and the length of the dry period.
- *Agricultural drought* is based on the impacts to agriculture by factors such as rainfall deficits, soil water deficits, reduced ground water, or reservoir levels needed for irrigation.
- *Hydrological drought* is based on the impact of rainfall deficits on the water supply such as stream flow, reservoir and lake levels, and ground water table decline.
- *Socioeconomic drought* is based on the impact of drought conditions (meteorological, agricultural, or hydrological drought) on supply and demand of some economic goods. Socioeconomic drought occurs when the demand for an economic good exceeds supply as a result of a weather-related deficit in water supply.

Historical Occurrences

According to NOAA records, Grant County experienced 13 drought events between 2012 and December of 2022. According to their records, Grant County did not report any crop damages during these events. NOAA's figure is likely incomplete, as drought damages are generally reported to the United States Department of Agriculture, insurance companies, or go unreported as seems to be the case. A Federal drought emergency was officially declared in Wisconsin in 1976. See Appendix D: Storm Events.

Vulnerability Assessment

Aspects of Grant County infrastructure and services most vulnerable to extreme temperatures:

- Agricultural Industry – Crop failure, livestock illness, and possible death. Particularly of concern are agricultural lands that are not irrigated
- Business/Industry Infrastructure – Limited water for industrial uses
- Emergency Services – Water for use in firefighting may be scarce
- Environmental – Wildlife illness and possible death
- Residential Infrastructure – Limited water for residential uses
- Public Health – Loss of potable water
- Public Infrastructure (including utilities) – Diminished water levels in municipal wells

Further, drought can lead to an increased risk of flooding (due to a loss of vegetation that stabilizes the earth in times of runoff) and increased risk of fire. The entire county is at risk of drought.

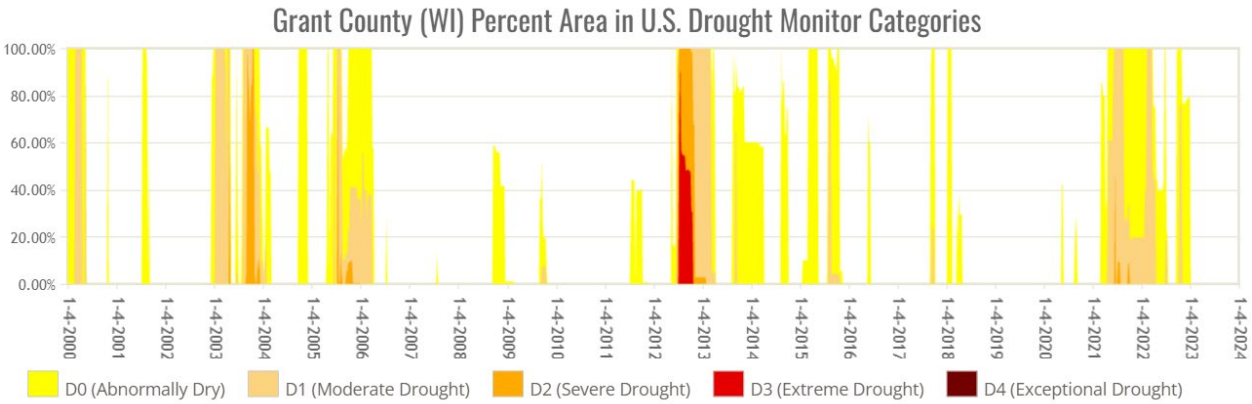
Future Probability and Potential Loss

According to NOAA, on average there were 1.3 drought events per year in Grant County between 2012 and December of 2022. Trends and research suggest both an increase in regularity and total

[37] NOAA. *Drought.* (June 2018). https://www.weather.gov/media/owlie/2018_Drought.pdf

precipitation throughout the year in Wisconsin. However, droughts are complex natural occurrences and their severity and duration are difficult to predict. Short severe droughts may cause large crop damages if they occur during the growing season, as can long droughts that last for periods of months or years.

Figure 20: Historic Drought Conditions in Grant County[38]



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

Extreme Temperatures

Extremely high or low temperatures pose dangers to the health of people and animals. Extreme heat is an especially dangerous threat due to the combination of its impact on vulnerable populations and economic productivity with the frequency of its occurrence. Duration of extreme heat is an important factor in its danger, as longer periods of extreme heat offer no respite or opportunity for recovery.

Historical Occurrences

According to NOAA records, Grant County experienced 23 extreme temperature events between 1999 and December of 2022. Extreme temperature events are regional and can vary in severity and duration. See Appendix D: Storm Event Database.

Vulnerability Assessment

Aspects of Grant County infrastructure and services most vulnerable to extreme temperatures:

- Agricultural Industry – Loss of crop, livestock illness, and possible death
- Business/Industry Infrastructure – Increased heating and cooling cost
- Emergency Services – Human illness and death (heat stroke, dehydration, frostbite, hypothermia), particularly vulnerable are older, low-income, children, and disabled populations, and those that are isolated and do not have access to adequate heating or cooling sources
- Environmental – Wildlife illness and possible death, plant and tree damage
- Residential Infrastructure – Increased heating and cooling costs, frozen water pipes, roof damage

[38] National Drought Mitigation Center. University of Nebraska-Lincoln. US Drought Monitor: Time Series. https://droughtmonitor.unl.edu/DmData/TimeSeries.aspx

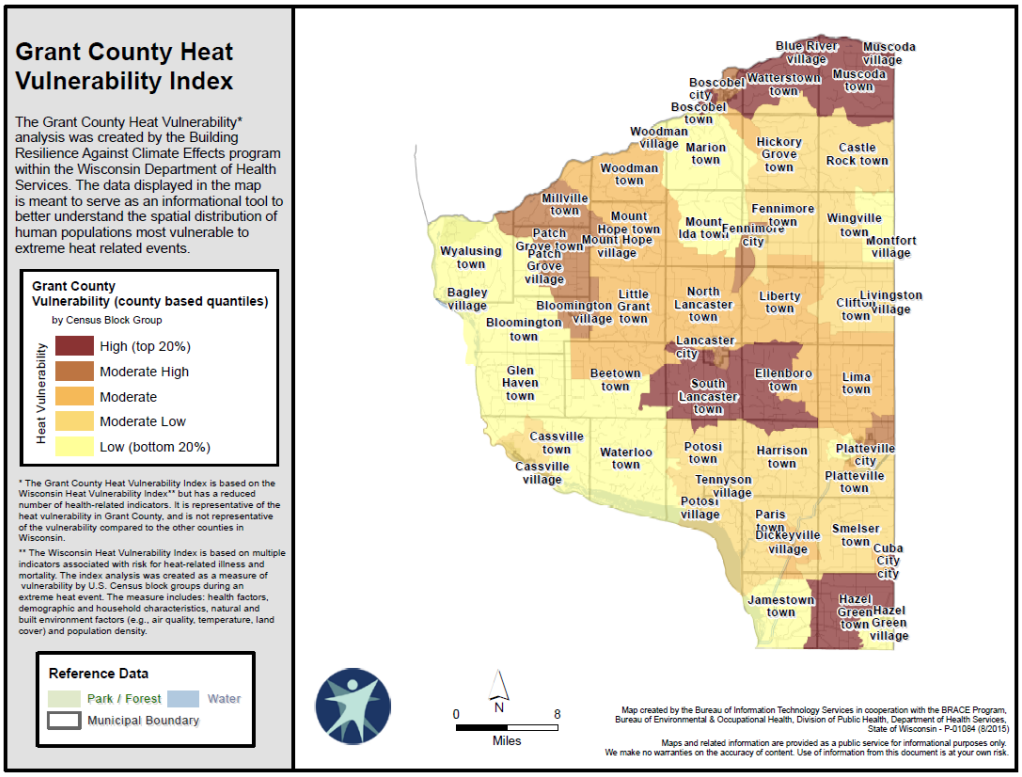
- Public Health – Increased air contamination levels
- Public Infrastructure (including utilities) – Diminished operations of public facilities and schools, frozen pipes, increased heating and cooling costs, increased electricity demand, and possible large scale power outages, road damages

Future Probability and Potential Loss

According to NOAA, on average there were 0.52 extreme cold and 0.43 extreme heat events per year in Grant County between 1997 and December of 2022. Potential losses from extreme temperature events are under-reported and have not often taken into account higher energy consumption, road damages, or closing facilities. At the residential level, extreme temperatures present issues of human safety and property damage.

The Wisconsin Department of Health Services developed a Heat Vulnerability Index (HVI) that takes into account population density, health factors, demographic and socioeconomic factors, and natural and built environment factors. Figure 21 shows areas of Grant County where the population is more vulnerable to extreme heat events. The map can help identify high-risk neighborhoods and populations to receive targeted messaging related to heat events and additional resources during extreme heat events. This county map is representative of Grant County alone, and is not comparable to HVI maps for other counties in Wisconsin.

Figure 21: Heat Vulnerability Map for Grant County[39]



[39]Wisconsin Department of Health Services. *Vulnerability Indices*. Accessed July, 2023. https://www.dhs.wisconsin.gov/climate/wihvi.htm

Biological Hazards: Epidemics, Infestations, and Blight

An epidemic is the unusual increase in the number of cases of an infectious disease which already exists in a certain region or population. It can also refer to the appearance of a significant number of cases of an infectious disease in a region or population that is usually free from that disease. Insect infestations are the influx and detrimental development of insects that negatively affect humans, animals, and/or crops and materials. Blight is a biological plant disease, spread from infected plants and then deposited on soil by fungal spores that are carried by insects, wind, water, and animals.

Historical Occurrences

Biological hazards have occurred on a regular basis in Grant County. Biological hazards change based upon climate and weather patterns, as well as social patterns. The COVID-19 global pandemic has resulted in 16,550 confirmed deaths in Wisconsin as of April 23rd, 2023.[40] The COVID-19 pandemic also resulted in major disruptions to systems and lifestyles, including supply chain issues, workforce shortages, school closures, hospital service shortages, and mental health decline in the general public.

Other examples of biological hazards include the highly pathogenic avian influenza, which was identified in Wisconsin in 2022. As of 2022, Grant County is a confirmed area with Emerald Ash Borer, which is an invasive beetle that attack ash trees. The county is being treated for the Spongy Moth (formerly known as the gypsy moth) as of 2022. Chronic wasting disease has been long established in Grant County's whitetail deer population. Oak wilt and Dutch elm disease are also present and ongoing threats to trees in the area. Additionally, many invasive land and aquatic plants are currently established in Grant County. [41]

Vulnerability Assessment

Aspects of Grant County infrastructure and services most vulnerable to biological hazards:

- Agricultural Industry – Loss of crop, livestock illness, and possible death
- Business/Industry Infrastructure – Business closure, workforce shortage, supply shortage
- Emergency Services – Human illness and death, particularly vulnerable are older, low-income, children, and those that are isolated
- Environmental – Wildlife illness and possible death, plant and tree damage, ecosystem damage
- Residential Infrastructure – Insect infestations
- Public Health – Human illness and possible death
- Public Infrastructure (including utilities) – N/A

[40] Wisconsin Department of Health Services (2023). *COVID-19: Wisconsin Deaths.*

[41] Wisconsin Department of Agriculture, Trade, and Consumer Protection (2022). *Highly Pathogenic Avian Influenza Confirmed in Rock County Backyard Flock.*
Wisconsin Department of Agriculture, Trade, and Consumer Protection (2022) *Wisconsin's Emerald Ash Borer Information Source.*
Wisconsin Department of Agriculture, Trade, and Consumer Protection (2022). *Spongy Moth Aerial Spraying to Begin in May.*
Wisconsin DNR (2021). *Oak Wilt Detections in Wisconsin*.
Wisconsin DNR (2021) *Chronic Wasting Disease Locations of Wild Deer in Wisconsin and Illinois*

Future Probability and Potential Loss

Pandemics have long been predicted by experts, and remain a threat to the residents of Grant County and broader world. The COVID-19 Pandemic was fundamentally disruptive to all parts of life and resulted in losses across nearly all communities and sectors. Infestations of invasive insects, plants, and animals are likely to continue to establish themselves in Grant County, and climate change will increase the range and severity of disruptive pests and diseases.[42] Blights will continue to cause problems in years with heavy rainfall. Infestations, blights, and epidemics have the potential to cause large losses to environmental resources, crop damages, and human illness and possible death.

Domestic Terrorism

According to WEM, terrorism is the threat or use of violence to create fear for the purpose of furthering or achieving a political goal.[43] Examples of domestic terrorism include active shooter incidences, anti-government demonstrations, and riots.

Historical Occurrences

On August 5th, 2012 an active shooter incident at the Sikh Temple of Wisconsin in Oak Creek resulted in six deaths and four injuries.[44] On January 6th, 2020, following the presidential election, several Wisconsinites participated in a breach of the U.S. Capitol, and have since been criminally convicted. On July 4th, 2022 an active shooter incident in Highland Park, IL resulted in seven deaths and over 36 injuries.[45] These are just a few examples of domestic terrorism events locally. Domestic terrorism has been identified as a growing threat in the U.S., and Figure 22 shows the types of terrorist attacks recorded over a 25-year time period.[46]

Vulnerability Assessment

Aspects of Grant County infrastructure and services most vulnerable to a domestic terrorism incident:

- Agricultural Industry – N/A
- Business/Industry Infrastructure - Disruption of service, theft, property damage
- Emergency Services – Human injury or death
- Environmental – Possible damage to ecosystems
- Residential Infrastructure: Property damage, evacuation, injury and possible death
- Public Health – Human injury or death, mental health damage including PTSD
- Public Infrastructure (including utilities) – Disruption of services, loss of services, cost to update school and other infrastructure in efforts to protect against domestic terrorism issues.

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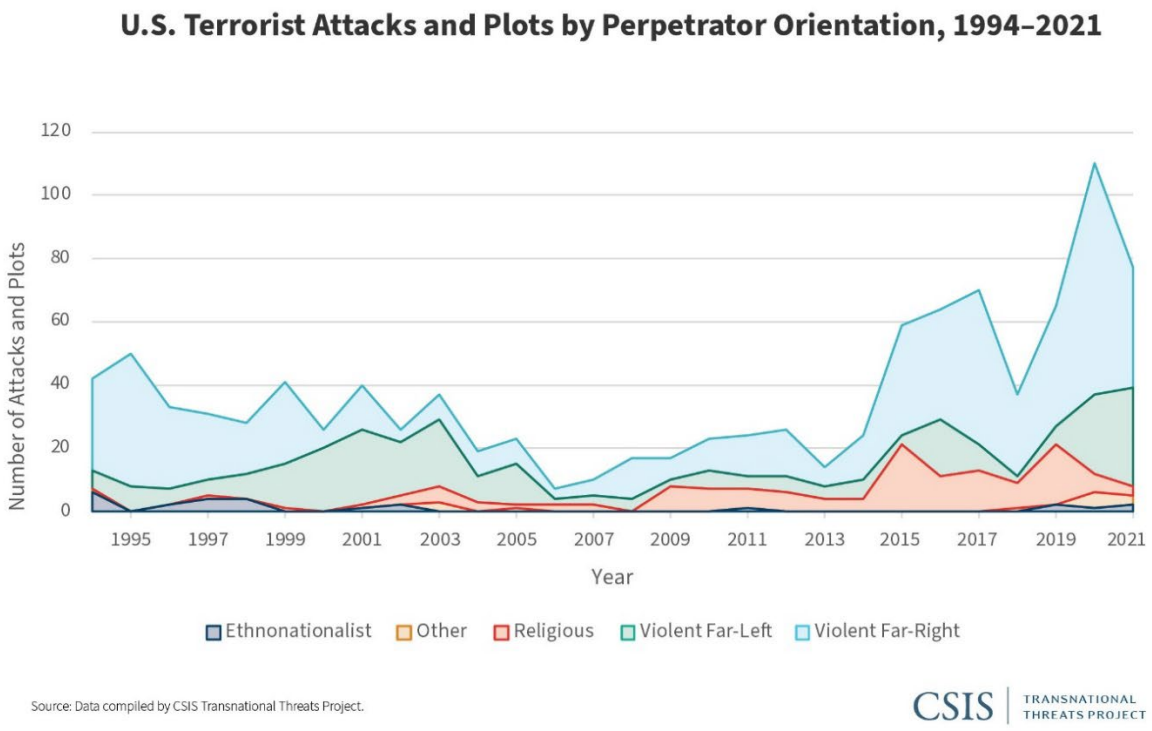
[42] WICCI (2021). *Wisconsin's Changing Climate: Impacts and Solutions for a Warmer Climate.*
[43] WEM (2021). *Threat & Hazard Identification and Risk Assessment (THIRA).* https://wem.wi.gov/wp-content/library/Mitigation/Appendix_A_THIRA.pdf
[44] Federal Bureau of Investigation. *Active Shooter Incidents in the United States from 2000-2018.* https://www.fbi.gov/file-repository/active-shooter-incidents-2000-2018.pdf/view
[45] National Public Radio (2022). *Suspect in Highland Park shooting is charged with 7 counts of first-degree murder.* https://www.npr.org/2022/07/05/1109793161/highland-park-chicago-july-4-shooting-latest
[46] Center for Strategic & International Studies (2020). *The Escalating Terrorism Problem in the United States.* https://www.csis.org/analysis/escalating-terrorism-problem-united-states

Future Probability and Potential Loss

As demonstrated in Figure 22, instances of domestic terrorism have increased in recent years, indicating that the probability of future events is high. Loss of life is the primary concern when anticipating domestic terrorism. In 2021 alone, there were 30 fatalities due to domestic terrorism in the United States. Property damage, theft, and other violations are also threats from this hazard.

Figure 22: Number of Terrorist Attacks and Plots in the U.S.[47]



[47] Center for Strategic & International Studies (2020). *The Escalating Terrorism Problem in the United States.* https://www.csis.org/analysis/escalating-terrorism-problem-united-states

Landslides and Embankment Failures

The term landslide includes a wide range of ground movements such as rock falls, deep failure of slopes and shallow debris flows. Although gravity acting on an over-steepened slope is the primary reason for a landslide, there may be other contributing factors, including erosion by rivers or lakes, the weakening of rock and soil slopes through saturation by snowmelt or heavy rains, excess weight from the accumulation of rain or snow, stockpiles of rock or ore, waste piles, earthquakes, or from man-made structures stressing a weak slope. Landslides may include any combination of natural rock, soil, or artificial fill and are classified by their type of movement and material.

Historical Occurrences

The U.S. Geological Survey (USGS) keeps detailed records on when and where landslides occur. According to their records, Grant County has had 3 landslides since 2007. Landslides cause on average $1 to $2 billion in damages and more than 25 fatalities annually. Landslides are known to occur along limestone and sandstone bluffs of rivers and streams.[48] While no data is available for embankment failures, they have occurred on a relatively small scale in Grant County in the past.

Vulnerability Assessment

Aspects of Grant County infrastructure and services most vulnerable to landslide and embankment failures:

- Agricultural Industry – Loss of crop, livestock injury, soil erosion, possible death
- Business/industry infrastructure – Property damage
- Emergency Services – Warning systems, possible human injury and death
- Environmental – Loss of habitat
- Residential Infrastructure – Property damage
- Public Health – Pollution
- Public Infrastructure (including utilities) – Property damage, road damages and closures, utility service disruption

Future Probability and Potential Loss

Despite a lack of landslide occurrences on record in Grant County, there is still a chance that a large landslide may happen in the county. The future probability of embankment failures is greater than that of landslides. According to the Highway Department, smaller road embankment washouts generally cost around $1,000 - $4,000 per occurrence.

[48] United States Geological Survey (2017) *Landslide Hazard Program.* https://www.usgs.gov/programs/landslide-hazards

Sinkholes and Subsidence

The United States Geological Survey (USGS) defines subsidence as "the loss of surface elevation due to removal of subsurface support." Sinkholes occur where subsurface conditions of limestone, carbonate rock, salt beds, and/or rocks naturally dissolves by ground water circulation. As the rock dissolves, spaces and caverns develop underground. Sinkholes are dramatic because the land usually stays intact until the underground spaces expand too far and suddenly collapse.

Historical Occurrences

While no sinkholes have been recorded, small sinkholes happen frequently in areas with freeze thaw cycles. Grant County is also at risk of experiencing sinkholes because of the large quantity of carbonate bedrock in the county. The majority of Grant County bedrock is carbonate, and relatively close to the surface. These areas are susceptible to sinkholes, subsidence and karst hazards. Potential danger of sinkholes is also possible in areas of the county that were previously mined.[49] Grant County has a history of lead, aggregates, and zinc mining. Some mining shafts have been opened in areas where development occurred.[50]

Vulnerability Assessment

Aspects of Grant County infrastructure and services most vulnerable to sinkholes and subsidence:

- Agricultural Industry – Loss of crop, soil erosion, livestock injury or death
- Business/Industry Infrastructure – Property damage
- Emergency Services – Warning systems, possible human injury and death
- Environmental – Damage to natural habitats
- Residential Infrastructure – Property damage
- Public Health – Vulnerable population injury or death
- Public Infrastructure (including utilities) – Property damage, road damages and closures, utility service disruption

Future Probability and Potential Loss

Grant County is at risk for sinkholes because of the large quantity of carbonate bedrock and a long history of mining and in the past. As development happens in the county, more mines will be discovered. The potential for loss due to sinkholes and subsidence can be significant, and is a risk that should be accounted for in development and emergency planning. An estimate for potential loss is unavailable since there is no recorded precedent in the county.

[49] Wisconsin Geological and Natural History Survey (2009) *Karst and sinkholes.* https://wgnhs.wisc.edu/water-environment/karst-sinkholes/

[50] Hudson Institute of Mineralogy (2023) *Regional History.* https://www.mindat.org/loc-24056.html

Earthquake

An earthquake may be caused by slipping plates that make up the earth's crust or by human activity, such as mining and fluid injection-related activities. Earthquakes can result in a violent shaking or trembling of the ground. An earthquake does not need to be of large magnitude to cause extensive damage. Areas that are less prone to this hazard are usually less prepared, which can result in significant damage.

Historical Occurrences

NOAA records earthquake events at their exact location. According to their records, no previous earthquakes have been centered in Grant County.[51] Most earthquakes that occur in Wisconsin are very low in intensity and barely felt. These very minor earthquakes are fairly common, occurring every few years.

Vulnerability Assessment

Aspects of Grant County infrastructure and services most vulnerable to earthquakes are the following:

- Agricultural Industry – Storage infrastructure damage, livestock injury or death
- Business/industry infrastructure – Property damage, disruption of services and goods
- Emergency Services – Warning systems, possible human injury and death
- Environmental – N/A
- Residential Infrastructure – Property damage
- Public Health – N/A
- Public Infrastructure (including utilities) – Property damage, damage and disruption to utilities including gas, electric, and water, road damage, and possible disruption of service

Earthquakes are able to cause a range of other disasters including fires.

Future Probability and Potential Loss

Most earthquakes that affect Grant County are very low in intensity and are not likely to cause any damage or be felt in any way. It is likely that low intensity earthquakes similar to those of the past will happen in the future. If a moderate to high intensity event were to happen in Grant County, it would cause a large range of significant damage, as buildings and infrastructure in Grant County were not built to withstand high intensity earthquakes.

[51] NOAA. *US Earthquake Intensity Database.* Accessed July, 2021. https://www.ngdc.noaa.gov/hazard/eq-intensity.shtml

Hazardous Material Incident

A hazardous material incident is any uncontrolled release of an item or agent (biological, chemical, radiological, and/or physical), which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors.

Historical Occurrences

According to WEM, hazardous material incidents are often the result of the transportation of hazardous materials. In Grant County, between 1996-April of 2023, there were 11 hazardous materials incidents reported by the US Department of Transportation on highways, neither of which resulted in fatalities, or evacuations.[52]

PFAS (per-and polyfluoroalkyl substances which are long-lasting chemicals that are harmful to human and animal health) have been identified in water, air, fish, and soil, as well as in consumer, commercial, and industrial products nationally and worldwide, including in Grant County.[53] Groundwater and drinking water contamination due to agricultural runoff, decaying infrastructure, incorrect hazardous waste disposal including medical product disposal, and other sources are ongoing concerns for the region. Grant County is especially threated by runoff and spillage from agricultural sources due to the large presence of agricultural industry.

Vulnerability Assessment

Aspects of Grant County infrastructure and services most vulnerable to hazardous material incidents:

- Agricultural Industry – Crop damage, damage to soil and productivity, livestock damage
- Business/Industry Infrastructure – Property damage, disruption of services and goods
- Emergency Services – Possible human injury and death
- Environmental – Loss of habitat, air, water, and soil contamination
- Residential Infrastructure – Property damage, evacuation, injury and possible death
- Public Health – Air, water, food, and soil contamination resulting in quality-of-life reduction and potential death
- Public Infrastructure (including utilities) – Property damage, damage and possible disruption of service

Future Probability and Potential Loss

Areas of greatest future probability in Grant County include railroads and highly travelled roadways. These important transportation networks have large amounts of hazardous or potentially hazardous materials traveling on them. Possible events could include hazardous materials spills from train derailment, the spill of manure from a manure transport vehicle on a local road, or the spill of a large amount of hazardous material at a local business. Potential losses vary greatly depending on the extent and severity of the material.

[52] U.S. Department of Transportation. *Office of Hazardous Materials Safety - Incident Reports Database Search.* Accessed August, 2023. https://www.phmsa.dot.gov/hazmat-program-management-data-and-statistics/data-operations/incident-statistics

[53] EPA. *PFAS Explained*. https://www.epa.gov/pfas/pfas-explained. Accessed August, 2023.

Cyberattack

WEM defines a cyberattack as "the hostile use of information technology by individuals or groups for the purpose of financial gain or as an action to further a social or political agenda. This includes the use of information technology to threaten, exchange information, and/or organize and execute attacks against networks, computer systems, and infrastructure." Possible incidents include unauthorized access to networks, computer viruses, shutting down websites, and taking over public infrastructure such as electrical networks or communication networks.

Historical Occurrences

A cyberattack is an evolving man-made technological hazard that has much lower relevance to geography than most other hazards, due to the fact that cyberattacks do not happen in a location, but rather through online networks. These incidents have increased over time, and the FBI has recorded 3.26 million complaints globally in the last five years, resulting in a loss of $27.6 billion. Ransomware attacks have affected the following sectors most frequently: healthcare and public health, critical manufacturing, and government facilities.[54] See Figures 23 and 24 for more information.

Vulnerability Assessment and Future Probability

Aspects of Grant County infrastructure and services most vulnerable to a cyberattack incident:

- Agricultural Industry – Loss of communications, financial theft
- Business/Industry Infrastructure – Disruption of service, hostile takeover/ransom of website, theft of business sensitive data, financial theft
- Emergency Services – Warning systems network compromised, loss of communications
- Environmental – Protection systems and networks compromised
- Residential Infrastructure – Property damage, evacuation, injury and possible death
- Public Health – Hostile takeover/ransom of private computers, theft of personal information including banking information
- Public Infrastructure (including utilities) – Power failure, utility shut down, disruption of services, loss of services

Future Probability and Potential Loss

As technology advances, cyberattacks will likely become more sophisticated and damaging. Given that the victim losses reported to the Internet Crime Complaint Center in 2022 alone totaled $108.9 million in Wisconsin[55], the potential loss due to cyberattacks is extremely high. This may affect individuals, businesses, government agencies, and all other entities with information stored and transferred online.

[54] Federal Bureau of Investigation, 2022. *Internet Crime Report 2022.*
[55] Ibid.

Figure 23: FBI Internet Crime Complaint Center Complaints and Losses over the Last Five Years

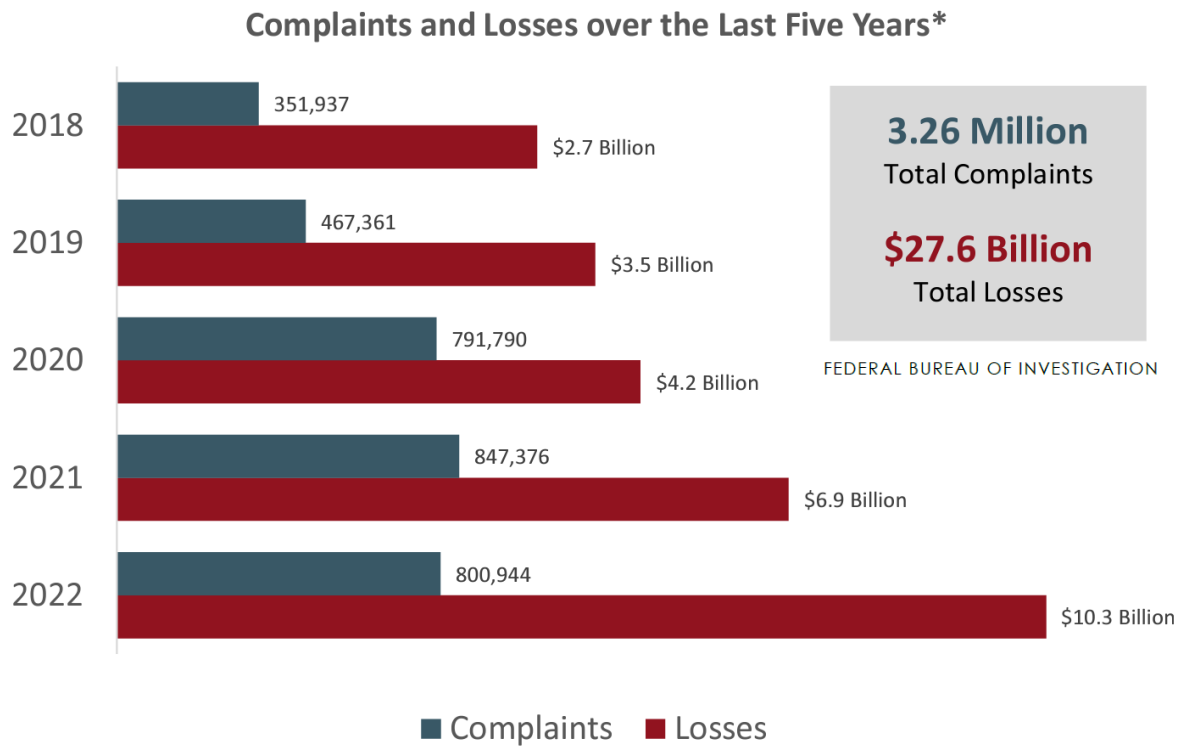
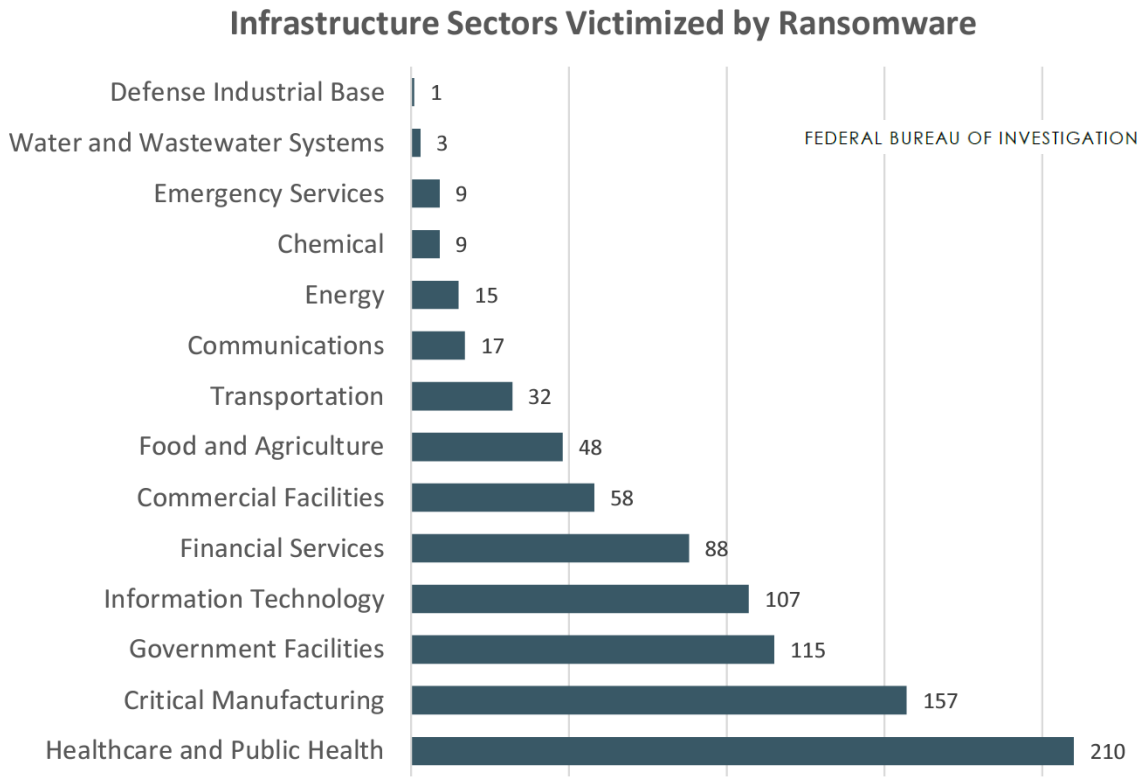


Figure 24: FBI Internet Crime Complaint Center Infrastructure Sectors Victimized by Ransomware



Chapter 5: Vulnerable Populations

Hazard events tend to have disproportionately negative impacts on vulnerable populations, and climate change is anticipated to worsen this by way of making hazard impacts more frequent and severe. Vulnerable populations include those with less access to financial resources; those with limited mobility and access to transportation such as rural populations, elderly populations, disabled populations, and children; those experiencing communication barriers with local resources such as non-English speakers; stigmatized communities such as undocumented immigrants and previously-incarcerated populations; and those who are more exposed to weather elements, such as populations who are recreating outdoors, unhoused populations, and populations residing in mobile homes, tents, or other vulnerable housing.

The Grant County community is home to many vulnerable populations, and one way that the county can prepare for hazards and worsening impacts from climate change is by putting emphasis on protecting and serving those who will likely be most severely affected. During the public meetings, attendees were asked to consider the unique needs and risks of several vulnerable populations and share their ideas for how to address those needs. The following table shows attendees' responses to this exercise. This input was used to generate actions which are included in Chapters 6 and 7.

Responses to Public Meeting "Vulnerable Populations" Grid		
Vulnerable Population	Unique Needs or Risks	Ideas for Addressing Unique Needs/Risks
Elderly	Mobility issues, isolation, loneliness, medical needs, medication dependencies, dementia, dialysis, transportation for appointments and basic needs, living on fixed retirement incomes, sensitive to extreme heat and cold, technology use assistance, people taking advantage of elderly population, communications support needed	Provide services for regular check-ins, city developers planning for elderly housing, caregiver education for emergency planning, open community building with A/C, provide tornado shelter, provide regional transportation service, expand volunteer base to support elderly population, compile a list of people with needs and ensure they are contacted in emergencies, host educational events, ADRC's can provide additional services, community "safe" place, generators—especially on public buildings, portable communication devices available
Children	Supervision, access to communication/cell service, shelter, access to food and water, access to medical and/or mental health services	Provide more mental health services and personnel, emergency plans for schools and alternative school support, keep children in mind while planning, provide more daycares and pay employees well, less regulation for daycares, have parental contact

Vulnerable Population	Unique Needs or Risks	Ideas for Addressing Unique Needs/Risks
Non-English Speakers	Translation services, disconnected from local media (radio/TV shows), mistrust, difficulty with EMS calls and communication	Provide translation services or translation technology, more support for English learning services, get help from high school students, multicultural programs/centers, websites and documents should be bilingual, ensuring kids are enrolled in school and can educate others in their household, basic announcements in English and Spanish, community invitations to include them
Medically or Chemically Dependent	People show bias towards them, shortage of mental health services, dependent on electricity, alcohol/drug dependencies	Awareness, empower data (state database), fund more mental health facilities, not escalating violent confrontations (training)
Financially Insecure	Access to shelter and food, they usually don't have the means to travel, may not have funding to rebuild after disaster, no basement shelter, shortage of mental health services, homelessness/affordable housing availability, stigma, access to healthcare and mental health services	Refer to agencies like Red Cross and Salvation Army, people need a mindset of working with people not against folks in poverty, shared ride program, low-interest unsecured loans, backpack program, programs for single people like shelters, increasing available units for affordable housing, food pantry assistance, jobs should pay better-living wage, provide opportunities, ensuring contact information for resources available, hotel vouchers, non-judgmental resources, clothing/shoes/hygiene, basic needs, access to healthcare and mental health services
Incarcerated Population	Unknown medical needs/mental health needs, safety problem when people are released and walk down the highways, locked up: what is the exit plan for them in an emergency, immediate threat possible	Have a program to get released people home (liability issues), programs to bring them back into the population, DOC plan, county collaboration, regional communication is key

Vulnerable Population	Unique Needs or Risks	Ideas for Addressing Unique Needs/Risks
New Residents to the Area	Awareness of how expensive bills will be (winter period), don't know who to contact, Amish traffic is a hazard, not knowing how to deal with cold, not knowing resources	City hall—outreach, information, info should be provided on county website, local municipal websites, welcome packets/baskets to new residents, towns should have websites, FAQ list, warning centers, engaging them in community
Tourists	Cell service, wider roads for bike lanes, no access to severe weather shelters, not knowing territory well, unsure of resources/emergency services, access to information, not knowing where to go in an emergency	Broadband expansion, when new roads are constructed add bike lanes, better public education on bike safety, more marketing of the area, post/provide info in Airbnbs and campground, ensure river users know what's going on, signage, ensure info is available through websites, ensure public access to internet availability, amateur/hand radios
Physically or Mentally Disabled	Mobility/transportation access, may not be able to communicate needs, a danger to themselves and others during events, may not know where they are or are forgotten, inability of emergency staff to communicate effectively, limited facilities for respite and housing, need generator for oxygen, not enough trained people to work with them, high anxiety	Provide services through grants, assess quickly, access to accessible vehicles (county, school, etc.), provide caregivers with emergency planning to prepare them, increased awareness of the community and services available, ambulance staffed and available, SW Health services supplied, education and training, responders to stay calm
Recreating Outdoors	Stable shelter, people not informed that cell service won't work, communication with people not from the area, awareness of dangers with WI River and Mississippi, no access to shelters, no sirens, information/ emergency safety, communication resources, signage	Have cell service to reach services, broadband expansion, river education/public awareness, more public education on dangers, pre-alert campground to weather issues, kiosk information, signs, radio service, communication of hazard, county-wide "code red", information message system, resource center for info -2417, shelters

Chapter 6: Summary of Local Risks and Mitigation

The section includes information about each city, village, and township in Grant County, with maps highlighting key assets and risks in each community. Recommended strategies are specific to each municipality based on the input gathered at public meetings with municipal representatives and knowledge of community needs from Grant County Emergency Management (GCEM).

There are five municipalities in Grant County that share a border with neighboring counties. These municipalities are all included in this plan, and not in the plans of the neighboring counties. The aforementioned municipalities are the Villages of Muscoda, Livingston, Montfort, and Hazel Green, and the City of Cuba City.

The recommended strategies for school districts and higher education institutions participating in the plan are listed in the section specific to their respective municipality, taking into consideration the geographic relevance of the risks faced by schools.

Once local input was summarized and strategies were identified, the planning team determined priority level, timeline for completion, implementation responsibility, estimated cost, and potential funding sources for each strategy.

Strategy Prioritization

Strategies were prioritized based upon the risk assessment, local input, estimated costs, availability of local and county resources, and impact. Local Hazard Mitigation strategies were organized into High, Medium, and Low Priority.

- High: Planning and implementation on the strategy should begin immediately and be completed within five years, if determined to be the best course of action and economically feasible.
- Medium: Implementation should begin following completion of high priority strategies or at least following initiation of high priority strategies, or as new resources become available.
- Low: The strategy should be considered for future consideration and be initiated once High and Medium priority items are addressed.

Timeline

Each strategy has a unique timeline depending on complexity, location, and available resources. Timelines indicate the estimated time it would take the responsible party to complete the strategy.

Implementation Responsibility

Each strategy is associated with a responsible party. In most cases, hazard mitigation is the responsibility of local government. It other instances, hazard mitigation is under the jurisdiction of the state or county, and at times hazard mitigation is required by local business and land owners. In all cases, assistance in implementation is available from GCEM. The following table provides a reference for organizational acronyms.

