

Sheridan County Appendix

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County Profile

SHERIDAN COUNTY

Region 23 Emergency Management Agency
Multi-Jurisdictional Hazard Mitigation Plan Update

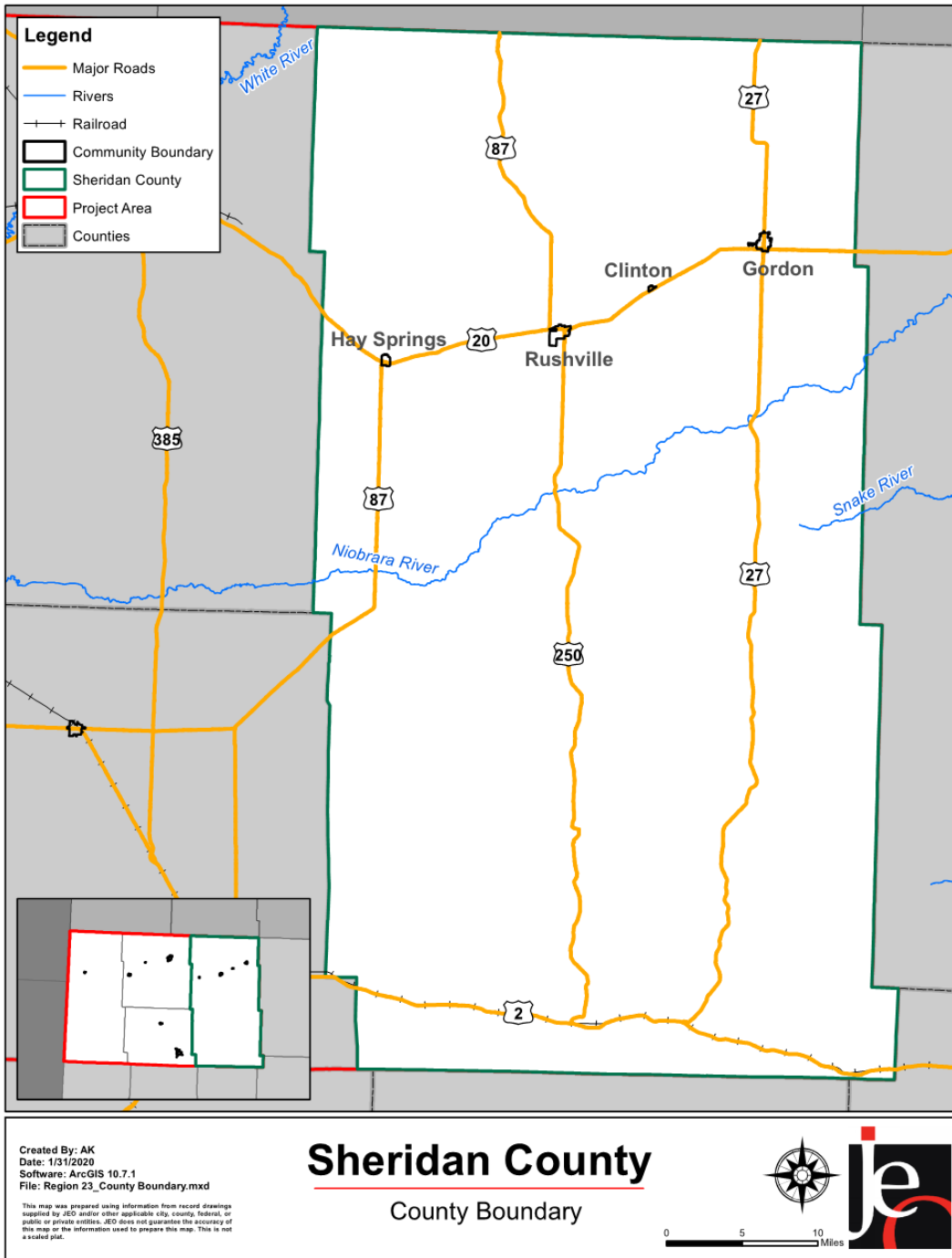
2020

Local Planning Team

Table SHR.1: Sheridan County Local Planning Team

NAME	TITLE	JURISDICTION
JAMES KROTZ	County Commissioner	Sheridan County
EVERET LANGFORD	Fire Fighter and Deputy	Sheridan County

Figure SHR.1: Sheridan County



Location, Geography, and Climate

Sheridan County is located in northwestern Nebraska and is bordered by Cherry, Grant, Garden, Box Butte, and Dawes Counties in Nebraska and Oglala Lakota County in South Dakota. The total area of Sheridan County is 2,470 square miles. The Niobrara River flows east-west through the center of the county. Sheridan County is comprised primarily of Sandhills and Plains, with smaller areas of Valleys, Bluffs and Escarpments, and Dissected Plains topographic regions¹, with the majority of land used as rangeland for livestock.

Climate

For Sheridan County, the normal high temperature for the month of July is 86.1°F and the normal low temperature for the month of January is 11.7°F. On average, Sheridan County receives 18.59 inches of precipitation and 36.1 inches of snowfall per year. The table below compares climate indicators with those of the entire state. Climate data is helpful in determining if certain events are higher or lower than normal. For example, if the high temperatures in the month of July are running well into the 90s, high heat events may be more likely which could impact vulnerable populations.

Table SHR.2: Sheridan County Climate Normals

	Sheridan County	State of Nebraska
JULY NORMAL HIGH TEMP	86.1°F	87.4°F
JANUARY NORMAL LOW TEMP	11.7°F	13.8°F
ANNUAL NORMAL PRECIPITATION	18.59"	23.8"
ANNUAL NORMAL SNOWFALL	36.1"	25.9"

Source: NCEI 1981-2010 Climate Normals², High Plains Regional Climate Center, 1981-2010³
Precipitation includes all rain and melted snow and ice.

Transportation

Sheridan County's major transportation corridors include Nebraska Highway 2 running east-west, Nebraska Highway 27 running north-south, Nebraska Highway 250 running north-south, Nebraska Highway 87 running north-south, and U.S. Highway 20 running east-west. US Highway 20 is the major corridor of transport through the county. A Burlington Northern Santa Fe rail line also bisects the southern edge of the county. Rail lines commonly transport hazardous materials through the county including coal, oil, or waste materials. The county also has air landing strips located in Hay Springs, Rushville, and Gordon. Critical facilities along these major transportation routes include the County Courthouse, hospital, police departments, County Sheriff's office, and fire departments in Rushville, Hay Springs, and Gordon. This information is important to hazard mitigation plans insofar as it suggests possible evacuation corridors in the county, as well as areas more at risk to transportation incidents.

Chemical Transportation

Hazardous materials are commonly transported by a range of transportation methods, including highways, rail, air, and pipeline. Railway and highway transportation spills are the most frequently occurring chemical transportation incidents. While incident proximity will always occur near or on transportation methods, it is not possible to predict precise locations of possible future events. Proximity of pipelines, rail lines, and highways near critical facilities or vulnerable population centers, including schools, daycares, nursing homes, and/or hospitals, increases overall vulnerability to chemical transportation spills. A BNSF rail line, State Highways 2, 27, and 250, and U.S. Highway 20 are all commonly used to transport hazardous chemicals across the County.

¹ Center for Applied Rural Innovation. "Topographic Regions Map of Nebraska." 2001. <http://digitalcommons.unl.edu/caripubs/62>.

² National Centers for Environmental Information. "1981-2010 U.S. Climate Normals." Accessed December 2019. <https://www.ncdc.noaa.gov/cdo-web/datatools>.

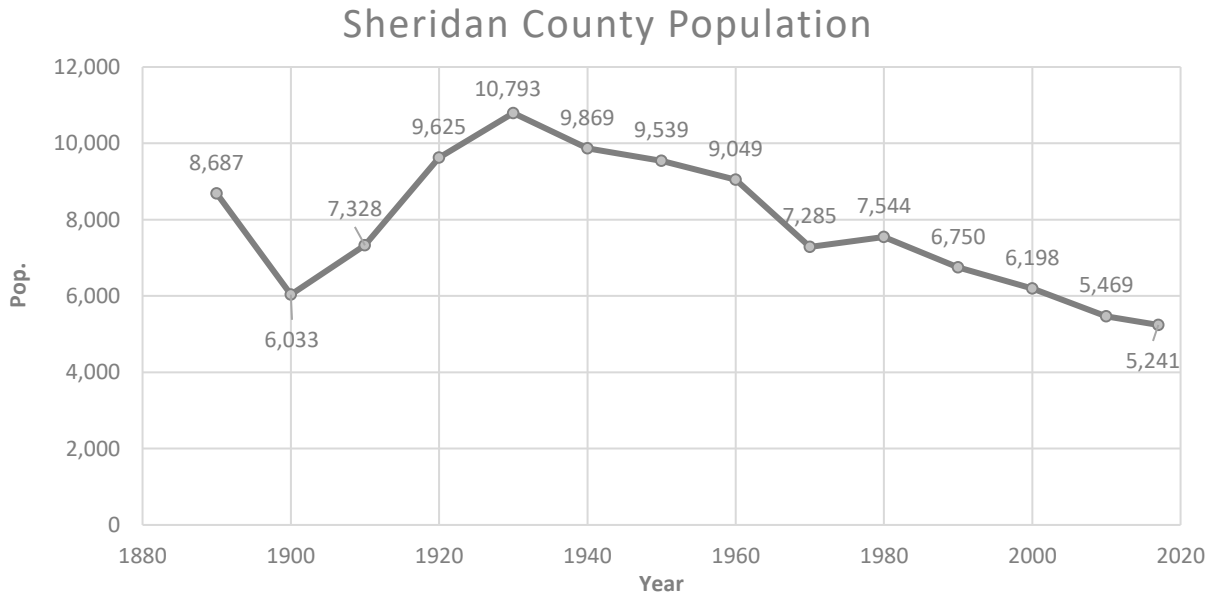
³ High Plains Regional Climate Center. "Monthly Climate Normals 1981-2010 – Hay Springs NE." Accessed December 2019. <http://climod.unl.edu/>.

In the county, a spray plane crashed and contaminated a small area. Local response resources include hazmat crews in Chadron and Scottsbluff. The local planning team indicated vulnerable populations are located at the Parkview Lodge in Rushville near major routes. Private entities, local emergency response units, and state resources have strict regulatory oversight and emergency action plans in place to respond to significant chemical spills.

Demographics

The following figure displays the historical population trend from 1890 to 2017. This figure indicates that the population of Sheridan County has been declining since the 1930s. This is notable for hazard mitigation because communities with declining population may also have a higher level of unoccupied housing not being maintained. Furthermore, areas with declining population will be less prone to pursuing residential/commercial development in their areas, which may reduce the number of structures vulnerable to hazards in the future. Decreasing populations can also represent decreasing tax revenue for the county which could make implementation of mitigation actions more fiscally challenging.

Figure SHR.2: Population 1890 – 2017



The following table indicates the State of Nebraska has a higher percentage of people under the age of five; however Sheridan County has a greater proportion of residents over 64. This is relevant to hazard mitigation insofar as the very young and elderly populations may be at greater risk from certain hazards than others. For a more elaborate discussion of this vulnerability, please see *Section Four: Risk Assessment*.

⁴ United States Census Bureau. "2017 American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov>.

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Table SHR.3: Population by Age

AGE	SHERIDAN COUNTY	STATE OF NEBRASKA
<5	4.8%	6.9%
5-64	69.8%	78.3%
>64	25.4%	14.8%
MEDIAN	46.1	36.2

Source: U.S. Census Bureau⁶

The following table indicates that median household income and per capita income for the county is slightly lower than the State of Nebraska. Median home value and rent are also both lower than the rest of the state. These economic indicators are relevant to hazard mitigation because they indicate the relative economic strength compared to the state as a whole. Areas with economic indicators which are relatively low may influence a county’s level of resilience during hazardous events.