Implementation Responsibility Acronyms	
Acronym	Organization
ADRC	Aging and Disability Resource Center
CSZD	Conservation, Sanitation, and Zoning Department
EMS	Emergency Medical Services
GCEM	Grant County Emergency Management
IT Dept.	Information Technology Department
NRCS	Natural Resources Conservation Service
SWWRPC	Southwestern Wisconsin Regional Planning Commission
USDA	U.S. Department of Agriculture
UW-Ext.	UW-Extension
WDNR	Wisconsin Department of Natural Resources

Estimated Cost

Strategies were developed with the understanding that financial and human resources are the greatest obstruction to communities undertaking hazard mitigation strategies. In several instances, the extent or severity of hazard related problems are not known at this time, and therefore costs are unknown.

Potential Funding Source

Funding sources were identified by the planning team, and detailed information about the funds referenced in these sections is provided in the following table.

Potential Funding Sources		
Funding Source	Full Title	Description Provided in Web Link
AFG	Assistance to Firefighters Grants Program	Fire safety grants fund critically needed resources to equip and train emergency personnel, enhance efficiencies and support community resilience.
ARPA	American Rescue Plan Act	ARPA Coronavirus Local Fiscal Recovery Funds are being provided by the U.S. Department of Treasury (Treasury) to help local governments recover from the Coronavirus pandemic.
BRIC Grant	Building Resilient Infrastructure and Communities Grant	The Building Resilient Infrastructure and Communities program aims to categorically shift the federal focus away from reactive disaster spending and toward research-supported, proactive investment in community resilience. Examples of BRIC projects are ones that demonstrate innovative approaches to partnerships, such as shared funding mechanisms, and/or project design.
CDBG	Community Development Block Grant	The Community Development Block Grant (CDBG) Program supports community development activities to build stronger and more resilient communities. Activities may address needs such as infrastructure, economic development projects, public facilities installation, community centers, housing rehabilitation, public services, clearance/acquisition, microenterprise assistance, code enforcement, homeowner assistance, etc.
Congr. Appro.	Congressional Appropriation	The president submits a budget to Congress for the federal government every fiscal year (October 1 through September 30). Congress must then pass appropriations bills to provide money to carry out government programs for that year.

Potential Funding Sources (Continued)		
Funding Source	**Full Title**	**Description Provided in Web Link**
EIGP	Energy Innovation Grant Program	The Energy Innovation Grant Program (EIGP) supports a wide variety of energy projects related to energy efficiency, renewable energy, energy storage, energy planning, and more. Each year, the [Public Service] Commission chooses eligible activities based on its energy priorities, emerging trends, and public input.
EMPG	Emergency Management Performance Grant	Provides state, local, tribal and territorial emergency management agencies with the resources required for implementation of the National Preparedness System and works toward the National Preparedness Goal of a secure and resilient nation. The EMPG's allowable costs support efforts to build and sustain core capabilities across the prevention, protection, mitigation, response and recovery mission areas.
FFP DNR Grant	Forest Fire Protection Grant Program	Forest Fire Protection (FFP) 50% cost-share grants are available to Wisconsin fire departments and county/area fire associations. Grant funding is intended to expand the use of local fire departments to augment and strengthen the Department of Natural Resources (DNR) overall initial-attack fire suppression capabilities on forest fires.
FMA	Flood Mitigation Assistance Grant Program	Flood Mitigation Assistance is a competitive grant program that provides funding to states, local communities, federally recognized tribes and territories. Funds can be used for projects that reduce or eliminate the risk of repetitive flood damage to buildings insured by the National Flood Insurance Program. FEMA chooses recipients based on the applicant's ranking of the project and the eligibility and cost-effectiveness of the project.
HHPD	Rehabilitation of High Hazard Potential Dams Grant	The Rehabilitation of High Hazard Potential Dams Grant (HHPD) awards provide technical, planning, design and construction assistance in the form of grants for rehabilitation of eligible high hazard potential dams.
HMGP	Hazard Mitigation Grant Program	FEMA's Hazard Mitigation Grant Program provides funding to state, local, tribal and territorial governments so they can develop hazard mitigation plans and rebuild in a way that reduces, or mitigates, future disaster losses in their communities. This grant funding is available after a presidentially declared disaster.
PDM	Pre-Disaster Mitigation Program	The Pre-Disaster Mitigation (PDM) grant program makes federal funds available to state, local, tribal and territorial governments to plan for and implement sustainable cost-effective measures designed to reduce the risk to individuals and property from future natural hazards, while also reducing reliance on federal funding from future disasters. The program is authorized by Section 203 of the Stafford Act.
SLCGP	State and Local Cybersecurity Grant Program	Strengthening cybersecurity practices and resilience of state, local, and territorial (SLT) governments is an important homeland security mission and the primary focus of the State and Local Cybersecurity Grant Program (SLCGP). Through funding from Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), the SLCGP enables DHS to make targeted cybersecurity investments in SLT government agencies, thus improving the security of critical infrastructure and improving the resilience of the services SLT governments provide their community.

City of Boscobel

The City of Boscobel is the third most populous city in Grant County with 3,286 residents according to the 2020 U.S. Census. Situated on the northern boundary of Grant County, Boscobel lies between bluffs and the Wisconsin River, with a wetland area separating the city and the river. Saunders Creek, which often causes flash flooding in the city, drains the surrounding land and flows through Boscobel on its way to the Wisconsin River. The city is traversed by a rail line, Highway 61, and State Road 133. Four sirens provide adequate coverage for city residents; however, they are not heard by rural residents outside of city limits. The city owns two generators, one used by the fire department and the other by the wastewater treatment facility. The Blaine Gym basement currently serves as a shelter during tornadoes or severe storms.

City of Boscobel Local Action Recommendations					
Priority	**Timeline**	**Responsibility**	**Cost**	**Potential Funding Source**	**Strategy**
High	1 year	Key Listed Departments	Existing staff time	N/A	Create a key strategy team for the city to coordinate disaster recovery plans and synchronize local action. Team should include the Hospital Director, School Superintendent, and local commercial business leaders.
High	1 year	Public Works	$4K – $10K	Budget	Clear brush from Saunders Creek floodplain.
High	2 years	City, IT Dept.	$2k-$50k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	2 years	City/ GCEM	Existing Staff Time	N/A	Identify flood prone properties near Saunders Creek and develop mitigation strategies.
High	3 years	Public Works Dept.	$100k - $1 million	CDBG	Undertake vulnerability analysis of water treatment facility and address needs.
High	3 years	City	$2k/year	County & Municipal Budgets	Work with GCEM to implement shared county/local emergency mass notification system.
High	3 years	City	$10k	HMGP, PDM	Conduct engineering studies to identify issues and opportunities to address the flow of stormwater out of the city.
High	5 years	City	$500k – $1 million	BRIC Grant	Explore construction of severe storm/temperature shelters in areas of high need including near Cozy Acres.
Med.	1 year	City	Existing staff time	N/A	Work with GCEM to update the Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	City, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	City Council	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	City, Fire Dept., WI-DNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.

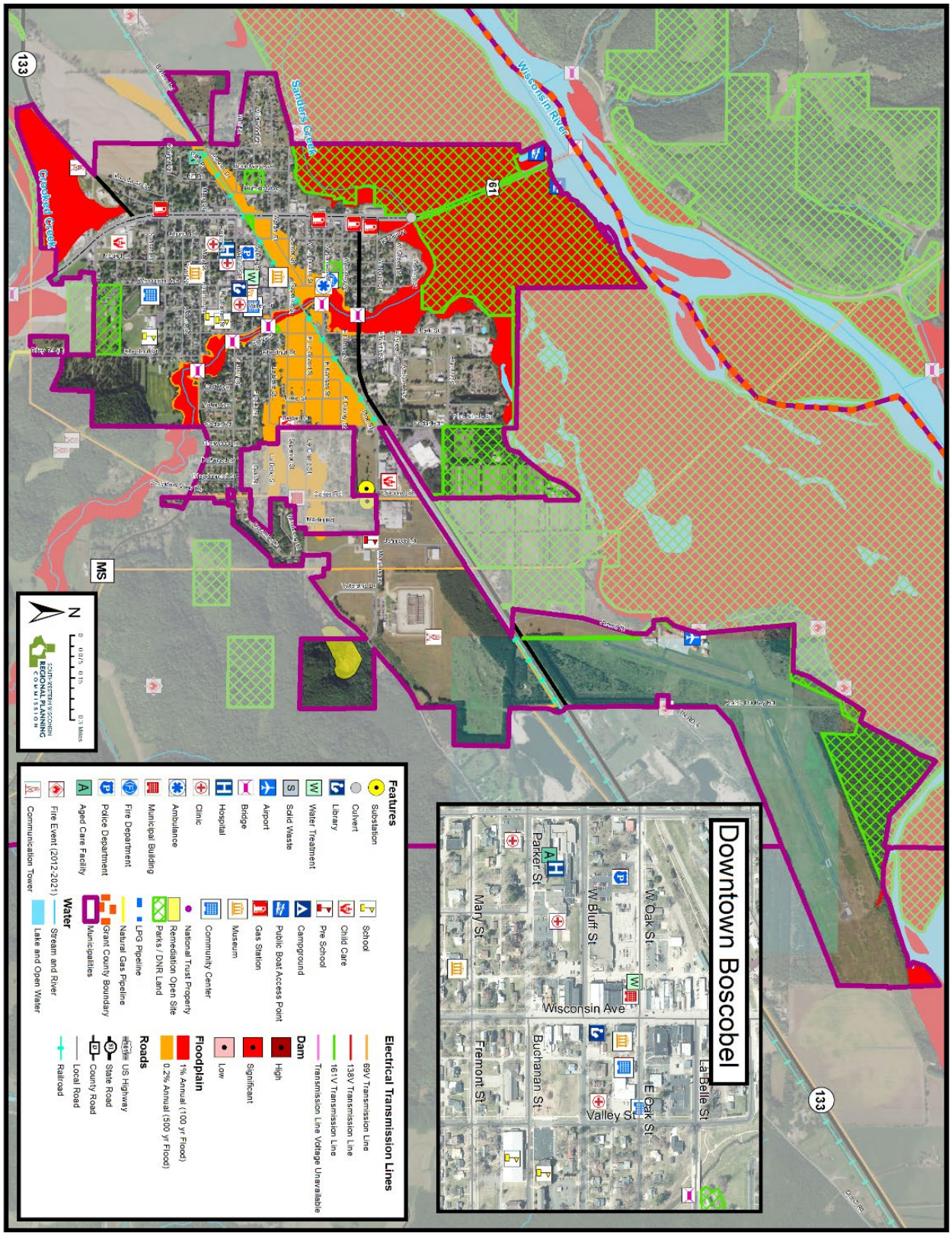
City of Boscobel Local Action Recommendations (Continued)					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
Med.	5 years	City	Existing staff time, unknown	Municipal Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	City	Existing staff time	Municipal Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Low	5 years	City	Existing staff time	N/A	Evaluate cost/benefit of acquiring back-up generator for City Hall.
Low	5 years	City, Local Businesses	Existing staff time	N/A	Work with local businesses to educate and develop Continuity of Operations Plans.
Low	Ongoing	City	$1k-$10k/ generator	Personal Budgets	Encourage residential back-up power generators.

Boscobel Area School District

Boscobel School District is located in the downtown/southern part of the city and total enrollment for the 2022/2023 school year was 703 students according to the Department of Public Instruction.

Boscobel Area School District Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	6 months	Boscobel Area School District	$25k+ per year	SLCGP	Working with EMC/Tricor Insurance company and network administrators to review and update school's cyber policies and upgrade as needed for prevention measures for cyber security.
High	1 year	Boscobel Area School District	$5000/ Existing Staff Time	School Budget	Review and update the 2018 Boscobel Area Schools emergency action plan to reflect evacuation procedures and plans (including relocation and reunification), and to address terrorist actions. The updated plan will be shared with Grant County Emergency Management, Grant County Sheriff's Department, and the Boscobel Police Department.
High	3 Years	Boscobel Area School District	$21.5 million	General Obligation School Building and Facility Improvement Bonds	Complete school building and facility improvement project consisting of: community shelter construction, renovations and construction of additions to accommodate grades 4-5 and for a gymnasium at the middle/high school, district-wide capital maintenance and site improvements, and acquisition of furnishings, fixtures, and equipment.

City of Boscobel Map



City of Cuba City

Cuba City has a population of 1,890 according to the 2020 U.S. Census and is located on State Highway 80 at the boundary of Grant and Lafayette Counties. The city has hilly terrain with varying elevations that impact drainage patterns, flood risk, and land use planning. It is intersected by major roads, including U.S. Route 151 and Wisconsin State Highway 80, critical for transportation and economic activities, but vulnerable to hazards such as flooding, landslides, or hazardous material spills. There is no large public storm shelter available; however, the city has three sirens providing coverage. Additionally, there are six backup generators in the city, located at lift stations, City Hall, the treatment plant, well #2, well #1 (PTO driven standpipe), and the firehouse/EMS building.

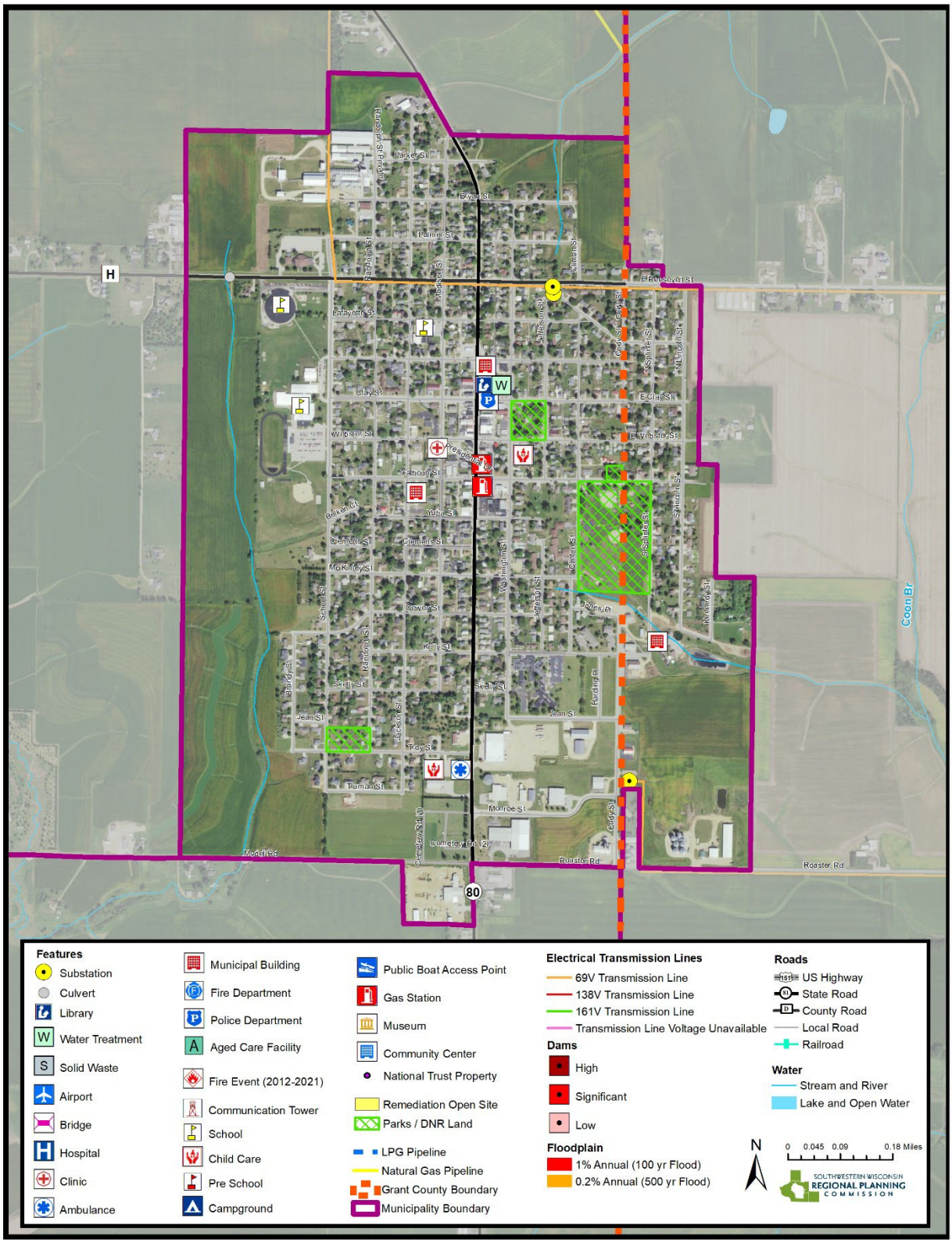
City of Cuba City Local Action Recommendations					
Priority	**Timeline**	**Responsibility**	**Cost**	**Potential Funding Source**	**Strategy**
High	2 years	City, IT Dept.	$2k-$25k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	3 years	Public Works Dept.	$100k - $1 million	CDBG	Undertake vulnerability analysis of water treatment facility and address needs.
High	3 years	City	$2k/year	County & Municipal Budgets	Work with GCEM to implement shared county/local emergency mass notification system.
High	5 years	City	$500k – $1 million	BRIC Grant	Explore construction of severe storm and temperature shelters in areas of high need.
Med.	1 year	City	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	1 year	City	Existing staff time	N/A	Adopt a stormwater ordinance.
Med.	2 years	City, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	City	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	City	Existing staff time, unknown cost	Municipal Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	City	Existing staff time	Municipal Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Low	Ongoing	City	Existing staff time, $1k-$10k per generator	Personal Budgets	Encourage residential back-up power generators.

Cuba City School District

Cuba City School District is located in the western part of the city and total enrollment for the 2022/2023 school year was 677 students according to the Department of Public Instruction.

Cuba City School District Action Recommendations					
Priority	**Timeline**	**Responsibility**	**Cost**	**Potential Funding Source**	**Strategy**
High	1 year	Cuba City School District	$2k	SLCGP	Install a data (server) back-up in the elementary school in case school buildings are damaged during a disaster. This would allow the district to switch seamlessly without staff or students losing data.
High	2-3 years	Cuba City School District	$25k	Get Kids Ahead Initiative Grant	Work with guidance counselor and administration to ensure student mental health is being addressed. The school district was awarded the Get Kids Ahead Initiative Grant to assist with this initiative and aid in offsetting costs.
Med.	2-3 years	Cuba City School District	$10 million	BRIC Grant	Work with Grant County Management to create a plan for sheltering community members in the school during an emergency, including pursuing facilities improvements to address community needs.

City of Cuba City Map



City of Fennimore

Fennimore, WI, located on Military Ridge in the northern half of Grant County, has a population of 2,764 according to the 2020 U.S. Census. The city is intersected by critical roads, including U.S. Route 61 and Wisconsin State Highway 18, which are vital for transportation and economic activities. These roadways may be susceptible to hazards such as flooding, landslides, or hazardous material spills that could disrupt transportation and evacuation routes. Fennimore has a relatively flat terrain with gentle slopes, and is equipped with two sirens that provide adequate coverage for residents. City Hall serves as a shelter during tornadoes or severe storms. The city has five backup generators at City Hall and one generator at the wastewater treatment plant.

City of Fennimore Local Action Recommendations					
Priority	**Timeline**	**Responsibility**	**Cost**	**Potential Funding Source**	**Strategy**
High	2 years	City, IT Dept.	$2k-$50k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	3 years	Public Works Dept.	$100k - $1 million	CDBG	Undertake vulnerability analysis of water treatment facility and address needs.
High	3 years	City	$2k/year	County & Municipal Budget	Work with GCEM to implement shared county/local emergency mass notification system.
High	5 years	City	$500k – $1 million	BRIC Grant	Explore construction of severe storm/temperature shelters in areas of high need including near Northview Estates.
Med.	1 year	City	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	1 year	City	Existing staff time	N/A	Adopt a stormwater ordinance.
Med.	2 years	City, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	City	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2 years	City, Southwest Tech	Existing staff time	N/A	Partner with Southwest Wisconsin Technical College in first responder and college staff training exercises to ensure coordinated execution of emergency plans.
Med.	3 years	City	$5k-$50k	EIGP, Municipal Budget	Upgrade City Hall as a shelter facility by installing new heat and AC units for the building. Explore renewable energy options to generate electricity for the facility.
Med.	5 years	City, Public Works Dept.	$200k-$400k	HMGP, Congr. Appro.	Conduct maintenance and replace generators as needed.

City of Fennimore Local Action Recommendations (Continued)					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
Med.	5 years	City	Existing staff time, unknown cost	Municipal Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	City, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	City	Existing staff time	Municipal Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Low	Ongoing	City	Existing staff time, $1k-$10k/ generator	Personal Budgets	Encourage residential back-up power generators.

Fennimore School District

Fennimore School District is located in the central part of the city and total enrollment for the 2022/2023 school year was 810 students according to the Department of Public Instruction.

Fennimore School District Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2-3 years	Fennimore School District	$5 million	BRIC Grant	Work with Grant County Emergency Management to create a plan for sheltering community members in the school during an emergency. The elementary school and middle/high school would be available. Meals, showers, bathrooms, sleeping items, everyday items to meet the needs of each age group would need to be supplied. Nursing services may need to be provided for those with medical concerns. Adequate shelter preparation will require facilities improvements.
High	2-3 years	Fennimore School District	$60k	PDM, HMGP	Work with H&N Plumbing and Heating to provide generator back up for power in the elementary and middle/high schools. This would support lighting, coolers, freezers, I.T. server and data backup.
High	2-3 Years	1 year	$50k	School Budget	Develop a plan with Winona Controls in the event of a heating system failure. Ensure building univents remain running during extreme cold weather events.

Southwest Wisconsin Technical College

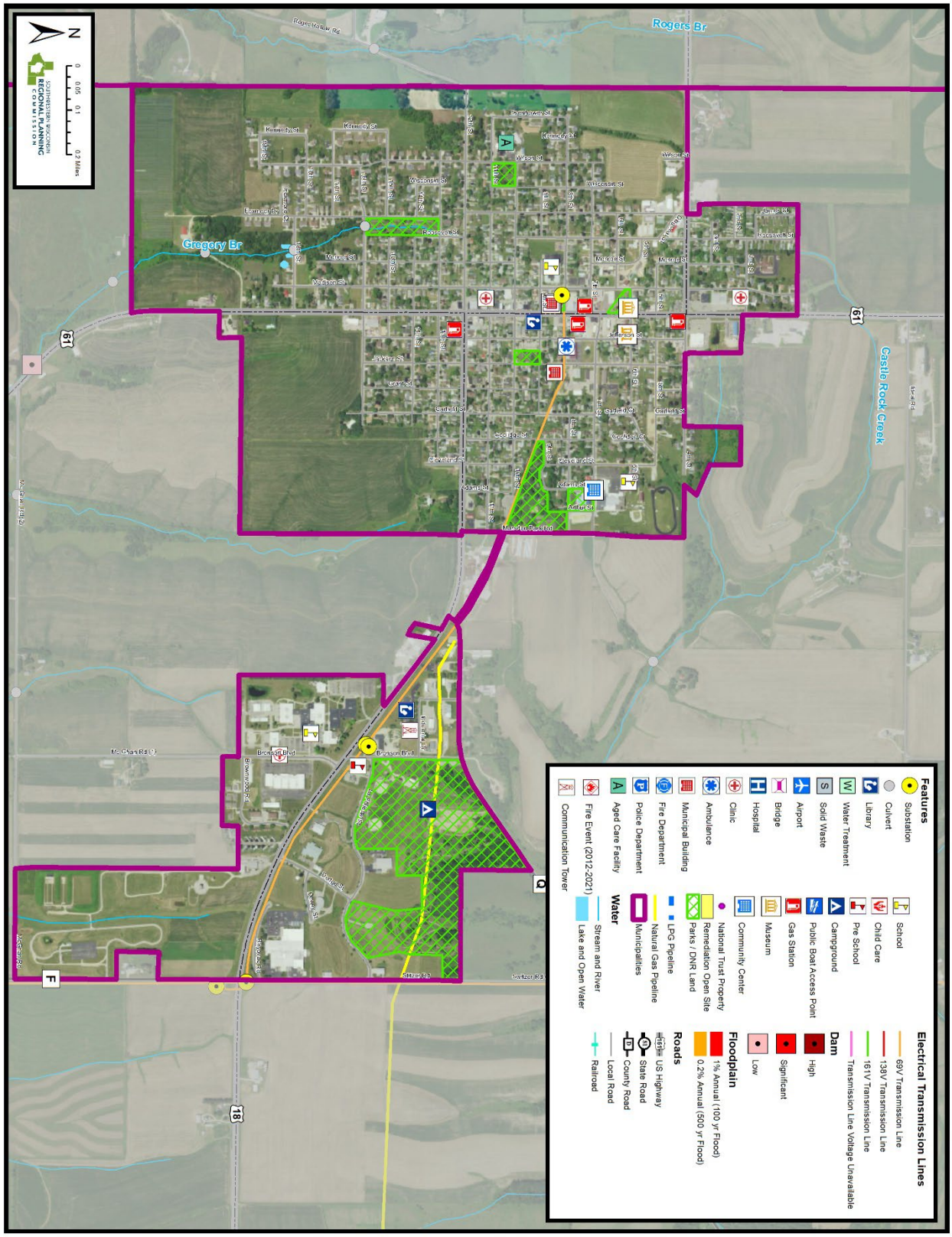
Southwest Wisconsin Technical College (SW Tech) is located in the eastern part of the City of Fennimore and total enrollment for 2021/2022 was 6,606 students.[56] The school has experienced many hazard events in recent years including severe hail and storms, cyber threats, extreme temperatures, the COVID-19 pandemic, and hazardous materials incidents. The following actions have been identified as priorities in hazard mitigation and preparedness for the college.

Southwest Wisconsin Technical College Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	1 year	SW Tech, GCEM	Existing staff time	N/A	Work with GCEM and Grant County to create a plan for using campus facilities as an emergency medical center in an emergency. These facilities are already equipped to serve that purpose and backup generators are in place to support operations.
High	2 years	SW Tech	Unknown	SW Tech Budget	Upgrade locking system across campus for student safety against active threats.
High	2 years	SW Tech	Unknown	SW Tech Budget	Upgrade phone system, PA system, and shift internal signage to digital format in order to distribute up-to-date information on short notice in the event of an emergency.
High	3 years	SW Tech	Unknown	SW Tech Budget	Increase building energy efficiency including upgrading single-paned windows and under-insulated roofing, as well as an automation system for energy efficiency so that heating/cooling systems, lighting systems, and other facilities systems operate according to environmental conditions rather than time-bound or manual schedule.
High	5 years	SW Tech	Unknown	BRIC Grant, EIGP	Invest in renewable energy, battery storage, and microgrid technologies to build energy redundancies for local resilience.
High	5 years	SW Tech	Unknown	BRIC Grant	Invest in long-term durable infrastructure that can withstand severe hail events, extreme winds and tornadoes, severe heat and cold, heavy snowfall, and increased freeze/thaw cycles. Prioritize durable infrastructure and nature-based solutions wherever possible, rather than building and rebuilding to minimum standards.
High	Ongoing	SW Tech, Local Communities	Existing staff time	N/A	Continue to work support local communities in Grant County on resilience efforts by providing SW Tech students opportunities for experiential and applied learning projects in the community.

[56] Wisconsin Technical College System (2022). *2021-2022 Fact Book Student Data.*

Southwest Wisconsin Technical College Action Recommendations (Continued)					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
Med.	3 years	SW Tech	Unknown	SW Tech Budget	Improve heating and cooling infrastructure and redundancies for campus population and for use by the larger community during extreme heat/cold events.
Med.	5 years	SW Tech, Municipalities, County	Existing staff time, unknown cost	Municipal & County Budgets	Work with other agencies, municipalities, Grant County, and the private sector to expand broadband and access to high-speed internet. This is critical for virtual learning, which is often required during or following hazard events.

City of Fennimore Map



City of Lancaster

Lancaster, WI is the county seat of Grant County and houses Emergency Management, Sheriff's Office, and Conservation, Sanitation, and Zoning offices. It is the second most populous city in Grant County, with an estimated population of 3,907 according to the 2020 U.S. Census. Lancaster is intersected by major transportation routes, including US-61 and WI-35 highways, as well as railroad lines, which should be considered in hazard mitigation planning for risks like flooding, landslides, and hazardous material spills. The city currently has five sirens, with potential for expansion to provide more coverage on the west side. Additionally, the city owns six generators located at various facilities, including the fire/EMS building, wastewater treatment plant, portable generator for well pumps, memorial park pump station, orchard manor pump station, and lift station portable generator, as well as a stationary engine at well #3.

City of Lancaster Local Action Recommendations					
Priority	**Timeline**	**Responsibility**	**Cost**	**Potential Funding Source**	**Strategy**
High	1 year	Public Works Dept.	$2 million	Congr. Appro.	Undertake vulnerability analysis of water treatment facility and address needs, including design work for Memorial Park Lift Station.
High	1-4 years	City	$1 million	HMGP, WDNR	Address stormwater issues associated with Pigeon Creek.
High	2 years	City, IT Dept.	$50k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	2 years	Public Works Dept.	$100k - $200k	PDM	Purchase new generator for wastewater treatment plant.
High	3 years	City	$2k/year	County & Municipal Budget	Work with GCEM to implement shared county/local emergency mass notification system.
High	5 years	City	$500k – $1 million	BRIC Grant	Explore construction of severe storm/temperature shelters in areas of high need including near mobile home parks.
Med.	1 year	City	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan for city administration, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	City, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	City	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	City, Public Works	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	City	$5k-$100k	EIGP	Invest in renewable energy and energy efficiency in order to reduce footprint of local government and increase resilience.

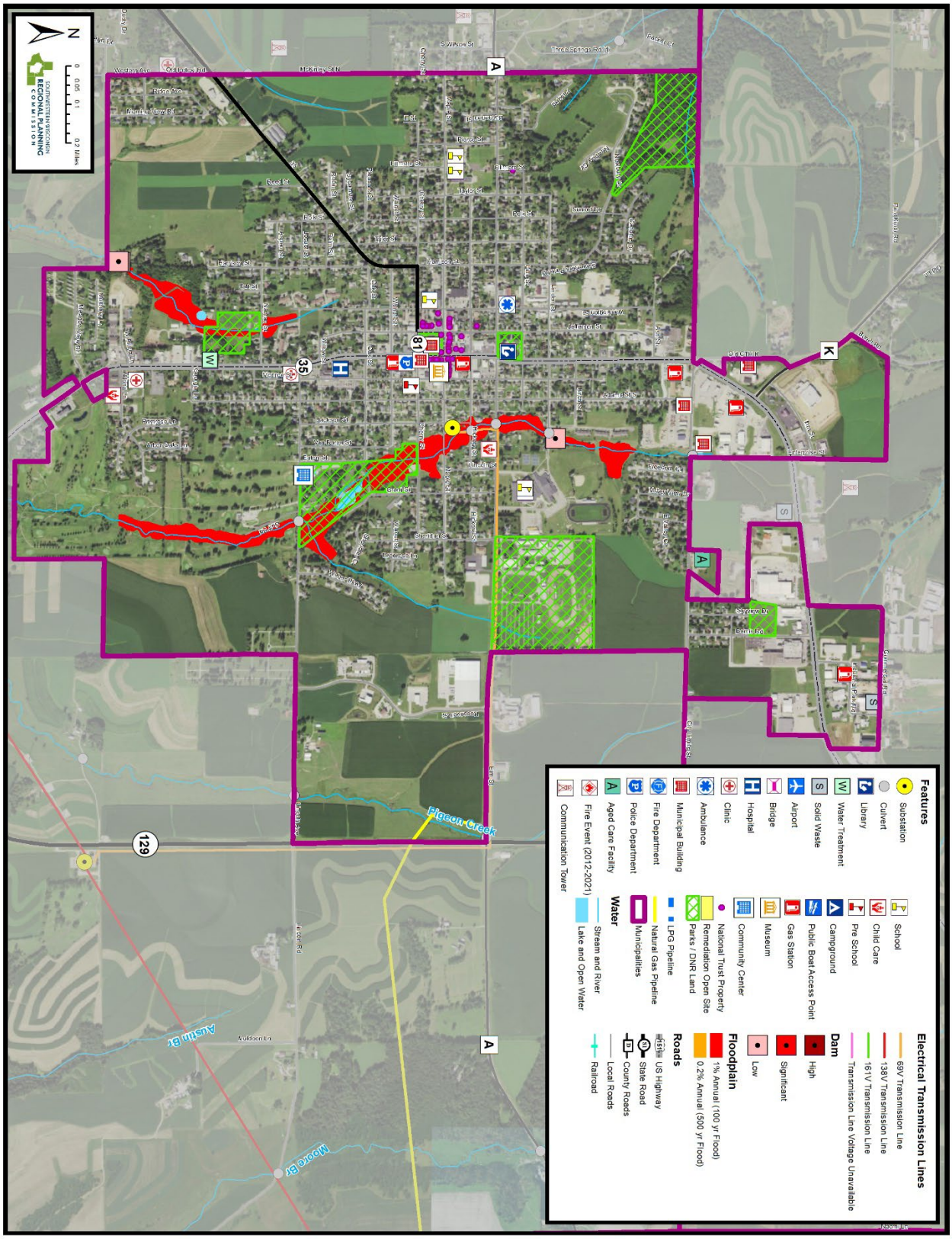
City of Lancaster Local Action Recommendations (Continued)					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
Med.	5 years	City Council	Existing staff time, unknown cost	Municipal Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	City	Existing staff time	Municipal Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.

Lancaster School District

Lancaster School District is located within the city, with the elementary school in the western part of the city, and the middle and high schools in the eastern part of the city. Total enrollment for the 2022/2023 school year was 991 students according to the Department of Public Instruction.

Lancaster School District Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	1-3 years	Lancaster School District	$50k - $150k	SLCGP	Work with our local technology group, TC Networks, on minimizing the vulnerability of cyber-attacks on our school internet systems and programs. Implementing multiple tiers of protection.
Med.	3-5 years	Lancaster School District	Unknown	BRIC Grant	Work with the Grant County Emergency Management and the City of Lancaster to create a plan for sheltering community members in the school during an emergency. Identify where in the school buildings community members would go, who would be their point of contact, and what resources would be needed to provide adequate shelter. This may require facility improvements to accommodate identified needs.
Med.	3-5 years	Lancaster School District	$50k - $125k	BRIC Grant	Work with Grant County and the City of Lancaster to create a plan to assist with reducing the water runoff from the County Fair Grounds and the Lancaster High/Middle School locations, which impacts the residents of Lancaster.

City of Lancaster Map



City of Platteville

The City of Platteville is the most populous municipality in Grant County with a population of 11,836 according to the 2020 U.S. Census. Platteville, WI is home to the University of Wisconsin - Platteville, a four-year undergraduate campus. The city has major transportation routes, including US-151 and WI-80 highways, as well as railroads. These transportation networks should be considered in hazard mitigation planning for risks like flooding, landslides, and hazardous material spills. Platteville was historically a mining community, and the development over old mines poses ongoing dangers as land subsidence is an issue in the area. Platteville also has flood-prone areas near the Platte River and Rountree Branch. The city is equipped with 7 sirens for adequate coverage and has generators at key locations, such as the hospital, UW-Platteville campus, police department, fire department, wastewater treatment plant, and City Hall.

City of Platteville Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	City, IT Dept.	$10k - $50k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	2-3 years	City	$300k - $1 million	BRIC Grant	Explore construction of emergency shelters for vulnerable populations.
High	3 years	Public Works Dept.	$100k - $1 million	CDBG	Undertake vulnerability analysis of water treatment facility and address needs.
High	3 years	Public Works Dept.	$10k - $200k per generator	PDM	Purchase new generators for city garage and for public works and fuel pumps.
High	3 years	City	$10k	Municipal Budget	Partner with the county and UW-Platteville to integrate mass notification systems.
High	Ongoing	City	Existing staff time	N/A	Conduct targeted outreach to vulnerable populations during extreme temperature and storm events.
Med.	1 year	City	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan for city administration, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	City, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	City	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2 years	City, UW-Platteville	Existing staff time	N/A	Partner with Southwest UW-Platteville in first responder and college staff training exercises to ensure coordinated execution of emergency plans.
Med.	2-3 years	City, Public Works	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).

City of Platteville Local Action Recommendations (Continued)					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
Med.	3 years	City	$4k- $6k	HMGP	Identify areas of historic mining and risk of subsidence, and educate the public on potentially hazardous locations.
Med.	4 years	City	$50k	PDM	Conduct study for stormwater outflow in the city and address identified issues.
Med.	5 years	City	$5k-$100k	EIGP	Invest in renewable energy and energy efficiency in order to reduce footprint of local government and increase resilience.
Med.	5 years	City	Existing staff time, unknown cost	Municipal Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	City, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	City	Existing staff time	Municipal Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.

Platteville School District

Platteville Schools are located in the northern part of the city and total enrollment for the 2022/2023 school year was 1,576 students according to the Department of Public Instruction.

Platteville School District Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2-3 years	Platteville School District	Unknown	SLCGP	In partnership with Grant County Emergency Management, pursue solutions for continuous internet availability in the event of power or broadband outages.
Med.	2-3 years	Platteville School District	Existing Staff Time	School Budget	In partnership with Grant County Emergency Management, partner with City of Platteville to determine public shelters and distribute that information to local communities.
Med.	2-3 years	Platteville School District	Existing Staff Time	School Budget	In partnership with Grant County Emergency Management, partner with UW-Platteville and Southwest Health to integrate and share responsibilities during a disaster. This will be accomplished through a series of Memorandum of Understandings.

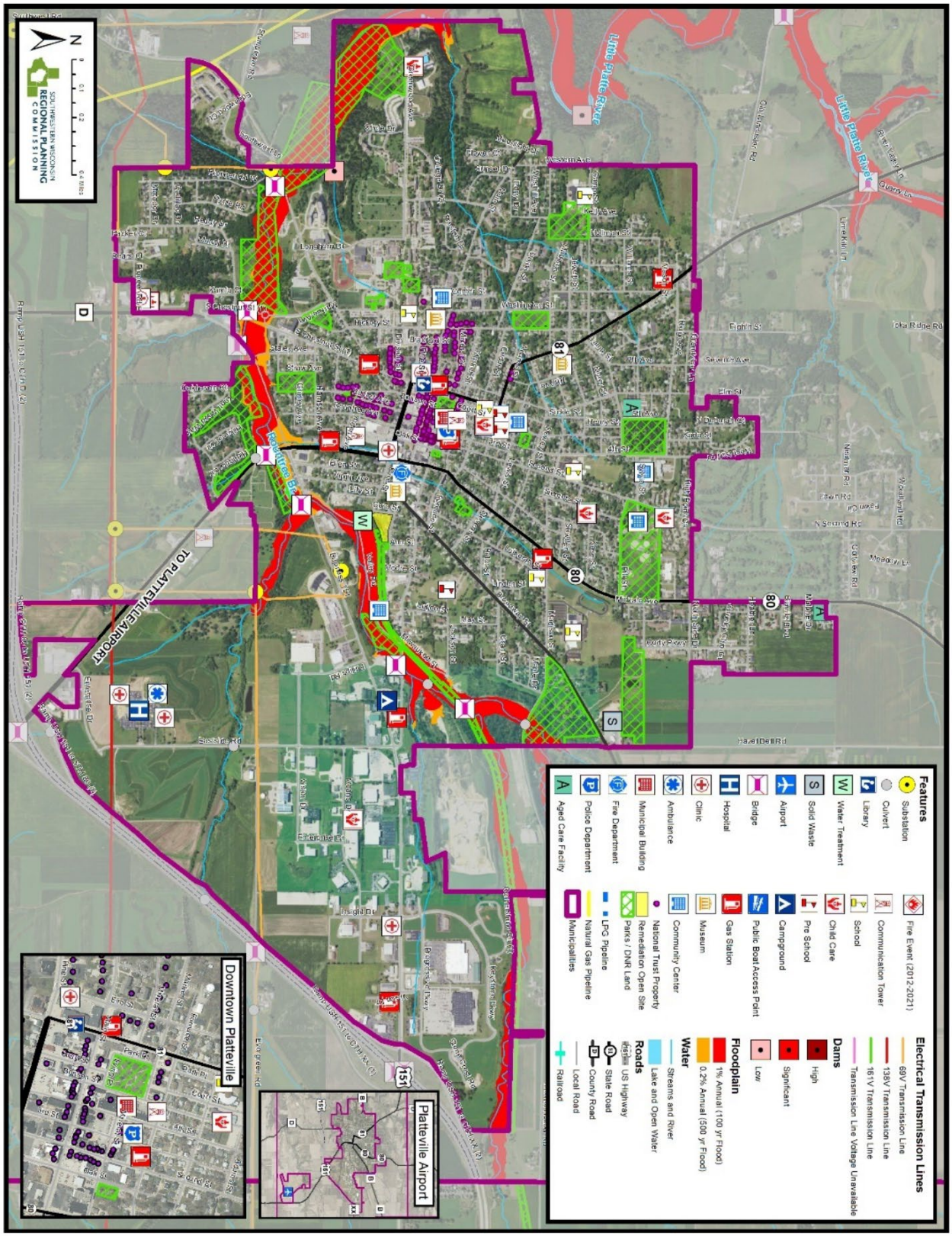
UW-Platteville

UW-Platteville is located in the western part of the city. According to the UW System, fall enrollment at the campus was 6,485 in 2022[57], with over 90% of students being undergraduates.[58]

UW-Platteville Action Recommendations					
Priority	**Timeline**	**Responsibility**	**Cost**	**Potential Funding Source**	**Strategy**
High	5 years	UW-Platteville	Existing Staff Time & External Planning and Funding Assistance	N/A	In partnership with county and city officials, UW-Platteville will work to protect the public health, safety, and welfare of people on campus from hazard risk. • Assessing and maintaining critical communication infrastructure and capabilities. • Develop and maintain systems to notify campus community of potential threats.
Med.	5 years	UW-Platteville	Existing Staff Time	BRIC Grant, UW-P Budget	In partnership with county and city officials, UW-Platteville will work to reduce the impact of hazards on campus buildings, critical facilities, and critical infrastructure. • Damage mitigation strategies for known and unknown events. • Develop and maintain capabilities of critical campus hazard mitigation infrastructure such as emergency response, public safety, public health and others.
Med.	5 years	UW-Platteville	Existing Staff Time	BRIC Grant, UW-P Budget	In partnership with county and city officials, UW-Platteville will work to build campus resilience to minimize interruption and ensure speedy recovery from hazard events. • Develop and maintain redundancy systems to allow for continuity of operation. • Continue to explore technological advancements.

[57] University of Wisconsin System (2022). *UW System Releases Final Fall 2022 Enrollment Figures.*
[58] University of Wisconsin Platteville (2023). *Students.*

City of Platteville Map



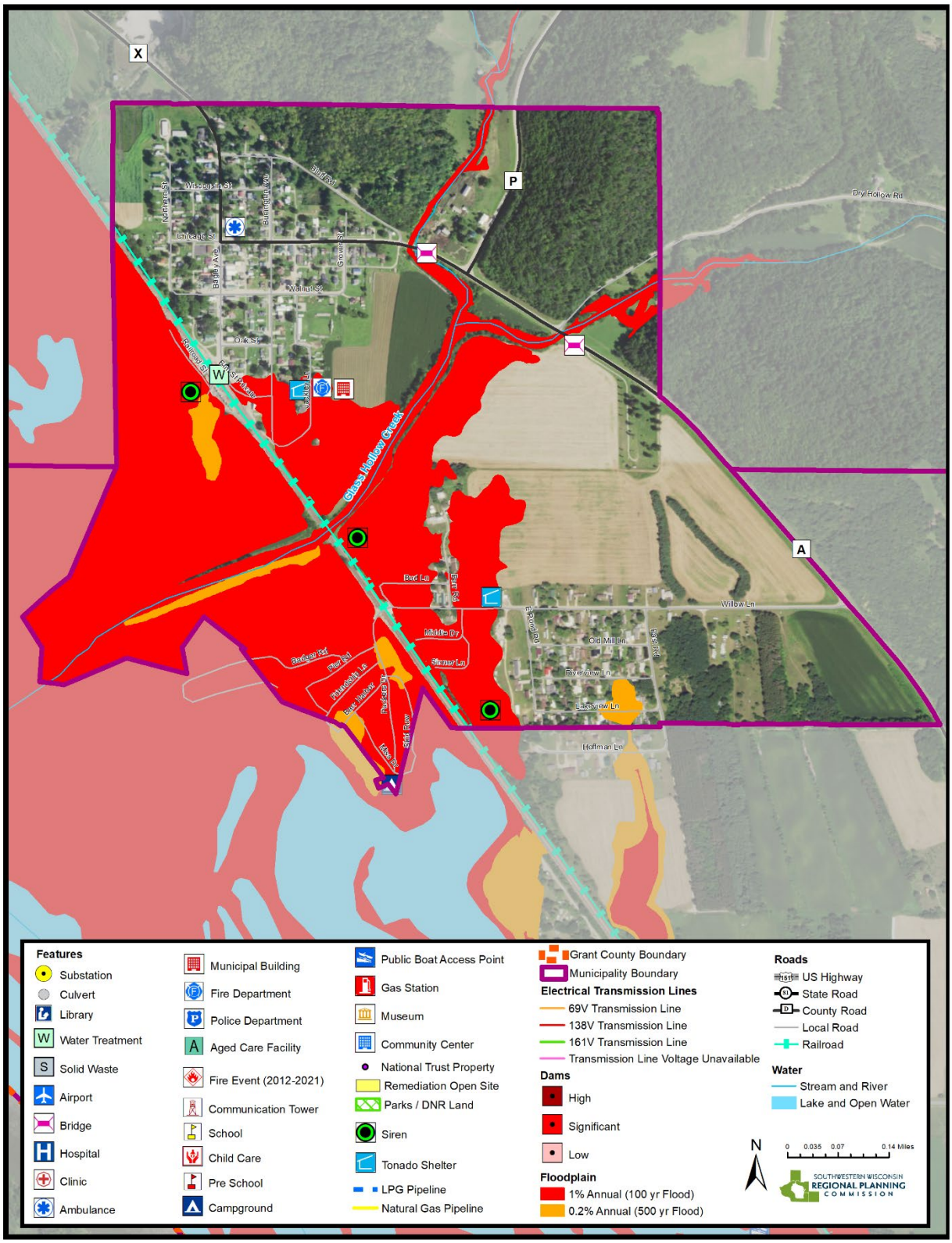
Village of Bagley

The Village of Bagley is situated on the western border of Grant County, between the western bluffs of Grant County and the Mississippi River. With an estimated population of 337 people (according to the 2020 U.S. Census), Bagley is prone to regular flash flooding due to its location near the Mississippi River and at the base of bluffs. The village also experiences a large temporary, seasonal population during the summer and fall months, adding to its vulnerability during severe weather events. To address this, Bagley has established two storm shelters to provide critical refuge for residents and visitors during emergencies. Bagley is equipped with four sirens that provide adequate coverage for the entire village, along with three backup generators. These include one standby generator at the firehouse/community building, one standby generator at River of Lakes, and one portable generator at the wastewater treatment plant.

Village of Bagley Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	1 year	Village, Public Works Dept.	$100k - $1 million	CDBG	Undertake vulnerability analysis of water treatment facility and address needs.
High	2 years	Village	$2k-$25k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	3 years	Village, GCEM	$200k - $1 million	BRIC Grant, PDM	Work with engineers to develop solutions to flash flooding from Dry Hollow and Glass Hollow. Strategies are to move stormwater away from and out of village.
High	3 years	Village, Rail Company	$500k - $1 million	HMGP, Rail Company	Work with rail company officials to ensure proper stormwater outflow at railroad bridges and to upgrade infrastructure as appropriate.
High	3 years	Village	$1k/year	County & Municipal Budget	Work with GCEM to implement shared county/local emergency mass notification system.
High	4 years	Village, GCEM	Unknown	HMGP	Evaluate and address flood-prone structures in hazard area.
High	4 years	Village, Public Works Dept.	$100k - $200k per generator	PDM	Purchase new standby generator for the wastewater treatment plant.
Med.	1 year	Village	Existing staff time	N/A	Work with GCEM to update the Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Village, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Village	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Village	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).

Village of Bagley Local Action Recommendations (Continued)					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
Med.	5 years	Village, County	Existing staff time, unknown cost	Municipal Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Village, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	Village	Existing staff time	Municipal Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Low	Ongoing	Village	Existing staff time, $1k-$10k per generator	Personal Budgets	Encourage residential back-up power generators.

Village of Bagley Map



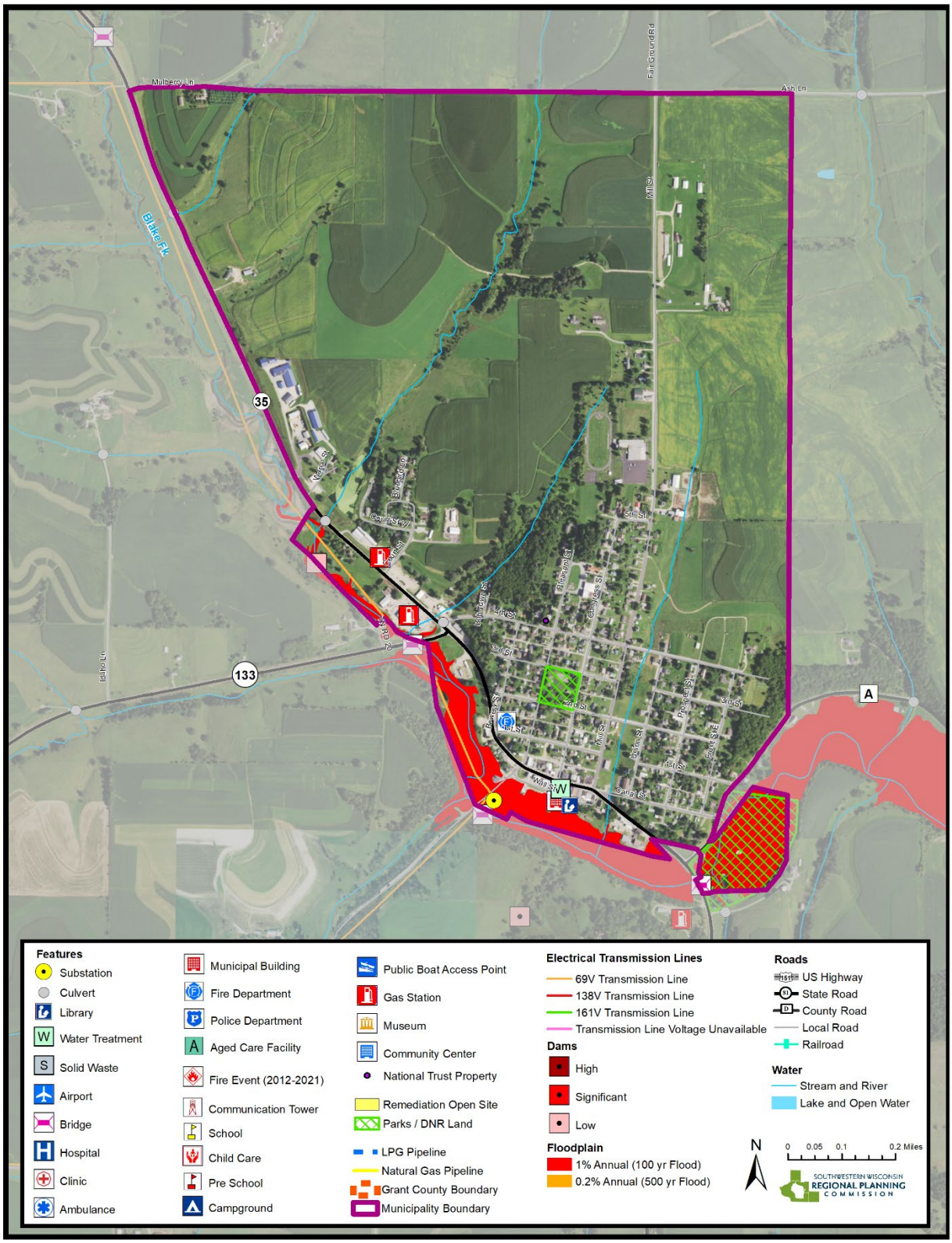
Village of Bloomington

The Village of Bloomington is located in northwestern Grant County and has an estimated population of 741 according to the 2020 U.S. Census. The village is located on a ridge top and features popular fairgrounds and a public park. However, it faces recurring challenges from annual flooding of the Blake Fork tributary of the Grant River, which runs through the public park and adjacent to the village. Shelter options during emergencies include the fire station equipped with a generator or the St. Mary's Church basement. The village has one functional but aged siren for alerting residents and visitors during hazardous events.

Village of Bloomington Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	1 year	Village, Public Works Dept.	$100k - $1 million	CDBG	Undertake vulnerability analysis of water treatment facility and address needs.
High	2 years	Village	$2k-$25k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	2 years	Village, Public Works Dept.	$100k - $200k per generator	PDM	Purchase new generator for the water treatment plant.
High	3 years	Village	$1k/year	County & Municipal Budget	Work with GCEM to implement shared county/local emergency mass notification system.
High	5 years	Village	$500k - $2 million	WDNR	Work on controlling inflow and infiltration entering the sewer system.
Med.	1 year	Village	Existing staff time	N/A	Work with GCEM to update the Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Village, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Village	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Village	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Village, Private Land Owners	$500- $1 million	HHPD, HMGP, WDNR	Adopt policy and seek funding for evaluation and maintenance for dams and infrastructure within village limits.
Med.	5 years	Village	$5k-$100k	EIGP	Invest in renewable energy and energy efficiency in order to reduce footprint of local government and increase resilience.
Med.	5 years	Village, County	Existing staff time, unknown cost	Municipal Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.

Village of Bloomington Local Action Recommendations (Continued)					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
Med.	5 years	Village, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	Village	Existing staff time	Municipal Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Low	Ongoing	Village	Existing staff time, $1k-$10k per generator	Personal Budgets	Encourage residential back-up power generators.

Village of Bloomington Map

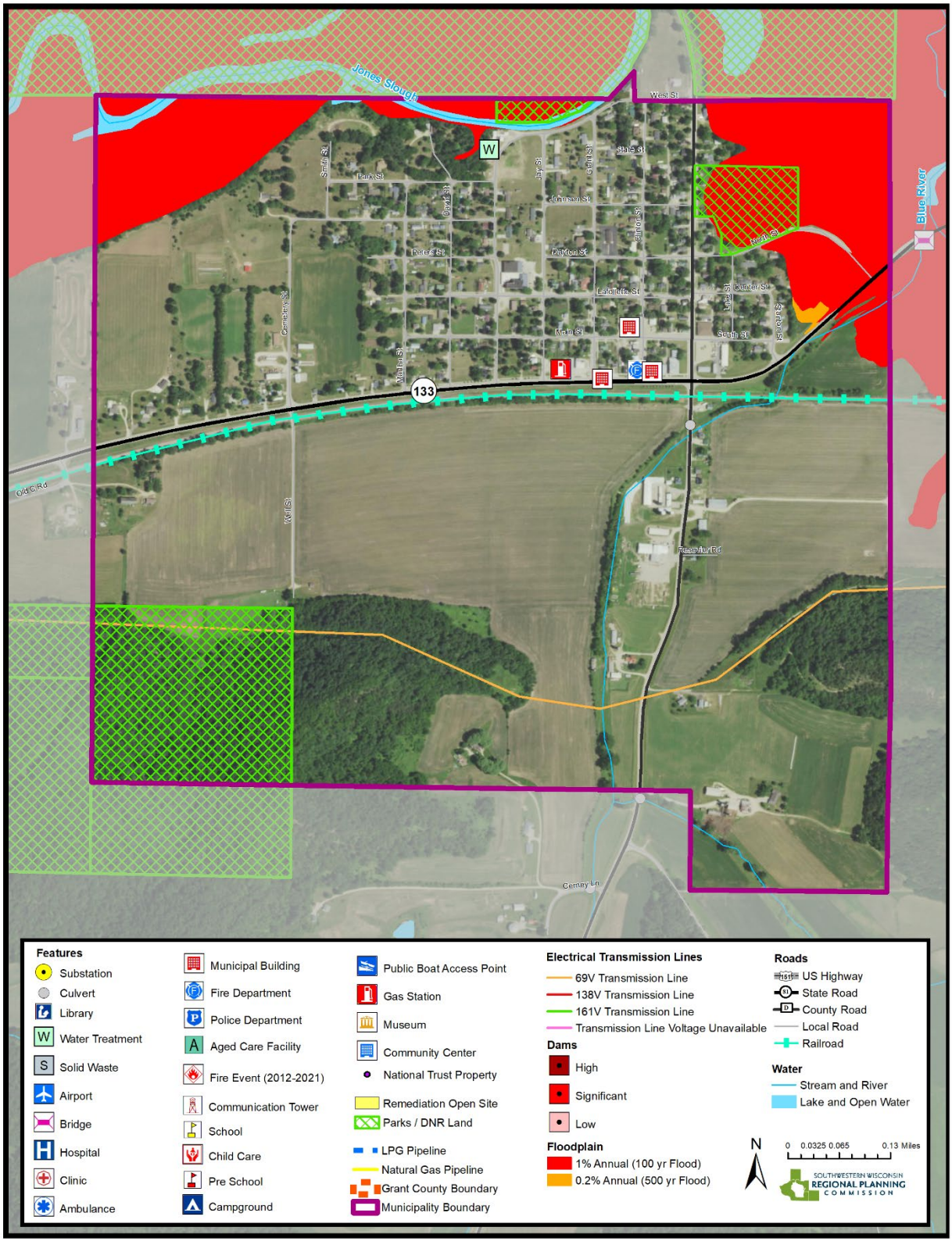


Village of Blue River

The Village of Blue River in Grant County, Wisconsin, has an estimated population of 457 according to the 2020 U.S. Census. Located on the northern boundary of the county, Blue River is situated within the Wisconsin River Valley, nestled at the base of steep bluffs. The village is home to one of the four bridges that cross the Wisconsin River in the county. Blue River has one functional siren for alerts and adequate coverage, and Village Hall serves as a shelter option in case of storms for locals and visitors. Additionally, there are two backup generators located at the fire department and Village Hall. The village faces flood risk from Jones Slough and the Blue River.

Village of Blue River Local Action Recommendations					
Priority	**Timeline**	**Responsibility**	**Cost**	**Potential Funding Source**	**Strategy**
High	2 years	Village	$2k-$25k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	3 years	Village, Public Works Dept.	$100k - $1 million	CDBG	Undertake vulnerability analysis of water treatment facility and address needs.
High	3 years	Village	$1k/year	County & Municipal Budget	Work with GCEM to implement shared county/local emergency mass notification system.
High	5 years	Village, Private Homeowners	$10k - $200k	HMGP	Protect vulnerable homes in the Blue River floodplain.
Med.	1 year	Village	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan for village administration, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Village, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Village	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Village	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Village, County	Existing staff time, unknown cost	Municipal Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Village	Existing staff time	Municipal Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.

Village of Blue River Map



Village of Cassville

The Village of Cassville is located in a narrow plain between the bluffs of western Grant County and the Mississippi River. Cassville has experienced numerous flooding and flash flooding events due to its location at the confluence of a large watershed and the Mississippi River. Since the last plan, action has been taken to address the repetitive loss properties, however further flood-proofing opportunities remain. The estimated population in the village is 777 according to the 2020 U.S. Census. Cassville has three sirens which provide adequate coverage, and four backup generators which are located at the sewer plant, fire department, lift station, and well. In case of an emergency, residents and visitors could shelter in the fire department or municipal building.

Village of Cassville Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Village	$2k-$25k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	3 years	Village, Public Works Dept.	$100k - $1 million	CDBG	Undertake vulnerability analysis of water treatment facility and address needs.
High	3 years	Village	Unknown	CDBG, HMGP	Implement measures to reduce seepage and infiltration of river water through the levee during major flooding events.
High	3 years	Village	$1k/year	County & Municipal	Work with GCEM to implement shared county /local emergency mass notification system.
High	5 years	Village, Public Works Dept.	Unknown	CDBG, HMGP	Implement measures to reduce infiltration into sanitary sewer system during river flooding events.
High	5 years	Village	Unknown	CDBG, HMGP	Encourage installation of backflow valves at vulnerable residential and commercial dwellings to limit damages during river flooding events.
High	5 years	Village, Private homeowners	$20k - $1 million	HMGP	Pursue flood proofing or other cost-beneficial mitigation strategies for vulnerable housing in the village.
High	5 years	Village, Town	Existing Staff Time	N/A	Work with property owners upstream to mitigate flash flooding within the village by addressing riparian conditions.
Med.	1 year	Village	Existing staff time	N/A	Work with GCEM to update the Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Village, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Village	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Village	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).

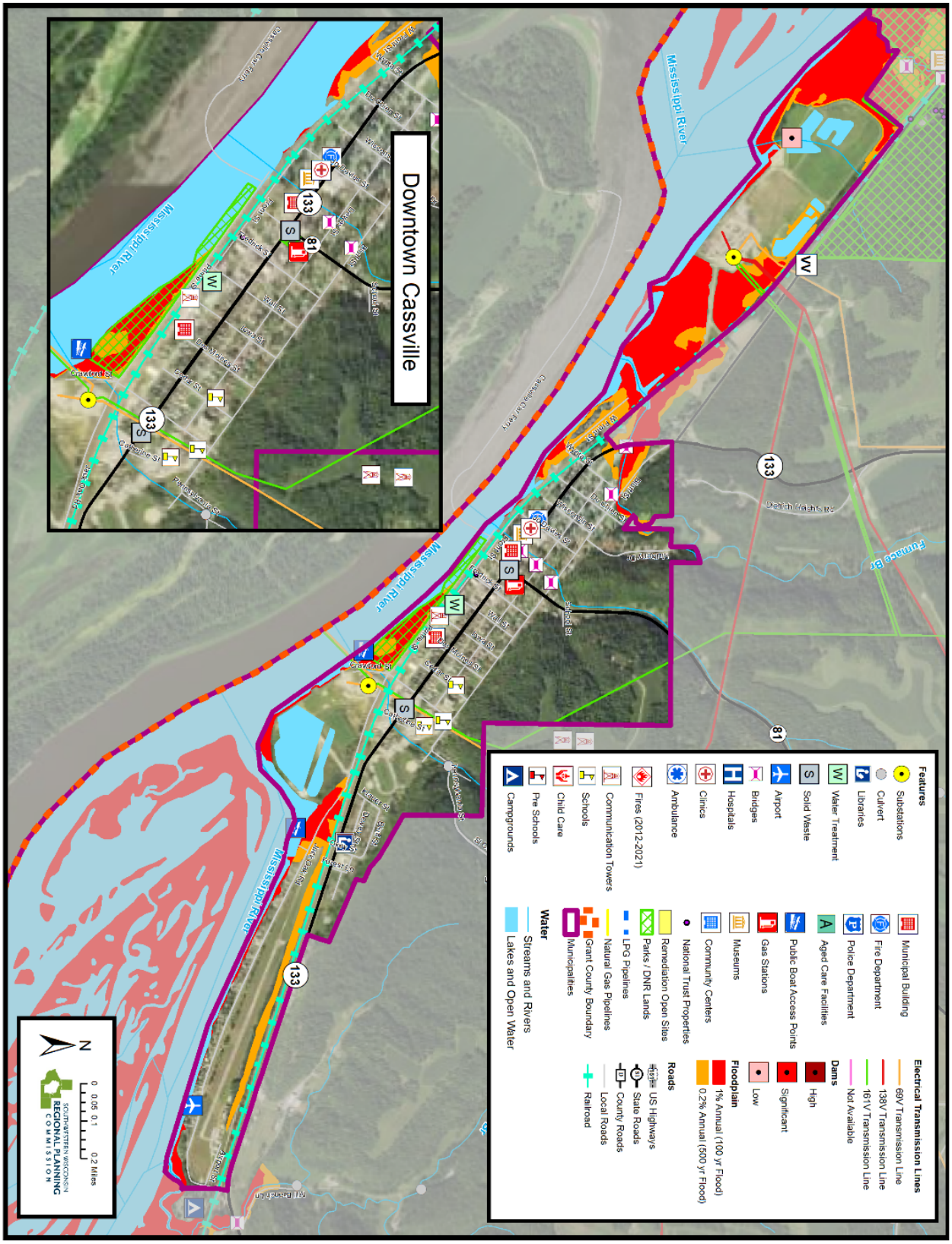
Village of Cassville Local Action Recommendations (Continued)					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
Med.	5 years	Village	$5k-$100k	EIGP	Invest in renewable energy and energy efficiency in order to reduce footprint of local government and increase resilience.
Med.	5 years	Village, Local Businesses	Existing staff time	N/A	Work with local businesses to educate and develop Continuity of Operations Plans.
Med.	5 years	Village	Existing staff time	Municipal Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.

Cassville School District

Cassville School District is located in the central part of the village and total enrollment for the 2022/2023 school year was 172 students according to the Department of Public Instruction.

Cassville School District Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2-3 years	Cassville School District	$0-$200K	School Budget	Update fire alarm system and add wave active shooter alarm for the elementary and high school building.
High	2-3 years	Cassville School District	Existing Staff Time	BRIC Grant	Coordinate with Cassville Village and Fire Department to develop a plan for the school to be used as a public shelter during emergency situations. Educate those responsible for implementation, and consider facility improvements needed for adequate community sheltering.
High	2-3 years	Cassville School District	Existing Staff Time	School Budget, BNSF Railway Company	Work with Village of Cassville and Cassville Fire Department to develop and update an emergency operations plan, including train derailment. Educate those responsible for implementation.
Med.	5 years	Cassville School District	Existing Staff Time	School Budget	Develop a plan to maintain operations should the school building become compromised by fire or other natural hazard or emergency until repairs can be made. This may include partnering with other school districts to share facilities or services in the event of an emergency.
Med.	5-7 years	Cassville School District	$100k-$500k	School Budget	Identify and/or explore remodeling high school entrance and administration offices for increased security for staff and students.

Village of Cassville Map

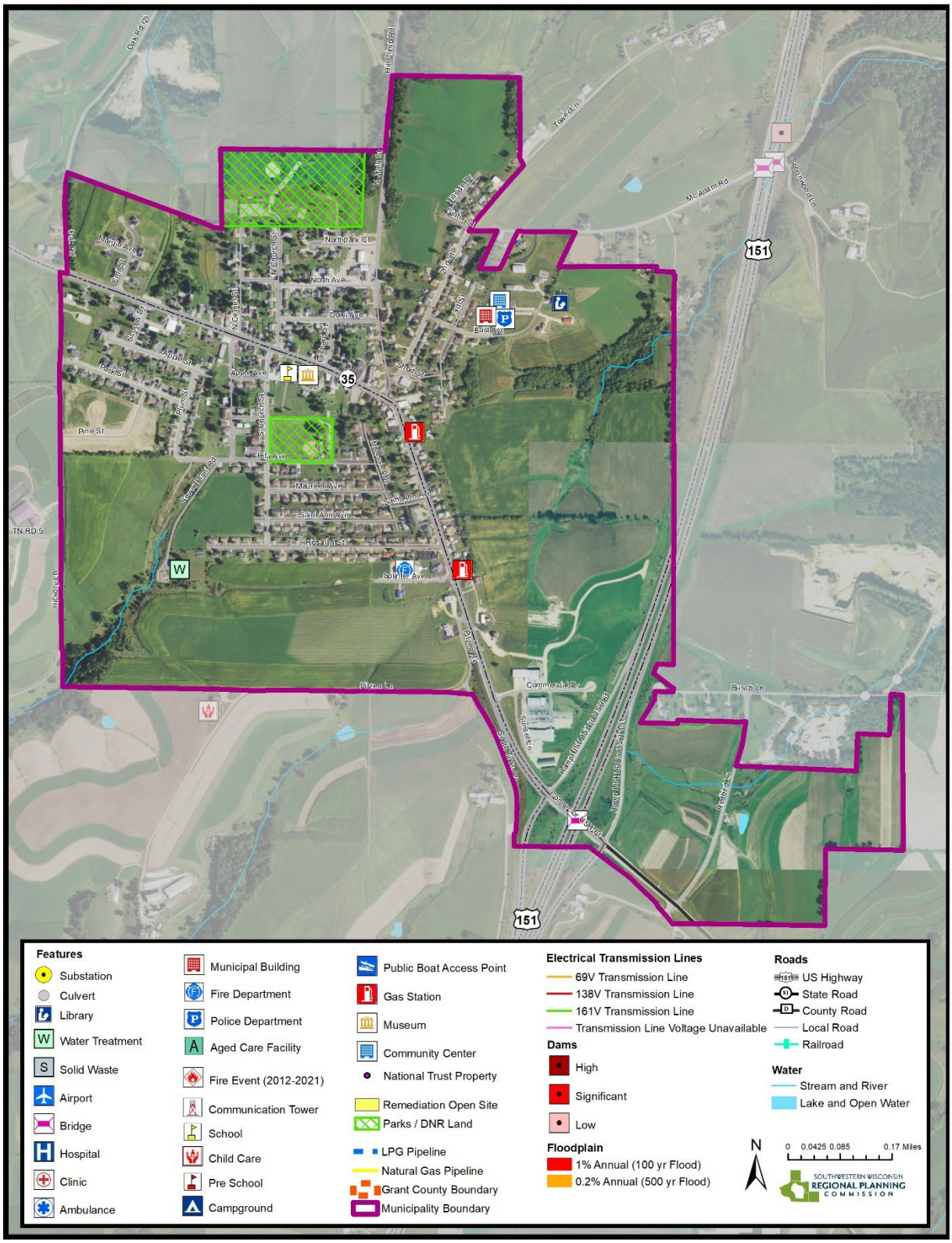


Village of Dickeyville

The Village of Dickeyville is located in southwestern Grant County and contains the US Highway 151 and State Road 35, making it vulnerable to transportation hazards such as hazardous material spills. The village has an estimated population of 1,015 according to the 2020 U.S. Census. Shelter options include the fire department, community center, and Sunset Hall; however, the community center lacks a backup generator. Dickeyville is equipped with two sirens for emergency alerts and two backup power generators.

Village of Dickeyville Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	1 year	Village, Public Works Dept.	$100k - $1 million	CDBG	Undertake vulnerability analysis of water treatment facility and address needs.
High	2 years	Village	$2k-$25k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	2 years	Village, Public Works Dept.	$20k - $200k per generator	PDM	Explore purchase of backup generator for the community center.
High	3 years	Village	$1k/year	County & Municipal Budget	Work with GCEM to implement shared county/local emergency mass notification system.
Med.	1 year	Village	Existing staff time	N/A	Work with GCEM to update the Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Village, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2-3 years	Village	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Village, County	Existing staff time, unknown cost	Municipal Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.

Village of Dickeyville Map



Village of Hazel Green

The Village of Hazel Green is located in the southeastern corner of Grant County, with a population of 1,151 according to the 2020 U.S. Census. State Highways 11 and 80 intersect in Hazel Green, which has a history of early settlement due to lead and zinc mining in the 1800s. A high-volume LP pipeline runs through the village, posing potential hazards. To enhance warning systems, the village installed 5 new sirens in 2023. Hazel Green has two portable backup generators each at HGARS, HGFD, and the lift station. Additionally, Verizon has a generator and Comelec has battery backup at the water tower.

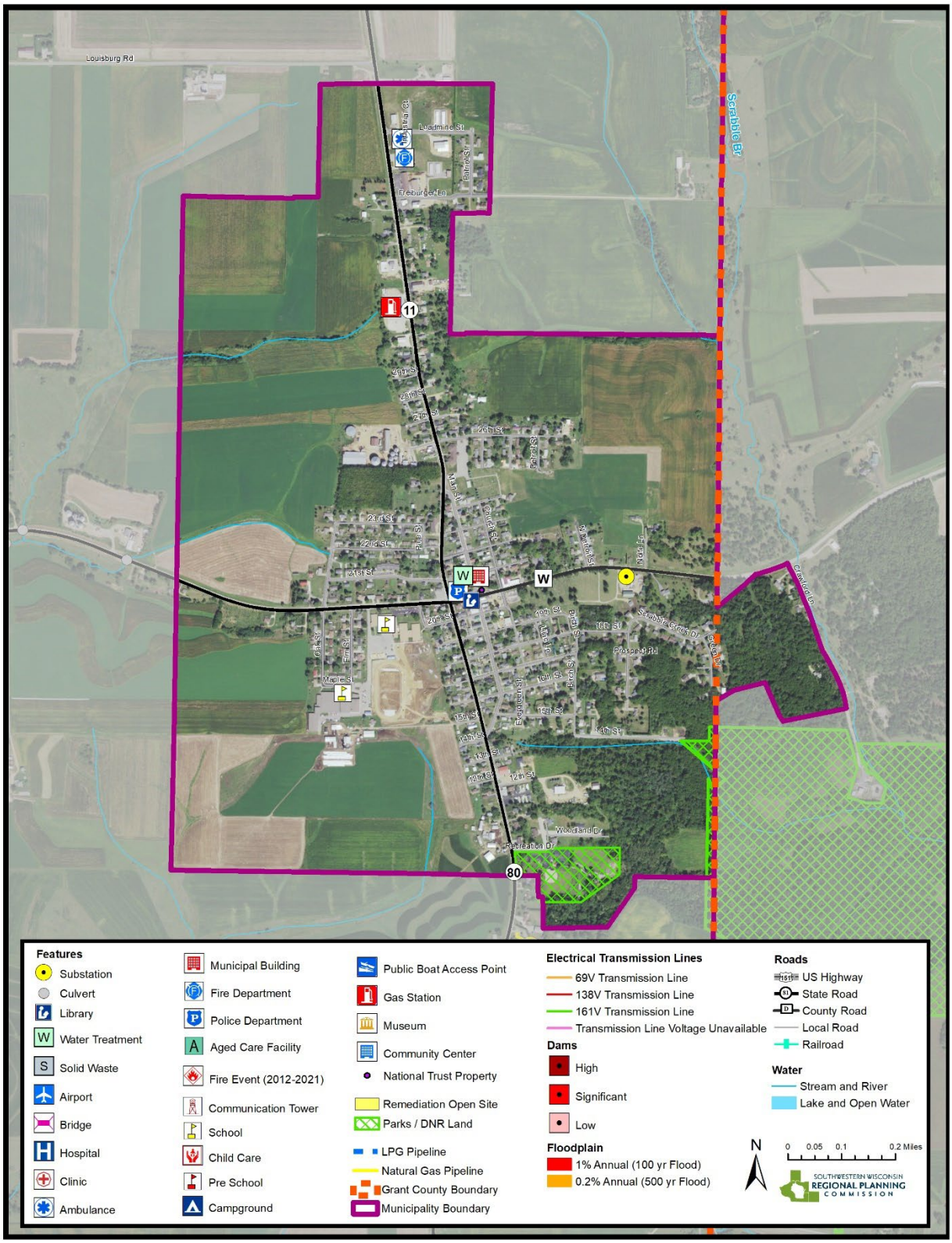
Village of Hazel Green Local Action Recommendations					
Priority	**Timeline**	**Responsibility**	**Cost**	**Potential Funding Source**	**Strategy**
High	1 year	Village, Public Works Dept.	$100k - $1 million	CDBG	Undertake vulnerability analysis of water treatment facility and address needs.
High	2 years	Village	$2k-$25k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	2 years	Village, Public Works Dept.	$5k - $150k /generator	PDM	Purchase generators for Village Hall and wells.
High	3 years	Village	$1k/year	County & Municipal Budget	Work with GCEM to implement shared county/local emergency mass notification system.
High	4 years	Village	$300k - $1 million	BRIC Grant	Explore construction of emergency shelters for vulnerable populations.
Med.	1 year	Village	Existing staff time	N/A	Work with GCEM to update the Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Village, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Village	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Village	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Village	$5k-$100k	EIGP	Invest in renewable energy and energy efficiency in order to reduce footprint of local government and increase resilience.
Med.	5 years	Village, County	Existing staff time, unknown cost	Municipal Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Village	Existing staff time	Municipal Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.

Southwestern Wisconsin School District

Southwestern Wisconsin School District is located in the southwestern part of the village and total enrollment for the 2022/2023 school year was 529 students according to the Department of Public Instruction.

Southwestern Wisconsin School District Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	1 year	Southwestern School District	$10k	SLCGP	Implement and install software to improve the security of school finance and data systems to combat cyber-attacks. Backup hard drive and alternative network solutions should also be explored.
High/ Med.	2-3 years	Southwestern School District	$20k - $30k	PDM, HMGP	Install a backup generator for the entire district in case of power outage during a storm or emergency. This may also be used when school in not in session for community sheltering purposes.
Med.	1-2 years	Southwestern School District	$5k	School Budget	Improve and install hard wire phone directly to have access to make calls in the event cell reception goes out during a crisis.

Village of Hazel Green Map

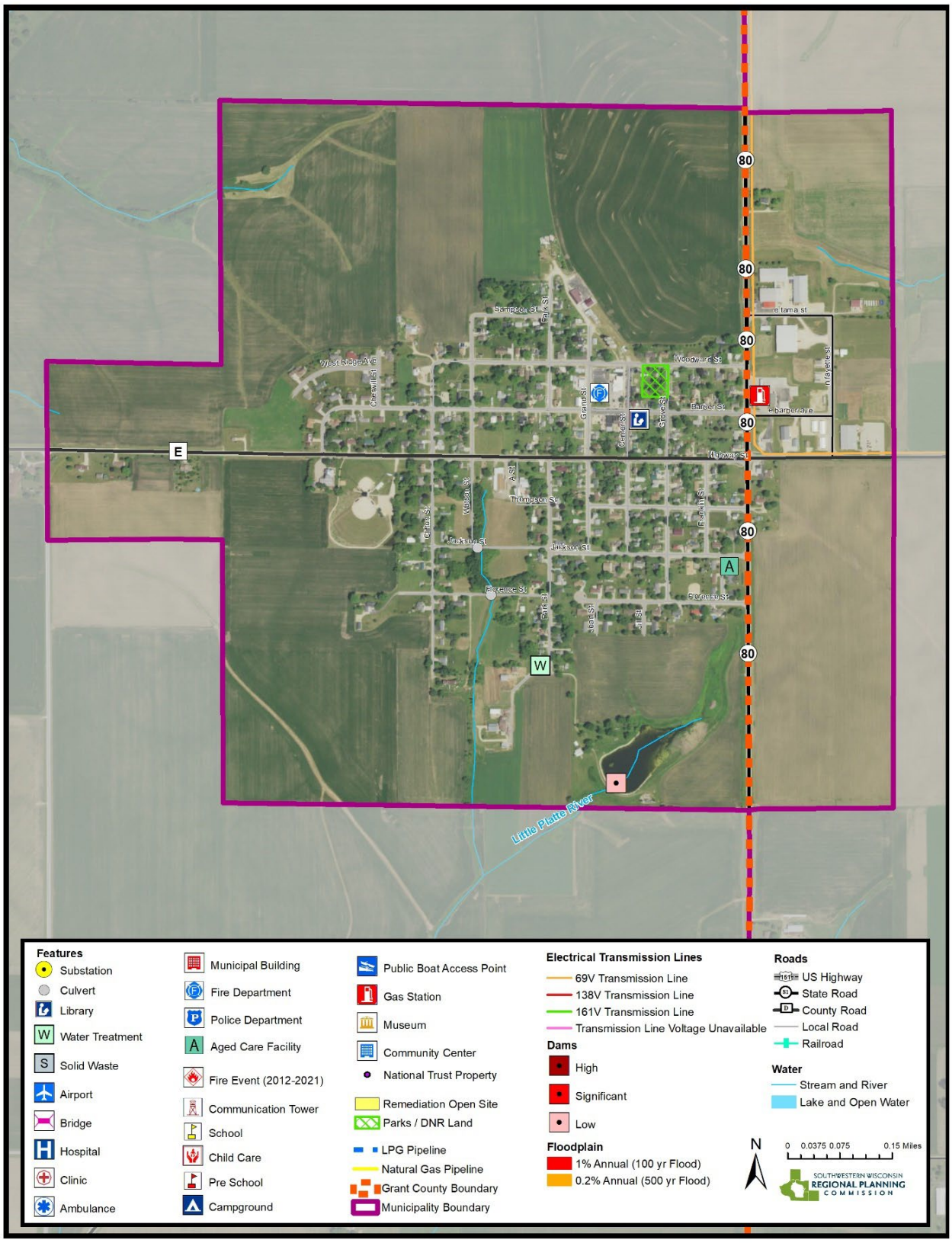


Village of Livingston

The Village of Livingston is situated on the border of Grant and Iowa County, with the majority of its land area located within Grant County. It is located along State Highway 80, between Montfort and Platteville. The estimated population of Livingston is 625 according to the 2020 U.S. Census. The village is equipped with two sirens that provide adequate coverage for emergency notifications. In the event of an emergency, the Livingston-Clifton Fire Department can serve as a shelter for both residents and visitors. Additionally, backup generators are located at the village office, sewer plant, and fire station.