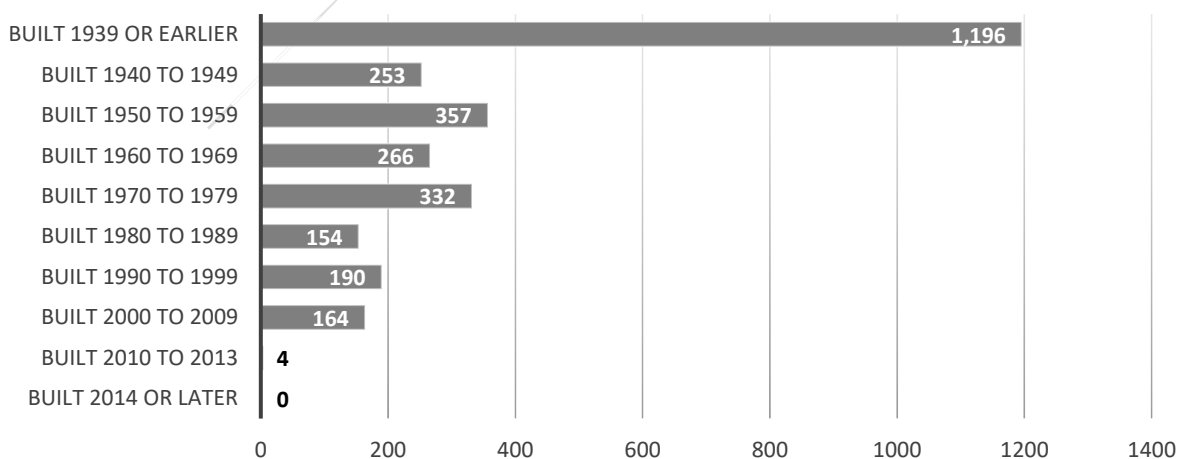
Table SHR.4: Housing and Income

	SHERIDAN COUNTY	STATE OF NEBRASKA
MEDIAN HOUSEHOLD INCOME	\$41,209	\$56,675
PER CAPITA INCOME	\$25,817	\$29,866
MEDIAN HOME VALUE	\$70,900	\$142,000
MEDIAN RENT	\$604	\$773

Source: U.S. Census Bureau^{6,7}

The following figure indicates that the majority of housing in Sheridan County was built prior to 1939 (41.0%). According to 2017 ACS 5-year estimates, the county has 2,916 housing units with 79.1% percent of those units occupied. Approximately 20% of homes in the county are vacant. Vacant homes are more likely to become dilapidated with unsafe conditions, increasing risk to fire and lowering overall property home values and tax base. There are approximately 237 mobile homes in the county. Housing age can serve as an indicator of risk as structures built prior to state building codes may be at greater risk. Finally, residents that live in mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

Figure SHR.3: Housing Units by Year Built



Source: U.S. Census Bureau⁸

⁵ United States Census Bureau. "2017 American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov>.

⁶ United States Census Bureau. "2017 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

⁷ United States Census Bureau. "2017 American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov>.

⁸ United States Census Bureau. "2017 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

Table SHR.5: Housing Units

Jurisdiction	Total Housing Units				Occupied Housing Units			
	Occupied		Vacant		Owner		Renter	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
SHERIDAN COUNTY	2,306	79.1%	610	20.9%	1,622	70.3%	684	29.7%
NEBRASKA	748,405	90.8%	75,771	9.2%	494,189	66.0%	254,216	34.0%

Source: U.S. Census Bureau⁹

Major Employers

According to 2016 Business Patterns Census Data, Sheridan County had 169 business establishments. The following table presents the number of establishments, number of paid employees, and the annual payroll in thousands of dollars. Communities which have a diverse economic makeup may be more resilient following a hazardous event, especially if certain industries are more impacted than others.

Table SHR.6: Business in Sheridan County

	TOTAL BUSINESSES	NUMBER OF PAID EMPLOYEES	ANNUAL PAYROLL (IN THOUSANDS)
TOTAL FOR ALL SECTORS	169	951	\$25,831

Source: U.S. Census Bureau¹⁰

Agriculture is also important to the economic fabric of Sheridan County, and the state of Nebraska as a whole. Sheridan County's 525 farms cover 1,561,598 acres of land, over 98% of the county's total area. Crop and livestock production are the visible parts of the agricultural economy, but many related businesses contribute as well by producing, processing, and marketing farm and food products. These businesses generate income, employment and economic activity throughout the region.

Table SHR.7: Sheridan County Agricultural Inventory

SHERIDAN COUNTY AGRICULTURAL INVENTORY	
NUMBER OF FARMS	525
LAND IN FARMS	1,561,598 acres

Source: USDA 2017 Census of Agriculture¹¹

Future Development Trends

Little change has occurred in the county in the past five years. The one notable change which has impacted the county was that alcohol sales in Whiteclay ended in 2017. As a result, the county has seen an increase in traffic and travelers from South Dakota to communities to purchase alcohol. Sheridan County's population has declined in the past five years which the local planning team attributed to a lack of available jobs and an aging population. At this time there are no plans for commercial or residential development in the next five years.

Structural Inventory and Valuation

GIS parcel data as of December 2019 was requested from GIS Workshop, which the county hires to manage the County Assessor data. This data was analyzed for the location, number, and value

⁹ United States Census Bureau. "2017 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

¹⁰ United States Census Bureau. "2016 American Fact Finder: Geography Area Series County Business Patterns 2015 Business Patterns." [database file]. <https://factfinder.census.gov>.

¹¹ United States Department of Agriculture, National Agricultural Statistics Server. 2019. "2017 Census of Agriculture – County Data." <https://www.nass.usda.gov/Publications/AgCensus/2017/index.php>.

of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table SHR.8: Sheridan County Parcel Valuation

NUMBER OF PARCELS	NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
8,872	3,319	\$216,614,971	764	\$65,132,016

Source: County Assessor

Critical Infrastructure/Key Resources

Hazardous Materials

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are ten chemical storage sites throughout Sheridan County which house hazardous materials; however, there are none located in unincorporated Sheridan County. For a description and map of chemical sites located in incorporated areas, please see the jurisdiction's participant section.

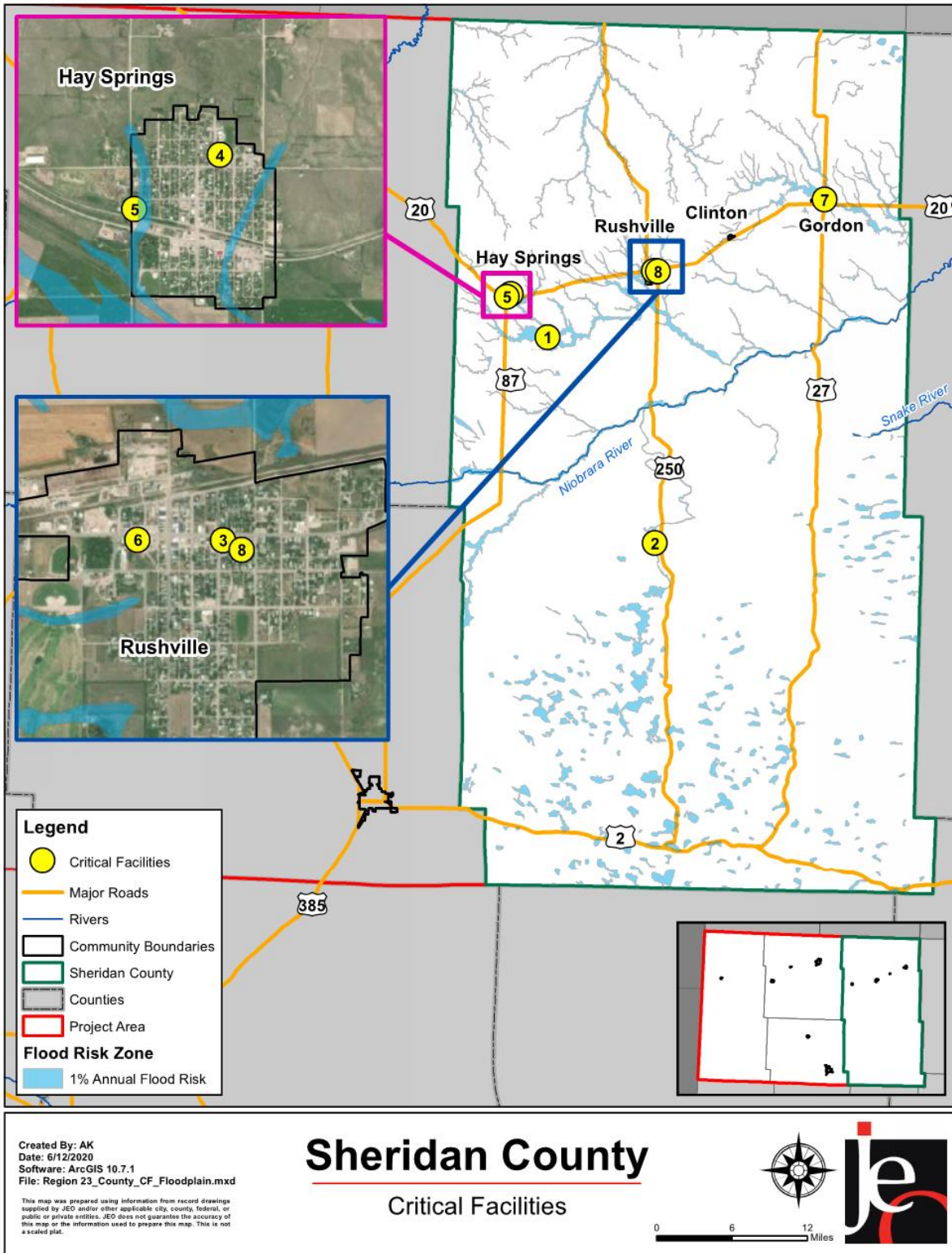
Critical Facilities

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and are essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The mapped flood risk area was generated using HAZUS for this planning update. The local planning team indicated local volunteer fire departments and the Lister-Sage Community Center are used as emergency shelters if needed. The following table and figure provide a summary of the critical facilities for the jurisdiction.

Table SHR.9: Sheridan County Critical Facilities

CF Number	Name	Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Walgreen Lake SRA	N	N	Y
2	Smith Lake SRA	N	N	Y
3	Courthouse	N	Y	N
4	Lister-Sage Community Center (Hay Springs)	Y	N	N
5	Hay Springs Volunteer Fire Department	Y	N	N
6	Rushville Volunteer Fire Department	Y	N	N
7	Gordon Volunteer Fire Department	Y	N	N
8	Sheriff's Office	N	N	N

Figure SHR.4: Critical Facilities



Historical Occurrences

The following table provides a statistical summary for hazards that have occurred in the county. The property damages from the NCEI Storm Events Database (January 1996 – September 2019) should be considered only as broad estimates. Sources include but are not limited to: emergency management; local law enforcement; Skywarn spotters; NWS damage surveys; newspaper clipping services; insurance industry; and the general public. Crop damages reports come from the USDA Risk Management Agency for Sheridan County between 2000 and 2019.

Table SHR.10: Severe Weather Events for Sheridan County

HAZARD TYPE		Count	Property	Crop
Agricultural Disease	Animal Disease ¹	31	492	N/A
	Plant Disease ²	25	N/A	\$233,905
Dam Failure ³		1	\$0	N/A
Drought and Extreme Heat ^{4,5}	Drought	253/1,489 months	\$0	\$8,785,769
	Extreme Heat	Avg 3 days/year	\$0	\$1,736,668
Flooding ⁵	Flash Flood	7	\$561,000	\$2,306
	Flood	0	\$0	
High Winds and Tornadoes ⁵	High Winds	21	\$17,000	\$2,927,479
	Tornadoes	29	\$349,000	\$261,000
Severe Thunderstorms ⁵	Hail 4 injuries	417	\$1,514,000	\$25,279,419
	Heavy Rain	1	\$0	\$3,664,117
	Lightning 3 injuries	1	\$1,000,000	N/A
	Thunderstorm Wind	125	\$372,200	N/A
Severe Winter Storms ⁵	Blizzard	10	\$70,000	
	Extreme Cold/Wind Chill	18	\$0	
	Heavy Snow	4	\$0	\$7,168,613
	Ice Storm	0	\$0	
	Winter Storm	47	\$15,000	
	Winter Weather	0	\$0	
Terrorism ⁷		0	\$0	N/A
Wildfires ⁸ 10 injuries		417	175,903 acres	\$50,525,000
		1,138	\$3,899,200	\$50,109,801

N/A: Data not available

1 NDA (2014-2019)

2 USDA RMA (2000-2019)

3 Stanford NPDP (1911-2018)

4 NOAA (1895-2019)

5 NCEI (January 1996 to Sept 2019)

6 HPRCC (1987-2019)

7 GTD (1970-2017)

8 NFS (2010-2018)

County Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were then prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the community's capabilities.