Village of Livingston Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Village	$2k-$25k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	3 years	Village	$1k/year	County & Municipal Budget	Work with GCEM to implement shared county/local emergency mass notification system.
High	4 years	Village	$300k - $1 million	BRIC Grant	Explore construction of emergency shelters for vulnerable populations. One potential partnership may by Free Methodist Church as they construct a new building.
Med.	1 year	Village	Existing staff time	N/A	Test sirens more often.
Med.	1 year	Village	Existing staff time	N/A	Work with GCEM to update the Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Village, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Village	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Village	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Village, County	Existing staff time, unknown cost	Municipal Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Village	Existing staff time	Municipal Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.

Village of Livingston Map

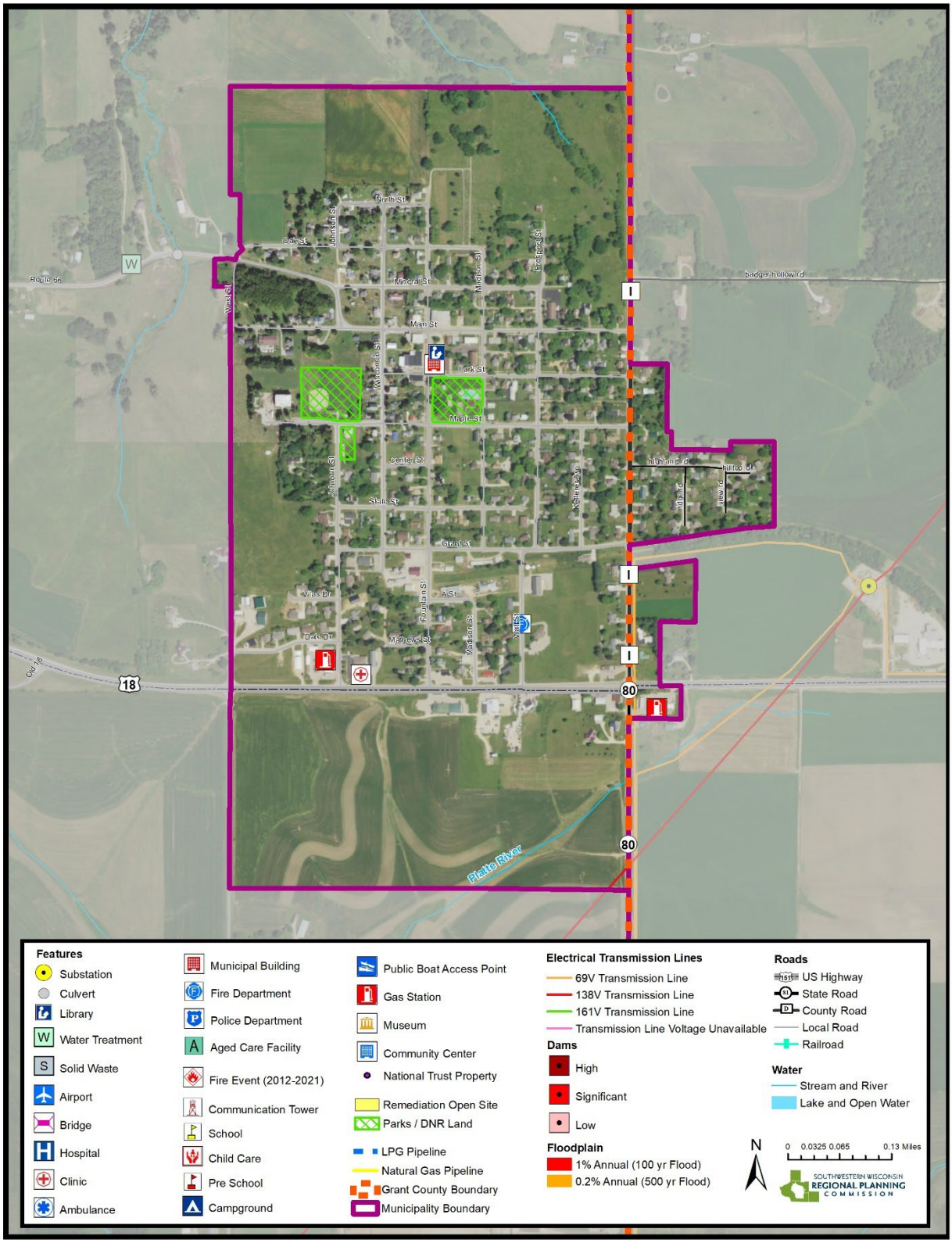


Village of Montfort

The Village of Montfort is located in the northern half of Grant County on Military Ridge, at the intersection of State Highway 80 and US Highway 18. The village is vulnerable to transportation accidents at the intersection. The estimated population is 633 according to the 2020 U.S. Census. Montfort has one siren for emergency notifications, and the fire station serves as a shelter option during emergencies. The fire station is equipped with one backup generator.

Village of Montfort Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	1 year	Village, GCEM	Existing staff time	N/A	Conduct training and exercises on EOP, especially for transportation accidents results in hazardous materials spill.
High	1 year	Village	Staff time	N/A	Address siren activation problem.
High	2 years	Village	$30k	CDBG	Develop a 5–10-year capital improvement plan to address and/or maintain the village's utility infrastructure.
High	2 years	Village	$2k-$25k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	2 years	Village, Public Works Dept.	$100k - $200k per generator	PDM	Purchase new generator for the village building. This will better equip the building to serve as an emergency shelter.
High	3 years	Village	$1k/year	County & Municipal Budget	Work with GCEM to implement shared county/local emergency mass notification system.
Med.	1 year	Village	Existing staff time	N/A	Work with GCEM to update the Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Village, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Village	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Village	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Village	$5k-$100k	EIGP	Invest in renewable energy and energy efficiency in order to reduce footprint of local government and increase resilience.
Med.	5 years	Village, County	Existing staff time	Municipal Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Village	Existing staff time	Municipal Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.

Village of Montfort Map

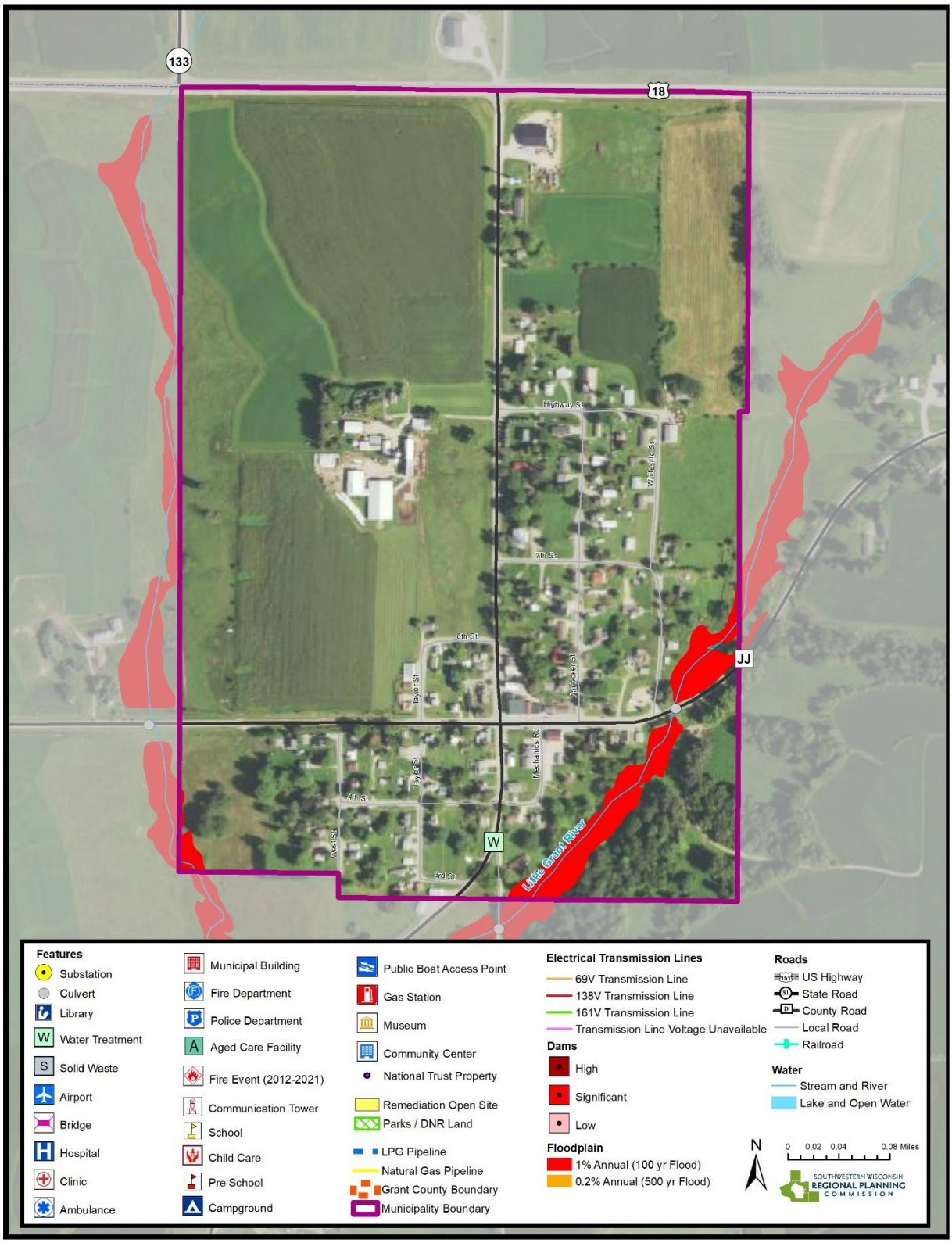


Village of Mount Hope

The Village of Mount Hope has an estimated population of 215 according to the 2020 U.S. Census. It is situated on Military Ridge, south of US Highway 18. The village has one siren that provides adequate coverage, and the fire station serves as a shelter during emergencies. There are no backup generators available for critical facilities such as the well, wastewater treatment plant, and fire station due to cost, storage, and maintenance concerns. The village also maintains a Facebook page where emergency and local information is shared.

Village of Mount Hope Local Action Recommendations					
Priority	**Timeline**	**Responsibility**	**Cost**	**Potential Funding Source**	**Strategy**
High	1 year	Village	Unknown	Village Budget	Conduct maintenance on siren to address wiring issue.
High	1 year	Village, Public Works Dept.	$100k - $1 million	CDBG	Undertake vulnerability analysis of water treatment facility and address needs.
High	2 years	Village	$2k-$25k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	2 years	Village, Public Works Dept.	$10k - $200k per generator	PDM	Purchase generator(s) to provide backup power to the wastewater treatment plan, well, and fire station.
High	3 years	Village	$1k/year	County & Municipal Budget	Work with GCEM to implement shared county/local emergency mass notification system.
High	4 years	Village	$300k - $1 million	BRIC Grant	Explore construction of emergency shelters for vulnerable populations.
High	5 years	Village	$4 million - $8 million	Congr. Appro.	Expand or rebuild fire station and provide technology updates to facility and resources.
Med.	1 year	Village	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Village, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Village	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Village	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, etc.)
Med.	5 years	Village	$5k-$100k	EIGP	Invest in renewable energy and energy efficiency in order to reduce footprint of local government and increase resilience.
Med.	5 years	Village, County	Existing staff time, unknown cost	Municipal Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Village, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.

Village of Mount Hope Map



Village of Muscoda

Muscoda, a village on the northeastern border of Grant County, Wisconsin, has an estimated population of 1,245 according to the 2020 U.S. Census. Located on a large sand plain in the Wisconsin River Valley, the village is traversed by a rail line to the south. The area includes forestland, a campground, and access to the Wisconsin River, but is at high risk for wild and forest fires due to the abundance of forests and underbrush. The well-drained sandy soil also makes the village susceptible to drought. Muscoda has two sirens for emergency alerts and two backup generators, one owned by the village and housed at the fire station, and one portable. However, additional generators would be needed to serve critical infrastructure including substations, lift stations, and the village hall. The fire station and village hall serve as emergency shelters.

Village of Muscoda Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Village, Public Works Dept.	$10k - $200k per generator	PDM, SLCGP	Purchase new generator(s) for lift stations, substations, and village hall.
High	2 years	Village	$2k-$25k	PDM	Make investments in cyber protection for municipal government.
High	3 years	Village, Public Works Dept.	$100k - $1 million	CDBG	Undertake vulnerability analysis of water treatment facility and address needs.
High	3 years	Village	$1k/year	County & Municipal Budget	Work with GCEM to implement shared county/local emergency mass notification system.
High	4 years	Village	$300k - $1 million	BRIC Grant	Explore construction of emergency shelters for vulnerable populations.
Med.	1 year	Village	Existing staff time	N/A	Work with GCEM to update the Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Village, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources, including for improved technology.
Med.	2 years	Village	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) and communicate to residents and visitors.
Med.	5 years	City, Fire Dept., WDNR, Burn Contractor	$1.5k - $5k, WDNR staff time	PDM	Conduct prescribed burns and educate homeowners about fire prevention and protection practices.
Med.	5 years	Village, Private Homeowners	$50k - $500k	HMGP, CDBG	Work with homeowners who have been recently identified as flood-prone due to floodplain information changes. Homes not previously in the floodplain are now vulnerable and may need to brought into compliance.
Med.	5 years	Village	$5k-$100k	EIGP	Invest in renewable energy and energy efficiency in order to reduce footprint of local government and increase resilience.

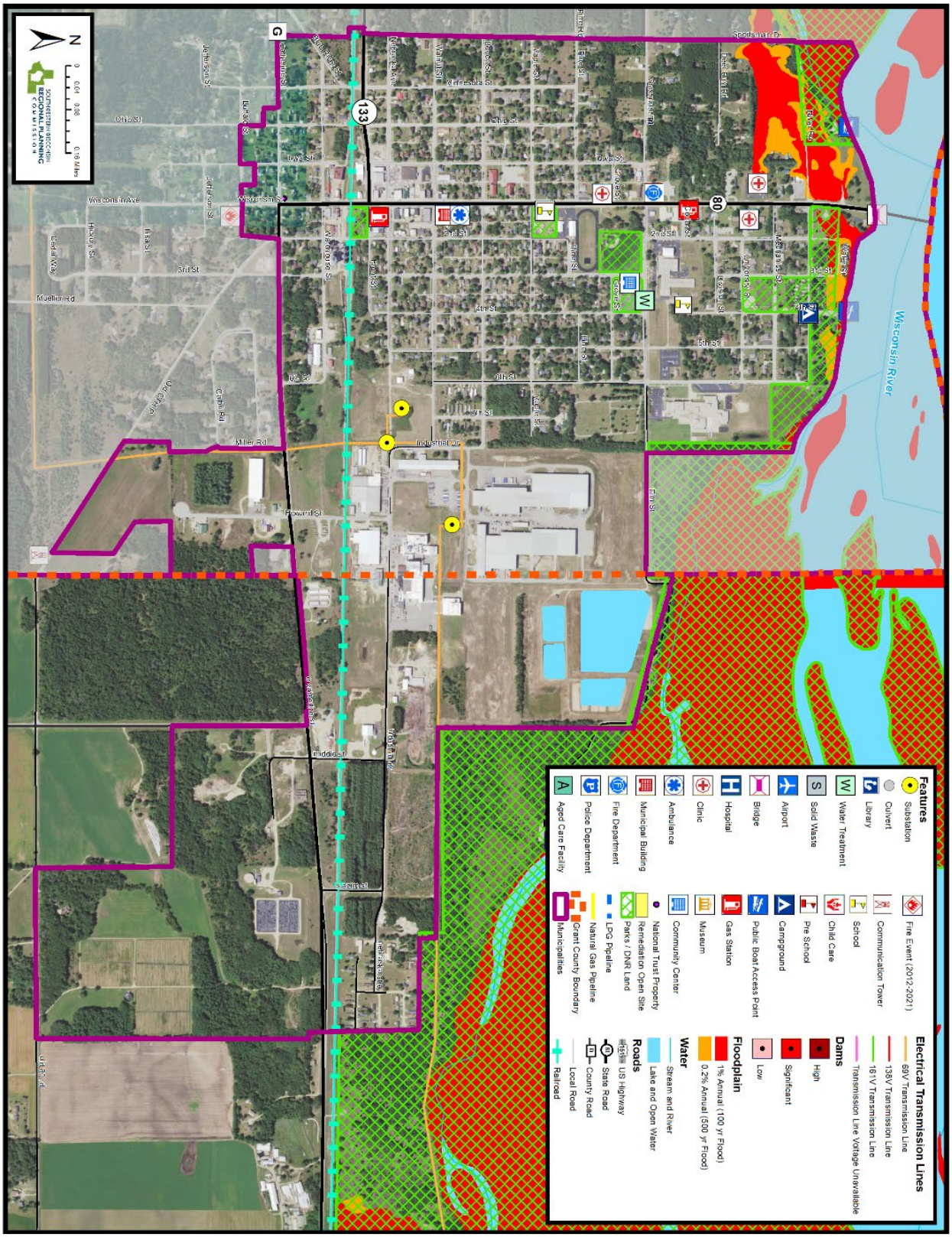
Village of Muscoda Local Action Recommendations (Continued)					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
Med.	5 years	Village	Existing staff time	Municipal Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Village, County	Existing staff time, unknown cost	Municipal Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.

Riverdale School District

Riverdale School District is located in the northwestern part of the village and total enrollment for the 2022/2023 school year was 653 students according to the Department of Public Instruction.

Riverdale School District Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	1 year	Riverdale School District	$5k	PDM, HMGP	Secure plan and access for back up internet service in the case of an emergency outage, working with either Grant County or Richland Grant.
High	Ongoing	Riverdale School District	Unknown, Existing Staff Time	Get Kids Ahead Initiative Grant	Create a sustainable plan for addressing student mental health. This may include exploring additional personnel and/or supportive programming and services.
Med.	1-3 years	Riverdale School District	$60k	PDM, HMGP	Purchase a battery back-up system and/or natural gas generator at the elementary school to power critical facilities in the event of an emergency power outage. When school is not in session, this back up power could be used for the larger community in the event of an emergency.

Village of Muscoda Map



Village of Patch Grove

The Village of Patch Grove is located at the western edge of Military Ridge in northern Grant County. The estimated population of the village is 201 according to the 2020 U.S. Census. The village is situated on State Highway 35, just south of US Highway 18. However, during extreme rain and melting snow, floodwater crossing Highway 35 can pose traffic issues in the area. Patch Grove has one siren for emergency alerts and two backup generators, located at the sewer department and water department. The village hall serves as the designated shelter for people in case of emergency.

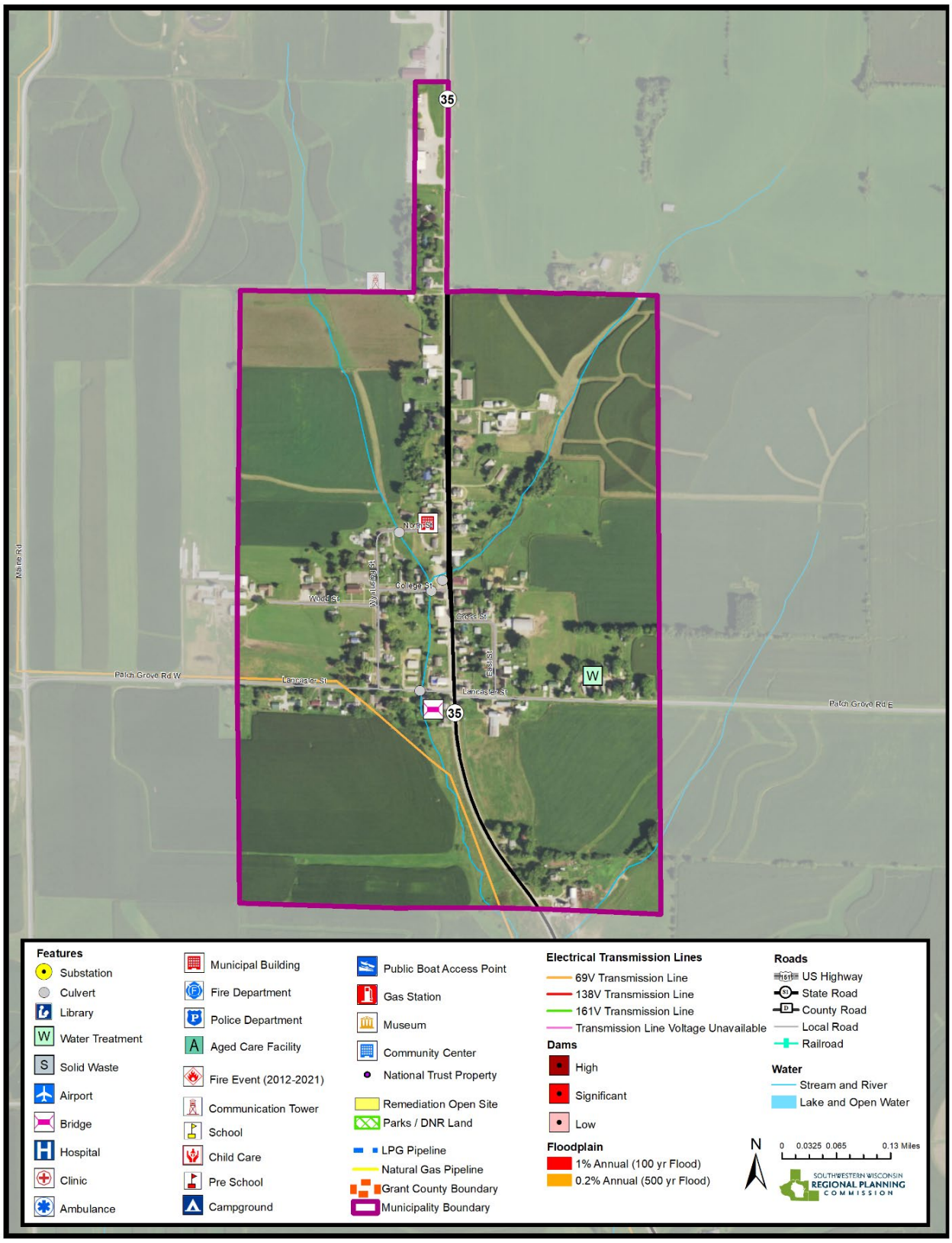
Village of Patch Grove Local Action Recommendations					
Priority	**Timeline**	**Responsibility**	**Cost**	**Potential Funding Source**	**Strategy**
High	2 years	DOT, Village	Unknown	HMGP, DOT	Study and address safety issues related to flooding over State Highway 35 during major rainfall or snowmelt events.
High	2 years	Village	$2k-$25k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	2 years	Village, Public Works Dept.	$10k - $200k per generator	PDM	Purchase generator(s) for the village hall and fire station.
High	3 years	Village	$1k/year	County & Municipal Budget	Work with GCEM to implement shared county/local emergency mass notification system.
Med.	1 year	Village	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Village, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Village	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Village	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Village, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	Village	Existing staff time	Municipal Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Low	3 years	Village	$1k - $20k	Municipal Budget	Update website to provide emergency and mitigation information to the community.

River Ridge School District

River Ridge School District is located just north of the Village of Patch Grove and total enrollment for the 2022/2023 school year was 524 students according to the Department of Public Instruction.

River Ridge School District Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2-3 years	River Ridge School District	$1.75 million	BRIC Grant	Install campus-wide air conditioning for student and staff safety, and to serve as a community shelter space for community members in the event of severe heat when school is not in session.
High	5 years	River Ridge School District	$200k	PDM, HMGP	Acquire and maintain an emergency back-up power source, which would allow the school to remain open in the event of power loss. This benefit would support the school, students, and staff, as well as other community members
High	5 years	River Ridge School District	$2 million	School Budget	Revamp entrance/main office area of school, including health room. This would provide a safe and secure entrance, add space to the health room to combat possible communicable disease/illness, and provide space for mental health professionals.

Village of Patch Grove Map



Village of Potosi

The Village of Potosi has a population of 646 according to the 2020 U.S. Census. Potosi is located in a narrow valley in western Grant County and regularly experiences flash flooding due to its large watershed. Previous efforts by public works and Department of Transportation have aimed to stabilize the valley with retention ponds and structures. In 2017, senior engineering students from UW – Platteville, in collaboration with Grant County Emergency Management, Southwestern Wisconsin Regional Planning Commission, and the Village of Potosi, developed a response to address flash flooding. Their design concept should be revisited as the village deals with flood risks. Potosi also faces transportation risks from US Highway 61 and State Road 133 and risks from mudslides. There are three sirens in the village and a generator at the fire and EMS building.

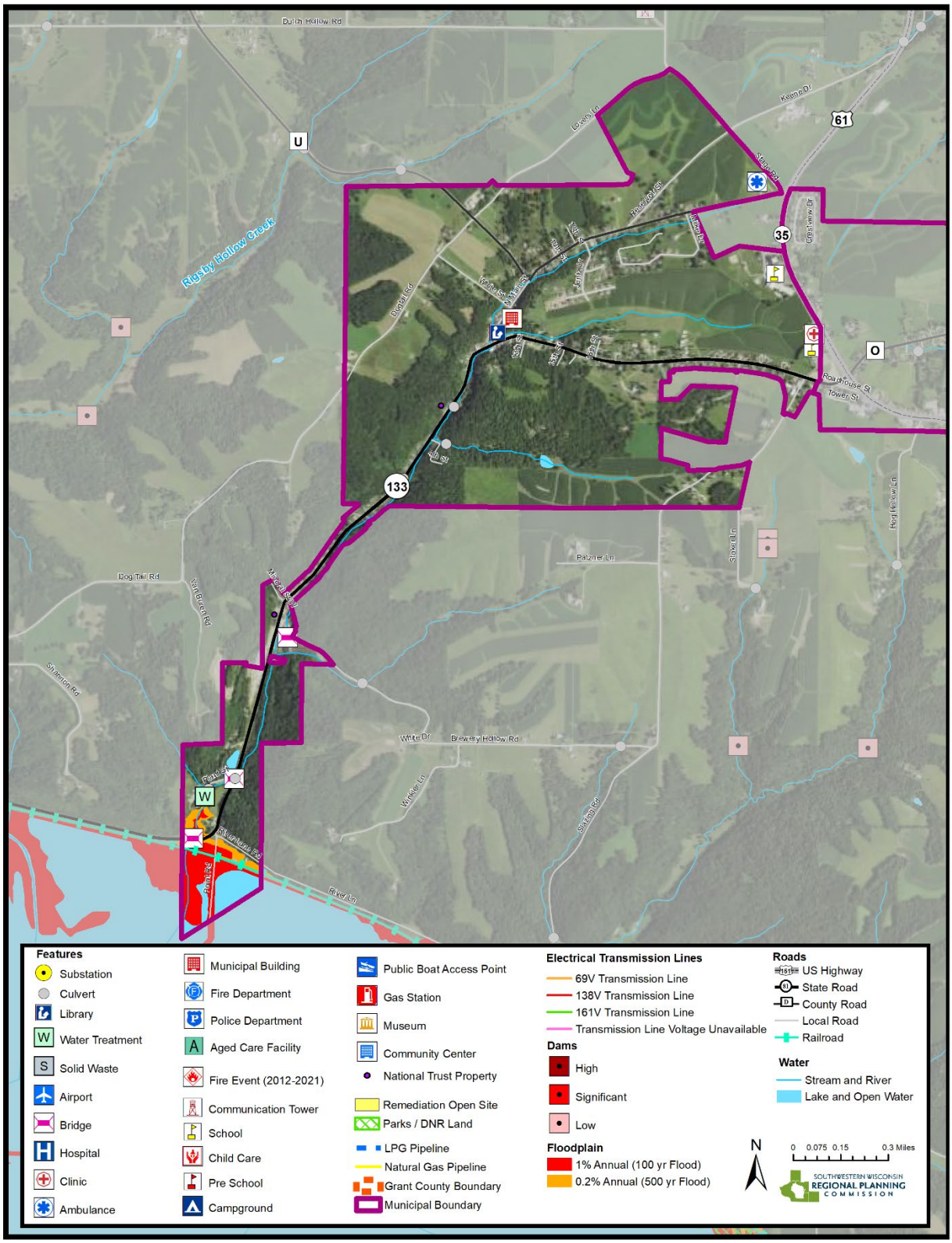
Village of Potosi Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	1-5 years	DOT, Village, Grant County	$1 million - $3 million	HMGP, WDNR, CDBG	Overcome obstacles and complete stormwater retention projects identified by the 2017 UW-Platteville senior design project.
High	2 years	Village	$2k-$25k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	2 years	Village	$10k - $200k per generator	PDM	Explore purchase of additional backup generators for the village.
High	3 years	Village	$1k/year	County & Municipal Budget	Work with GCEM to implement shared county/local emergency mass notification system.
High	3 years	Village, GCEM	Unknown	HMGP	Evaluate and address flood-prone structures in hazard areas.
High	4 years	Village	$300k - $1 million	BRIC Grant	Explore construction of emergency shelters for vulnerable populations.
Med.	1 year	Village	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Village, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Village	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Village	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Village, WDNR	Unknown	WDNR	Protect/restore wetlands to reduce flooding.
Med.	5 years	Village	Existing staff time	Municipal Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.

Potosi School District

Potosi School District is located in the eastern part of the village and total enrollment for the 2022/2023 school year was 314 students according to the Department of Public Instruction.

Potosi School District Action Recommendations					
Priority	**Timeline**	**Responsibility**	**Cost**	**Potential Funding Source**	**Strategy**
High	5 years	Potosi School District	$3 million - $5 million	BRIC Grant	Work with Grant County Emergency Management to create a plan for sheltering community members in the school during an emergency. Plan and pursue construction of a safe room in the school, including research funding opportunities and identifying sheltering needs.
Med.	5 years	Potosi School District	Existing Staff Time	School Budget	Plan for potential hazardous materials incidents with Grant County Emergency Management, especially in regards to train-related incidents due to rail line in community.
Low	2-3 years	Potosi School District	Unknown	School Budget	Work with Grant County Emergency Management to create contingency plans in the event a catastrophic event limited the use of LP gas. This plan should include supply chain issues, as LP gas is the prominent energy source throughout the village.

Village of Potosi Map

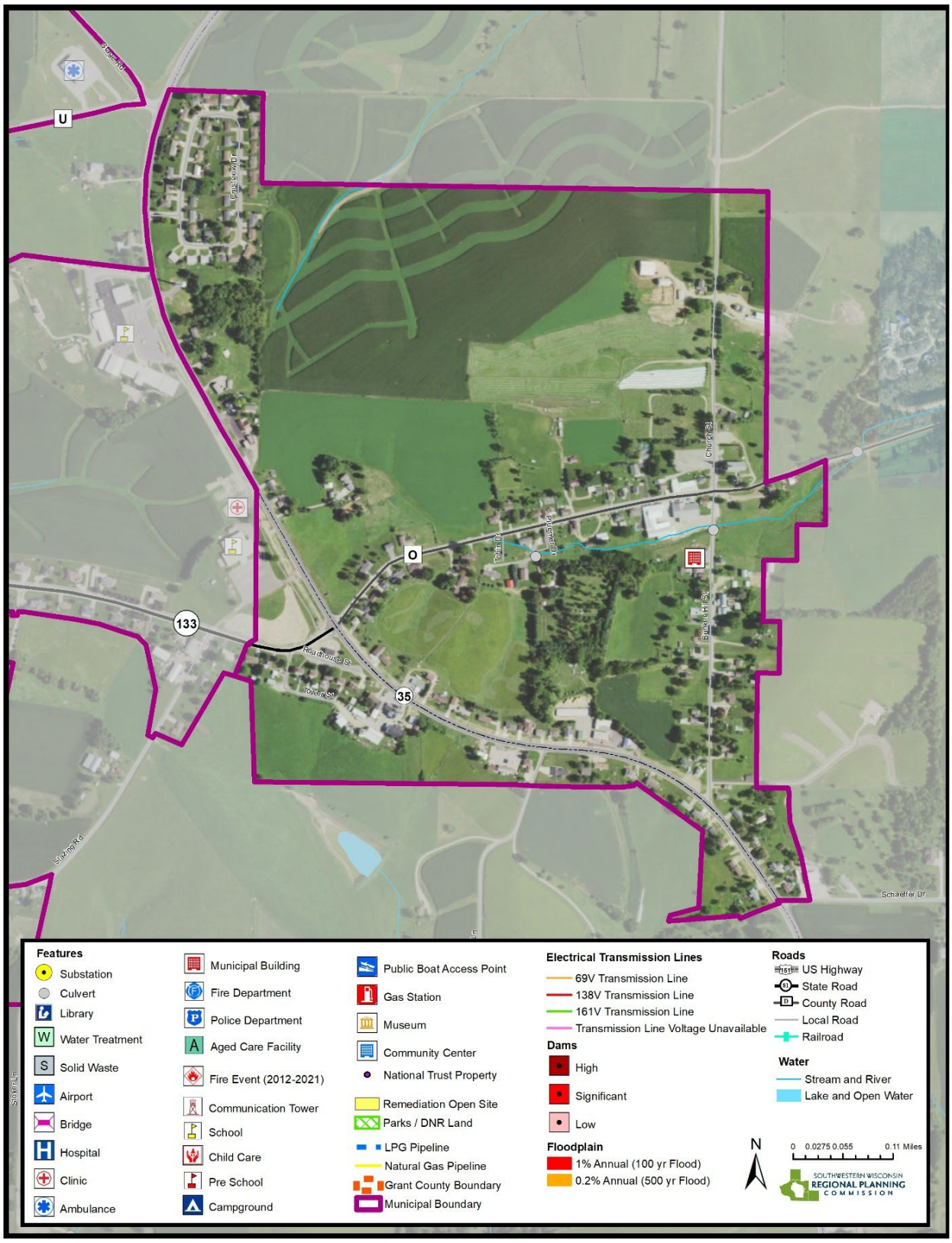


Village of Tennyson

Tennyson is the sister village of Potosi, located atop a ridge in western Grant County along US Highway 61/State Road 35. The estimated population was 348 according to the 2020 U.S. Census. Tennyson has one siren and two backup generators for the water tower and sewer pumphouse.

Village of Tennyson Local Action Recommendations					
Priority	**Timeline**	**Responsibility**	**Cost**	**Potential Funding Source**	**Strategy**
High	1 year	Village, Public Works Dept.	$100k - $1 million	CDBG	Undertake vulnerability analysis of water treatment facility and address needs.
High	2 years	Village	$2k-$25k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	3 years	Village	$1k/year	County & Municipal Budget	Work with GCEM to implement shared county/local emergency mass notification system.
High	4 years	Village	$300k - $1 million	BRIC Grant	Explore construction of emergency shelters for vulnerable populations.
Med.	1 year	Village	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Village, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Village	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Village	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements) for runoff mitigation to neighboring communities.
Med.	5 years	Village, County	Existing staff time, unknown cost	Municipal Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Low	Ongoing	Village	Existing staff time, $1k-$10k per generator	Personal Budgets	Encourage residential back-up power generators.

Village of Tennyson Map

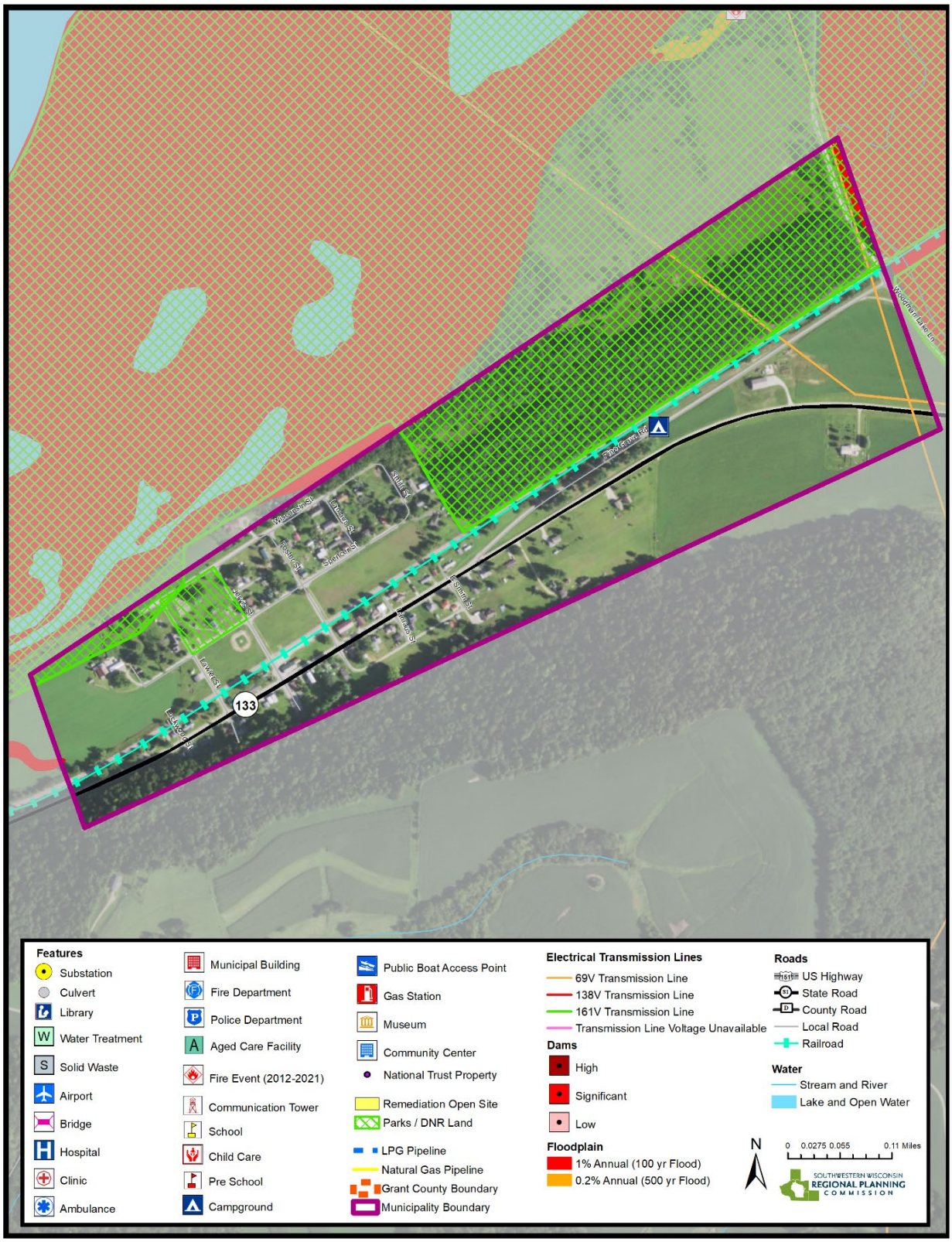


Village of Woodman

The Village of Woodman, situated in the northern Grant County within the Wisconsin River Valley, has the smallest population among all municipalities in the county, estimated at 118 people according to the 2020 U.S. Census. The village is in the process of refurbishing the new village hall with a basement for storm shelter. Woodman is intersected by a rail line and State Highway 133, which pose potential dangers in the event of a hazardous materials spill or other accidents. All railroad crossings in the village have paved approaches. The village also has a campground within its boundaries. There are currently no sirens or backup generators in the village.

Village of Woodman Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Village	$2k-$25k	PDM, SLCGP	Make investments in cyber protection for municipal government.
High	3 years	Village	$1k/year	County & Municipal Budget	Work with GCEM to implement shared county/local emergency mass notification system.
High	5 years	Village, GCEM	Unknown	HMGP	Evaluate and address flood-prone structures in hazard areas.
Med.	1 year	Village	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Village, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Village	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2 years	Village, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	3 years	Village	$20k-$100k	AFG	Install warning siren for the village.
Med.	5 years	Village	Unknown	CDBG	Evaluate stormwater outflow issues and implement solutions.
Med.	5 years	Village, County	Existing staff time, unknown cost	Municipal Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Fire Dept., Village	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Village of Woodman Map

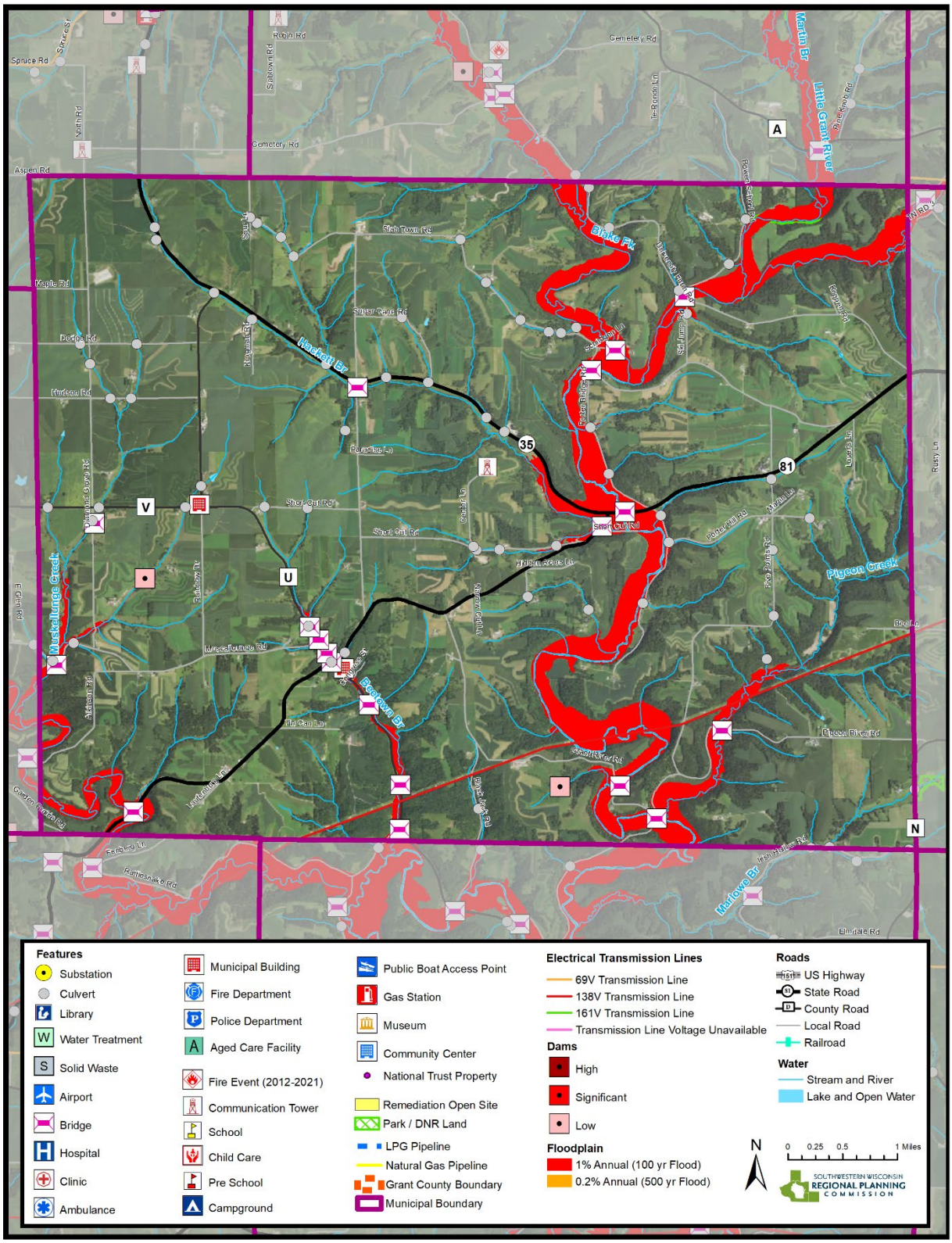


Town of Beetown

The Town of Beetown is situated in the western half of Grant County and has an estimated population of 723 people, according to the 2020 U.S. Census. It is primarily an agricultural area with no incorporated communities. The Grant River and six of its tributaries run through Beetown, posing flood risk. Emergency response time is a concern due to the remote location from EMS and fire protection services. Similar to other townships in the county, inadequate wireless service and broadband access are also challenges faced by Beetown.

Town of Beetown Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	1 year	Town	Unknown	HMGP	Evaluate flooding at Town Hall Building. Consider construction of flood barriers. Store records and equipment out of flood areas.
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
High	3 years	Town	$200k - $800k	CDBG, HMGP, WDNR	Address structures in the flood hazard area and upgrade stormwater infrastructure.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Beetown Map

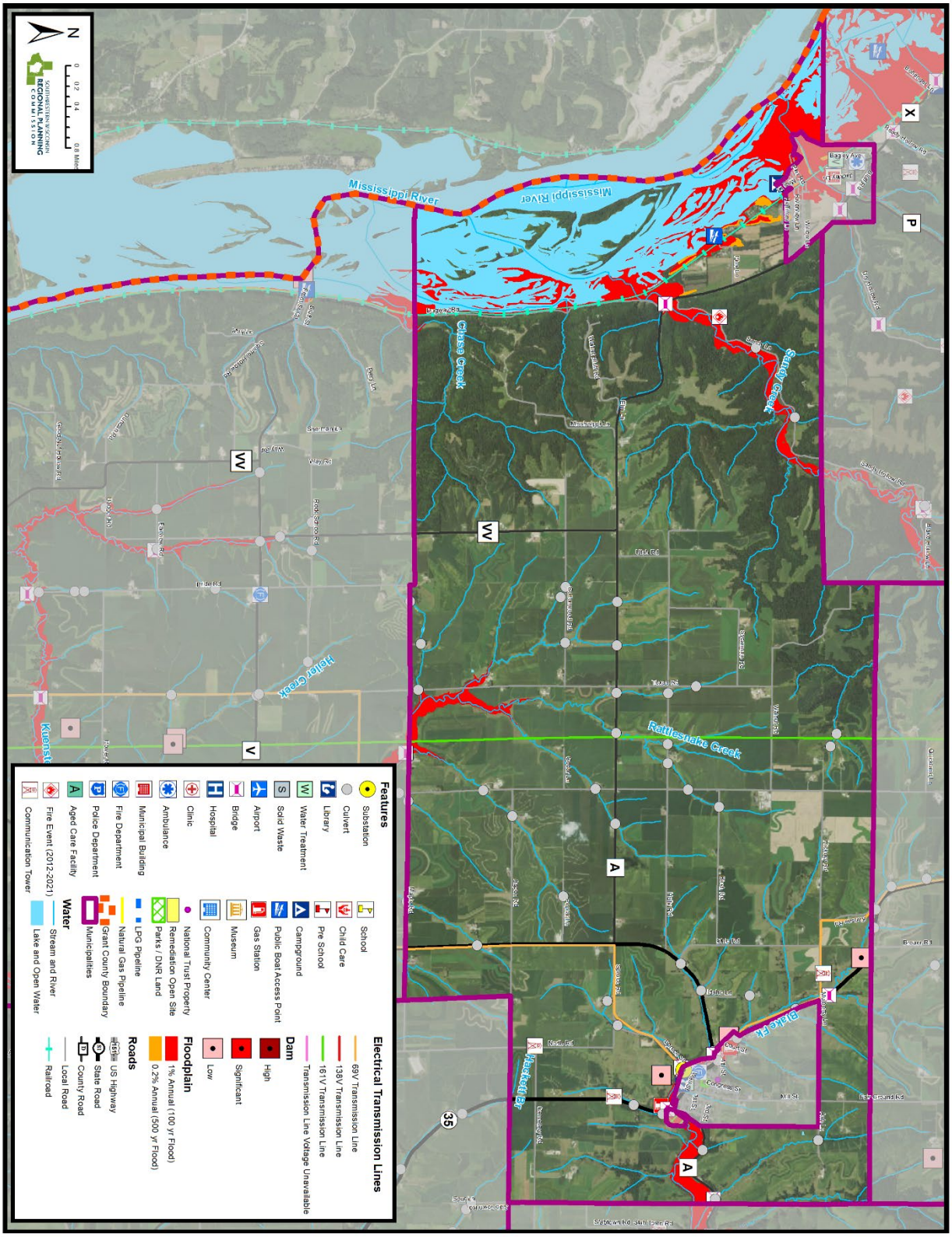


Town of Bloomington

The Town of Bloomington is located in the western half of Grant County and borders the Mississippi River. Bloomington Township has an estimated population of 331 according to the 2020 U.S. Census. The Mississippi River is bordered by high bluffs within the town and several small tributaries are located throughout the town. A rail line runs through the western part of the town along the Mississippi river. Premier Agriculture and Fuel Center in the township is a significant factor to consider for potential hazardous materials risks.

Town of Bloomington Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
High	3 years	Town	Unknown	Town Budget	Repair culvert on Sandy Hollow Road and bridge on south end of Texas road.
High	4 years	Town	$300k - $1 million	BRIC Grant	Explore construction of emergency shelters for vulnerable populations.
High	5 years	Town, GCEM	Unknown	HMGP	Evaluate and address flood-prone structures in hazard areas.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town	$5k-$100k	EIGP	Invest in renewable energy and energy efficiency in order to reduce footprint of local government and increase resilience.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Bloomington Map

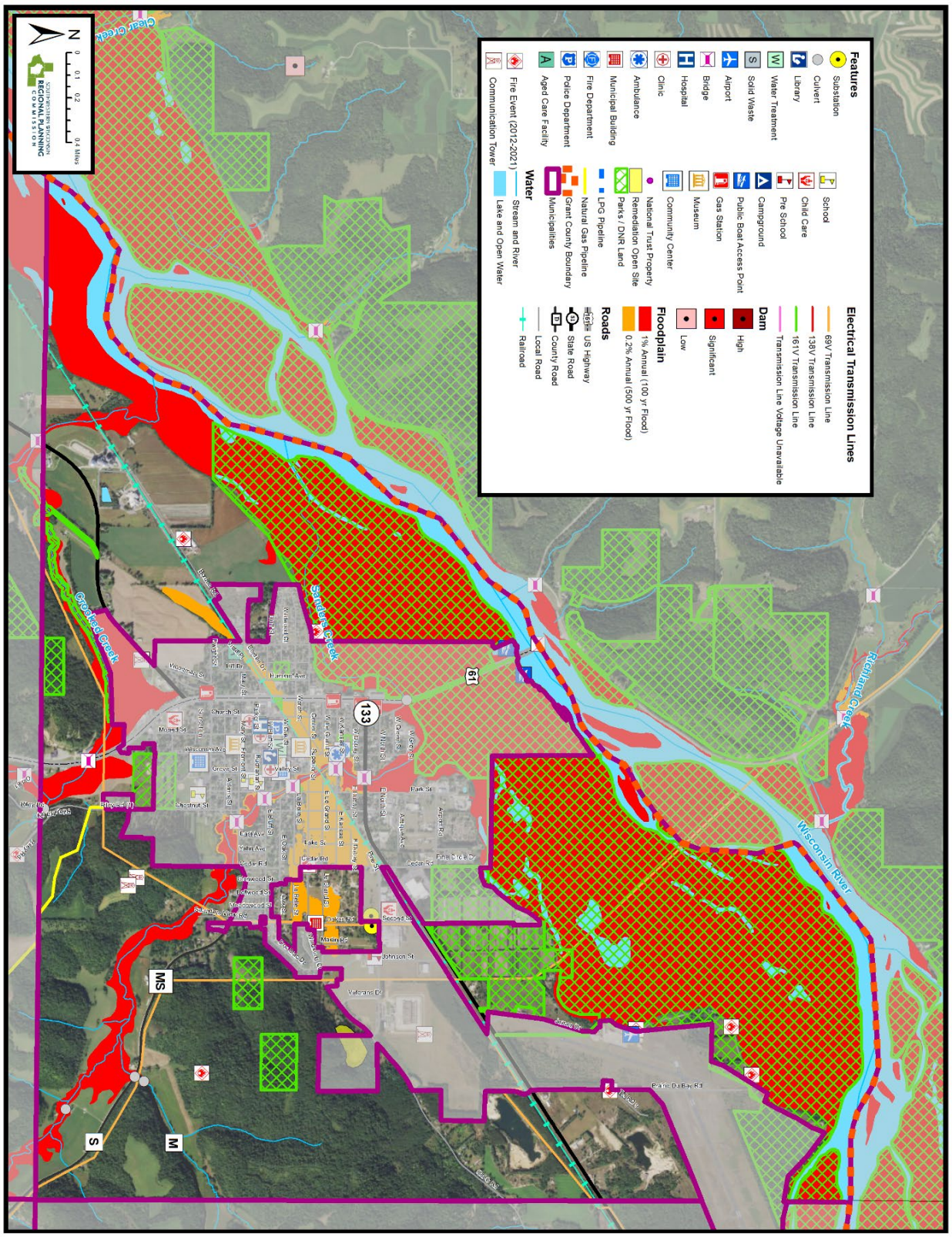


Town of Boscobel

The Town of Boscobel is located on the banks of the Wisconsin River and has an estimate population of 379 according to the 2020 U.S. Census. Much of the land within the township is owned by the Department of Natural Resources and managed as part of the Lower Wisconsin State Riverway. The town hall may be an option for emergency shelter, however business hours and staffing there are not regular.

Town of Boscobel Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	Unknown	PDM	Upgrade infrastructure including to install an extra tube on Riley Road.
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
High	4 years	Town	$300k - $1 million	BRIC Grant	Explore construction of emergency shelters for vulnerable populations.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to update the Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town	$5k-$100k	EIGP	Invest in renewable energy and energy efficiency in order to reduce footprint of local government and increase resilience.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Boscobel Map

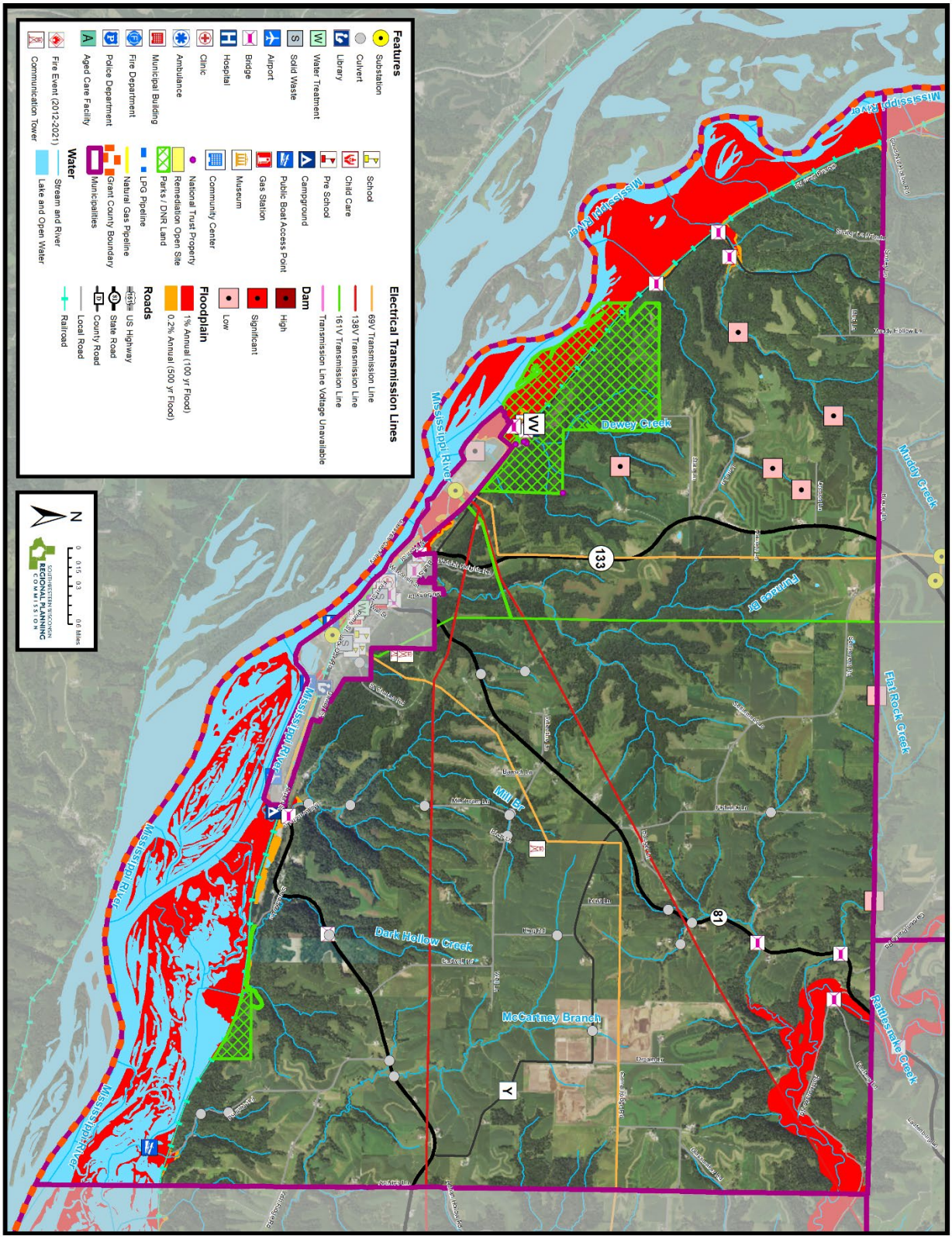


Town of Cassville

The Town of Cassville is located on the western boundary of Grant County on the Mississippi River. The Town experiences regular flash flooding within the valleys between steep bluffs that rise from the Mississippi River. The Town of Cassville has an estimated population of 402 people according to the 2020 U.S. Census, but has much higher temporary populations during the summer and fall due to recreation-oriented visitors. In case of an emergency, the Cassville Fire Station could serve as a shelter.

Town of Cassville Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	Unknown	CDBG	Replace bridge on Closing Dam Road.
High	2 years	Town	$200k	HMGP, CDBG, WDNR	Address structures in flood hazard areas.
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Implement a driveway ordinance that accommodates emergency equipment.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Town	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Cassville Map



Town of Castle Rock

The Town of Castle Rock is located in northeastern Grant County. Castle Rock has an estimated population of 240 according to the 2020 U.S. Census. The town is characterized by three ridges and numerous tributaries that drain to the north into the Wisconsin River. The Town is primarily agricultural with no incorporated communities. While there are no official storm shelters in the town, residents and visitors may be able to seek shelter at St. John's Church basement or Castle Rock Lutheran Church Hall.

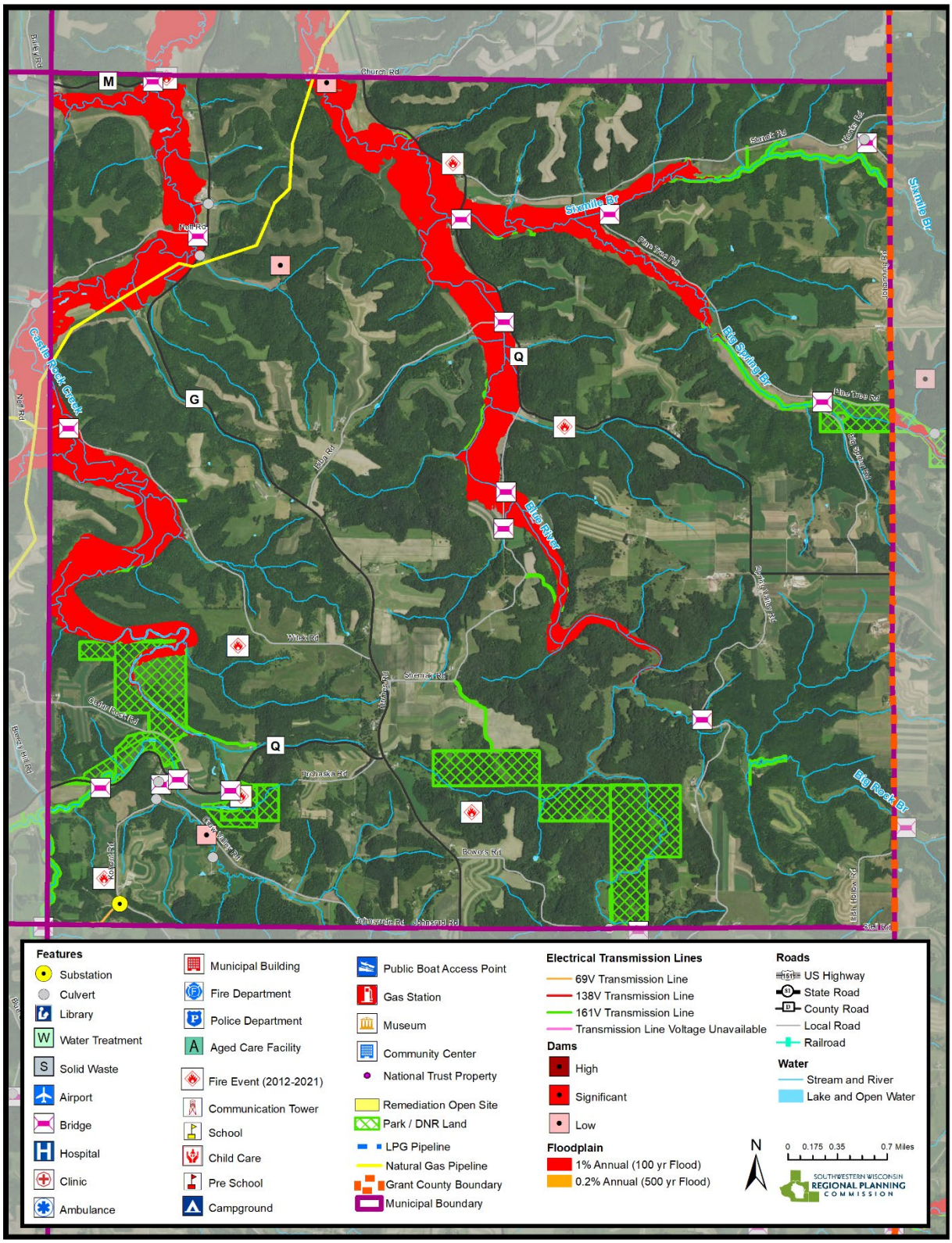
Town of Castle Rock Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources, including with Highland or Wingville.
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Implement a driveway ordinance that accommodates emergency equipment.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Town	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Town, WDNR	Unknown	WDNR	Work with WDNR to protect local trout streams from erosion and pollution.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Highland School District

Highland School District is located in Iowa County and Grant County, though the school building itself is in Iowa County. Total enrollment for the 2022/2023 school year was 288 students according to the Department of Public Instruction.

Highland School District Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	In process	Highland School District	$75k	Get Kids Ahead Initiative Grant	Address and improve student mental health through hiring additional personnel and offering supportive programming and resources.
Med.	1 year	Highland School District	$300/ month	SLCGP	Create a plan and secure access to back-up systems for internet and telephone in the event of an emergency outage.
Med.	1 year	Highland School District	Existing Staff Time	School Budget	Arrange facilities agreements with neighboring school districts to plan for facility sharing in the event of an emergency. Identify which alternate facilities could be used in a series of emergency scenarios.

Town of Castle Rock Map

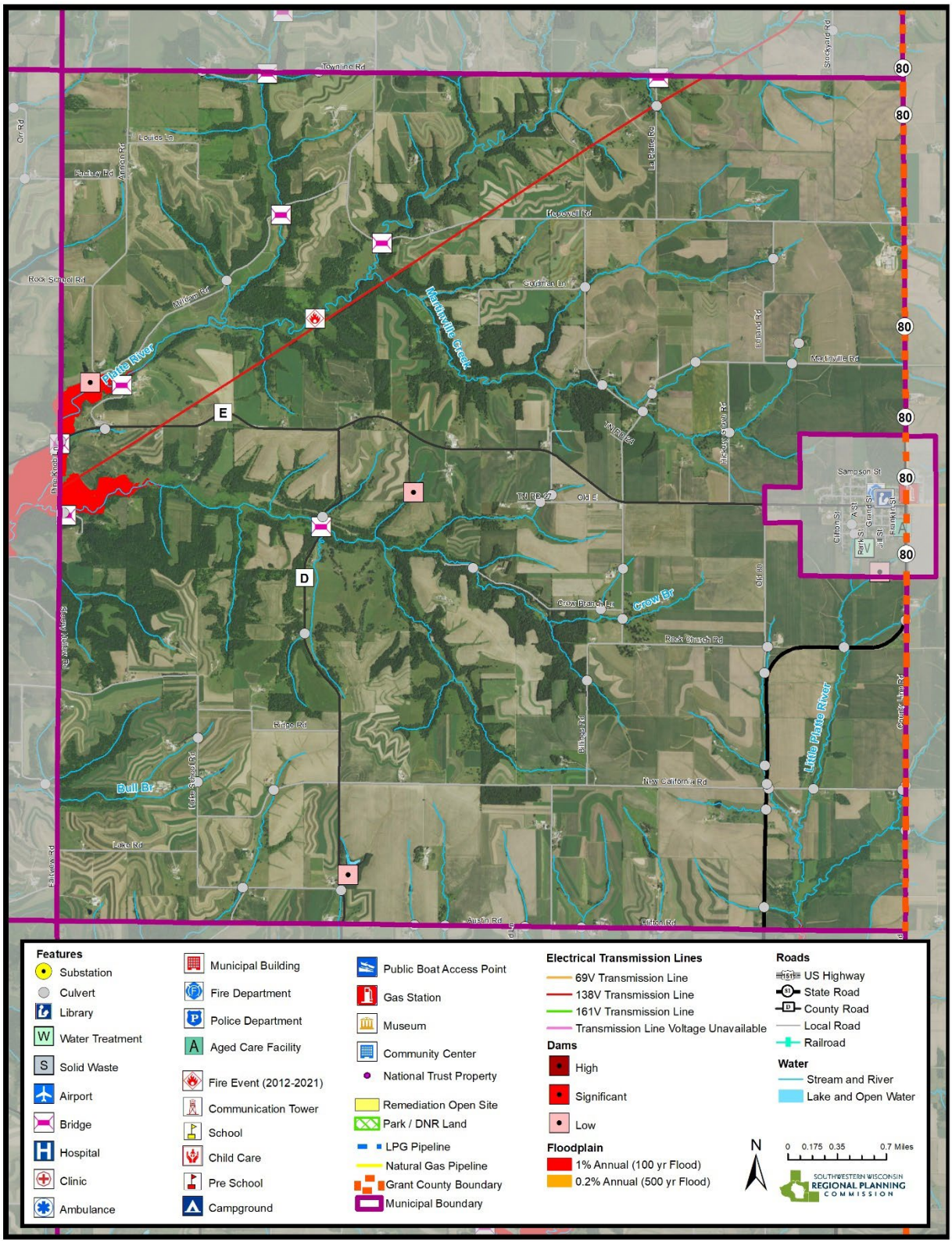


Town of Clifton

The Town of Clifton is located on the eastern border of Grant County and has an estimated population of 380 people according to the 2020 U.S. Census. The town is primarily agricultural area and is one of the few areas in the county covered by three river basins: the Platte-Grant River, the Wisconsin River, and the Pecatonica River. Clifton is located on the beginning of the descent of Military Ridge to the south.

Town of Clifton Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	1 year	Town	Unknown	CDBG	Undertake infrastructure projects including replacing the bridge on Annaton Road, the tube on Clifton Road, and County D.
High	4 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town	$5k-$100k	EIGP	Invest in renewable energy and energy efficiency in order to reduce footprint of local government and increase resilience.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Clifton Map

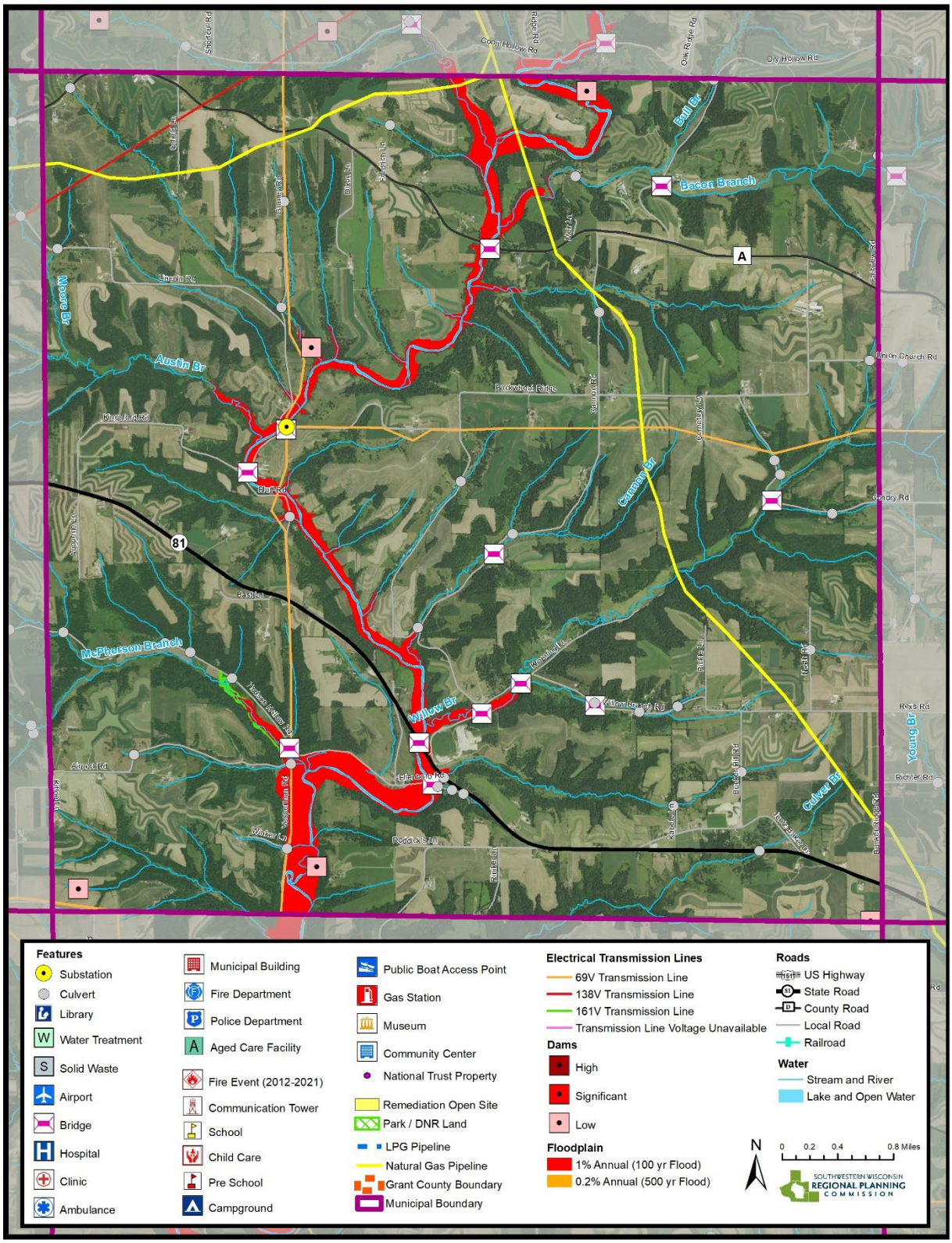


Town of Ellenboro

The Town of Ellenboro is a predominantly agricultural community. The town is characterized by the Platte River which will often flood roads and riparian areas following heavy rains. State Highway 81 crosses Ellenboro and connects Platteville with Lancaster. Ellenboro had an estimated population of 580 according to the 2020 U.S. Census.

Town of Ellenboro Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	1 year	Town	Unknown	CDBG	Map and inventory existing culverts and make necessary repairs and improvements.
High	2 years	Town, WisDOT	$100k - $700k	WisDOT	Work with WisDOT to evaluate Highway 81 bridges and regular flooding.
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Implement a driveway ordinance that accommodates emergency equipment.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Ellenboro Map

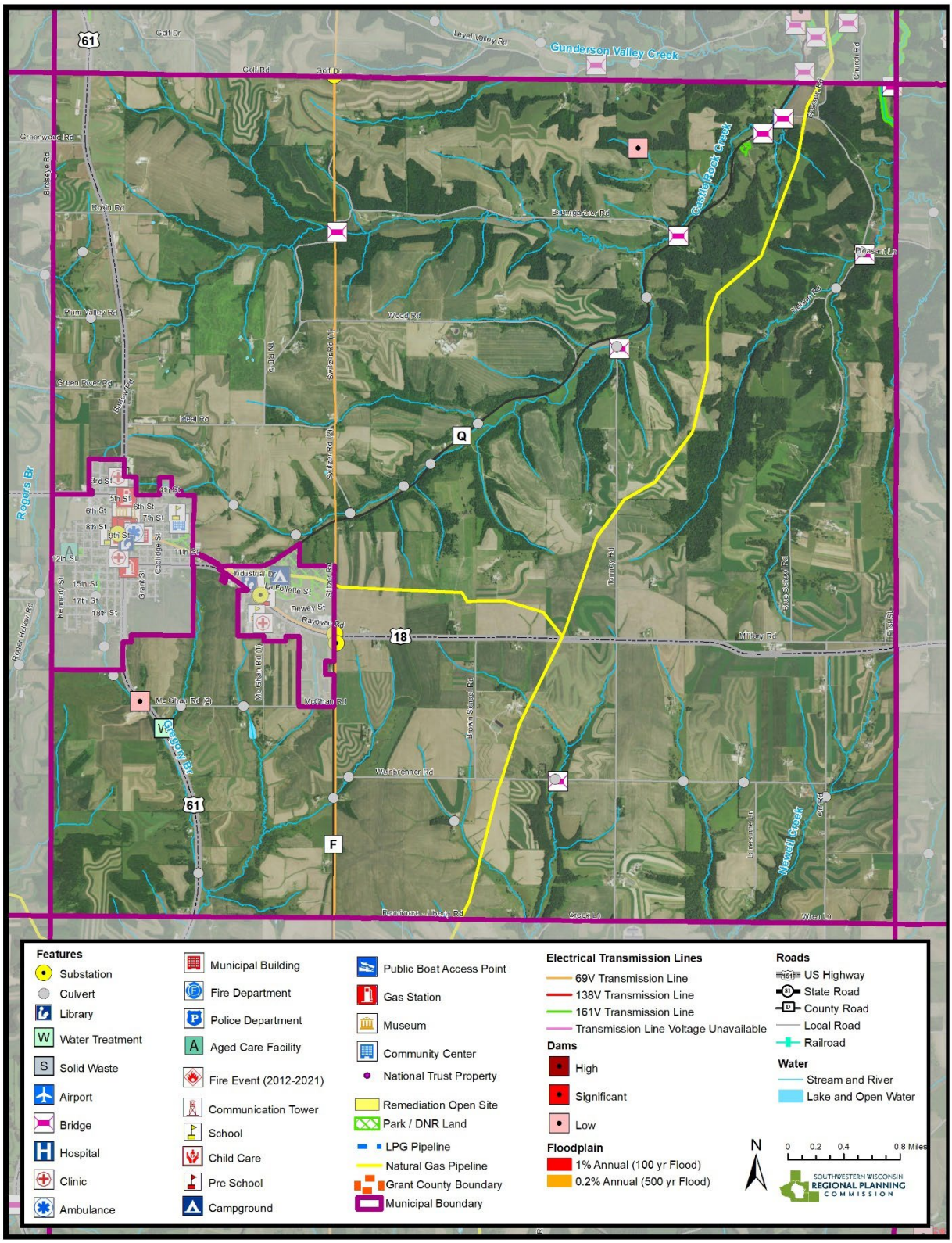


Town of Fennimore

The Town of Fennimore is located at one of the highest points in Grant County. It is located on Military Ridge in the northern half of Grant County. US Highway travels from east to west across the county and US Highway 61 crossings north to south across the county. The township in mostly agricultural other than areas in near proximity to the City of Fennimore. The estimated population of the town is 594 according to the 2020 U.S. Census.

Town of Fennimore Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	1 year	Town	Unknown	CDBG	Replace undersized culvert on Weinbrenner Road.
High	1 year	Town	Existing staff time	N/A	Educate landowners about the hazard of tree debris washing downstream and contributing to flooding.
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Implement a driveway ordinance that accommodates emergency equipment.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Town	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Fennimore Map



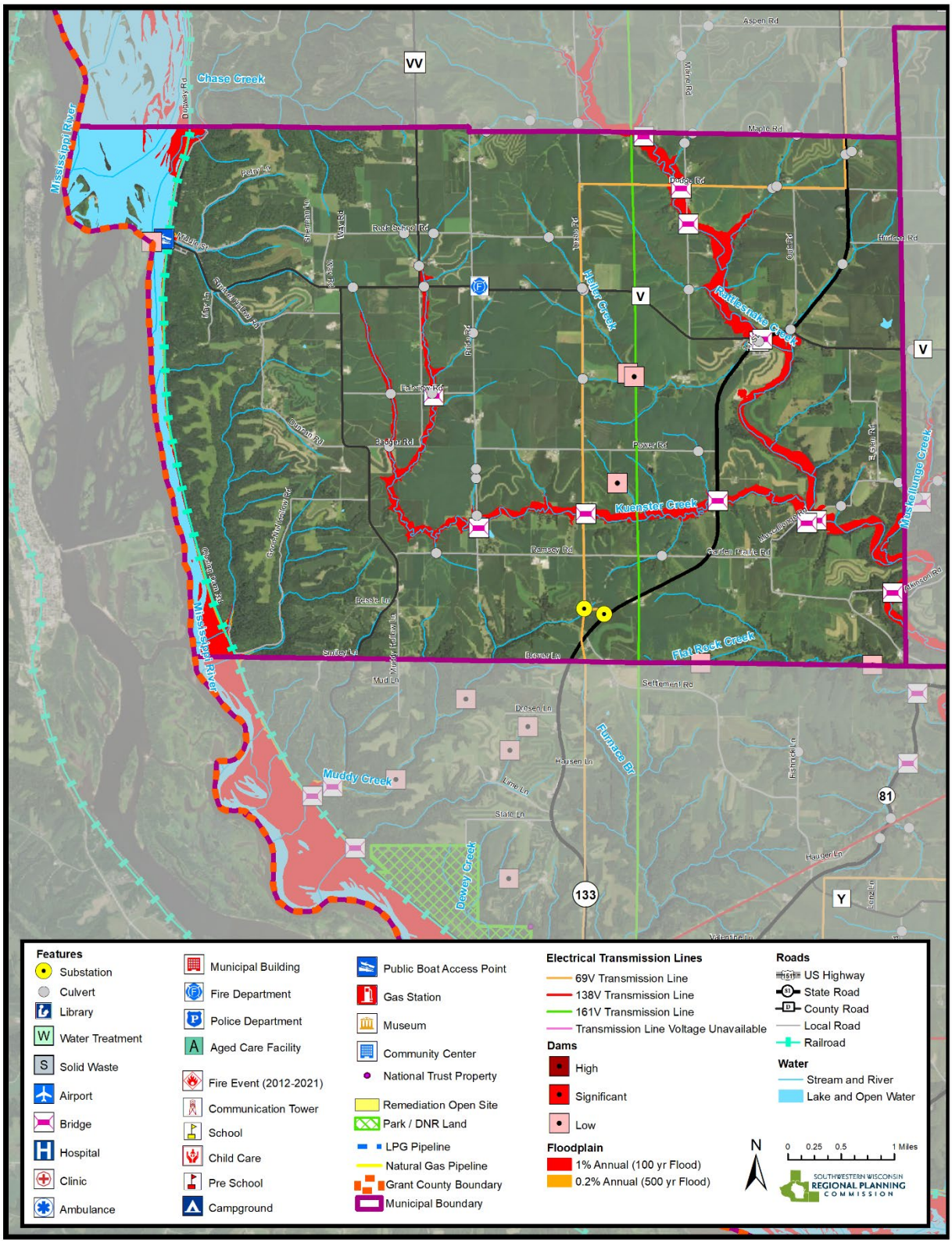
Town of Glen Haven

The Town of Glen Haven borders the Mississippi, with a rail line crossing through alongside the river. The land rises up from the Mississippi river to tall bluffs. The town is mostly agricultural outside of the boundary with the Mississippi River. The unincorporated community of Glen Haven is located along the Mississippi River in a narrow valley. The town has a long, open, concrete levee that runs through the town to assist with draining the steep valley. The population is estimated at 363 according to the 2020 U.S. Census. There is one siren in Glen Haven which provides adequate coverage for those living in town, but not in the rural areas of the township. In case of an emergency, the Town Hall/Community Center has a backup generator and the building could be used for shelter.