Drought and Extreme Heat

The local planning team ranked drought as a top threat for the county. Drought is generally a regional event, with impacts from a single drought event impacting multiple communities, counties, and even states. A large portion of the workforce relies on agriculturally based income which could be affected during severe drought or periods of prolonged high temperatures. Early drought impacts are not always as visual as impacts of other natural hazards and are hard to quantify. Additionally, extreme heat is a natural part of the climate in Sheridan County. Across the county the median age is just over 46 years and more than a quarter of the population is age 65 or greater. An aging population will be more vulnerable to the impacts resulting from extreme heat. In addition, drought and extreme temperatures can exacerbate the effects felt by wildfires and impact the local economy by decreasing agriculture and grazing land for ranchers. The RMA reported over \$10 million in crop losses from drought and extreme heat since 2000. The 2012 drought event accounted for more than \$3 million in crop damages alone.

Severe Thunderstorms

The county planning team identified thunderstorm events and hailstorms as a threat for Sheridan County. NCEI data reports a total of 545 events with a total of \$2,887,200 in property damages and \$354,000 in monetary losses recorded to crops. Hail in the unincorporated areas of the county is most likely to impact the agricultural areas of the county. There are more than 301,000 acres devoted to cropland in the county. Hailstorms can have devastating impacts on crops, causing up to a 100 percent loss. Additionally, heavy rain events can cause localized flooding concerns throughout the county and wash out necessary transportation routes in the rural county; while lightning strikes are the leading cause of wildfire events in the planning area.

Severe Winter Storms

Severe winter storms are a regular part of the climate for Sheridan County. The planning team identified severe winter storms as a threat in the future, but given the frequency of occurrence, residents across the county are prepared for the events and able to effectively cope with their occurrences. The NCEI reports 79 severe winter storms in Sheridan County from 1996 through December 2019. These events resulted in \$85,000 in property damage. Most recorded severe winter events include snow, wind, and ice as the main contributors to damage in Sheridan County. There were 18 reported events resulting solely from extreme cold temperatures. Extremely low temperature events in Sheridan County were reported to be between 20 and 40 degrees below zero.

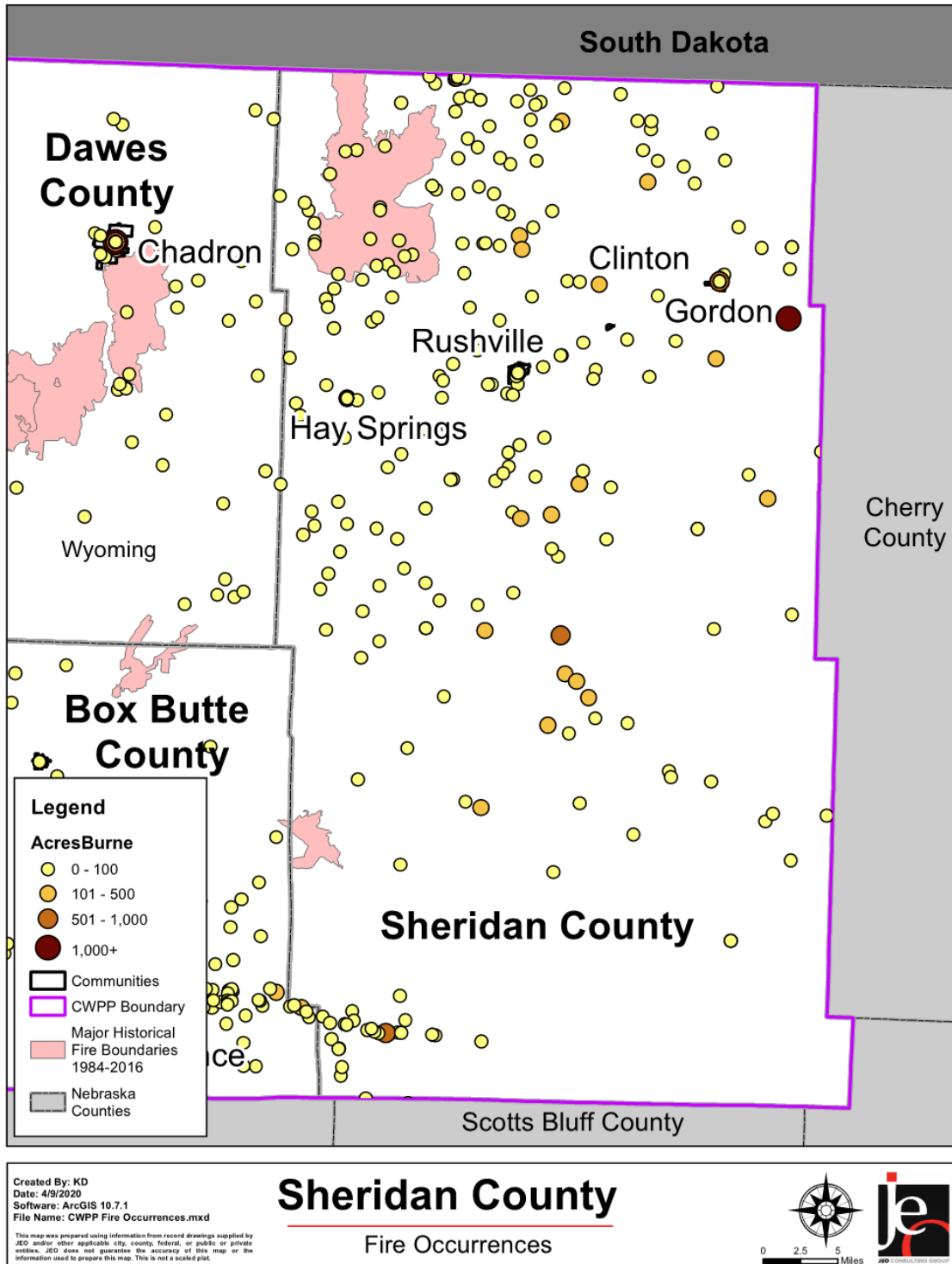
Wildfires

The local planning team identified grass/wildfire as the greatest threat to Sheridan County. The entire county falls within the Wildland Urban Interface (WUI) as defined in the CWPP. According to the Nebraska Forestry Department, there were 417 reported fires by Gordon, Rushville, Hays Springs, and Heart of the Hills (Lakeside) Fire Departments from 2000 to 2018 which consumed a total of 175,90 acres. The fires also resulted in \$59,210 in damages to crops and \$926,440 in damages to structures. Of the reported fires the most frequent cause is lightning (38 percent) followed by equipment malfunctions and other miscellaneous accidents. The largest fire within

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the county, the Wellnitz Fire in 2012, burned nearly 49,000 acres in the Hay Springs and Rushville fire department district areas. Local concerns for wildfire events include the impact on the local economy, distance from available resources, exacerbated impacts felt from drought and extreme heat (such as seen during 2012), and lack of available transportation corridors or access for emergency response.

Figure SHR.5: Wildfire Events in Sheridan County



Governance

A community's governance structure impacts its capability to implement mitigation actions. Sheridan County is governed by a three member board of commissioners. The county also has the following offices and departments:

- County Clerk
- County Assessor
- County Treasurer
- County Attorney
- Highway Superintendent
- Sheriff's Office
- Zoning Administrator
- Safety Committee

Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

Table SHR.11: Capability Assessment

Survey Components/Subcomponents		Yes/No
PLANNING & REGULATORY CAPABILITY	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	No
	Emergency Operational Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	No
	National Flood Insurance Program	Yes
	Community Rating System	No
	Community Wildfire Protection Plan	Yes
	Other (if any)	
ADMINISTRATIVE & TECHNICAL CAPABILITY	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	No
	Grant Manager	No
	Mutual Aid Agreement	Yes

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Survey Components/Subcomponents		Yes/No
	Other (if any)	
FISCAL CAPABILITY	Capital Improvement Plan/ 1 & 6 Year plan	No
	Applied for grants in the past	Yes
	Awarded a grant in the past	No
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	No
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	
EDUCATION & OUTREACH CAPABILITY	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Natural Disaster or Safety related school programs	No
	StormReady Certification	Yes
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

Overall Capability	Limited/Moderate/High
Does your county have the financial resources need to implement mitigation projects?	Limited
Does your county have the staff/expertise to implement projects?	Moderate
Does your county have the community support to implement projects?	Moderate
Does your county staff have the time to devote to hazard mitigation?	Limited

Plan Integration

The Sheridan County LEOP, last updated May 2018, incorporates mitigation by: identifying hazards of concern requiring emergency action; specific responsibilities of individual communities or community roles; scenarios that would require evacuation; sheltering locations; an animal disease response plan; media contacts; and other information for the county. This plan is updated every five years by Region 23 Emergency Management Agency.

The County's Comprehensive Plan was last updated in 2014. The plan does not currently integrate hazard mitigation components. Future updates should consider aligning with the HMP. The County's Zoning regulations were last updated in 2002. Regulations currently prohibits development or expansion of development in the floodplain or wetland areas; require elevation of structures to one foot or more above base flood elevation; and contains a wellhead protection overlay. There are no established building codes in the county. The County does not have a Capital Improvements Plan, 1 and 6 year plan, or other planning mechanisms which integrate hazard mitigation.

Mitigation Strategy

New or Ongoing Actions

MITIGATION ACTION	ELECTRICAL SYSTEM LOOPED DISTRIBUTION REDUNDANCIES
DESCRIPTION	Provide looped distribution service and other redundancies in the electrical system as a backup power supply in the event the primary system is destroyed or fails.
HAZARD(S)	All Hazards
ESTIMATED COST	\$40,000+
FUNDING	Rate-payer fees
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Utilities Department, NPPD, North West Rural Power District
STATUS	Upgrades to the system are an ongoing action by the county and public power districts.

MITIGATION ACTION	FLOODPLAIN REGULATION ENFORCEMENTS AND UPDATES
DESCRIPTION	Continue to enforce local floodplain regulations for structures located in the 1% annual floodplain. Strict enforcement of the type of development and elevations of structures should be considered through issuance of building permits by Sheridan County. Continue education of Certified Floodplain Managers.
HAZARD(S)	Flooding
ESTIMATED COST	\$4,000+
FUNDING	County Tax Revenue, HMGP
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Floodplain and Zoning Administration
STATUS	Enforcing local floodplain regulations is an ongoing action for the county.

MITIGATION ACTION	GROUNDWATER/IRRIGATION/WATER CONSERVATION AND MANAGEMENT PRACTICES
DESCRIPTION	Develop and implement a plan/ best management practices to conserve water use and reduce total use (high water use to low water use) and consumption of groundwater resources by citizens and irrigators of agricultural land during elongated periods of drought Identify water saving irrigation projects of improvements such as sprinklers of soil moisture monitoring. Potential restrictions on water could include limitation on lawn watering, car washing, farm irrigation restrictions, or water sold to outside sources. Implement BMPs through water conservation practices such as changes in irrigation management, education on no-till agriculture and use of xeriscaping in communities.
HAZARD(S)	Drought
ESTIMATED COST	\$10,000+
FUNDING	County Tax Revenue
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Upper Niobrara White NRD, County Commissioners
STATUS	This project has not yet been started.

MITIGATION ACTION	HAZARDOUS FUELS REDUCTION
DESCRIPTION	The NFS Forest Fuels Reduction Program creates strategically located corridors of thinned forests across the landscape reduces fire intensity, improves fire suppression effectiveness, increases firefighters' safety, and better protects lives and property.
HAZARD(S)	Wildfire
ESTIMATED COST	\$300 per acre
FUNDING	Cost share, HMGP, PDM
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Nebraska Forest Service, County Commissioners
STATUS	This project should be focused along the Pine Ridge area of northern Sheridan County.

MITIGATION ACTION	POWER AND SERVICE LINES
DESCRIPTION	Communities can work with their local Public Power District or Electricity Department to identify vulnerable transmission and distribution lines and plan to bury lines underground or retrofit existing structures to be less vulnerable to storm events. Electrical utilities shall be required to use underground construction methods where possible for future installation of power lines.
HAZARD(S)	Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
ESTIMATED COST	\$1,000,000 per mile
FUNDING	Public Power Districts, HMGP, PDM
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	PPDs, Sheridan County Planning and Zoning
STATUS	This project has not yet been started.

MITIGATION ACTION		PUBLIC EDUCATION/AWARENESS
DESCRIPTION	Through activities such as outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. Also, educate citizens on water conservation methods, evacuation plans, etc. In addition, purchasing equipment such as overhead projectors and laptops.	
HAZARD(S)	All Hazards	
ESTIMATED COST	\$500+	
FUNDING	General Fund	
TIMELINE	5+ years	
PRIORITY	Low	
LEAD AGENCY	UNWNRD, Region 23 Emergency Management, County Administration	
STATUS	This project has not yet been started.	