Town of Glen Haven Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	3 years	Town	$500k - $2 million	CDBG, HMGP	Undertake flood mitigation infrastructure projects including the flood wall and extra rip rapping.
High	3 years	Town	Unknown	Army Corps of Engineers, HMGP, CDBG	Conduct a comprehensive evaluation of the existing downtown levee walls to determine the adequacy of existing infrastructure and the potential cost of improvements. Implement improvements as indicated.
High	3 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
High	3 years	Town	Unknown	HMGP	Evaluate and address flood-prone structures in hazard areas.
High	5 years	Town	Unknown	HMGP	Implement measures to reduce infiltration of river water through storm drain tubes during major river floods through installation of effective caps, valves or other watertight seals.
High	5 years	Town	Unknown	CDBG, HMGP	Study downtown stormwater structures and systems to determine the adequacy of existing infrastructure and the potential cost of improvements. Implement improvements as indicated.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town	$5k-$100k	EIGP	Invest in renewable energy and energy efficiency in order to reduce footprint of local government and increase resilience.

Town of Glen Haven Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.
Low	Ongoing	Town	Existing staff time, $1k-$10k/ generator	Personal Budgets	Encourage residential back-up power generators.

Town of Glen Haven Map

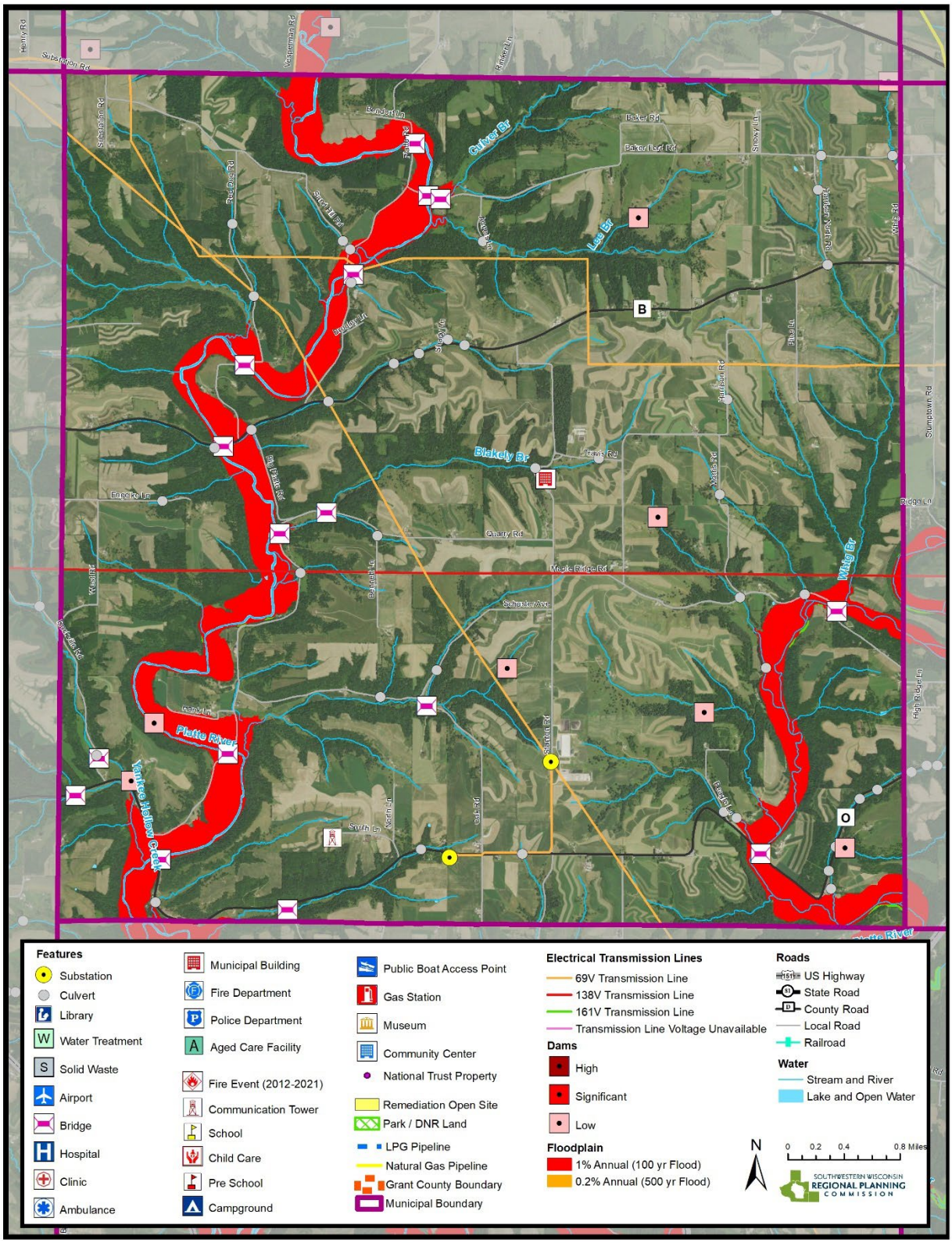


Town of Harrison

The Town of Harrison, located in southern Grant County, is positioned between the City of Platteville and the Villages of Potosi and Tennyson. The town's main industry is agriculture, and it is divided by the Platte River and Little Platte River watersheds. Harrison's estimated population is 529 according to the 2020 U.S. Census. Harrison faces challenges related to flooding on low bridges such as the Big Platte Road Bridge, as well as low-lying roads like Platte Road between County Road B and Sandhill Road, and Baker Road just east of the Platte Road intersection. Water quality concerns arise from manure runoff from feed lots into ditches and over-grazed hillsides. Additionally, the topography of the area, with roads built along hillsides, makes road improvement and maintenance challenging. The town hall could serve as a cooling shelter, but not as a tornado shelter.

Town of Harrison Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	1 year	Town	$100k - $1 million	CDBG	Undertake vulnerability analysis of water treatment facility and address needs.
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources, especially for tree clearing and ditching work.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Harrison Map

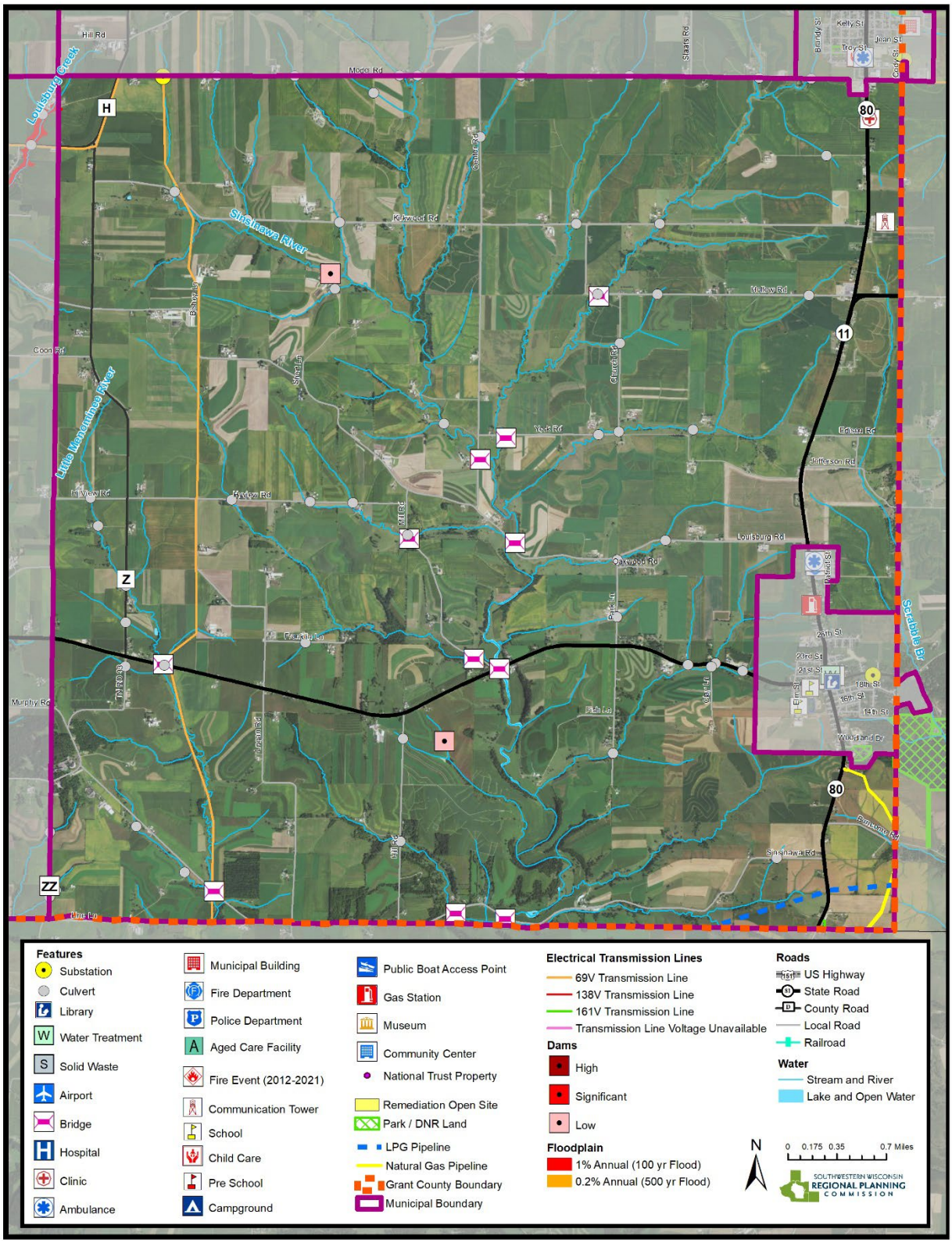


Town of Hazel Green

The Town of Hazel Green is situated in the southeast corner of Grant County and shares borders with Lafayette County in Wisconsin and Jo Daviess County in Illinois. The town's estimated population is 1,084 according to the 2020 U.S. Census. Highways 80 and 11 pass through the town, providing important transportation routes in the area and also posing risks from hazardous materials transport.

Town of Hazel Green Local Action Recommendations					
Priority	**Timeline**	**Responsibility**	**Cost**	**Potential Funding Source**	**Strategy**
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
High	4 years	Town	$300k - $1 million	BRIC Grant	Explore construction of emergency shelters for vulnerable populations.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Town	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Hazel Green Map

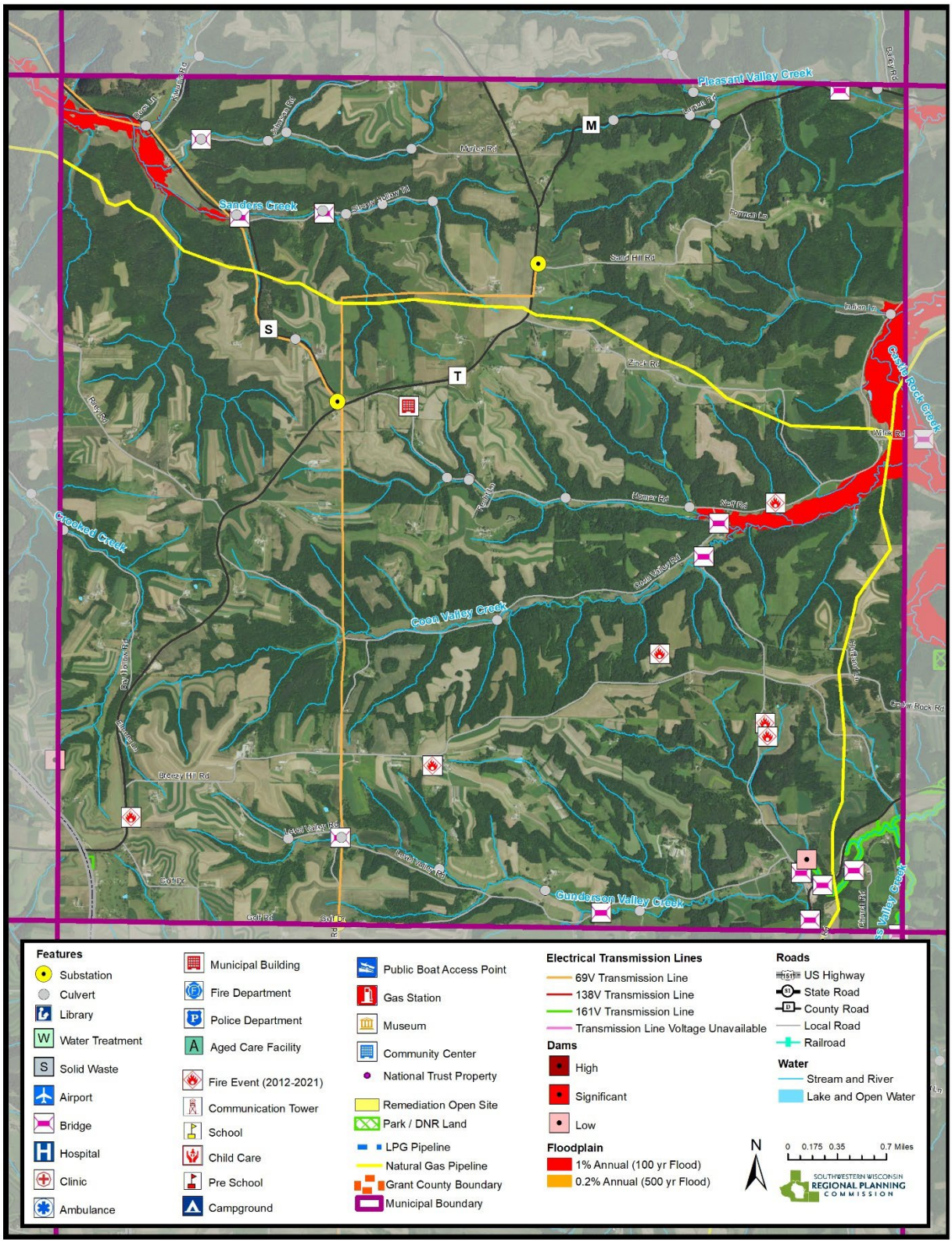


Town of Hickory Grove

The Town of Hickory Grove is situated in the northern half of Grant County and north of Military Ridge. It is characterized by its agricultural nature and dense forest cover, which can pose risks such as wildfire potential, soil erosion, and water runoff. Additionally, being located in the Wisconsin River Basin, the town faces some challenges related to water quality and flooding. The population in Hickory Grove is 568 according to the 2020 U.S. Census. There is a significant Amish population in the town that may require special considerations for hazard preparedness and mitigation efforts, taking into account unique cultural and lifestyle factors. The town owns one backup generator, located at the town shop.

Town of Hickory Grove Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Implement a driveway ordinance that accommodates emergency equipment.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Town	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.
Low	Ongoing	Town	Existing staff time, $1k-$10k per generator	Personal Budgets	Encourage residential back-up power generators.

Town of Hickory Grove Map

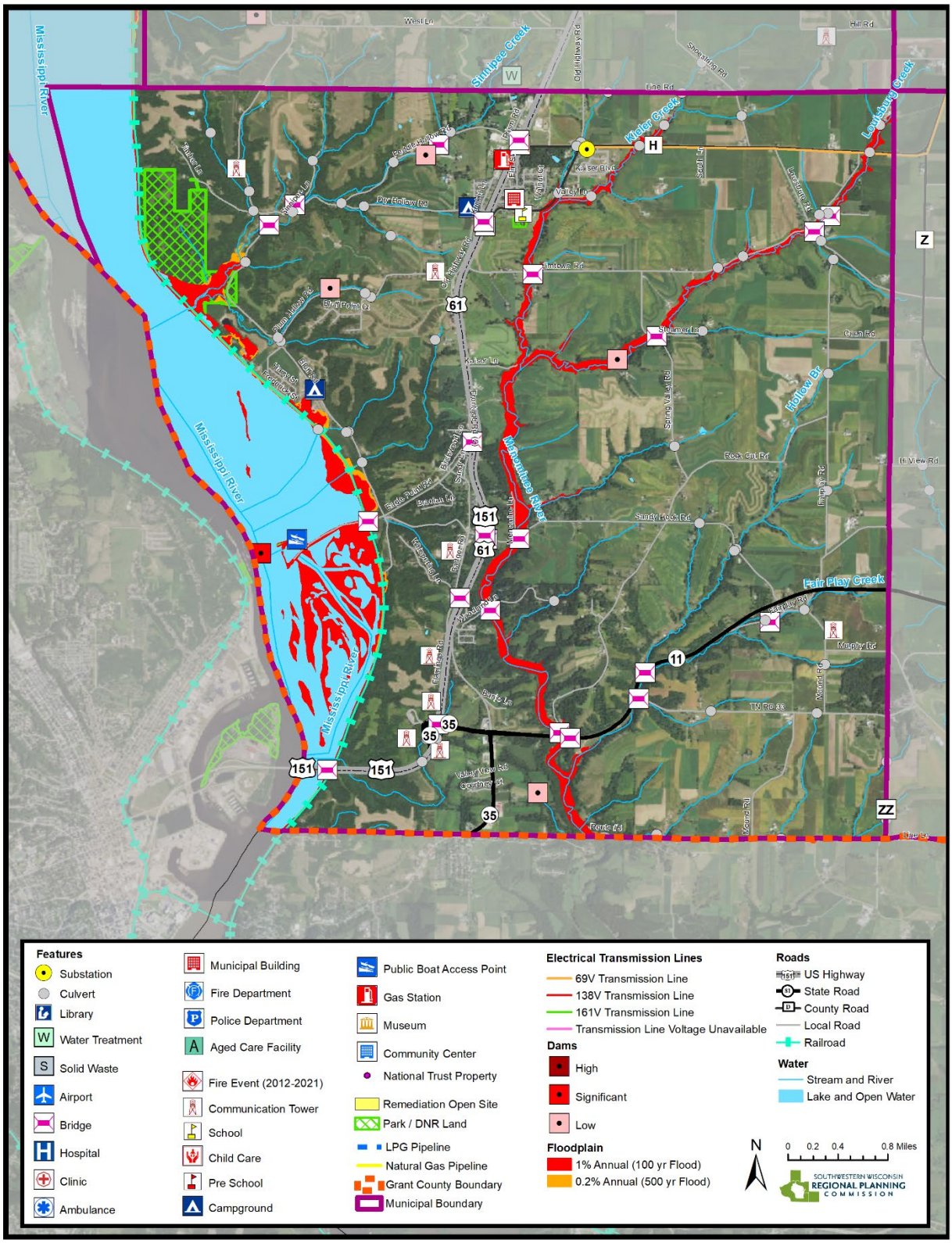


Town of Jamestown

Jamestown is located in the southwest corner of Grant County and shares borders with the Mississippi River to the west and Illinois to the south. Its estimated population was 2,181 according to the 2020 U.S. Census. The town is connected to Iowa and Wisconsin via US Highway 151, which crosses the Mississippi River, but it is also a trafficked road with potential for hazardous materials spill issues. The railroad runs alongside the river and is close to many subdivisions. Jamestown includes the unincorporated community of Kieler and two campgrounds. However, there is a lack of storm shelters for vulnerable populations, and the town also hosts a chemical manufacturing plant. The town has one backup generator and one siren that covers the Kieler area, but not the rural areas in the township.

Town of Jamestown Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
High	3 years	Town, GCEM	Unknown	HMGP	Evaluate and address flood-prone structures in hazard areas.
High	4 years	Town	$300k - $1 million	BRIC Grant	Explore construction of emergency shelters for vulnerable populations.
Med.	1 year	Town	Existing staff time	N/A	Implement a driveway ordinance that accommodates emergency equipment.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Town	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.
Low	Ongoing	Town	$1k-$10k/ generator	Personal Budgets	Encourage residential back-up power generators.

Town of Jamestown Map

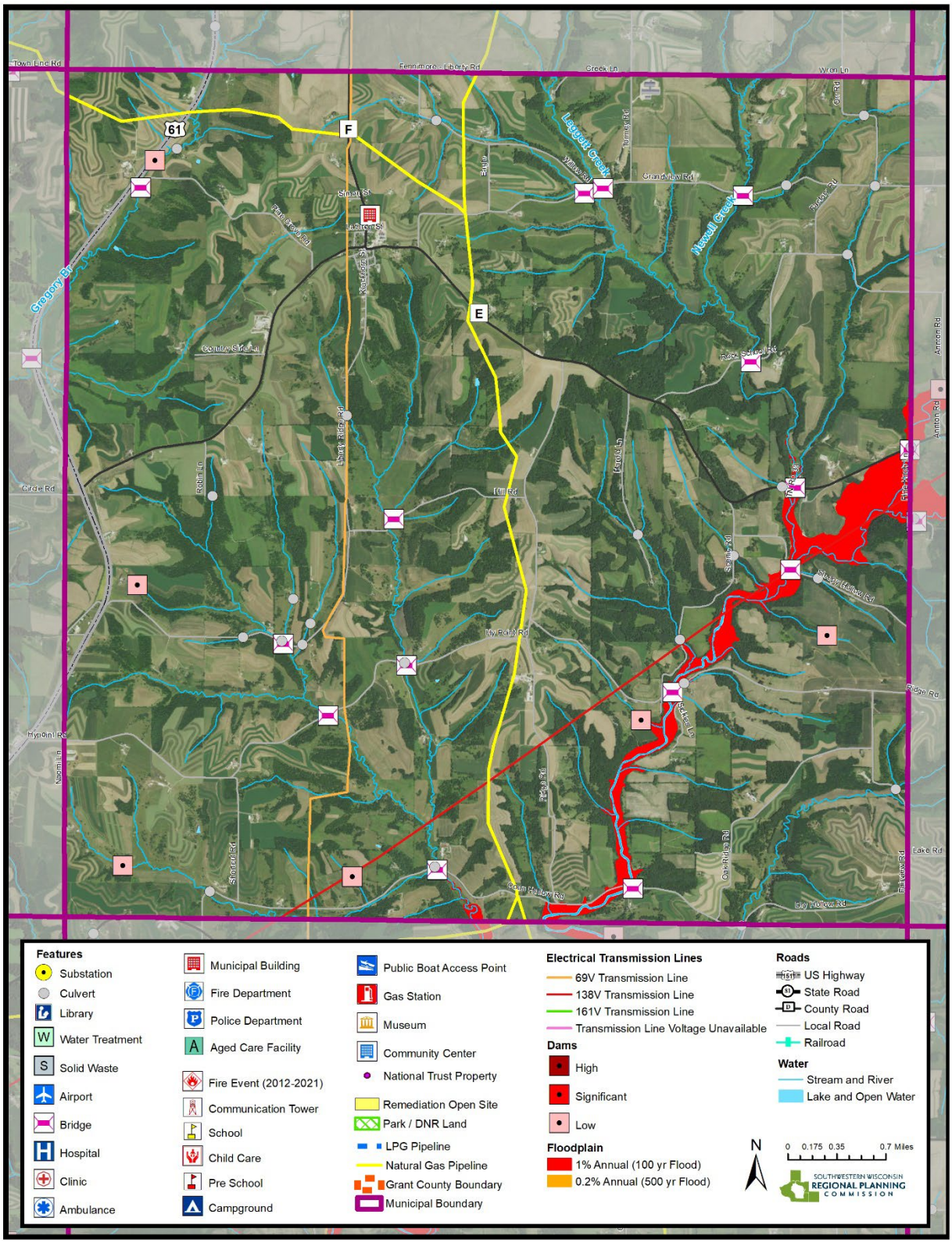


Town of Liberty

Liberty Town is situated between the Cities of Fennimore and Lancaster, with an estimated population of 543 according to the 2020 U.S. Census. Primarily agricultural in nature, the town has one siren for emergency alerts. In the event of an emergency, vulnerable populations can seek shelter at the town hall or fire station.

Town of Liberty Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	$1 million	CDBG	Address issues related to water distribution system (current water pipes/hydrants are inadequate).
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.
Low	Ongoing	Town	Existing staff time, $1k-$10k/ generator	Personal Budgets	Encourage residential back-up power generators.

Town of Liberty Map

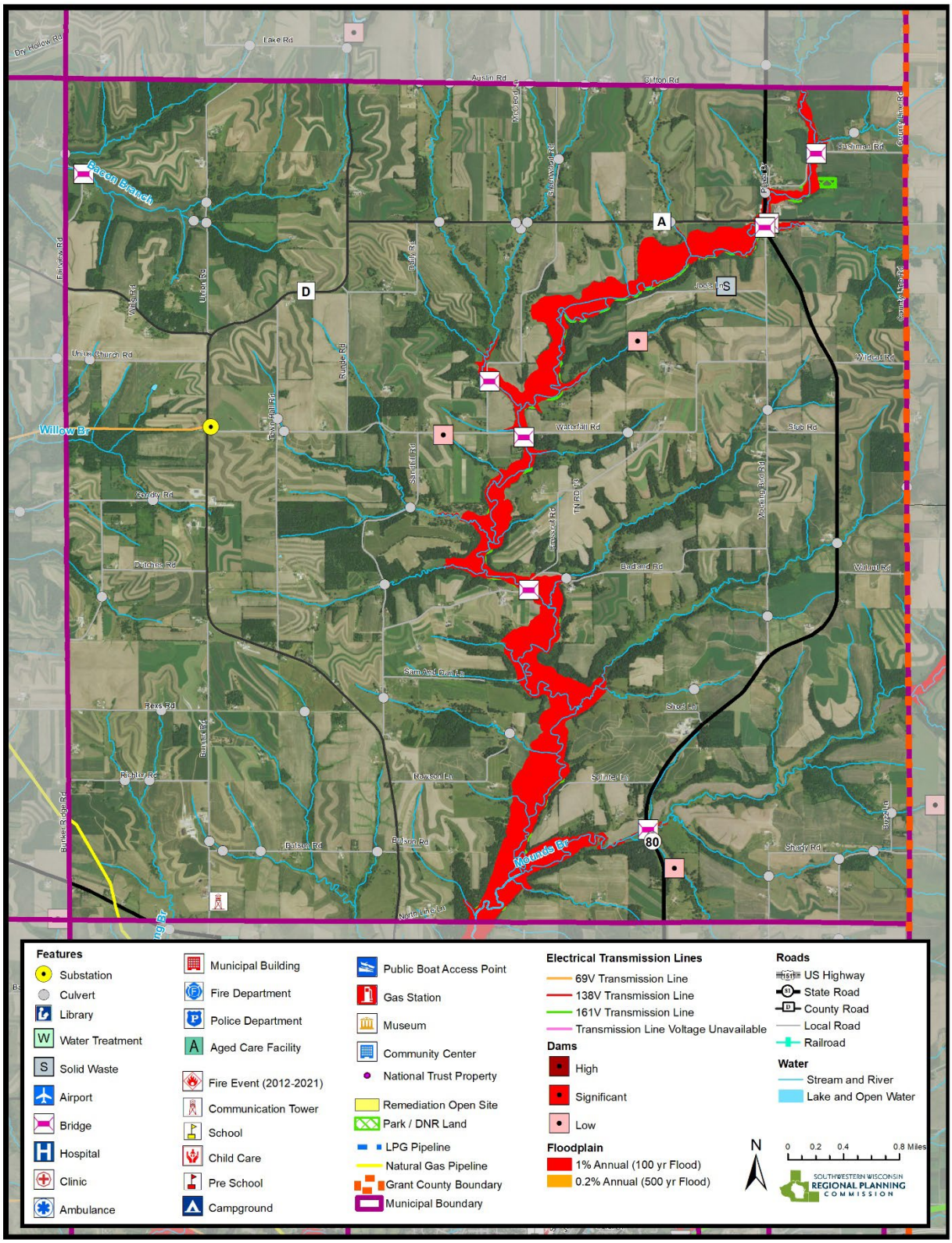


Town of Lima

The Town of Lima is located on the eastern border of Grant County, sharing borders with both Iowa and Lafayette Counties. It is located north of the City of Platteville. The town is predominantly agricultural in nature, with the Little Platte River running from north to south through its territory. The estimated population is 771 people according to the 2020 U.S. Census. State Road 80 passes through the town, and there is a solid waste facility and an aging care facility located in the northern part of the township.

Town of Lima Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Town	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Town	$5k-$100k	EIGP	Invest in renewable energy and energy efficiency in order to reduce footprint of local government and increase resilience.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Lima Map

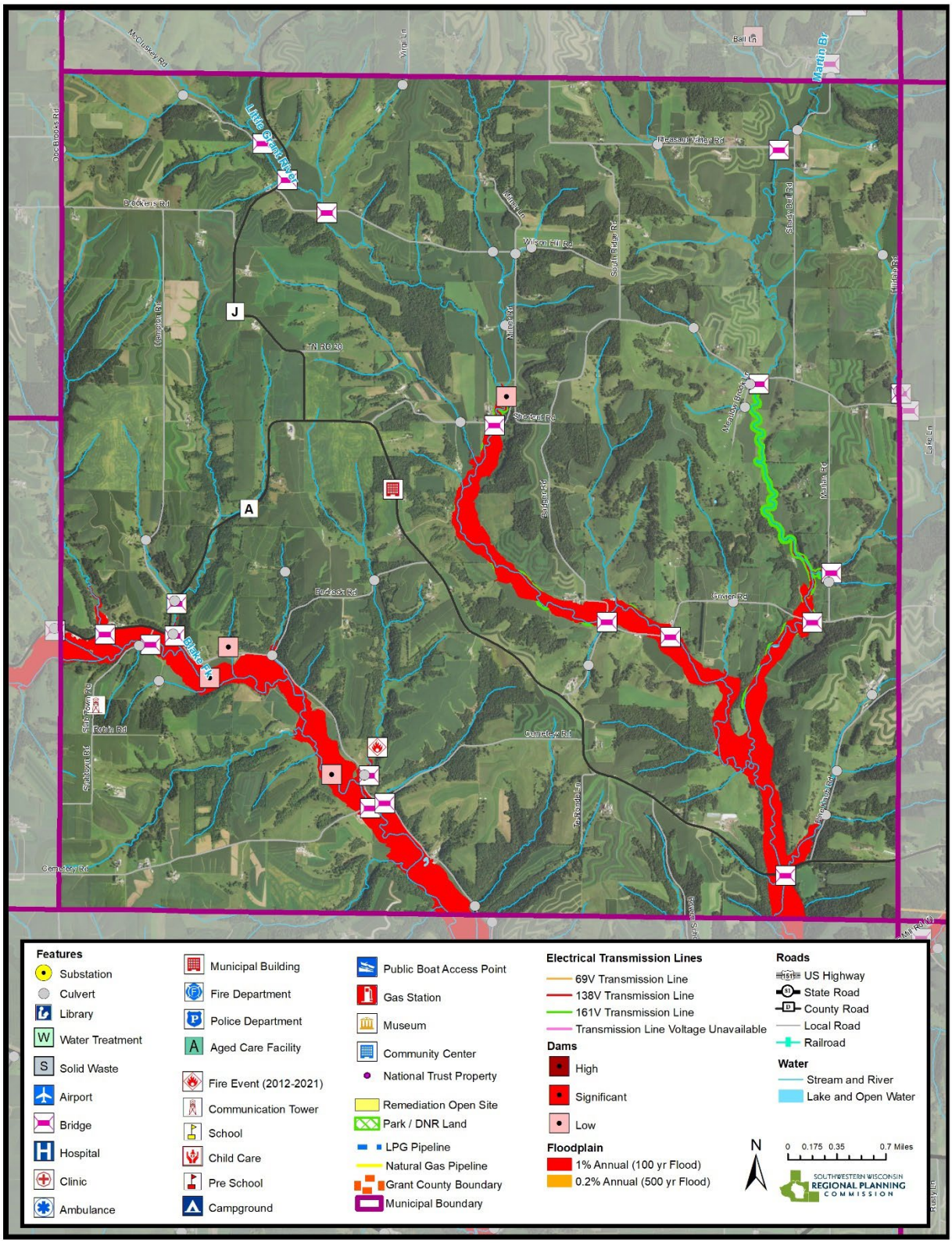


Town of Little Grant

The Town of Little Grant is located in western Grant County just south of Military Ridge. It is primarily agricultural. The estimate population is 314 people according to the 2020 U.S. Census.

Town of Little Grant Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Implement a driveway ordinance that accommodates emergency equipment.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Little Grant Map

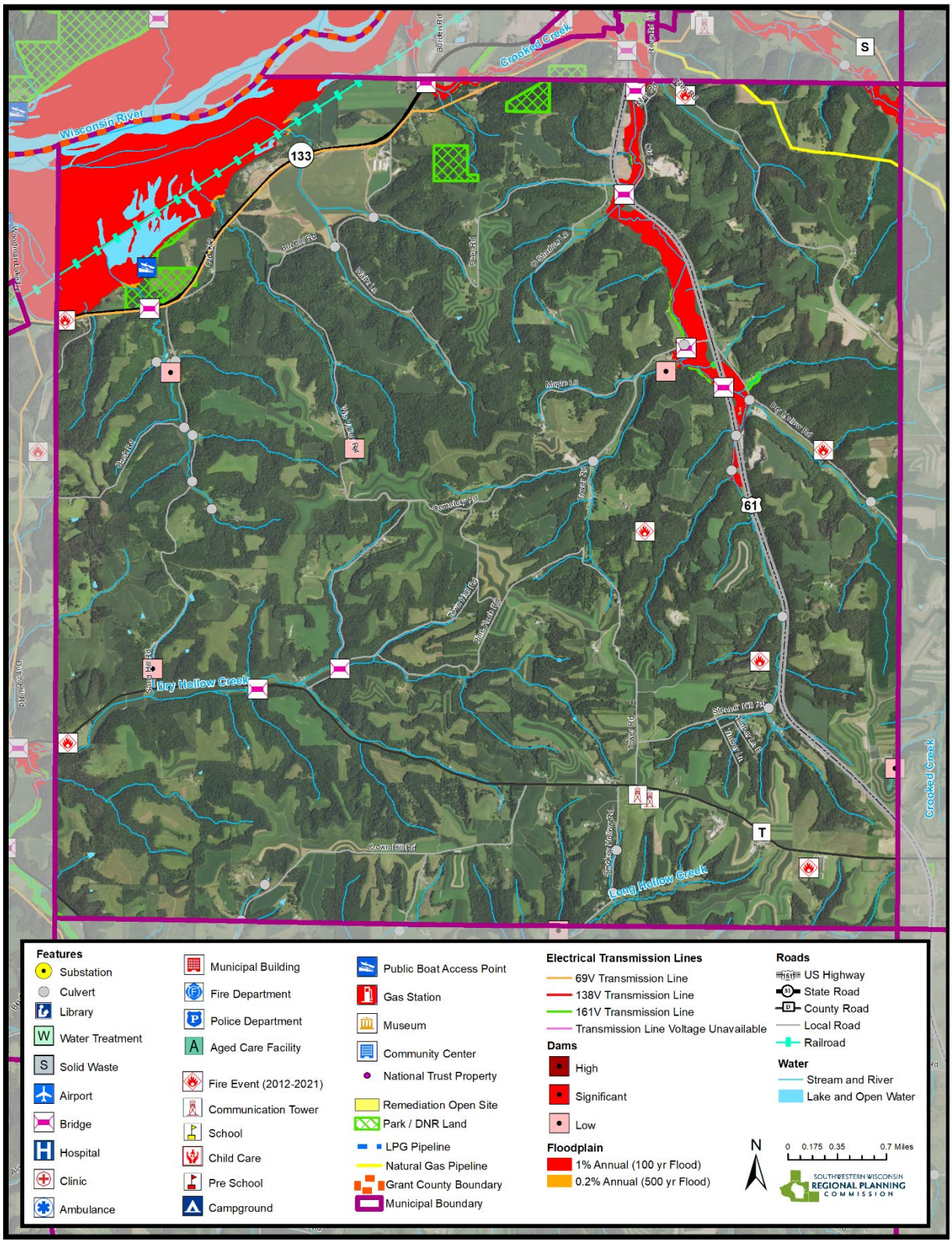


Town of Marion

The Town of Marion is located north of Military Ridge. The Wisconsin River is the town's northwest border, between the City of Boscobel and the Village of Woodman. A railroad crosses the township alongside the Wisconsin River. The town is primarily agricultural with areas of forest. US Highway 61 travels North-South through the eastern half of the town. Marion's population was estimated to be 629 according to the 2020 U.S. Census. There are many "dead zone" areas in the town where cell service is unavailable, posing risk for communication in emergency situations.

Town of Marion Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Implement a driveway ordinance that accommodates emergency equipment.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.
Low	Ongoing	Town	Existing staff time, $1k-$10k/ generator	Personal Budgets	Encourage residential back-up power generators.

Town of Marion Map

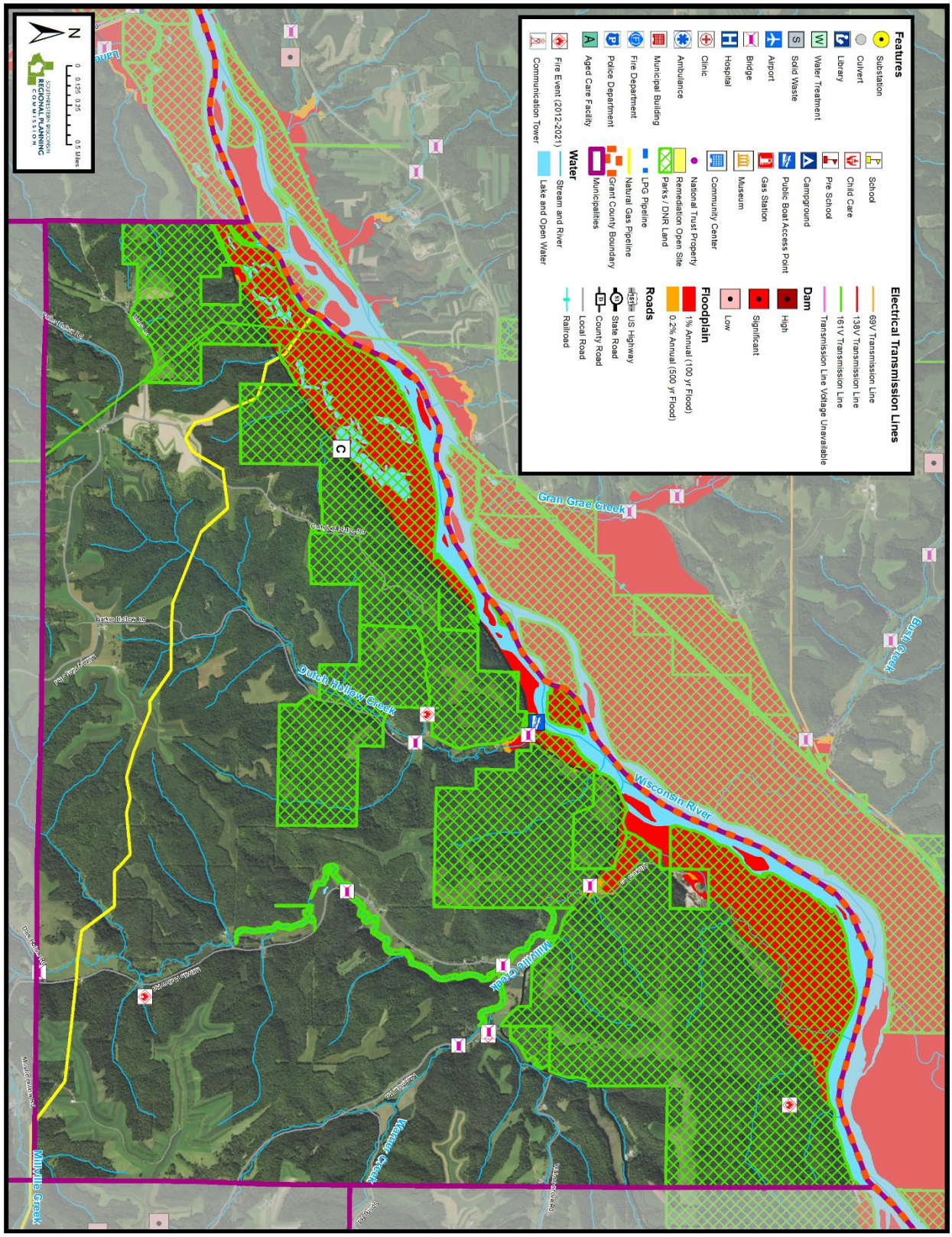


Town of Millville

The Town of Millville is located in the northwest of Grant County. Its northern border is the Wisconsin River. The landscape of the town is rugged and much of the land is owned by the Wisconsin Department of Natural Resources. Fallen trees and debris from storms frequently pose traffic hazards, and culverts and ditches can be plugged from debris buildup. The town is sparsely populated with an estimated population of 127 according to the 2020 U.S. Census.