MITIGATION ACTION		STORMWATER SYSTEM AND DRAINAGE IMPROVEMENTS
DESCRIPTION	Smaller communities may utilize storm water systems comprising of ditches, culverts, or drainage ponds to convey runoff. Undersized systems can contribute to localized flooding. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements. Bridges typically serve as flow restrictions along streams and rivers. Cleanout and reshaping of channel segments at bridge crossings can increase conveyance, reducing the potential for flooding. Replacement or modification of bridges may be necessary to provide greater capacity, maintain or improve structural integrity during flood events, and eliminate flooding threats and damages.	
HAZARD(S)	Flooding, Severe Thunderstorms	
ESTIMATED COST	\$100,000	
FUNDING	County Tax Revenue	
TIMELINE	5+ years	
PRIORITY	Low	
LEAD AGENCY	County Roads Department	
STATUS	This is an ongoing action. Several bridges and culverts on county roads are in need of improvement.	

MITIGATION ACTION		WILDFIRE HAZARD IDENTIFICATION AND MITIGATION SYSTEM
DESCRIPTION		Develop a hazard rating System through the use of GIS to identify and rate areas of the county for their relative wildfire hazard
HAZARD(S)		Wildfire
ESTIMATED COST		\$5,000+
FUNDING		County Tax Revenue
TIMELINE		2 – 5 years
PRIORITY		Medium
LEAD AGENCY		Rural Fire Districts, Region 23 EMA
STATUS		This project has not yet been started.

MITIGATION ACTION		WINDBREAKS/LIVING SNOW FENCE
DESCRIPTION		Installation of windbreaks and/or living snow fences to increase water storage capacity in soil and reduce blowing snow
HAZARD(S)		Drought and Extreme Heat, Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
ESTIMATED COST		\$2,000+
FUNDING		County Tax Revenue
TIMELINE		5+ years
PRIORITY		Low
LEAD AGENCY		County Roads Department
STATUS		Planting windbreaks is an ongoing project across the county.

Removed Actions

MITIGATION ACTION		DEVELOP A DATABASE OF VULNERABLE POPULATIONS
DESCRIPTION		Work with stakeholders to develop a database of vulnerable populations and the organizations which support them.
HAZARD(S)		All Hazards
REASON FOR REMOVAL		This project is the responsibility of individual communities and not of the county.

MITIGATION ACTION		MAINTAIN GOOD STANDING IN THE NFIP
DESCRIPTION		Maintain good standing in the National Flood Insurance Program
HAZARD(S)		Flooding
REASON FOR REMOVAL		While the county will continue to participate in the NFIP, this is no longer considered a mitigation action.

MITIGATION ACTION		SAFE ROOMS
DESCRIPTION		Design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, school, and other areas.
HAZARD(S)		Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
REASON FOR REMOVAL		The County has discontinued plans for a shelter along with plans for a new public safety building.

Community Profile

CITY OF GORDON

Region 23 Emergency Management Agency
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

Table GRD.1: Gordon Local Planning Team

NAME	TITLE	JURISDICTION
GLEN SPAUGH	City Manager	City of Gordon
DAN BISHOP	Public Works Director	City of Gordon

Location and Geography

The City of Gordon is located in the northern portion of Sheridan County and covers an area of 0.93 square miles. Antelope Creek is located just east of the community.

Transportation

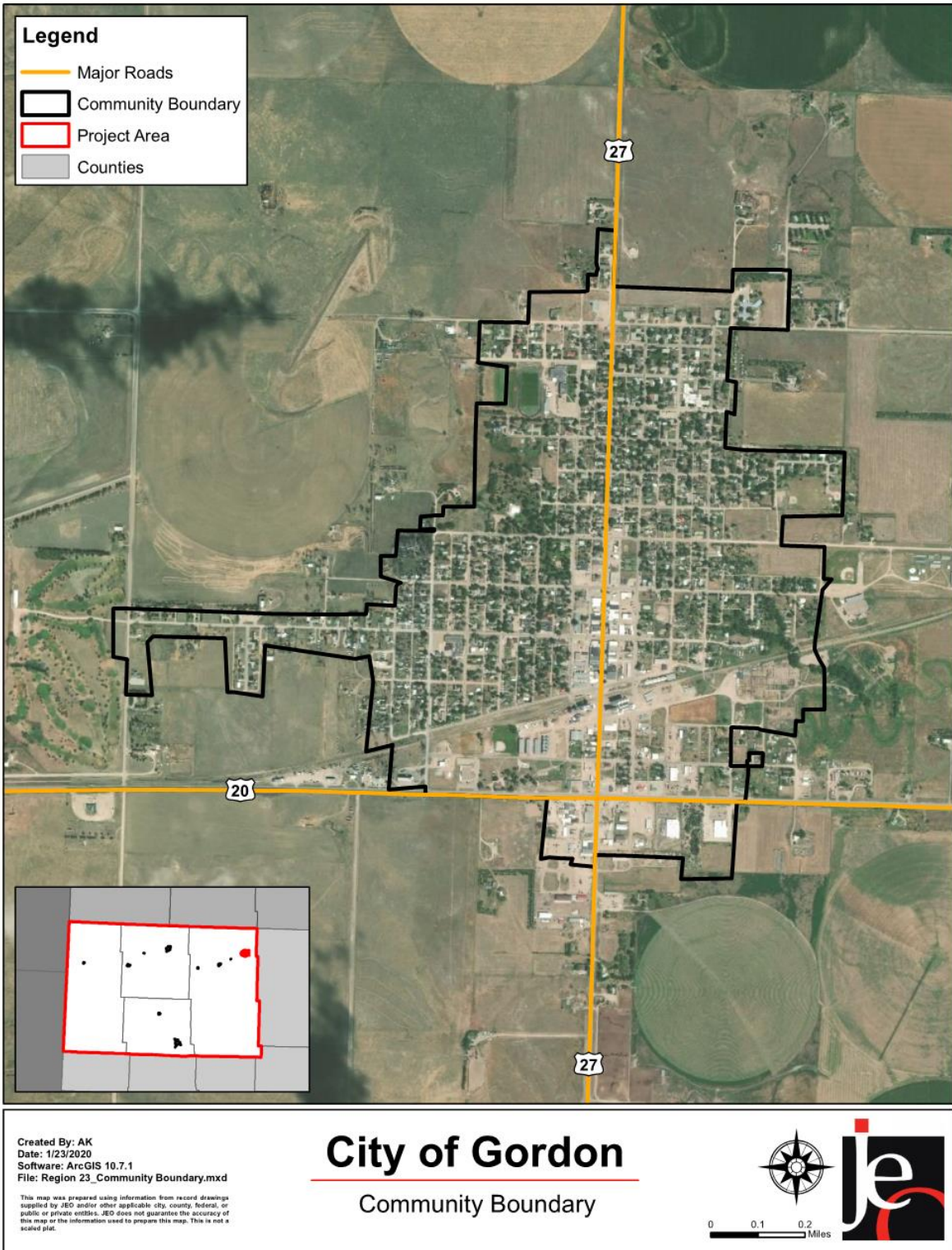
Gordon's major transportation corridors include Nebraska Highway 27 which averages 1,175 vehicles per day and U.S. Highway 20 which averages 1,275 vehicles per day.¹² Highway 27 is also known as Main Street in Gordon and is heavily used by residents. There are no rail lines located within Gordon. Gordon Municipal Airport is located east of town. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

Chemical Transportation

Hazardous materials are commonly transported by a range of transportation methods, including highways, rail, air, and pipeline. Railway and highway transportation spills are the most frequently occurring chemical transportation incidents. While incident proximity will always occur near or on transportation methods, it is not possible to predict precise locations of possible future events. Proximity of pipelines, rail lines, and highways near critical facilities or vulnerable population centers, including schools, daycares, nursing homes, and/or hospitals, increases overall vulnerability to chemical transportation spills. The two main highways, Nebraska State Highway 27 and U.S. Highway 20, are commonly used transport hazardous chemicals through Gordon. In the case of a chemical spill, the Gordon Volunteer Fire Department would respond and have the protective gear and training to respond appropriately. Additionally, the Rushville Fire Department will serve as back-up or assist as needed. Private entities, local emergency response units, and state resources have strict regulatory oversight and emergency action plans in place to respond to significant chemical spills.

¹² Nebraska Department of Roads. "Traffic Flow Map of the State Highways: State of Nebraska." [map]. Scale 1"= 20 miles. State of Nebraska: Department of Roads, 2015. <http://www.roads.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>

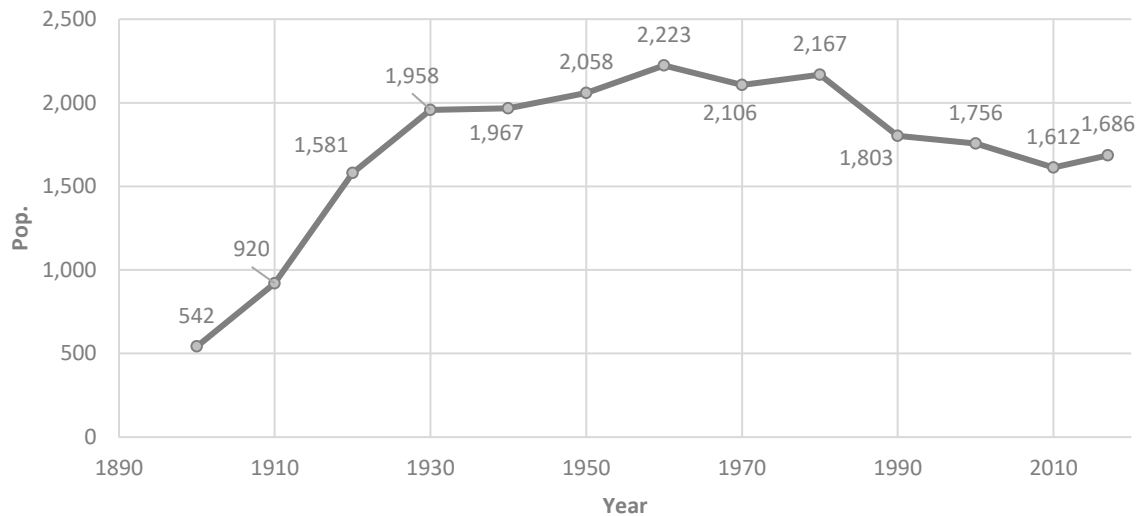
Figure GRD.1: City of Gordon



Demographics

Gordon's population has been generally declining since 1980. Declining populations make communities more vulnerable to hazards as it leads to more unoccupied or vacant housing units and decreasing tax revenues to pursue mitigation projects. Gordon's population accounted for 32% percent of Sheridan County's population in 2017.¹³

Figure GRD.2: Estimated Population 1900 - 2017



Source: U.S. Census Bureau¹⁴

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to the County, Gordon's population was:

- **Younger.** The median age of Gordon was 42.6 years old in 2017, compared with the County average of 46.1 years. Gordon's population has grown older since 2010, when the median age was 40.1 years old. Gordon has a larger proportion of people under 20 years old (27.3%) than the County (24.9%).¹⁵
- **More ethnically diverse.** Since 2010, Gordon grew more ethnically diverse. In 2010, 13.2% of Gordon's population was American Indian and 7.3% was two or more races. By 2017, about 16.6% of Gordon's population was American Indian and 3.8% was two or more races. During that time, the American Indian population in the County declined from 4.4% in 2010 to 2.9% in 2017.¹⁶
- **More likely to be at the federal poverty line.** The poverty rate in Gordon (13.6% of families living below the federal poverty line) is higher than the County's poverty rate (7.9%) in 2017.¹⁷

¹³ United States Census Bureau. "2017 American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

¹⁴ United States Census Bureau. "2017 American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

¹⁵ United States Census Bureau. "2017 American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

¹⁶ United States Census Bureau. "2017 American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

¹⁷ United States Census Bureau. "2017 American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

Employment and Economics

The City's economic base is a mixture of industries. In comparison to Sheridan County, Gordon's economy had:

- **Similar mix of industries.** Sheridan County and Gordon's major employment sectors, accounting for 10% or more of employment each include Retail and Educational Services in 2017. Additionally, Sheridan County's industries also included Agriculture/Fishing/Forestry, while Gordon's include Manufacturing.¹⁸
- **Lower household income.** Gordon's median household income in 2017 (\$34,321) was about \$6,888 lower than the County (\$41,209).¹⁹
- **Similar long-distance commuters.** About 72% percent of workers in Gordon commuted for fewer than 15 minutes, compared with about 74% of workers in Sheridan County. About 13% of workers in Gordon commute 30 minutes or more to work, compared to about 15% of the County workers.²⁰

Major Employers

The major employers in the City include Open Range Beef, the hospital and nursing home, the CO-OP, First National Bank, and the school district. A small percentage of residents commute to the surrounding areas or the Pine Ridge Reservation for employment. Additionally, a portion of local businesses employ residents of the Pine Ridge Reservation who commute to Gordon for work.

Housing

In comparison to Sheridan County, Gordon's housing stock was:

- **Less owner occupied.** About 63.2% of occupied housing units in Gordon are owner occupied compared with 70.3% of occupied housing in Sheridan County in 2017.²¹
- **Older housing stock.** Gordon has a greater amount of houses built prior to 1970 than the county, 93.1% compared to 82.4% respectively.²²
- **More multifamily homes.** Although the predominant housing type in the City is single family detached, Gordon contains more multifamily housing with five or more units per structure compared to the County (4.8% compared to 3.4%). About 84.8% of housing in Gordon was single-family detached, compared with 83.7% of the County's housing. Gordon has a smaller share of mobile and manufactured housing (2.9%) compared to the County (8.1%).²³ The few mobile homes located in Gordon are located northeast of town or on East 3rd Street.

This housing information is relevant to hazard mitigation insofar as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

¹⁸ United States Census Bureau. "2017 American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁹ United States Census Bureau. "2017 American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

²⁰ United States Census Bureau. "2017 American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

²¹ United States Census Bureau. "2017 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

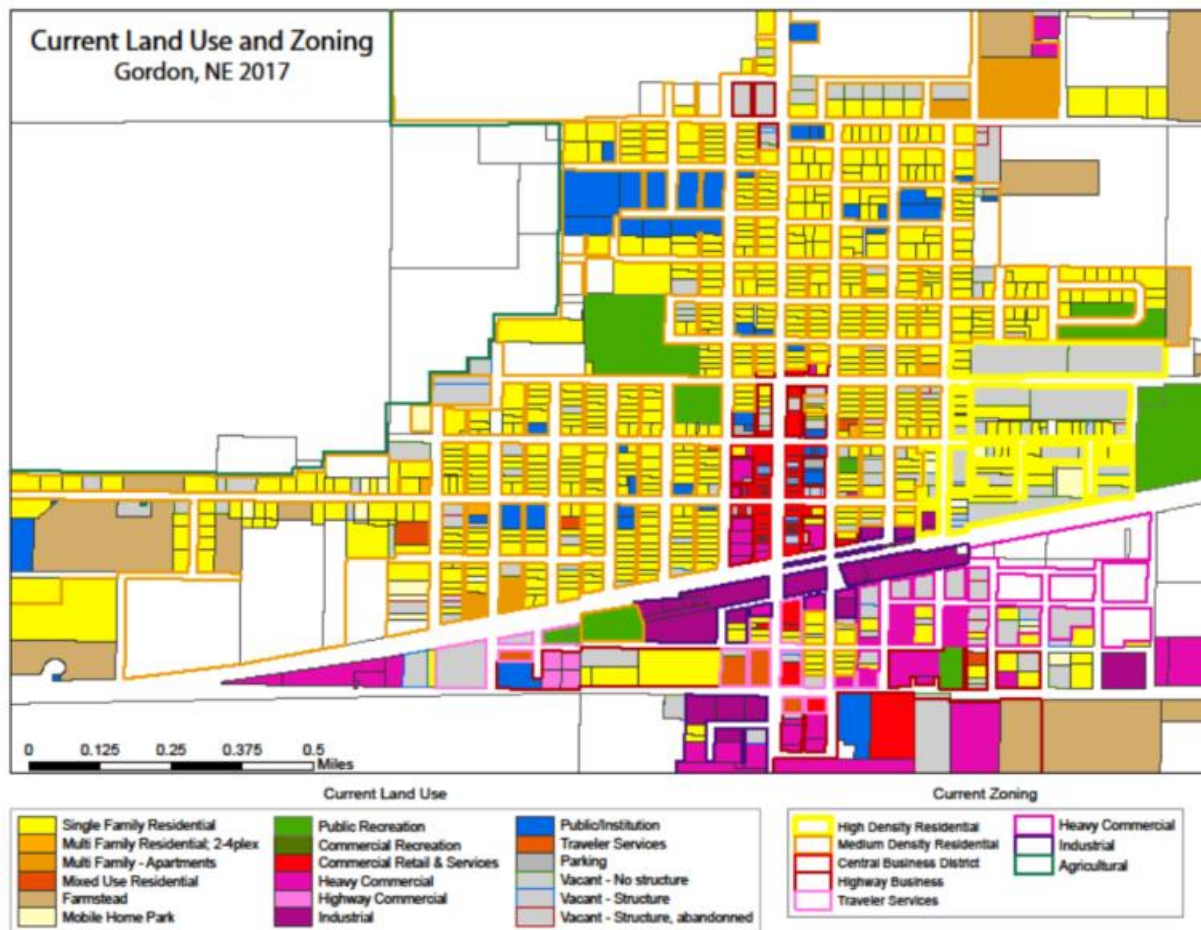
²² United States Census Bureau. "2017 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

²³ United States Census Bureau. "2017 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

Future Development Trends

Several changes have occurred in the City of Gordon in the past five years. The packaging plant, Open Range Beef, reopened and has become a major employer in town. Other businesses have opened in town including Daylight Donuts, Sidetracks Liquor, Essence, Security First Insurance, Viaero, and the Fuel Grill. However, several businesses have closed as well: Alco Discount Store and Shopko. The overall population of the City has declined over the past decade which the local planning team attributes to a lack of available housing for workers, a low wage work scale, lack of long-term employment options, and an aging population. At this time there are no plans for additional housing developments in town, but the City is looking to sell some vacant properties for the purpose of building single-family or multi-family housing units. Commercially, a new Mexican food grocery store and a liquor store/gas station may be opening soon. Additionally, the Gordon Economic Development Corporation is evaluating the creation of a “Maker’s Market” or “Trades” location for skilled labor.

Figure GRD.3: Land Use and Zoning Map



Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table GRD.2: Gordon Parcel Valuation

NUMBER OF PARCELS	NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
1,017	831	\$46,336,285	1	\$0

Source: County Assessor

Critical Infrastructure/Key Resources

Hazardous Materials

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are six chemical storage sites in Gordon that contain hazardous chemicals. According to the U.S. Coast Guard National Response Center, no fixed chemical spills have occurred in the community.

Table GRD.3: Chemical Storage Fixed Sites

FACILITY NAME	ADDRESS
FARMERS CO-OP ELEVATOR CO	201 E Orin St
WESTCO PROPANE PLANT	309 W Orin St
21ST CENTURY EQUIPMENT INC	6742 State Highway 27
PETERSEN SEEDS INC	204 S Elm St
NDOT GORDON YARD 50900	6737 State Highway 27
WESTCO NORTH PROPANE PLANT	2003 670th Rd

Source: Nebraska Department of Environment and Energy²⁴

²⁴ Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed November 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Critical Facilities

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The mapped flood risk area was generated using HAZUS for this planning update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

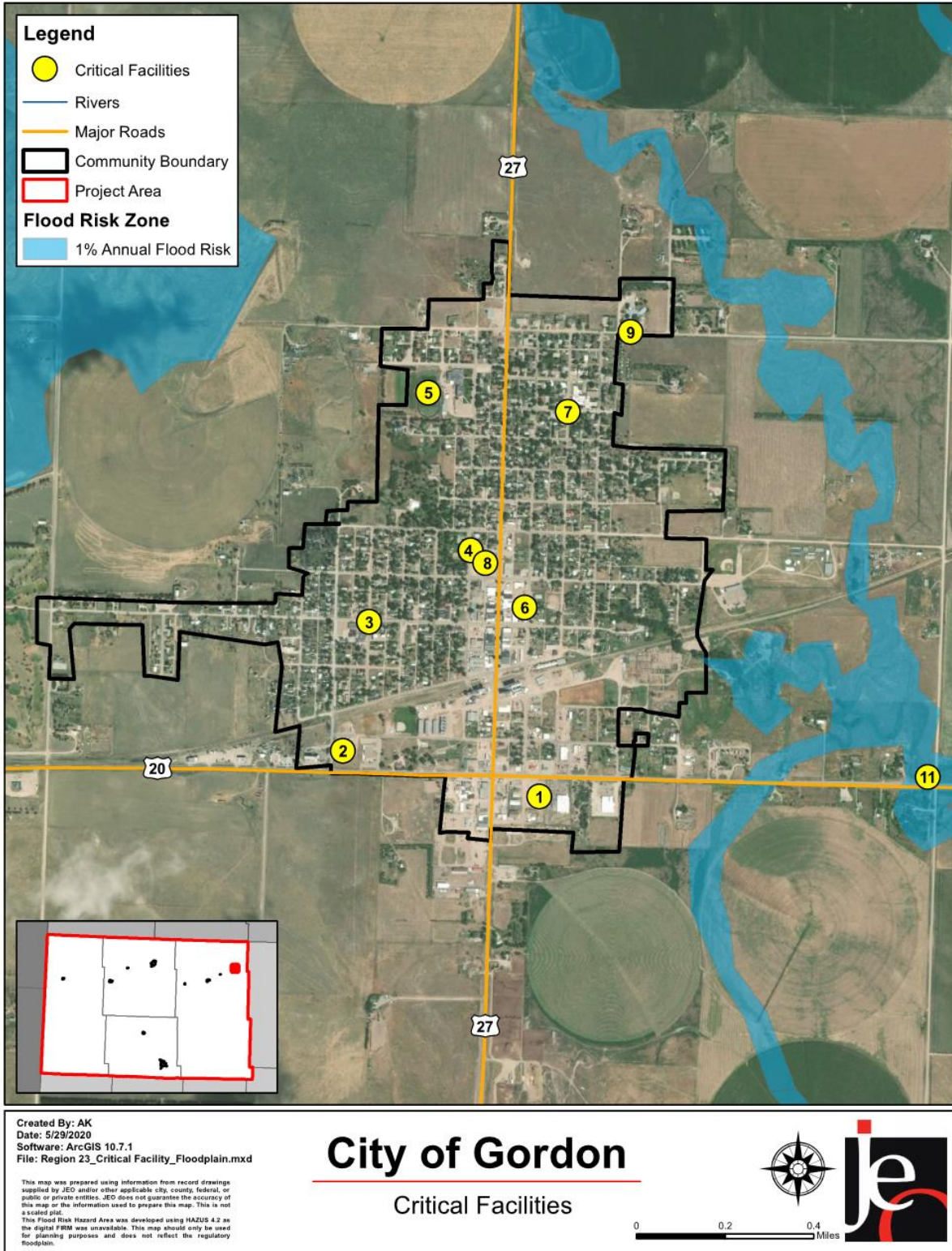
Table GRD.4: Critical Facilities

CF Number	Name	Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	American Legion	Y	N	N
2	NPPD Substation	N	Y	N
3	Elementary School	Y	Y	N
4	Community Building	Y	N	N
5	High School	Y	Y	N
6	Gordon Volunteer Fire Department	Y	Y	N
7	Gordon Memorial Hospital	Y	Y	N
8	Police Department	Y	N	N
9	Gordon Countryside Care	Y	Y	N
10	Water Storage*	N	Y	N
11	Lift Station	N	Y	Y
12	Wastewater Lagoons*	N	Y	N

*Not mapped: Water Storage located southwest of the city; Wastewater lagoons located southeast of the city

The City has six wells which provide water service for the City which were not identified for mapping purposes. Of these wells, two have been identified for emergency use and one has a backup generator.

Figure GRD.4: Critical Facilities



Historical Occurrences

See the Sheridan County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were then prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the community's capabilities.

High Winds and Tornadoes

The local planning team identified tornadoes and high winds as significant concerns for the community. In total there were 21 wind events reported in Sheridan County that had winds reported between 60 and 85 miles per hour. Winds of this magnitude, according to the Beaufort Wind Force Ranking, can cause trees to uproot, considerable structure damage, and over turning of improperly anchored mobile homes. According to the NCEI, there were 11 tornadoes which passed nearby Gordon. Ten tornadoes were either EF/F0 and one tornado was an F1. Two of the EF/F0 tornadoes caused \$110,000 in property damage and \$260,000 in crop damage. No tornado events reported any injuries or fatalities.