Town of Millville Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Millville Map

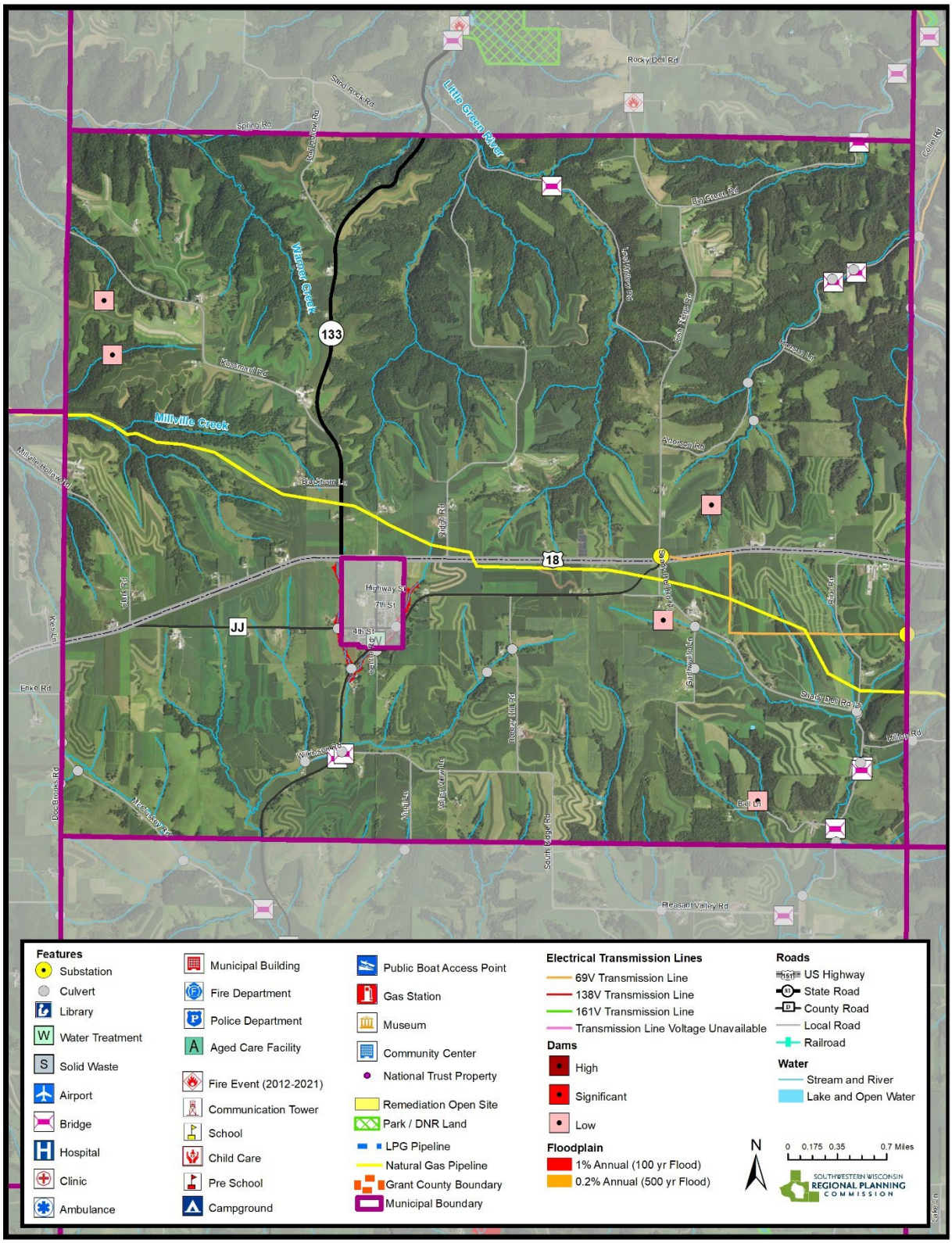


Town of Mount Hope

The Town of Mount Hope is located on the eastern border of Grant County and has an estimated population of 282 people according to the 2020 U.S. Census. The town is primarily agricultural and is one of the few areas in the county covered by three river basins, the Platte-Grant River, the Wisconsin River, and the Pecatonica River. The town is located on the beginning of the descent of Military Ridge to the south.

Town of Mount Hope Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
High	3 years	Town	Existing staff time	N/A	Develop a capital improvement and maintenance plan to address culverts, bridges, roads, and other infrastructure and utilities that will need to be upgraded.
Med.	1 year	Town	Existing staff time	N/A	Implement a driveway ordinance that accommodates emergency equipment.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources, including for plowing snow.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Mount Hope Map

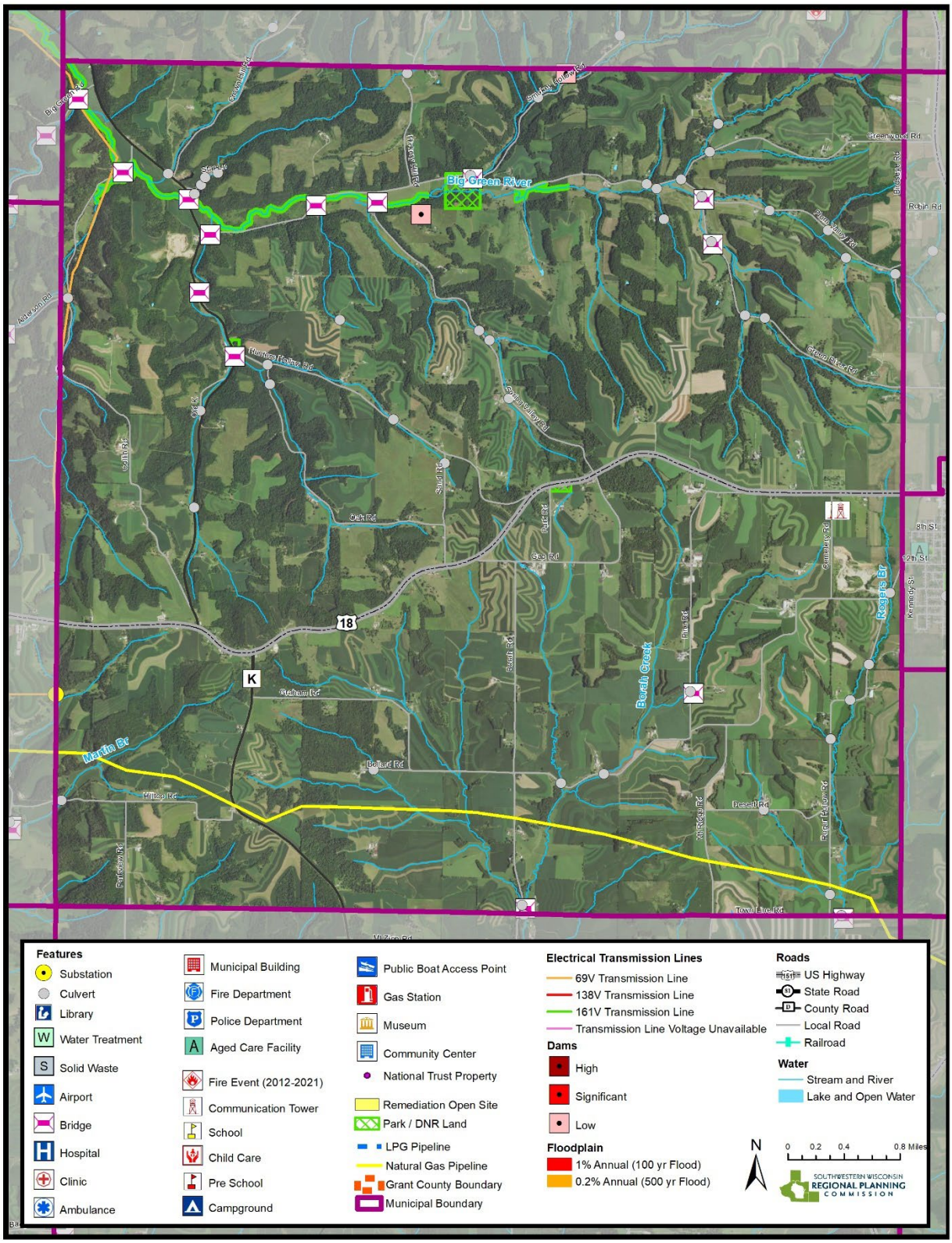


Town of Mount Ida

The Town of Mount Ida is located in northern Grant County. It is primarily agricultural and is located on Military Ridge, although much of the town is north of the ridge. The town is one of the highest elevated areas in Grant County. The town's estimated population is 561 people according to the 2020 U.S. Census.

Town of Mount Ida Local Action Recommendations					
Priority	**Timeline**	**Responsibility**	**Cost**	**Potential Funding Source**	**Strategy**
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Implement a driveway ordinance that accommodates emergency equipment.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.
Low	Ongoing	Town	Existing staff time, $1k-$10k/ generator	Personal Budgets	Encourage residential back-up power generators.

Town of Mount Ida Map

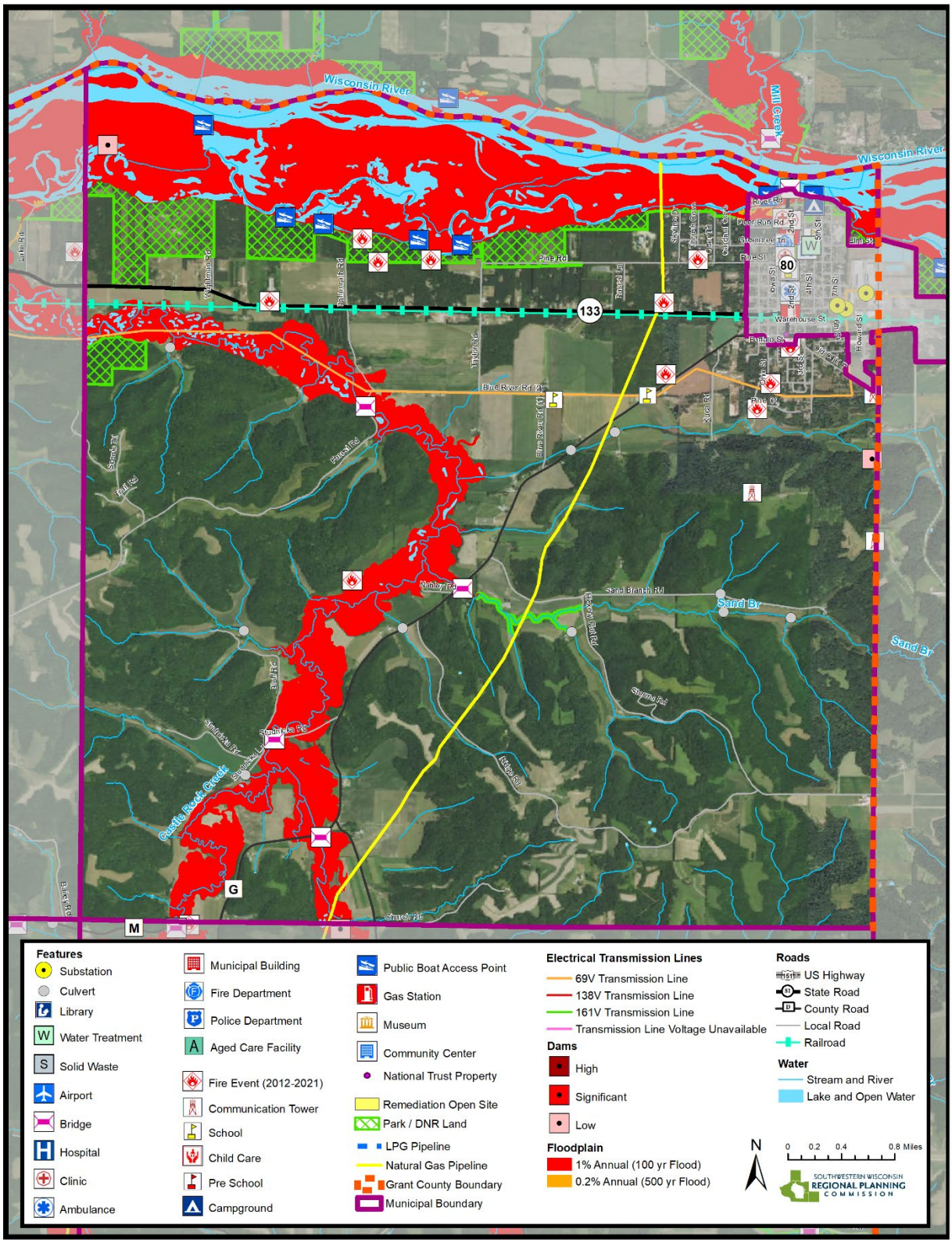


Town of Muscoda

The Town of Muscoda in the northeastern corner of Grant County. Its northern boundary is the Wisconsin River, and the Blue River and its tributaries run through the town. Muscoda is heavily wooded, and the soils are very sandy which causes annual drought-like conditions and increased fire hazards. A railroad runs through the northern part of the town along State Road 133, both of which pose potential risks from transportation incidents such as hazardous materials spills. The town's population is estimated at 754 according to the 2020 U.S. Census.

Town of Muscoda Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Implement a driveway ordinance that accommodates emergency equipment.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	3 years	Town/ UW-Extension/ FSA	Existing Staff Time	N/A	Work with UW-Extension and area farmers to identify and correct agricultural practices that contribute to flooding, erosion, and embankment failure.
Med.	5 years	Town, Private Homeowners	$50k - $500k	HMGP, CDBG	Work with homeowners who have been recently identified as flood-prone due to floodplain information changes. Homes not previously in the floodplain are now vulnerable and may need to brought into compliance.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Muscoda Map

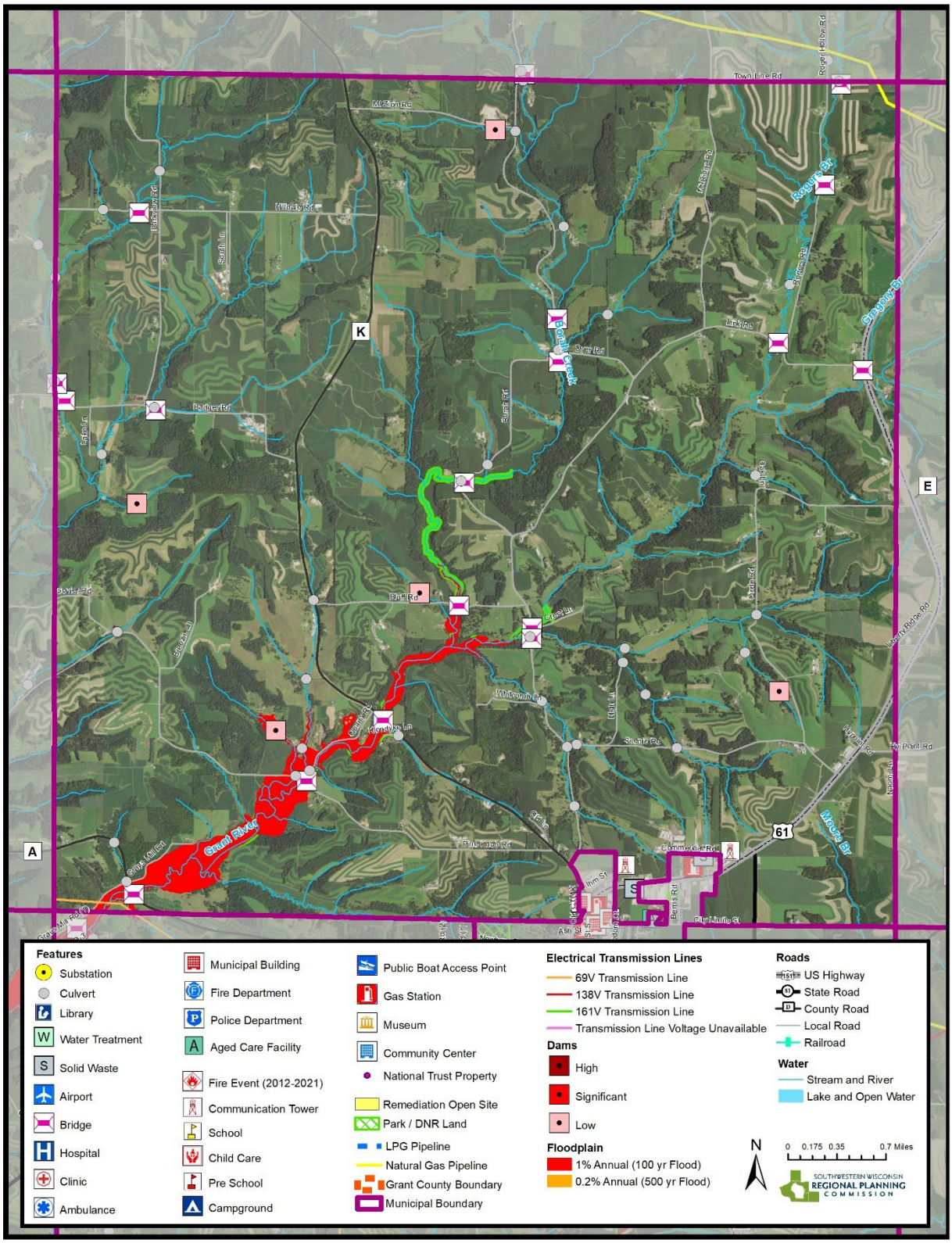


Town of North Lancaster

The Town of North Lancaster is located near the center of Grant County, south of Military Ridge and north of the City of Lancaster. The Grant River drains from the northeast to the southwest corner of the town. The primary land use within the town is agriculture. The estimated population is 581 people according to the 2020 U.S. Census.

Town of North Lancaster Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	3 years	Town	$5k-$30k	CDBG	Develop a capital improvements and maintenance plan to address culverts, bridges, roads, and other infrastructure and utilities that will need to be upgraded.
High	3 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of North Lancaster Map

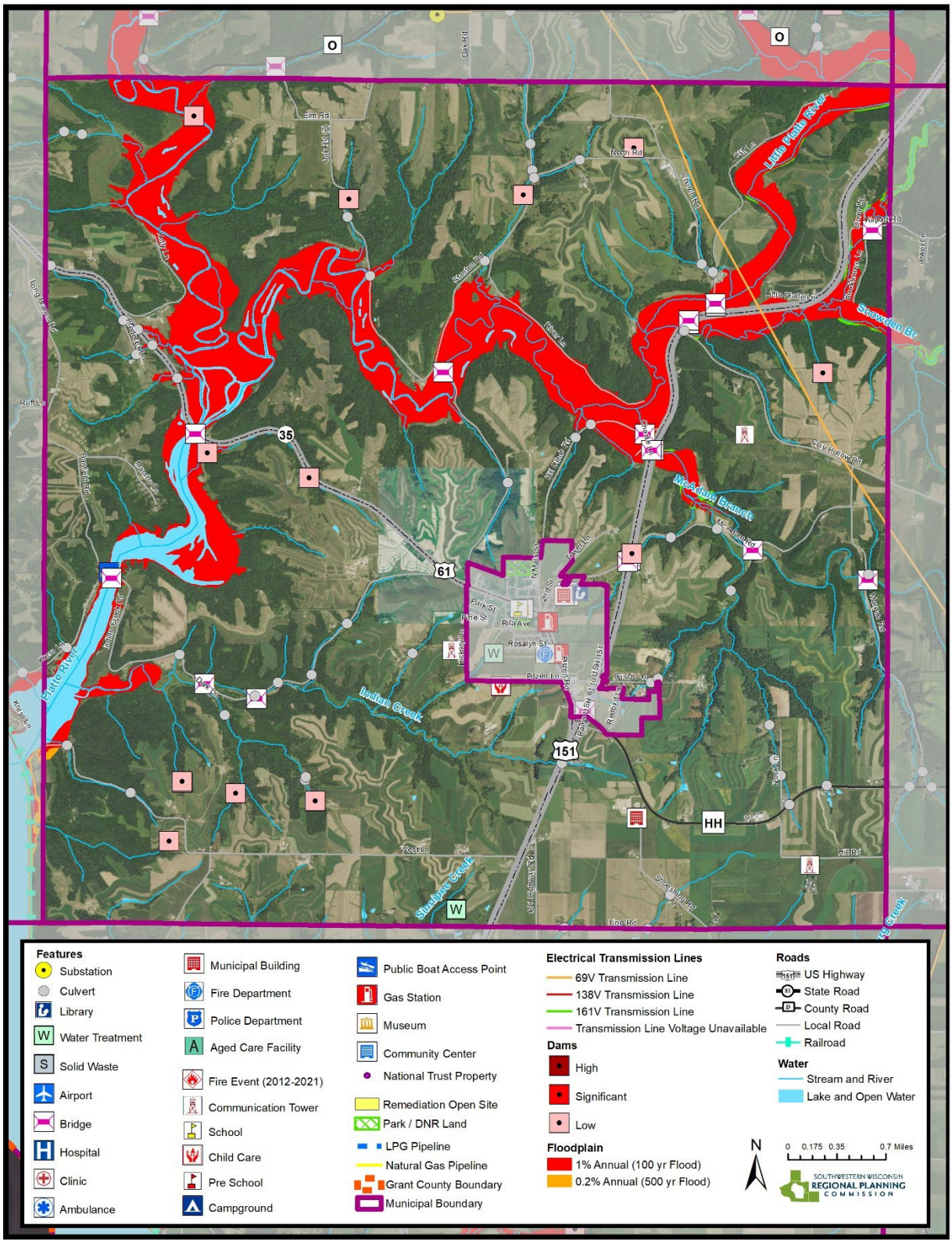


Town of Paris

The Town of Paris is located in southern Grant County between Platteville, WI and Dubuque, IA. US Highway 151 travels north-south through the town, and land use in the town is primarily agricultural. The Platte River connects with the Mississippi River in the Town of Paris. Paris has two sirens and a backup generator located at the fire department. The town's population is estimated at 655 according to the 2020 U.S. Census.

Town of Paris Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	$200k	HMGP	Develop and implement plan to raise Oak Road.
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
High	3 years	Town	Unknown	HMGP	Evaluate and address flood-prone structures in hazard areas.
Med.	1 year	Town	Existing staff time	N/A	Implement a driveway ordinance that accommodates emergency equipment.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town	$5k-$100k	EIGP	Invest in renewable energy and energy efficiency in order to reduce footprint of local government and increase resilience.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.
Med.	2-3 years	Town	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).

Town of Paris Map

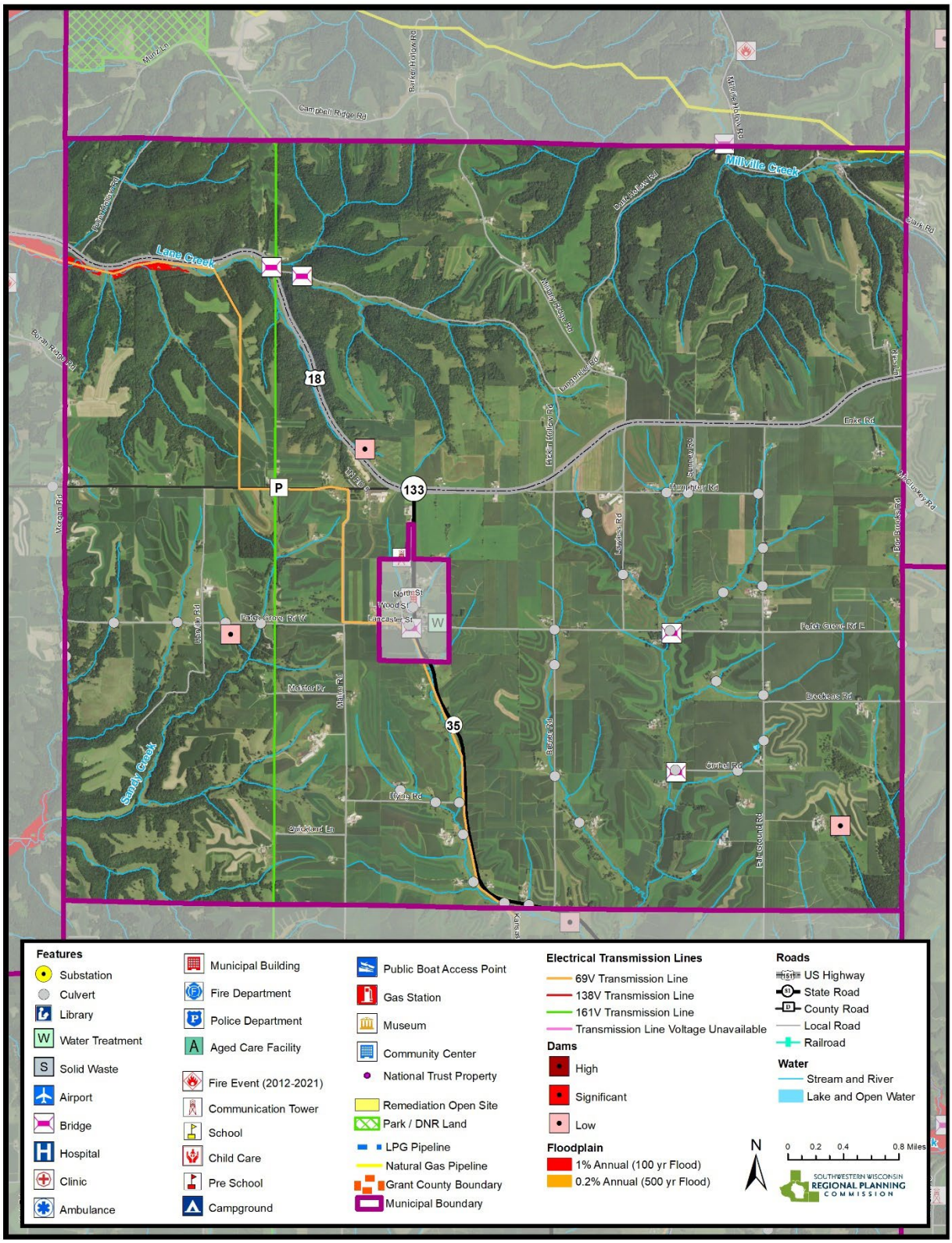


Town of Patch Grove

The Town of Patch Grove is located in northwest Grant County on Military Ridge. US Highway 18 runs east-west along Military Ridge through the town. The town has an estimated population of 364 people according to the 2020 U.S. Census.

Town of Patch Grove Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Implement a driveway ordinance that accommodates emergency equipment.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.
Low	Ongoing	Town	Existing staff time, $1k-$10k/ generator	Personal Budgets	Encourage residential back-up power generators.

Town of Patch Grove Map

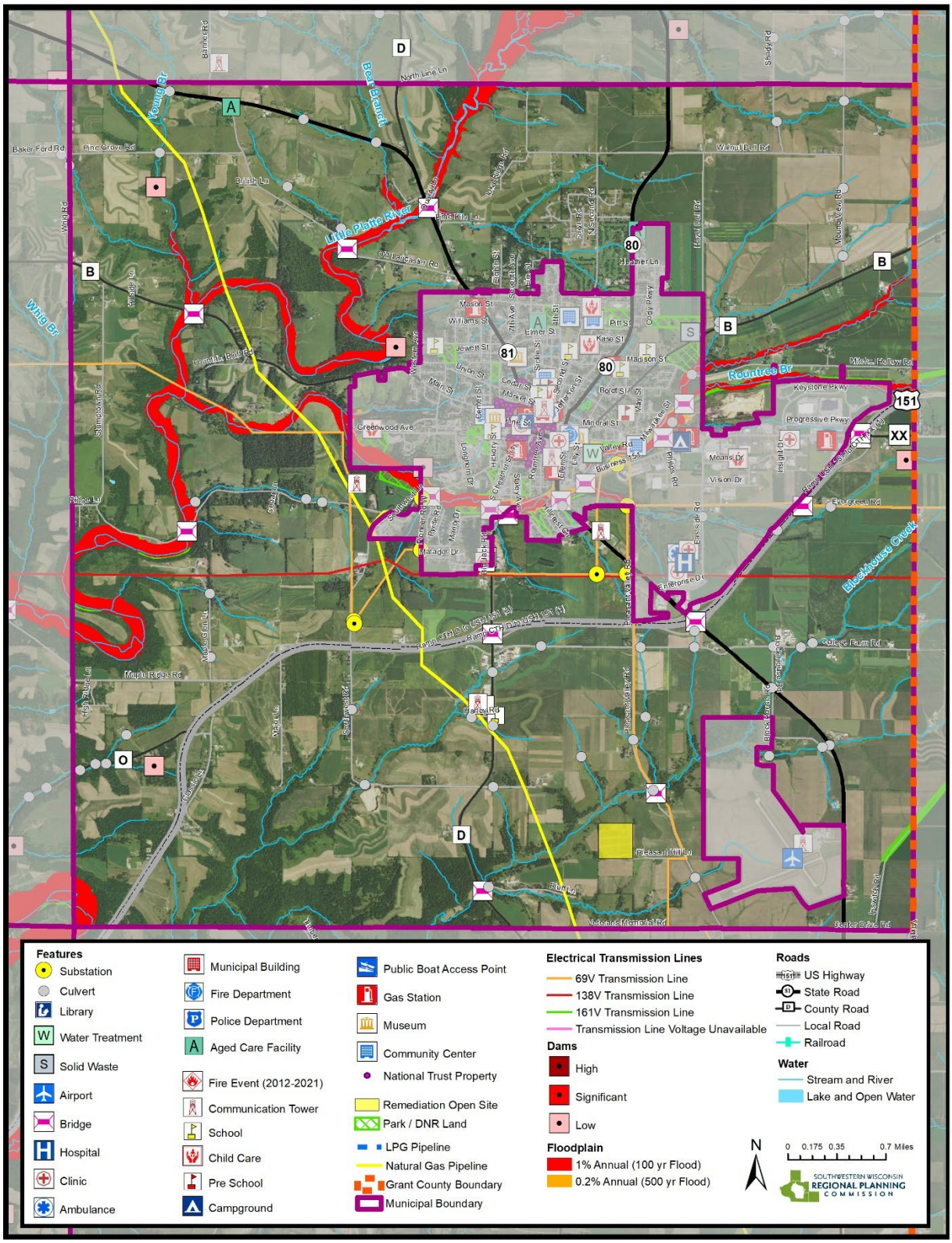


Town of Platteville

The Town of Platteville is located in southern Grant County and borders the City of Platteville. US Highway 151 runs east-west through the town, and it is primarily agricultural. The town has grown in population due to its proximity to Grant County's largest city, Platteville, and is estimated at 1,513 according to the 2020 U.S. Census.

Town of Platteville Local Action Recommendations					
Priority	**Timeline**	**Responsibility**	**Cost**	**Potential Funding Source**	**Strategy**
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
High	4 years	Town	$300k - $1 million	BRIC Grant	Explore construction of emergency shelters for vulnerable populations.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Town	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Platteville Map

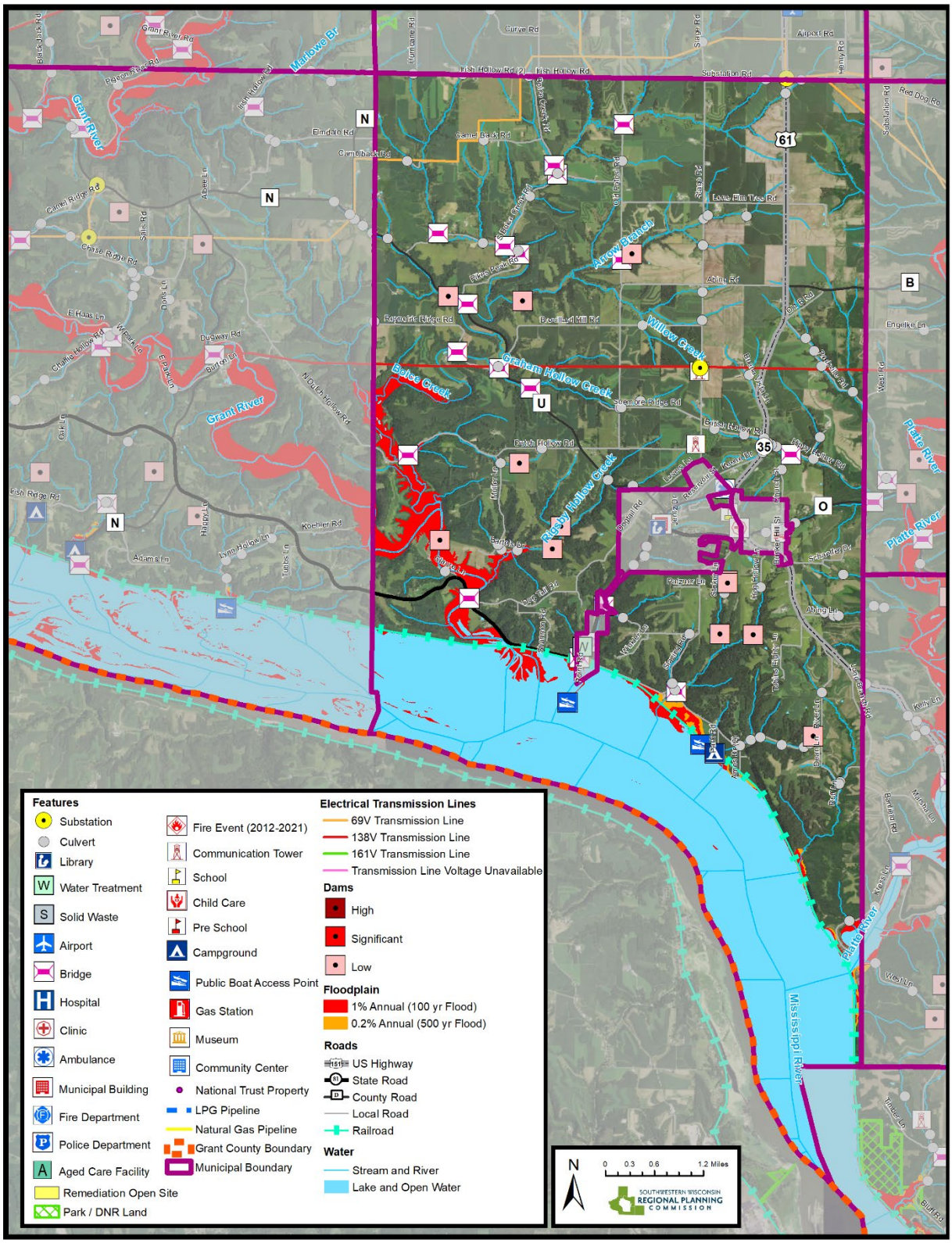


Town of Potosi

The Town of Potosi is located in southern Grant County and is the largest township in the county by size. The Grant River enters the Mississippi River in the town, and the southern boundary with the Mississippi River is characterized by tall wooded bluffs. A railroad runs along the Mississippi in the town and US Highway 61 runs north/south through the township. The estimated population of the town is 813 according to the 2020 U.S. Census.

Town of Potosi Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
High	3 years	Town, GCEM	Unknown	HMGP	Evaluate and address flood-prone structures in hazard areas.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Town	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Potosi Map

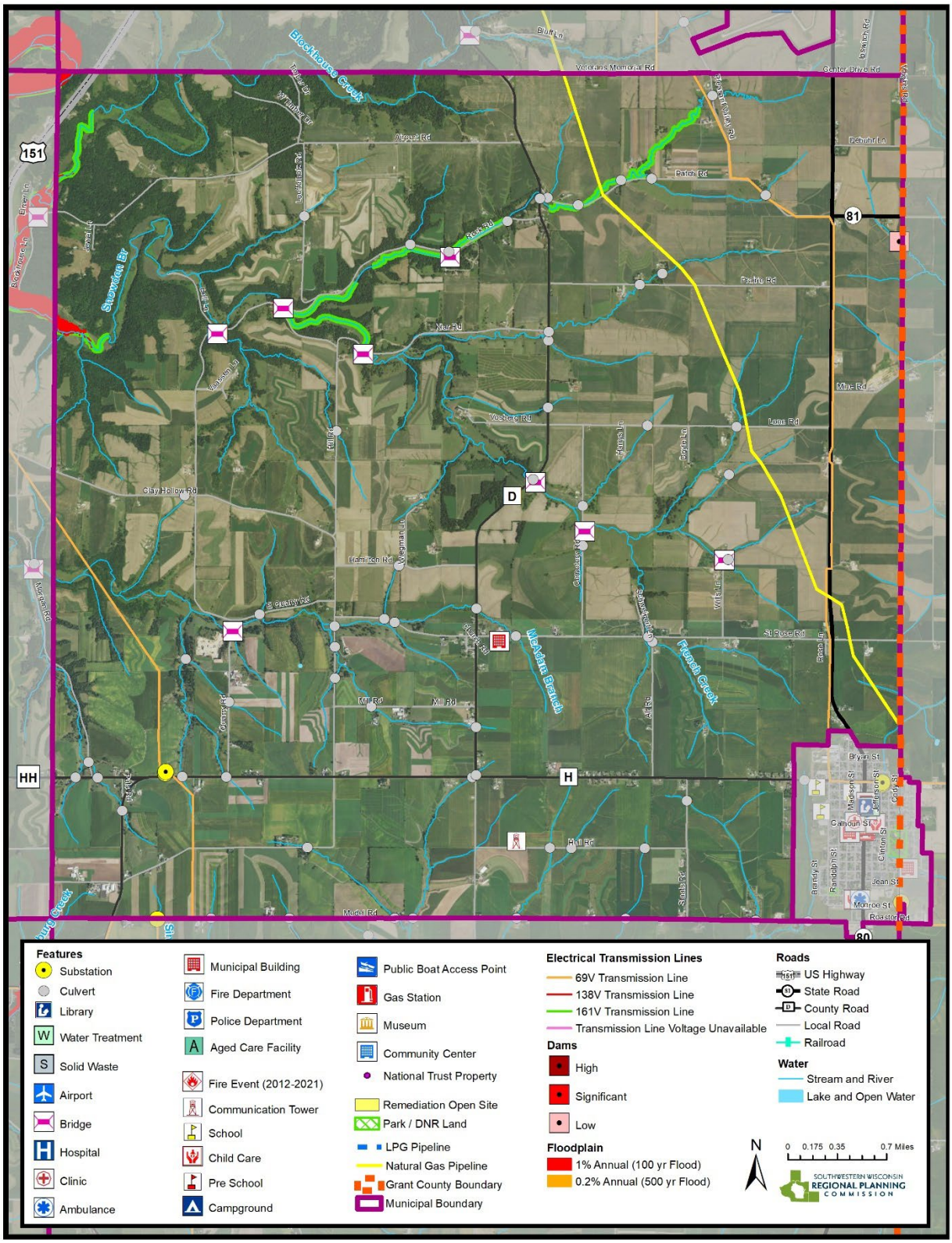


Town of Smelser

The Town of Smelser is located in southeastern Grant County, and the land use is primarily agricultural. The estimated population of the town is 786 people according to the 2020 U.S. Census.