Severe Thunderstorms

The local planning team identified severe thunderstorms, and hail in particular, as a top threat for the City of Gordon. The NCEI records 82 hail events with a total of \$1,087,000 in property damages. Severe thunderstorm wind events caused an additional \$46,000 in property damages. Severe thunderstorm events have the potential to down trees and power lines, cause localized flooding issues, damage property, cause injuries, and wash out roads. Additionally, lightning strikes during severe storms have the potential to spark wildfire events in the surrounding areas. The city has identified several locations in need of stormwater system improvements to accommodate heavy rain events.

Severe Winter Storms

Severe winter storms are a regular part of the climate for Gordon and are a major concern for the community. According to the NCEI there were 79 severe winter storms between 1996 through December 2019. These events resulted in \$85,000 in property damage. Severe winter storms are a concern due to the potential to down trees or limbs, block major transportation routes, cause a loss of power, and extreme cold temperatures put vulnerable populations at risk.

Wildfire

The local planning team identified grass/wildfire as a top concern for the city. According to the Nebraska Forestry Department, there were 106 reported fires by the Gordon Fire Department from 2000 to 2018 which consumed a total of 36,002 acres. The fires also resulted in \$13,365 in damages to crops and \$444,940 in damages to structures. The City of Gordon lies within the WUI as defined by the CWPP. The Gordon Fire Department has mutual aid agreements with the fire departments in the surrounding areas, but during large scale events it is possible nearby fire departments would be unable to lend assistance due to addressing the needs of their respective community/protection area.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Gordon has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. The City has a mayor and a five member council and the following offices.

- City Clerk
- Planning and Zoning
- Fire Department
- Police Department
- Public Works Department
- Water/Wastewater Department

Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

Table GRD.5: Capability Assessment

Survey Components/Subcomponents		Yes/No
PLANNING & REGULATORY CAPABILITY	Comprehensive Plan	Yes
	Capital Improvements Plan	Yes
	Economic Development Plan	Yes
	Emergency Operational Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes
	National Flood Insurance Program	Yes
	Community Rating System	No
	Community Wildfire Protection Plan	Yes
	Other (if any)	
ADMINISTRATIVE & TECHNICAL CAPABILITY	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	Yes
	Civil Engineering	Yes
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	Yes
	Mutual Aid Agreement	Yes, Highway 20 Interlocal

SECTION SEVEN: CITY OF GORDON COMMUNITY PROFILE

Survey Components/Subcomponents		Yes/No
	Other (if any)	
FISCAL CAPABILITY	Capital Improvement Plan/ 1 & 6 Year plan	Yes
	Applied for grants in the past	No
	Awarded a grant in the past	No
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
EDUCATION & OUTREACH CAPABILITY	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Natural Disaster or Safety related school programs	Yes
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

Overall Capability	Limited/Moderate/High
Does your county have the financial resources need to implement mitigation projects?	Moderate
Does your county have the staff/expertise to implement projects?	Moderate
Does your county have the community support to implement projects?	High
Does your county staff have the time to devote to hazard mitigation?	Moderate

Plan Integration

The City of Gordon's Comprehensive Plan was last updated in 2017. The plan discusses demographic, housing, economic, environmental, and land use characteristics of the community. The plan notes development opportunities for residential and commercial areas but notes fiscal challenges the City may face. The Comprehensive Plan integrates hazard mitigation by identifying hazardous areas in the community (specifically traffic intersections) and by evaluating community support for emergency services (fire and rescue and overall community safety). The plan does not include discussions of natural hazards or strategies to address them, but the city should consider integrating natural hazards in subsequent updates.

The City's Building Codes and the Zoning and Subdivision Regulations were last updated in October 2019. The Zoning and Subdivision Regulations limits development in the floodplain, flood-prone areas, within the WUI, or near other hazardous areas such as chemical storage sites. Additionally, any chemical storage location is required to be elevated above the 25-year flood level or be adequately flood proofed. The City uses the International Building Codes and are updated as needed.

The 1- and 6-year plan is updated annually and identifies several improvement projects the city is currently pursuing. These include:

- Street improvements on the east side of the Highway 27 and Orin Street intersection. The city will change the existing surface slopes to allow for proper drainage and install new concrete surface.
- Repave the downtown Main Street parking stalls from First Street to Third Street and from Third Street to Fourth Street.
- Restructure the entire intersection of east Second Street and north Elm Street to allow water flow to the appropriate storm drains to resolve issue of standing water with poor drainage. This includes one additional new storm drain approximately one half block south and bringing existing sidewalks into compliance with new ADA minimum standards

The City of Gordon has an annex within the Sheridan County LEOP, last updated May 2018. This plan incorporates mitigation by: identifying hazards of concern requiring emergency action; specific responsibilities of individual communities or community roles; scenarios that would require evacuation; sheltering locations; an animal disease response plan; media contacts; and other information for the county. This plan is updated every five years by Region 23 Emergency Management Agency.

The City of Gordon has an emergency plan for the public water system. This plan is updated annually with the last update in February 2020. The plan identifies chain of command, specific responsibilities, and actions to be taken in the case of power loss, contamination, security breaches, loss of storage, explosion, floods, and infrastructure failure. Copies of this plan are held with the County Sheriff, local law enforcement, and city staff.

Mitigation Strategy

Completed Actions

MITIGATION ACTION		BUSINESS CONTINUITY PLANS
DESCRIPTION		Educate local businesses on the value of continuity planning
HAZARD(S)		All Hazards
STATUS		The Gordon Economic Development Corporation interacts with city businesses and educates them on continuity actions. The City Manager is involved in this program.

MITIGATION ACTION		FIRST AID TRAINING
DESCRIPTION		Promote first aid training for all residents
HAZARD(S)		All Hazards
STATUS		Training is available through the local medical facility for residents and city staff.

MITIGATION ACTION		PROMOTE USE OF HIGHER BUILDING CODES
DESCRIPTION		Improve any existing building standards or establish new standards as deemed necessary to reduce potential of damage to new and existing structures, especially mobile home parks and other highly vulnerable populations such as nursing home facilities.
HAZARD(S)		All Hazards
STATUS		The City has adopted the IBC codes and updates them as needed or as new versions become available.

New or Ongoing Actions

MITIGATION ACTION		ADOPT A "NO ADVERSE IMPACT" APPROACH TO FLOODPLAIN MANAGEMENT
DESCRIPTION		No Adverse Impact floodplain management reduces the cumulative impacts of floodplain development on flood heights
HAZARD(S)		Flooding
ESTIMATED COST		N/A
FUNDING		Local Taxes and Revenue
TIMELINE		5+ years
PRIORITY		Medium
LEAD AGENCY		Floodplain Administrator, City Council and Administrator
STATUS		This project has not yet been started.

MITIGATION ACTION		BACKUP POWER GENERATORS
DESCRIPTION	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other critical facilities and shelters	
HAZARD(S)	All Hazards	
ESTIMATED COST	\$15,000 - \$30,000+ per generator	
FUNDING	Local Taxes and Revenues	
TIMELINE	2 – 5 years	
PRIORITY	Medium	
LEAD AGENCY	Public Works Department	
STATUS	New generators have been installed at the wellfields and the lift station. Additional generators are needed at the community center and police station.	

MITIGATION ACTION		BECOME A TREE CITY USA
DESCRIPTION	Work to become a Tree City USA through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a hazardous tree identification and removal program in order to limit potential tree damage and damages caused by trees in a community when a storm event occurs.	
HAZARD(S)	Drought and Extreme Heat, Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds	
ESTIMATED COST	\$500+	
FUNDING	Local Taxes and Revenues, PDM, HMGP	
TIMELINE	2 – 5 years	
PRIORITY	Low	
LEAD AGENCY	Public Works Department	
STATUS	This project has not yet been started	

MITIGATION ACTION		CIVIL SERVICE IMPROVEMENTS
DESCRIPTION	Improve emergency rescue and response equipment and facilities by providing additional, or updating existing emergency response equipment. This can include fire trucks, ATV's, water tanks/trucks, snow removal equipment, etc. This would also include developing backup systems for emergency vehicles and identifying and training additional personnel for emergency response.	
HAZARD(S)	All Hazards	
ESTIMATED COST	\$50,000+, varies by need	
FUNDING	Local Taxes and Revenues, HMGP, PDM	
TIMELINE	2 – 5 years	
PRIORITY	High	
LEAD AGENCY	Fire Department, Rescue Squad and Administrator	
STATUS	This is an ongoing action and equipment is replaced as needed.	

MITIGATION ACTION		DAM ENGINEERING ANALYSIS/REPAIRS AND REINFORCEMENT
DESCRIPTION	Conduct a preliminary engineering analysis for dam repairs and reinforcement. Dams serve to provide flood protection to businesses and residents during large storm events. Improvements to existing dams will increase flood protection. The Emergency Action Plan, Dam Breach, Analysis, and/or inspection/ safety equipment training may need to be updated along with improvements.	
HAZARD(S)	Flooding	
ESTIMATED COST	\$500,000+	
FUNDING	Local taxes and Revenue	
TIMELINE	5+ years	
PRIORITY	High	
LEAD AGENCY	Public Works Department and City Administrator	
STATUS	Dams 20-A and 40-B are inspected annually while dam 60-A is inspected every four years.	

MITIGATION ACTION		DEVELOP CONTINUITY PLANS FOR CRITICAL COMMUNITY SERVICES
DESCRIPTION	Continuity planning helps to ensure that services can be maintained during and after a disaster.	
HAZARD(S)	All Hazards	
ESTIMATED COST	\$2,000+	
FUNDING	Local Taxes and Revenues	
TIMELINE	2 – 5 years	
PRIORITY	High	
LEAD AGENCY	Public Works Department, City Council and Administrator	
STATUS	This is an ongoing action. Information is updated as needed.	

MITIGATION ACTION		DRAINAGE STUDY/STORM WATER MASTER PLAN
DESCRIPTION	Drainage studies can be conducted to identify and prioritize improvements to address site specific localized flooding/drainage problems. Storm water master plans can be conducted to perform a community-wide storm water evaluation, identifying multiple problem areas, and potentially multiple drainage improvements for each.	
HAZARD(S)	Flooding	
ESTIMATED COST	\$10,000+	
FUNDING	Local Taxes, HMGP, PDM	
TIMELINE	2 – 5 years	
PRIORITY	High	
LEAD AGENCY	Public Works Department, City Council	
STATUS	Specific areas have been identified for needed improvements including 2 nd and Elm, and Orin and Main St.	

MITIGATION ACTION		EMERGENCY COMMUNICATIONS
DESCRIPTION	Establish an action plan to improve communication between agencies to better assist residents and businesses during and following emergencies. Establish inner- operable communications.	
HAZARD(S)	All Hazards	
ESTIMATED COST	\$15,000+	
FUNDING	Region 23 EMA	
TIMELINE	2 – 5 years	
PRIORITY	High	
LEAD AGENCY	Police Department, Fire and Rescue Department	
STATUS	Alert sirens are located in three locations in the city. All residents are encouraged to sign-up for the CodeRed alerts which is offered free-of-charge for anyone subscribing.	

MITIGATION ACTION		FIRE PREVENTION PROGRAM
DESCRIPTION	The Nebraska Forest Service Wildland Fire Protection Program provides services in wildfire suppression training, equipment, pre-suppression planning, wildfire preventions, and aerial fire suppression.	
HAZARD(S)	Wildfire	
ESTIMATED COST	Varies by need	
FUNDING	Local Taxes and Revenue	
TIMELINE	2 – 5 years	
PRIORITY	High	
LEAD AGENCY	Fire and Rescue Department	
STATUS	This action has not yet been started.	

MITIGATION ACTION		FLOODPLAIN REGULATION ENFORCEMENT AND UPDATES
DESCRIPTION	Continue to enforce local floodplain regulations for structures located in the 1% annual. Strict enforcement of the type of development and elevations of structures should be considered through issuance of building permits by the city of Gordon. Continue education of building inspectors or Certified Floodplain Managers.	
HAZARD(S)	Flooding	
ESTIMATED COST	\$4,000+	
FUNDING	Local Taxes and Revenue	
TIMELINE	2 – 5 years	
PRIORITY	High	
LEAD AGENCY	Public Works Department	
STATUS	This is an ongoing action. Regulations and codes are updated on an as-needed basis.	