Town of Smelser Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	$5k-$30k	CDBG	Develop long term capital improvement and maintenance plan to address roads, bridges, culverts, and ditches.
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
High	4 years	Town	$300k - $1 million	BRIC Grant	Explore construction of emergency shelters for vulnerable populations.
Med.	1 year	Town	Existing staff time	N/A	Implement a driveway ordinance that accommodates emergency equipment.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Town	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Town	$5k-$100k	EIGP	Invest in renewable energy and energy efficiency in order to reduce footprint of local government and increase resilience.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Smelser Map

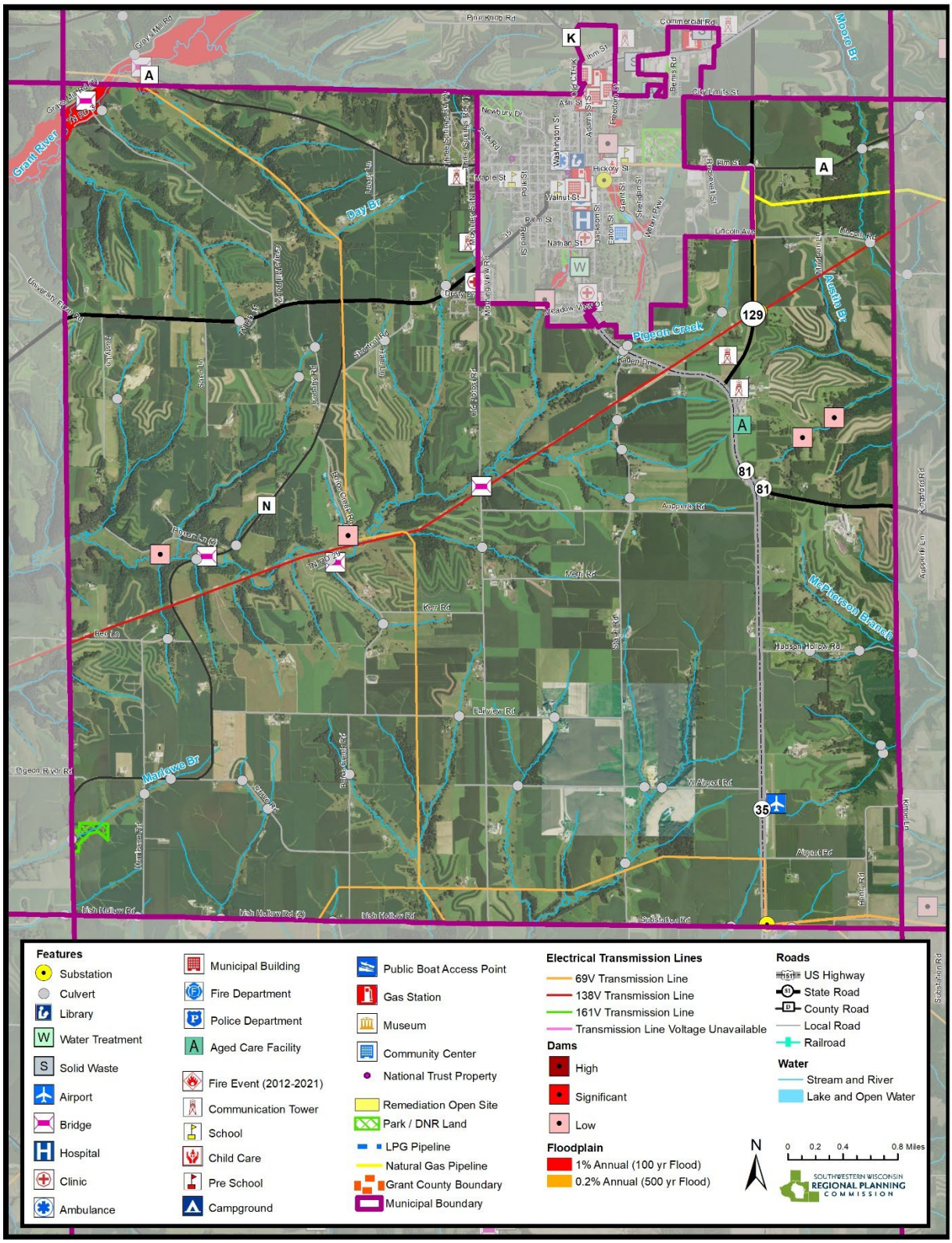


Town of South Lancaster

The Town of South Lancaster is located in central Grant County. US Highway 61 runs north-south through the eastern half of the town connecting the Villages of Potosi and Tennyson to the City of Lancaster. Flooding issues from the Pigeon River pose risks to the area. South Lancaster's estimated population is 884 people according to the 2020 U.S. Census.

Town of South Lancaster Local Action Recommendations					
Priority	**Timeline**	**Responsibility**	**Cost**	**Potential Funding Source**	**Strategy**
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Implement a driveway ordinance that accommodates emergency equipment.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.
Med.	2-3 years	Town	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).

Town of South Lancaster Map

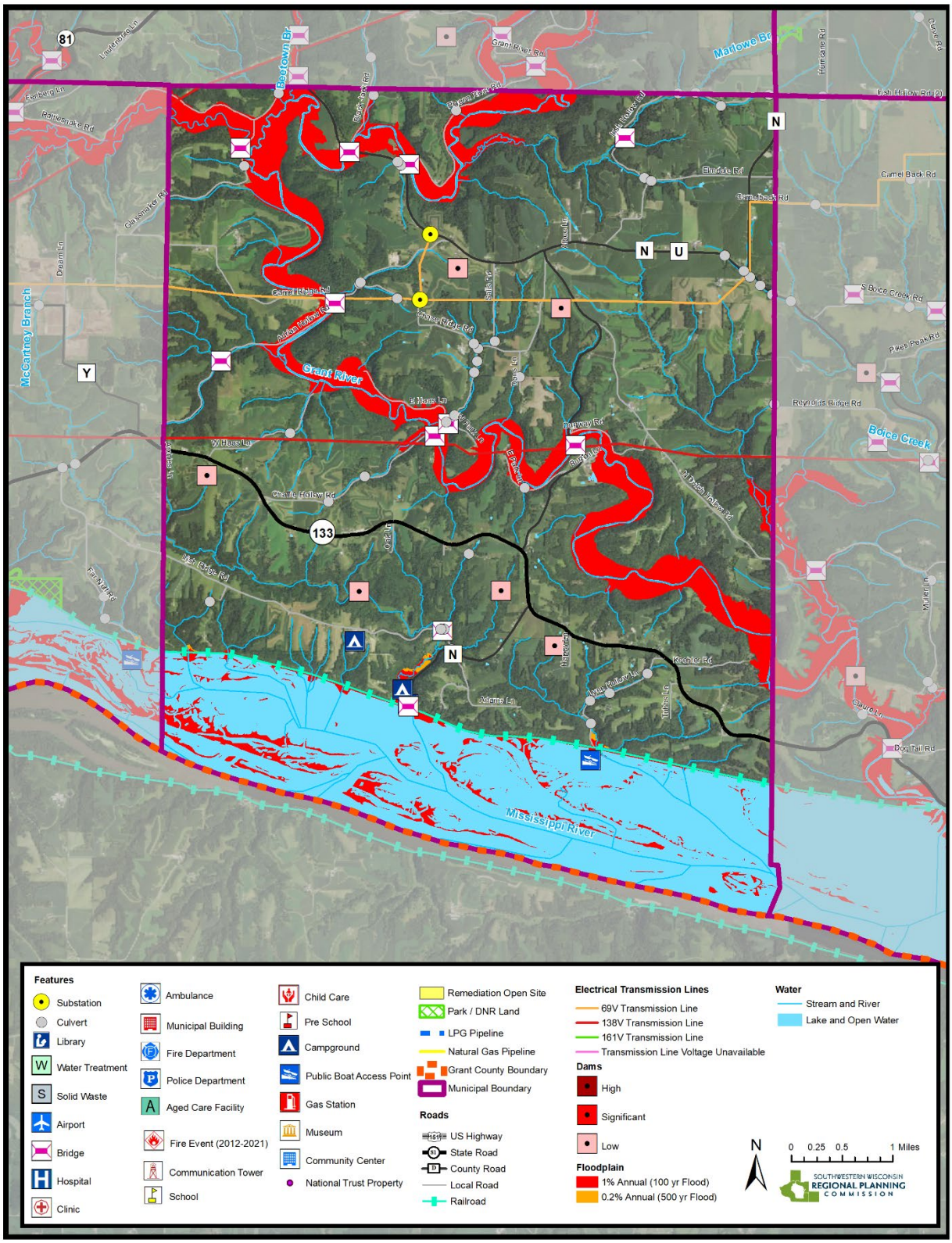


Town of Waterloo

The Town of Waterloo is located in the southwestern part of Grant County, situated between the Towns of Cassville and Potosi. The southern boundary of the town is defined by the Mississippi River, which is accompanied by a railroad along its course. State Highway 133 runs parallel to the Mississippi River, connecting the Villages of Cassville and Potosi. Waterloo is primarily an agricultural area with two campgrounds and an estimated population of 552 people according to the 2020 U.S. Census. The town is characterized by the winding path of the Grant River, which flows through it and is prone to flooding. Rattlesnake Creek joins the Grant River in the northern part of the town, contributing to the river's water flow.

Town of Waterloo Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	Unknown	PDM, CDBG	Make Glassmaker Bridge larger and address flood-prone areas on Glassmaker Road and Camel Ridge Road.
High	2 years	Town	$200k	HMGP	Address structures in the flood hazard area.
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town, WDNR	Unknown	WDNR	Protect and restore wetlands to reduce flooding.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.
Med.	2-3 years	Town	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).

Town of Waterloo Map

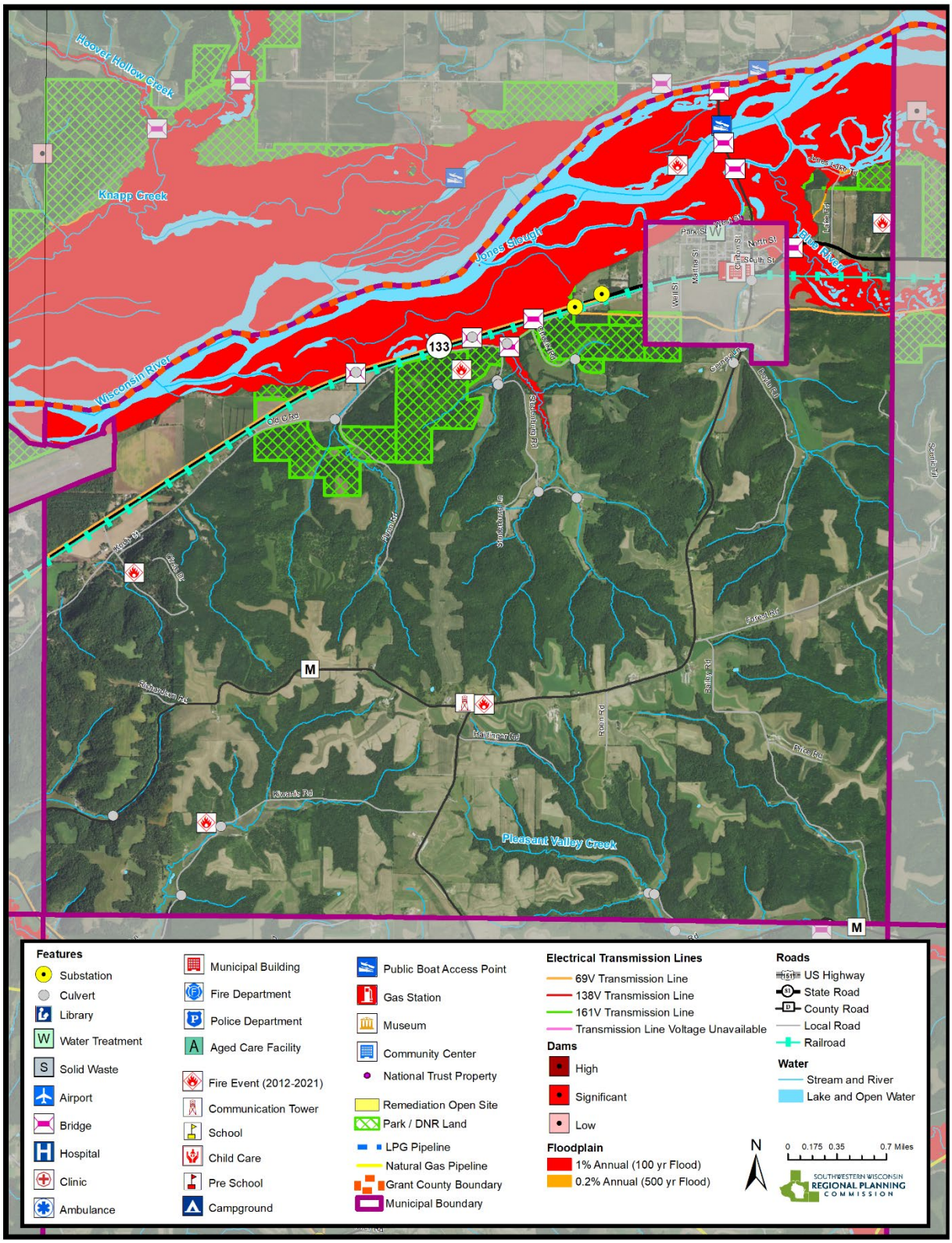


Town of Watterstown

The Town of Watterstown is situated on the northern boundary of Grant County, bordering the Wisconsin River. It is located between the Townships of Muscoda and Boscobel. The town's predominant land use is agriculture, and a railroad runs across the northern part of the town, following the course of the Wisconsin River. One notable geographical feature of Watterstown is a ridge that runs from north to south, making it one of the higher elevations along the Wisconsin River. The estimated population of Watterstown is 372 people according to the 2020 U.S. Census.

Town of Watterstown Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	1 year	Town	Unknown	CDBG	Address flood issues on Bailey Road.
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	2-3 years	Town	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.
Low	Ongoing	Town	Existing staff time, $1k-$10k/ generator	Personal Budgets	Encourage residential back-up power generators.

Town of Watterstown Map

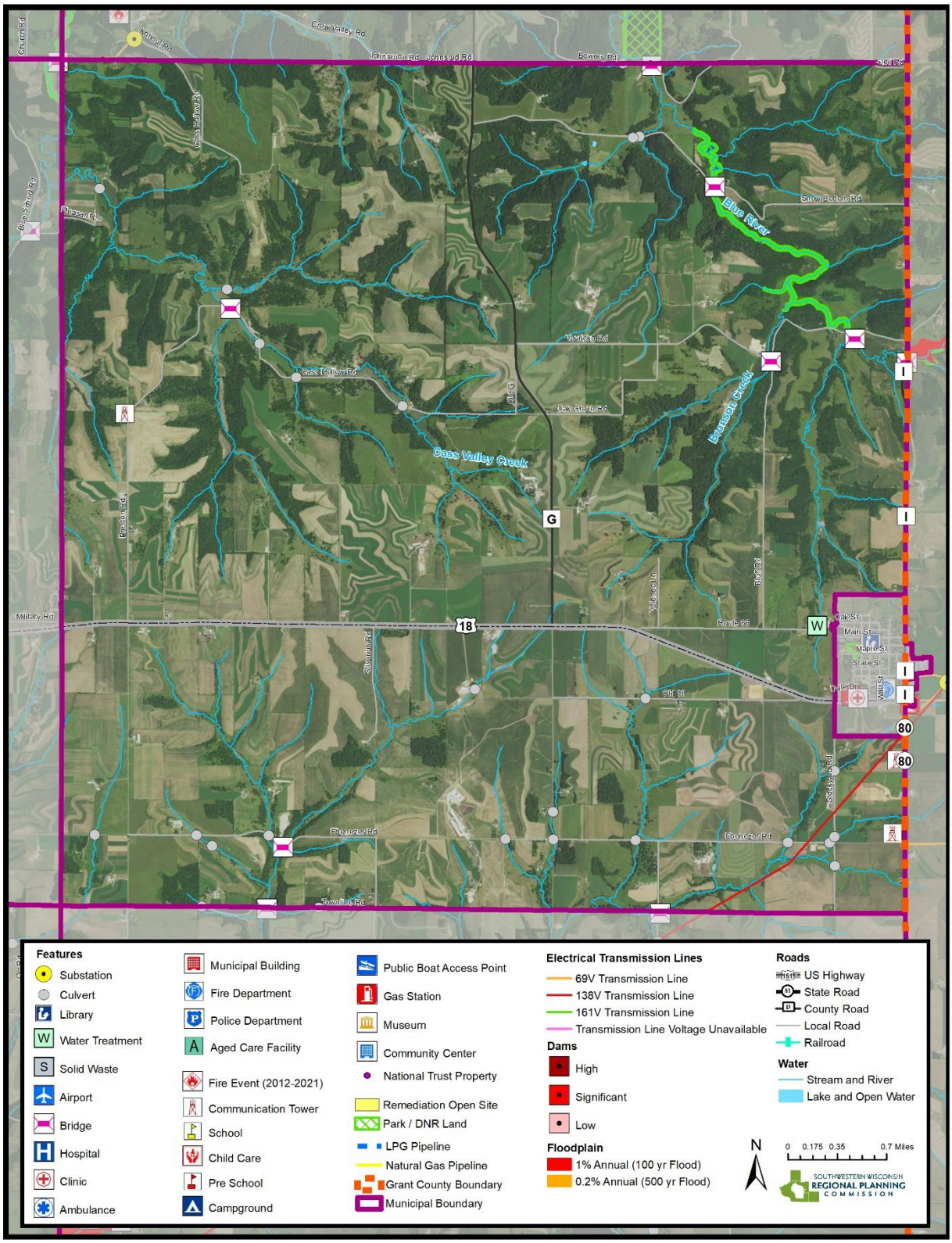


Town of Wingville

The Town of Wingville is located on Military Ridge on the eastern border of Grant County. Agriculture is the primary land use in the town. US Highway 18 travels east-west through the town. The estimated population of the town is 378 according to the 2020 U.S. Census.

Town of Wingville Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
High	3 years	Town	$5k-$30k	CDBG	Develop a capital improvement and maintenance plan to address culverts, bridges, roads, and other infrastructure and utilities that will need to be upgraded.
High	5 years	Town	$5k-$100k	EIGP	Invest in renewable energy and energy efficiency in order to reduce footprint of local government and increase resilience.
Med.	1 year	Town	Existing staff time	N/A	Implement a driveway ordinance that accommodates emergency equipment.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to update the Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.

Town of Wingville Map

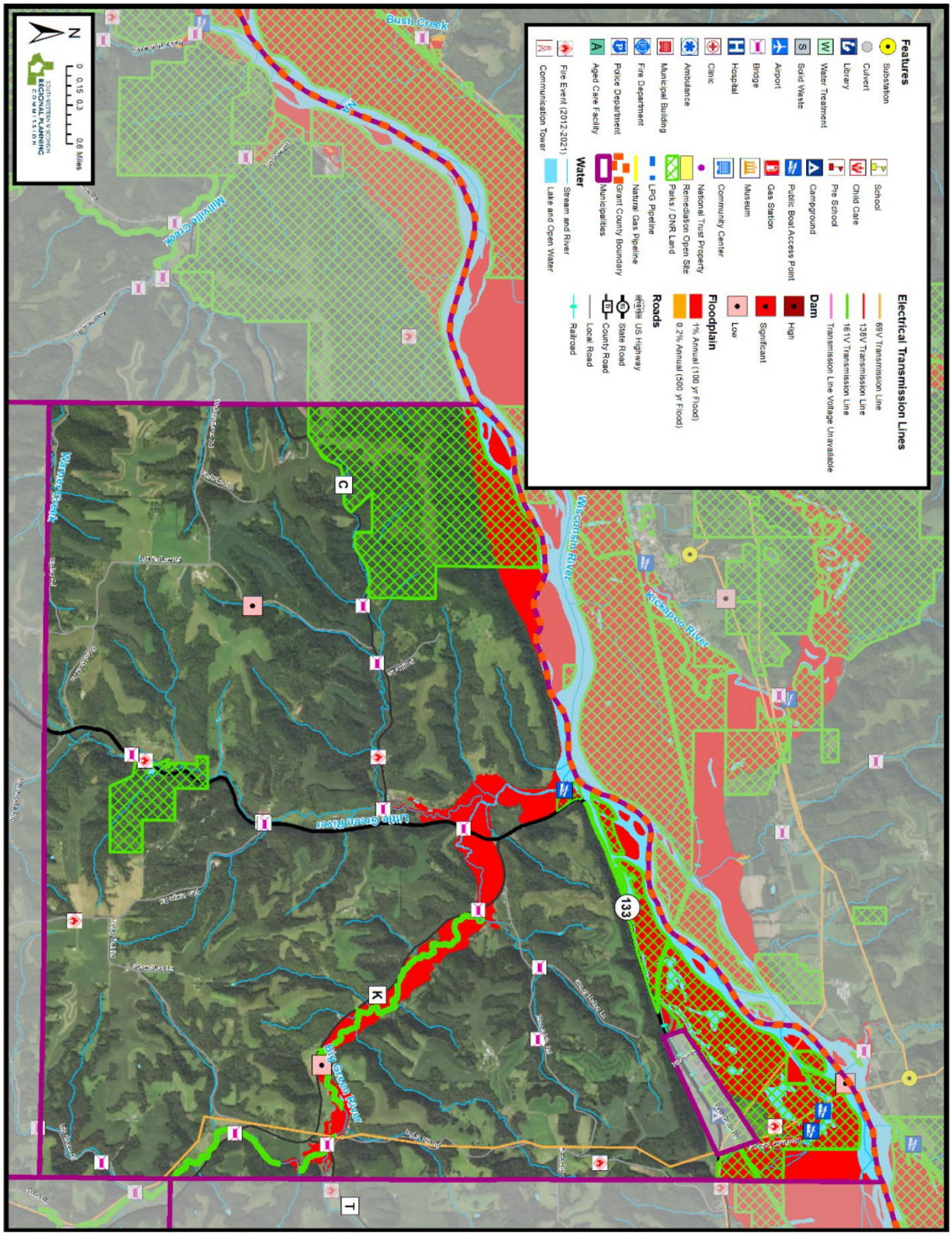


Town of Woodman

The Town of Woodman is located on the north central boundary of Grant County, along the Wisconsin River. The town is heavily wooded and there is a large amount of state land bordering the Wisconsin River. The Town of Woodman's population is estimated at 158 according to the 2020 U.S. Census.

Town of Woodman Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	1 year	Town	$100k - $1 million	CDBG	Undertake vulnerability analysis of water treatment facility and address needs.
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.
Med.	2-3 years	Town	Unknown	BRIC Grant	Install green rather than gray infrastructure (e.g. bioswales for storm runoff, permeable pavements).

Town of Woodman Map

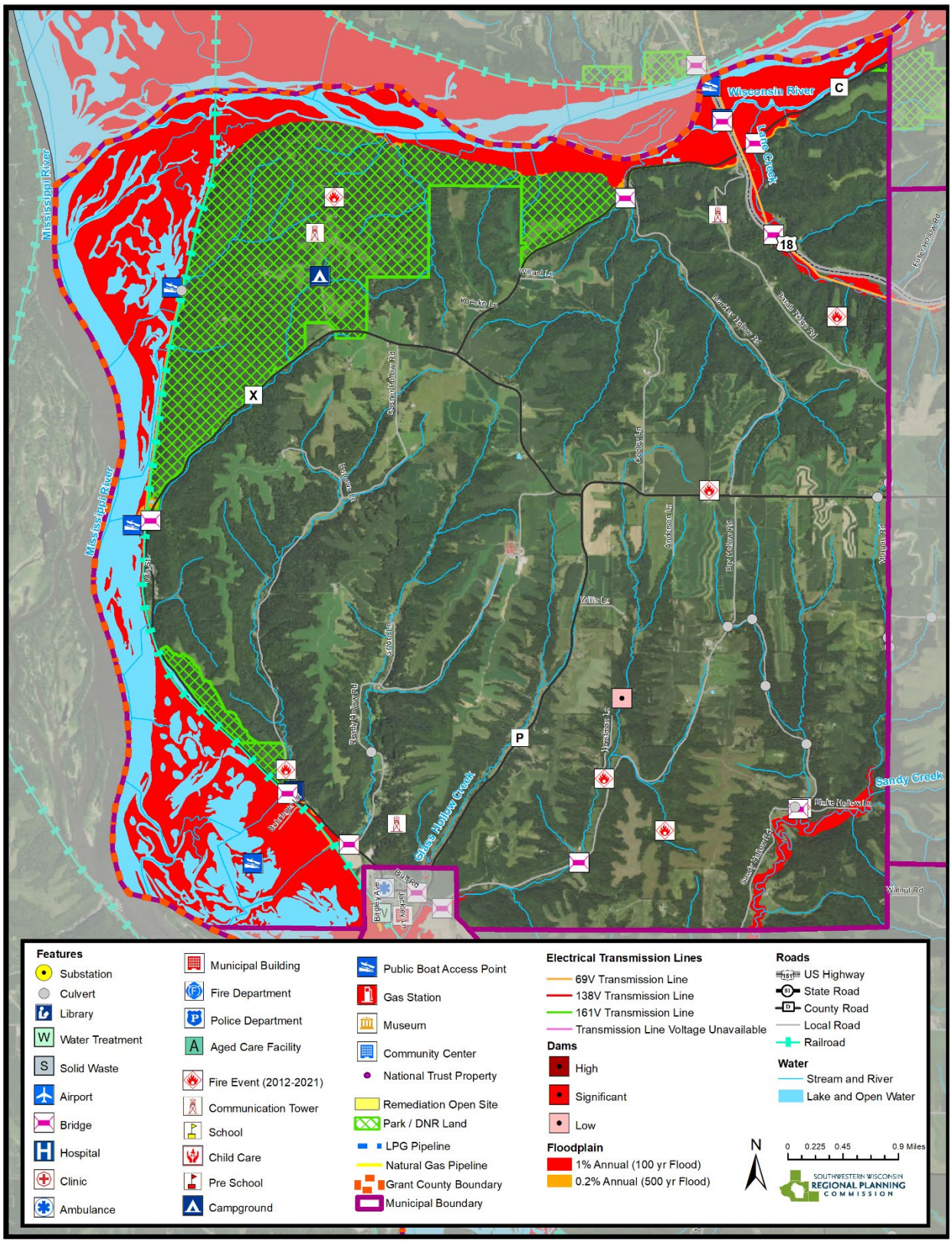


Town of Wyalusing

The Town of Wyalusing is located in the northwestern corner of Grant County. It is densely wooded and is located at the confluence of the Wisconsin and Mississippi Rivers. A large part of the town is wooded floodplain that is part of Wyalusing State Park. Steep bluffs rise from the flood plains. The Town's population is estimated at 336 according to the 2020 U.S. Census.

Town of Wyalusing Local Action Recommendations					
Priority	Timeline	Responsibility	Cost	Potential Funding Source	Strategy
High	2 years	Town	$2k-$10k	PDM, SLCGP	Make investments in cyber protection for town government.
High	4 years	Town	Unknown	HMGP	Evaluate and address flood-prone structures in hazard areas.
Med.	1 year	Town	Existing staff time	N/A	Explore feasibility and siting for retention pond to be used for flood mitigation and hazardous materials runoff capture.
Med.	1 year	Town	Existing staff time	N/A	Work with GCEM to develop a Continuity of Operations plan, including planning for cyber-attacks, and educate those responsible for implementation.
Med.	2 years	Town, Nearby Communities	Existing staff time	N/A	Establish new intergovernmental mutual aid agreements to share services and resources.
Med.	2 years	Town	Existing staff time	N/A	Identify and designate weather shelters by type (tornado, cooling shelter, etc.) in the community and communicate to residents and visitors.
Med.	5 years	Town, County	Existing staff time, unknown cost	Town Budget	Work with other agencies, Grant County, and the private sector to expand broadband or offer local access to high-speed internet.
Med.	5 years	Town	Existing staff time	Town Budget	Ensure design of new infrastructure (roads, bridges, culverts) can accommodate future projections of rainfall and storm events, and evaluate existing infrastructure on these criteria.
Med.	5 years	Town, Fire Dept., WDNR	$1.5k - $5k,	PDM	Conduct prescribed burns to reduce fuel load buildup of wildfires.
Med.	5 years	Fire Dept., Township	$1k - $5k per hydrant	FFP DNR Grant	Identify relevant sites in local natural water sources and install dry hydrants for filling water-transporting trucks for firefighting.
Low	Ongoing	Town	Existing staff time, $1k-$10k/ generator	Personal Budgets	Encourage residential back-up power generators.

Town of Wyalusing Map



Chapter 7: County-Wide Mitigation Strategies

Alongside municipal-led actions described in Chapter 6, county-wide actions were developed to reduce or avoid long-term vulnerabilities to the people, economy, infrastructure, and environment of Grant County. These actions have been sorted into two tables: actions to begin, and actions to maintain or grow. For lists of acronyms related to "Potential Funding" and "Responsibility," see the explanation at the beginning of Chapter 6.

County-Wide Actions to Begin

Grant County Action Recommendations to Begin					
Priority	**Timeline**	**Cost Estimate**	**Potential Funding**	**Responsibility**	**Action**
High	1 year	Existing staff time	N/A	GCEM, Local Gov.	Given increasing difficulty staffing EMS services, develop a plan to maintain ambulance services.
High	2 years	$14k per year	County Budget, Local Gov. Budgets	GCEM, County Board, Local Gov.	Develop and fund a county-wide emergency wireless mass-notification system.
High	2 years	Existing staff time	N/A	GCEM	Conduct outreach to expand county emergency management volunteer program and hold more meetings for volunteer base.
High	5 years	Unknown cost, existing staff time	County Budget, ARPA	County Board, IT Dept., other stakeholders	Meet with stakeholder groups in charge of municipal infrastructure to determine how county fiber infrastructure can be best leveraged to improve resilience.
High	5 years	Unknown cost, existing staff time	PDM, HMGP, HHPD	GCEM	Dedicate time and funds for scoping and completing flood mitigation projects to protect homes, businesses, and infrastructure.
High	5 years	$500k-$1 million per shelter	BRIC, PDM, HMGP	GCEM, Local Gov.	Identify vulnerable populations with no access to safe rooms and encourage development of storm or extreme temperature shelter space.
High	5 years	Unknown cost	Opioid settle-ment funds, County Budget	UW-Ext., Unified Counseling, SWCAP	Expand mental health services to all residents, especially those more likely to be dealing with trauma including medically and chemically dependent, recently incarcerated, and financially insecure. Mental health services are currently far behind local need, and serving this need builds resilient people and communities.

Grant County Action Recommendations to Begin (Continued)					
Priority	Timeline	Cost Estimate	Potential Funding	Responsibility	Action
Med.	1 year	Existing staff time	N/A	CSZD	Create and maintain a record of identified areas where sinkholes have been found or alerted by landowners for internal knowledge on areas on interest.
Med.	2 years	$100k	IT Dept. Budget	County Board, IT Dept.	Improve the county's website to facilitate easier navigation by the public and make it more user-friendly for individual departments to post updates without technical support.
Med.	3 years	$25k-$50k	EAA, County Budget	County Board, SWWRPC	Engage in strategic planning for Grant County to make proactive decisions that boost resilience and long-term health of the county.
Med.	5 years	Existing staff time	County Budget	ADRC, Public Health Dept., Social Services, GCEM, IT Dept.	Develop a "Functional Need Database" identifying the locations of isolated, vulnerable, or special need populations in Grant County. This database would be an opt-in service where individuals could enroll.
Med.	5 years	Unknown	County Budget	GCEM, County Board, Public Health Dept., Social Services, ADRC	With the knowledge that stigmatized populations such as formerly incarcerated people, people with medical or chemical dependencies, people with disabilities, and non-English speakers face difficulty finding and receiving support, make targeted communication efforts to these people/communities and support county-wide stigma reduction efforts.
Med.	5 years	Existing staff time	N/A	GCEM, American Red Cross	Merge shelter lists maintained by the American Red Cross (ARC) and those maintained by the county into one uniform format. Encourage the ARC to expand upon their existing pre-identified shelters to include locations in all Grant County communities. Refine lists of emergency shelters to include more detailed information related to capacity, facilities, and resilience. Identify and educate residents on locations for emergency relief.
Med.	5 years	Unknown	EIGP	County Board	Invest in renewable energy and energy efficiency when cost beneficial in order to reduce footprint of local government and increase resilience.

Grant County Action Recommendations to Begin (Continued)					
Priority	Timeline	Cost Estimate	Potential Funding	Responsibility	Action
Med.	5 years	Unknown	WDNR, Local & County Budgets	Grant County, Local Gov.	Improve communication of local dangers and emergency protection measures and resources for vulnerable populations recreating outdoors or new to the area. This includes increased signage, especially for the Wisconsin River.
Med.	5 years	Existing staff time	County Budget	All County Depts	Translate emergency and educational communication materials in Spanish and distribute to relevant populations.

County-Wide Actions to Maintain or Grow

Grant County Action Recommendations to Maintain or Grow				
Priority	Cost Estimate	Potential Funding	Responsibility	Action
High	$5k - $30k	SWRM, EQIP, County Budget	CSZD	Work with landowners to create and protect wetlands for flood mitigation.
High	$8k - $150k	SWRM, EQIP, County Budget	CSZD	Work with landowners on streambank restoration projects to connect floodplains and increase capacity for flood mitigation.
High	Existing staff time	EMPG	GCEM	Maintain county-wide emergency operations plan (EOP) and offer continuing education for county and municipal official responsible for implementation of EOP.
High	$3 million	AFG	GCEM	Assist Fire & EMS agencies with obtaining funding to purchase mobile and portable radios that are P-25 (digital) capable.
High	$5K/ Year	GCEM Budget	GCEM	Maintain the Regional Technical Partnership to address technical rescue situations. Formalize leadership, roles, and responsibilities and adopt universal standard operating guidelines.
High	Unknown	HMGP, HMA, CDBG, WIDNR	GCEM, CSZD	Acquire land with structures that are located within flood-prone areas (including flash flood-prone areas outside the mapped floodplain) to remove structures and enforce permanent restrictions on development for these parcels when cost beneficial.
High	$5k/year	WDNR	GCEM, Local Fire Depts., WIDNR	Encourage Fire Departments to educate their served populations of "Fuel Reduction Strategies" and work with their governing entities to enact required strategies for the overall protection of the community.
High	Existing staff time, unknown cost	HMEP	GCEM, Local Gov.	Work with Local Fire and EMS Depts. to develop and train first responders on Hazardous Material Spill response plan.
High	Existing staff time	N/A	GCEM, Local Gov.	Continue quarterly Zoom meetings between GCEM and municipal governments to share and build best practices for local mitigation strategies.
High	$1M+ per village	HMGP, FMA, PDM	GCEM, WDNR, Local Govs	Work with WDNR and GCEM to update Waste Water Treatment Plan and sewer and water infrastructure.

Grant County Action Recommendations to Maintain or Grow (Continued)				
Priority	Cost Estimate	Potential Funding	Responsibility	Action
High	Existing staff time, unknown cost	HMEP	GCEM/ Fire & EMS	Educate local residents on the dangers of hazardous materials incidents and how to respond. Connect communities with relevant parties to understand what hazardous materials are transported on local highways and rail lines.
High	Existing staff time unknown cost	BRIC, HMGP, PDM	Highway Dept., GCEM	Conduct infrastructure studies, including stormwater management, green infrastructure projects, and long-term water management needs.
High	Existing staff time	USDA	UW-Ext., USDA	Encourage crop and livestock that is compatible with climate and landscape, as well as crop insurance.
High	Existing staff time	N/A	WDNR, CSZD	Assess presence of wetlands or wetland indicators and encourage wetland preservation and restoration for flood mitigation.
Med.	Existing staff time	N/A	GCEDC, GCEM, County Departments, SWWRPC	Incorporate and review hazard mitigation plan with all other county planning and economic development planning to ensure that priorities and issues identified in hazard mitigation plan are addressed comprehensively.
Med.	$8k-$10k	HMA, HMGP	GCEM	Utilize grant funding to purchase and distribute weather radios among residents.
Med.	Existing staff time	EMPG	GCEM	Host Emergency Awareness events including Tornado and/or Severe Weather Awareness Week in March or April of each year.
Med.	Existing staff time	N/A	GCEM	Educate local businesses and local governments on the benefits of developing a Continuity of Operations Plan, including for cyber-attack events.
Med.	Existing staff time	School budgets	GCEM, schools, institutions	Encourage and support development of emergency response plans for all local school districts, colleges, and universities.
Med.	Existing staff time	HMGP, PDM, CDBG	GCEM, WDNR	Work with and educate landowners in upstream areas of creeks and rivers prone to flash flooding in communities about depositing tree debris close to banks and responsible watershed management.
Med.	$5k-$10k, staff time	Dept. Budget	Highway Dept.	Identify the locations where snow fencing is needed and install in those areas.
Med.	Existing staff time	IT Dept. Budget	IT Dept.	Continue cyber security and IT resilience efforts for county and municipal governments.

Grant County Action Recommendations to Maintain or Grow (Continued)				
Priority	Cost Estimate	Potential Funding	Responsibility	Action
Med.	Unknown	UW-Ext. Budget, County Budget	UW-Ext., GCEM, other county agencies	Engage local communities in educational opportunities to stay up to date and consider new approaches for preparedness and resilience.
Med.	$10K	PDM	WDNR, GCEM, Local Fire Depts., Local Gov.	Develop and implement plan to utilize dry hydrants and possible irrigation hook-ups in areas with high wild-fire vulnerability.
Low	Unknown	ADRC	ADRC, EMS providers	Provide falls prevention services and resources to reduce EMS demand from fall-related calls.
Low	Existing staff time	N/A	CSZD	Encourage local municipalities to adopt and enforce a stormwater ordinance.
Low	$500 - $20k	EQIP, County Budget	CSZD, NRCS	Work with landowners to encourage cover crops for erosion and flooding mitigation and connect interested parties with county or NRCS programs.
Low	Existing staff time	N/A	GCEM	Maintain and support the county and local community fire & EMS use of a Mutual Aid Box Alarm System (MABAS). Assist departments with the development and refinement of Box Alarm Cards as necessary for successful implementation.

Chapter 8: Plan Adoption and Implementation

Plan Adoption

This plan must be adopted by the Grant County Board as well as the incorporated areas (cities and villages) of Grant County. Cities and villages must adopt the plan within a year of the WEM meets requirements letter in order to receive hazard mitigation grant funds. According to FEMA, townships must participate in the county plan process, but do not have to formally adopt the plan to be eligible to receive mitigation grants, since the county can apply for grants on their behalf. Adoption of the Grant County Hazard Mitigation Plan accomplishes the following:

- Confirms the commitment of community leaders and citizens to mitigate the effects of disasters.
- Provides a definitive guide for community leaders and officials of the county and local jurisdictions to initiate changes that will decrease damages incurred from disasters.
- Ensures the long-term continuity of mitigation policies and programs through changes in political leadership, county and municipal staff, and community decision makers.
- Provides confirmation to WEM and FEMA that the plan's recommendations were assessed and approved by the governing authority of Grant County.

Prior to the plan being adopted by the Grant County Board and the cities and villages of Grant County, it is reviewed by WEM to ensure compliance with the Disaster Mitigation Act of 2000. Once approved, WEM sends the plan to FEMA for their review and approval. When both WEM and FEMA approve the plan, it is then sent to the Grant County Board and Grant County cities and villages for their approval.

Plan Implementation

After county approval on TBD, the plan was placed on the county website. GCEM and SWWRPC informed all participating jurisdictions and stakeholders of the plan approval and distributed copies.

GCEM takes the lead on plan implementation, including assuring the plan is referenced by future planning efforts and is used to provide guidance on political decisions, public expenditures, and policy directives.

All jurisdictions included in this plan will review and integrate this plan into any future planning processes of their jurisdiction. This plan and recommended hazard mitigation actions are used to inform future decisions of the participating jurisdictions in planning efforts including capital improvement plans, comprehensive plans and updates, long-range plans, and any plan that may review and make recommendations related to topics identified and discussed in this plan. Since the previous plan's publishing, all jurisdictions have had access to the review and incorporate it into other planning mechanisms.

GCEM will work to prioritize mitigation projects and work with communities to secure financing for local mitigation strategies. Such efforts include preparation of state, federal, and non-profit grant funding opportunities.

County and local jurisdiction staff and elected officials ensure that the recommended mitigation strategies are considered in budgets. In addition to grant opportunities discussed in this plan, as political

will dictates, administrators and elected officials will contemplate the use of volunteer efforts, bonds, loans, fees, and taxes to finance high priority mitigation projects.

Plan Monitoring, Evaluation and Update

Planning is an ongoing process, and for this hazard mitigation plan to remain current and applicable, periodic updates will be necessary. The Disaster Mitigation Act of 2000 requires that local mitigation plans are evaluated and updated at least every five years. To expedite this process, Grant County will begin to maintain a record of disaster related damages that will help to further improve the vulnerability and risk assessments, and will track mitigation projects to determine implementation progress and results. Vulnerability, risk, and mitigation recommendations will be reviewed following a disaster to determine if any changes are warranted based on degrees of damage and patterns of the event. The county board must approve all additions and updates to the plan, and all updates will include public involvement and stakeholder outreach. The plan will be updated in 2028 by GCEM and planning support as they see fit.

The plan is monitored through a biannual survey of each community. GCEM is responsible for surveying each community and tracking progress on each community's strategies. Surveys are done by email or by phone. Regular monitoring assists GCEM in directing communities towards funding opportunities as they become available. Following disaster events, GCEM will collect relevant information to be included in the next plan update. The plan identifies mitigation strategies focused on education and engaging public audiences as a mitigation effort. During these education-focused efforts, GCEM continues to seek public input and incorporate it into mitigation efforts.

GCEM will review the plan to evaluate progress and create a written record for the next plan update. To do this, the planning team suggested that GCEM utilize a progress worksheet. The worksheet is included in Appendix E and should be completed bi-annually.


EMERGENCY MANAGEMENT
GRANT COUNTY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