GROUNDWATER/IRRIGATION/WATER CONSERVATION AND MANAGEMENT PRACTICES	
MITIGATION ACTION	
DESCRIPTION	Develop and implement a plan/ best management practices to conserve water use and reduce total use (high water use to low water use) and consumption of groundwater resources by citizens and irrigators of agricultural land during elongated periods of drought Identify water saving irrigation projects of improvements such as sprinklers of soil moisture monitoring. Potential restrictions on water could include limitation on lawn watering, car washing, farm irrigation restrictions, or water sold to outside sources. Implement BMPs through water conservation practices such as changes in irrigation management, education on no-till agriculture and use of xeriscaping in communities.
HAZARD(S)	Drought and Extreme Heat, Flooding
ESTIMATED COST	\$10,000
FUNDING	Local Taxes
TIMELINE	2 – 5 years
PRIORITY	Medium
LEAD AGENCY	Public Works Department
STATUS	This project has not yet been started.
HAZARDOUS TREE REMOVAL	
MITIGATION ACTION	
DESCRIPTION	Identify and remove hazardous limbs and/or trees.
HAZARD(S)	Drought and Extreme Heat, Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
ESTIMATED COST	\$20,000
FUNDING	Local Taxes and Revenues
TIMELINE	2 – 5 years
PRIORITY	Medium
LEAD AGENCY	Public Works Department
STATUS	Trees are removed on parks and public property on an as needed basis.
IMPROVE SNOW/ICE REMOVAL PROGRAMS	
MITIGATION ACTION	
DESCRIPTION	Improve the snow routes and snow/ice removal procedures for streets. Improvements should address plowing snow, ice removal, parking during snow and ice removal, and removal of associated storm debris.
HAZARD(S)	Severe Winter Storms
ESTIMATED COST	\$30,000+
FUNDING	Local Taxes
TIMELINE	2 – 5 years
PRIORITY	High
LEAD AGENCY	Public Works Department
STATUS	Main arteries within the City have been identified. Routes in town are reviewed annually for accuracy.

MITIGATION ACTION		POWER AND SERVICE LINES
DESCRIPTION	<p>Communities can work with their local Public Power District or Electricity Department to identify vulnerable transmission and distribution lines and plan to bury lines underground or retrofit existing structures to be less vulnerable to storm events.</p> <p>Electrical utilities shall be required to use underground construction methods where possible for future installation of power lines. Electrical utilities shall be required to use underground construction methods where possible for future installation of power lines.</p>	
HAZARD(S)	All Hazards	
ESTIMATED COST	\$1,000,000 per mile	
FUNDING	General Funds	
TIMELINE	2 – 5 years	
PRIORITY	Medium	
LEAD AGENCY	Public Works Department	
STATUS	The City works in conjunction with NPPD for repair needs. New construction and retrofits should bury all powerlines in the future.	

MITIGATION ACTION		PRESERVE NATURAL AND BENEFICIAL FUNCTIONS OF A FLOODPLAIN
DESCRIPTION	<p>Many communities may have outdated floodplain maps, or no floodplain map. Floodplain mapping efforts can be updated for communities/counties that participate in the NFIP. Improved data and analysis methods will provide more accurate floodplain delineations, allowing communities to better identify their flood threats.</p>	
HAZARD(S)	Flooding	
ESTIMATED COST	N/A	
FUNDING	Local Taxes	
TIMELINE	2 – 5 years	
PRIORITY	Low	
LEAD AGENCY	Public Works Department	
STATUS	This project has not yet been started.	

MITIGATION ACTION		PUBLIC EDUCATION/AWARENESS
DESCRIPTION	<p>Through activities such as outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. Also, educate citizens on water conservation methods, evacuation plans, etc. In addition, purchasing equipment such as overhead projectors and laptops.</p>	
HAZARD(S)	All Hazards	
ESTIMATED COST	\$500+	
FUNDING	Local Taxes	
TIMELINE	2 – 5 years	
PRIORITY	Medium	
LEAD AGENCY	City Administration	
STATUS	Public education and notification is an ongoing action. Residents are encouraged to enroll in the Code Red program.	

MITIGATION ACTION		SAFE ROOMS
DESCRIPTION	Design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, school, and other areas	
HAZARD(S)	Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds	
ESTIMATED COST	\$200/sf retrofit, \$300/sf new	
FUNDING	Local Taxes	
TIMELINE	2 – 5 years	
PRIORITY	High	
LEAD AGENCY	Police and Fire Departments	
STATUS	There are no FEMA-certified safe rooms in the community but the City has identified storm shelter locations for the public at three (3) locations : City Hall, 311 North Oak; Gordon-Rushville High School, 810 N. Oak, Gordon Memorial Hospital, 300 East 8th (some of the churches are also available). Construction of new safe rooms or retrofits are needed.	

MITIGATION ACTION		STORMWATER SYSTEM AND DRAINAGE IMPROVEMENTS
DESCRIPTION	<p>Smaller communities may utilize storm water systems comprising of ditches, culverts, or drainage ponds to convey runoff. Undersized systems can contribute to localized flooding. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other storm water system improvements. Bridges typically serve as flow restrictions along streams and rivers.</p> <p>Cleanout and reshaping of channel segments at bridge crossings can increase conveyance, reducing the potential for flooding. Replacement or modification of bridges may be necessary to provide greater capacity, maintain or improve structural integrity during flood events, and eliminate flooding threats and damages.</p>	
HAZARD(S)	Flooding	
ESTIMATED COST	\$10,000 - \$100,000	
FUNDING	Local Taxes and Revenues	
TIMELINE	2 – 5 years	
PRIORITY	Medium	
LEAD AGENCY	Public Works Department	
STATUS	This is evaluated each year but the repairs are performed on an as needed basis or as funding becomes available.	

MITIGATION ACTION		STREAMBANK STABILIZATION
DESCRIPTION	Stream bank degradation has occurred along many rivers and creeks. Stabilization improvements including rock rip rap, vegetative cover, j-hooks, boulder vanes, etc. can be implemented to reestablish the channel banks. Channel stabilization can protect structures, increase conveyance and provide flooding benefits.	
HAZARD(S)	Flooding	
ESTIMATED COST	\$50,000+	
FUNDING	Local Taxes and Revenues	
TIMELINE	2 – 5 years	
PRIORITY	Medium	
LEAD AGENCY	Public Works Department	
STATUS	Repairs are done on an 'as needed'. At this time no locations have been specifically identified as a need.	

MITIGATION ACTION		VULNERABLE POPULATION HOUSING
DESCRIPTION	Ensure that facilities which will house vulnerable populations are placed in the least vulnerable areas of the community	
HAZARD(S)	All Hazards	
ESTIMATED COST	\$50,000+	
FUNDING	General Fund, PDM, HMGP	
TIMELINE	2 – 5 years	
PRIORITY	Medium	
LEAD AGENCY	City Council	
STATUS	The City is currently working to improve several neighborhoods and housing areas in town.	

MITIGATION ACTION		WEATHER RADIOS
DESCRIPTION	Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed.	
HAZARD(S)	All Hazards	
ESTIMATED COST	\$50 per radio	
FUNDING	Local Taxes and Revenues	
TIMELINE	2 – 5 years	
PRIORITY	Low	
LEAD AGENCY	Police and Fire Departments	
STATUS	Residents have the ability to sign up for CodeRed warning systems but additional backup up radios are needed at critical facilities.	

MITIGATION ACTION		WILDFIRE HAZARD IDENTIFICATION AND MITIGATION SYSTEM
DESCRIPTION		Develop a hazard rating system through the use of GIS to identify and rate areas of the Region for their relative wildfire hazard.
HAZARD(S)		Wildfire
ESTIMATED COST		\$20,000
FUNDING		General Fund, PDM, HMGP, NFS
TIMELINE		5+ years
PRIORITY		Low
LEAD AGENCY		Fire Department
STATUS		This would be a cooperative effort between Gordon VFD, Gordon Rural Fire District, Rushville VFD, and Sheridan County.

MITIGATION ACTION		WINDBREAKS/LIVING SNOW FENCE
DESCRIPTION		Installation of windbreaks and/or living snow fences to increase water storage capacity in soil and reduce blowing snow/ soil.
HAZARD(S)		Severe Winter Storms, Tornadoes and High Winds
ESTIMATED COST		\$2,000+
FUNDING		General Funds
TIMELINE		5+ years
PRIORITY		Low
LEAD AGENCY		Public Works Department
STATUS		Several fences have been installed around the City and by the Airport; however, these should be converted to living fences. Other residents and surrounding ranchers plant their own windbreaks as needed.

Removed Actions

MITIGATION ACTION		DATABASE OF VULNERABLE POPULATIONS
DESCRIPTION		Work with stakeholders to develop a database of vulnerable populations and the organizations which support them.
HAZARD(S)		All Hazards
REASON FOR REMOVAL		The City supports organizations and groups who request assistance but it is not practical for the City to maintain a database.

MITIGATION ACTION		EDUCATE THE PUBLIC ABOUT RAIN GARDENS, GREEN ROOFS, AND OTHER MITIGATION MEASURES
DESCRIPTION		Educate the public about rain gardens, green roofs, and other mitigation measures
HAZARD(S)		All Hazards
REASON FOR REMOVAL		The local planning team indicated a lack of interest from the general public for this action and thus has been removed.

MITIGATION ACTION		FIRE WISE COMMUNITY
DESCRIPTION		Work with the Nebraska Forest Service and US Forest Service to become a Fire Wise Communities/USA participant. Develop a Community Wildfire Protection Plan. Train land owners about creating defensible space. Enact ordinances and building codes to increase defensible space, improve building materials to reduce structure ignitability, and increase access to structures by responders. Develop and implement brush and fuel thinning projects.
HAZARD(S)		Wildfire
REASON FOR REMOVAL		The City is not interested in FireWise at this time.
MITIGATION ACTION		HAIL RESISTANT ROOFING
DESCRIPTION		Encourage the use of hail resistant roofing for any new construction
HAZARD(S)		Severe Thunderstorms
REASON FOR REMOVAL		This action was determined to no longer be a priority for the City. Hail resistant roofing should be determined between the property owner and insurance providers.
MITIGATION ACTION		HAZARDOUS FUELS REDUCTION
DESCRIPTION		The Nebraska Forest Service (NFS) Forest Fuels Reduction Program creates strategically located corridors of thinned forests across the landscape reduces fire intensity, improves fire suppression effectiveness, increases firefighters safety, and better protects lives and property.
HAZARD(S)		Wildfire
REASON FOR REMOVAL		The City is not located near any large forested areas and is not a priority for the planning team.
MITIGATION ACTION		LOW IMPACT DEVELOPMENT AND GREEN INFRASTRUCTURE
DESCRIPTION		Low impact development practices and green infrastructure can reduce runoff and result in a reduction in storm water related flooding
HAZARD(S)		Flooding
REASON FOR REMOVAL		This action is no longer a priority for the City.
MITIGATION ACTION		STABILIZE/ANCHOR FERTILIZER, FUELS, AND PROPANE TANKS
DESCRIPTION		Anchor fuel tanks to prevent movement. If left unanchored tanks could present a major threat to property and safety in a tornado of high wind event.
HAZARD(S)		Severe Thunderstorms, Tornadoes and High Winds
REASON FOR REMOVAL		This action is regulated by the state and local businesses as needed.

SECTION SEVEN: CITY OF GORDON COMMUNITY PROFILE

MITIGATION ACTION		VEHICULAR BARRIERS
DESCRIPTION	Ensure that facilities which will house vulnerable populations are placed in the least vulnerable areas of the community	
HAZARD(S)	Chemical Transportation	
REASON FOR REMOVAL	This action is no longer identified as a need for the community.	

Community Profile

CITY OF HAY SPRINGS

Region 23 Emergency Management Agency
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

Table HYS.1: Hay Springs Local Planning Team

NAME	TITLE	JURISDICTION
RICHARD MCKAY	Mayor	City of Hay Springs
EVERET LANGFORD	Fire Fighter and Deputy	City of Hay Springs and Sheridan County
DAWN RAY	Support Services	Pioneer Manor

Location and Geography

The City of Hay Springs is located in the northwestern Sheridan County and covers an area of 0.38 square miles. There are no major waterways near the city.

Transportation

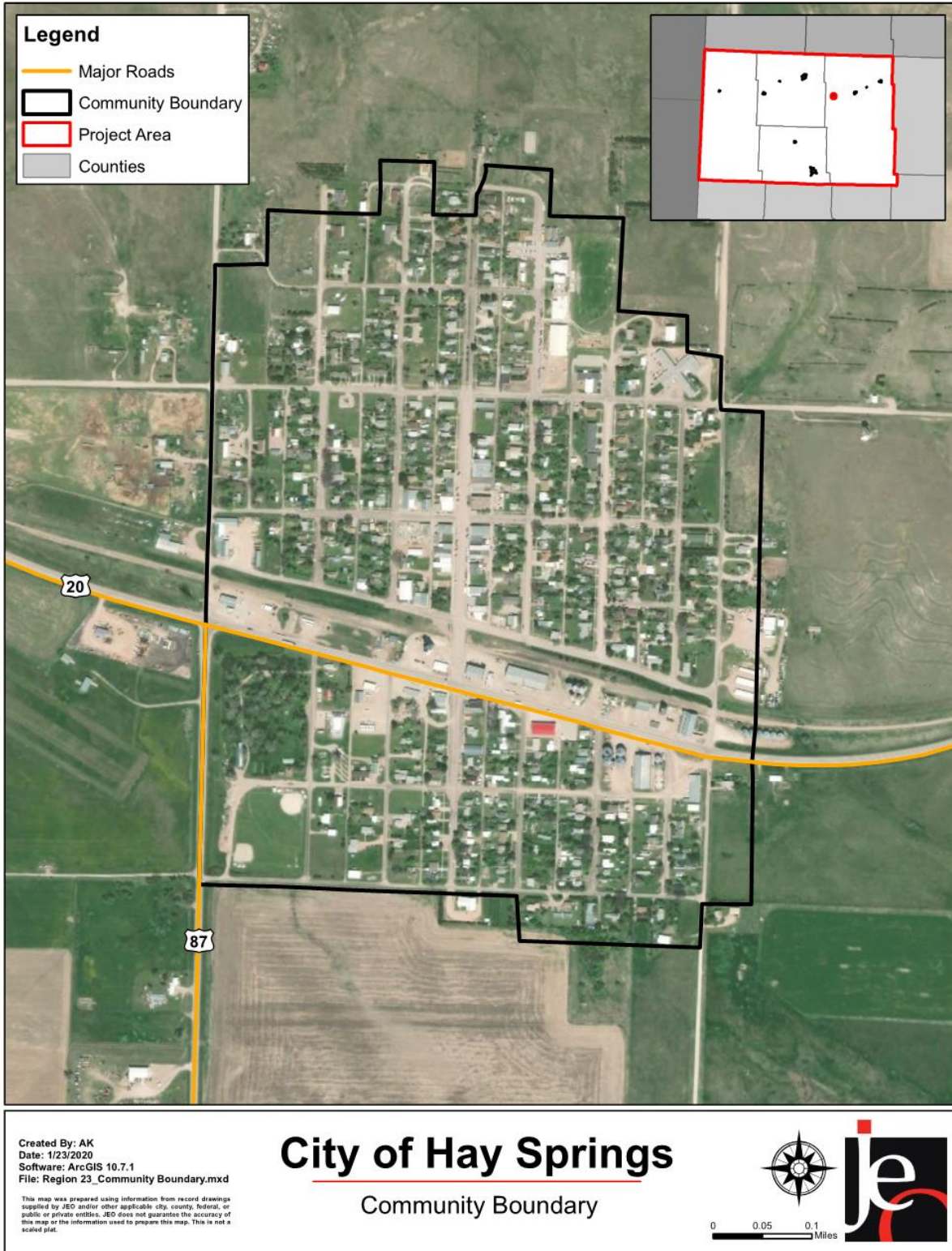
Hay Springs's major transportation corridors include Nebraska Highway 87 which averages 1,170 vehicles per day and U.S. Highway 20 which averages 2,365 vehicles per day.²⁵ There are no rail lines located within Hay Springs. The local planning team noted that there are two alternate corridors that are only available during good weather conditions: 450th Lane northwest of the city and Line Street. Both routes are gravel roads which experience washout issues during heavy rain events. Additionally, chemicals including liquid fertilizers, anhydrous ammonia, fuel, propane, gas, diesel, and natural gas are all transported through the community regularly. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

Chemical Transportation

Hazardous materials are commonly transported by a range of transportation methods, including highways, rail, air, and pipeline. Railway and highway transportation spills are the most frequently occurring chemical transportation incidents. While incident proximity will always occur near or on transportation methods, it is not possible to predict precise locations of possible future events. Proximity of pipelines, rail lines, and highways near critical facilities or vulnerable population centers, including schools, daycares, nursing homes, and/or hospitals, increases overall vulnerability to chemical transportation spills. The two main highways, Nebraska State Highway 87 and U.S. Highway 20, are commonly used transport hazardous chemicals through Hay Springs. Private entities, local emergency response units, and state resources have strict regulatory oversight and emergency action plans in place to respond to significant chemical spills. In the case of chemical spills, the local volunteer fire department would respond and has the necessary equipment. However, many residents may still be at risk depending on where the spill occurs.

²⁵ Nebraska Department of Roads. "Traffic Flow Map of the State Highways: State of Nebraska." [map]. Scale 1"= 20 miles. State of Nebraska: Department of Roads, 2015. <http://www.roads.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>

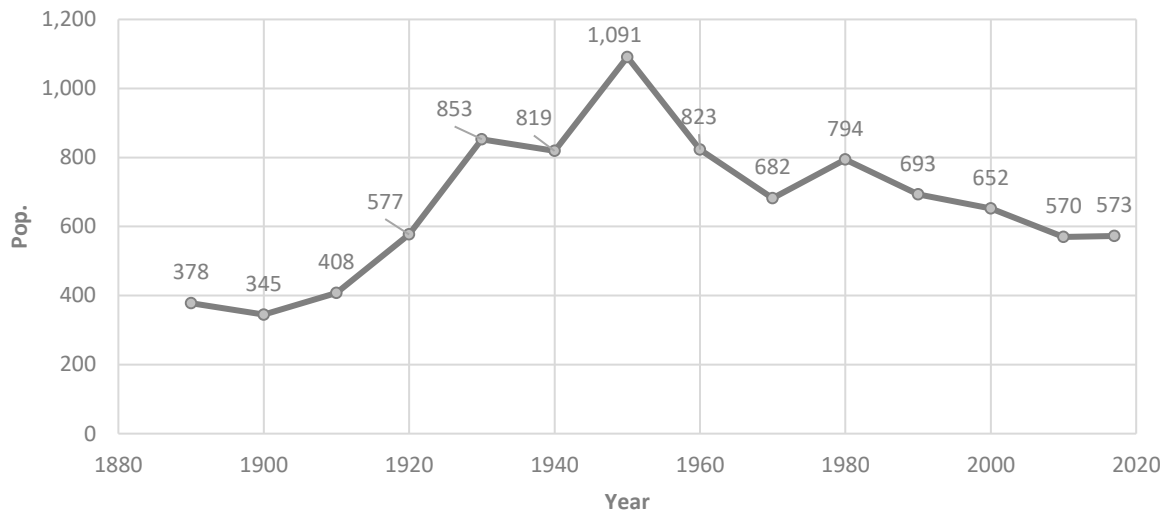
Figure HYS.1: City of Hay Springs



Demographics

Hay Springs's population declined slowly since 1950. Declining populations make communities more vulnerable to hazards as it leads to more unoccupied or vacant housing units and decreasing tax revenues to pursue mitigation projects. Hay Springs's population accounted for 11% percent of Sheridan County's population in 2017.²⁶

Figure HYS.2: Estimated Population 1890 - 2017



Source: U.S. Census Bureau²⁷

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to the County, Hay Springs's population was:

- **Older.** The median age of Hay Springs was 59.7 years old in 2017, compared with the County average of 46.1 years. Hay Springs's population has grown younger since 2010, when the median age was 67.5 years old. Hay Springs had a smaller proportion of people under 20 years old (10.0%) than the County (24.9%).²⁸
- **More ethnically diverse.** Since 2010, Hay Springs grew more ethnically diverse. In 2010, 6.4% of Hay Springs's population was American Indian and 1.6% was two or more races. By 2017, about 7.2% of Hay Springs's population was American Indian and 3.5% was two or more races. During that time, the American Indian population in the County declined from 8.8% in 2010 to 9.5% in 2017.²⁹
- **Less likely to be at the federal poverty line.** The poverty rate in Hay Springs (1.3% of families living below the federal poverty line) is lower than the County's poverty rate (7.9%) in 2017.³⁰

²⁶ United States Census Bureau. "2017 American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

²⁷ United States Census Bureau. "2017 American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

²⁸ United States Census Bureau. "2017 American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

²⁹ United States Census Bureau. "2017 American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

³⁰ United States Census Bureau. "2017 American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

Employment and Economics

The City's economic base is a mixture of industries. In comparison to Sheridan County, Hay Springs's economy had:

- **Similar mix of industries.** Sheridan County and Hay Springs's major employment sectors, accounting for 10% or more of employment each include Retail and Educational Services in 2017. Additionally, Sheridan County's industries also included Agriculture/Fishing/Forestry.³¹
- **Lower household income.** Hay Springs's median household income in 2017 (\$37,130) was about \$4,079 lower than the County (\$41,209).³²
- **Similar long- and short-distance commuters.** About 53.5% percent of workers in Hay Springs commuted for fewer than 15 minutes, compared with about 56.7% of workers in Sheridan County. About 22.1% of workers in Hay Springs commute 30 minutes or more to work, compared to about 25.6% of the County workers.³³

Major Employers

The major employers in the City include Hay Springs High School, the public power district, Security First Bank, Pioneer Manor, Westco, and West Plains Grain. Additionally, many residents commute to the surrounding areas for work including Chadron, Scottsbluff, Gordon, the Pine Ridge Reservation, and Martin, South Dakota.

Housing

In comparison to Sheridan County, Hay Springs's housing stock was:

- **More owner occupied.** About 75.5% of occupied housing units in Hay Springs are owner occupied compared with 70.3% of occupied housing in Sheridan County in 2017.³⁴
- **Older housing stock.** Hay Springs has a greater amount of houses built prior to 1970 than the county, 83.5% compared to 71.0% respectively.³⁵
- **Similar amount of multifamily homes.** Although the predominant housing type in the City is single family detached, Hay Springs has a similar amount of multifamily housing with five or more units per structure compared to the County (3.0% compared to 3.4%). About 90.8% of housing in Hay Springs was single-family detached, compared with 83.7% of the County's housing. Hay Springs has a smaller share of mobile and manufactured housing (1.5%) compared to the County (8.1%).³⁶

This housing information is relevant to hazard mitigation insofar as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

Future Development Trends

Over the past five years the City has seen several changes including new businesses that have moved into town and the demolition of homes without a replacement. If the city were to expand, the best option would be to expand to the south of highway 20 and then to the east to stay out of

³¹ United States Census Bureau. "2017 American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

³² United States Census Bureau. "2017 American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

³³ United States Census Bureau. "2017 American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

³⁴ United States Census Bureau. "2017 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

³⁵ United States Census Bureau. "2017 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

³⁶ United States Census Bureau. "2017 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

WUI high risk areas and the 1% annual floodplain. The local planning team indicated the community's population is declining due to many young families moving away. In the next five years, only one new home is anticipated to be built and no new commercial developments are planned. Hay Springs has expressed interest in having the floodplain remapped as well. If that is completed, there may be more areas south of highway 20 that could be used for expansion of the corporate limits as well.

Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2019. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table HYS.2: Hay Springs Parcel Valuation

NUMBER OF PARCELS	NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
456	365	\$14,427,976	120	\$4,751,934

Source: County Assessor

Critical Infrastructure/Key Resources

Hazardous Materials

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are three chemical storage sites in Hay Springs that contain hazardous chemicals. According to the U.S. Coast Guard National Response Center, no fixed chemical spills have occurred in the community.

Table HYS.3: Chemical Storage Fixed Sites

FACILITY NAME	ADDRESS
FARMERS CO-OP ELEVATOR CO	Jct Highway 20 & Main St
WESTCO NORTH PROPANE PLANT	2003 670th Rd
WESTCO BULK PLANT	101 S 1st St

Source: Nebraska Department of Environment and Energy³⁷

Critical Facilities

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

The local planning team indicated the majority of facilities in town are available for community members to use as sheltering locations during hazard events. In particular, local community churches would be used as shelters or distribution centers after events.

³⁷ Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed November 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Table HYS.4: Critical Facilities

CF Number	Name	Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Community Hall	Y	N	N
2	Hay Springs Fire Department	Y	N	N
3	City Hall	Y	N	N
4	Medical Clinic	N	N	N
5	Lister-Sage Community Center	Y	N	N
6	Hay Springs Elementary School	Y	N	N
7	Hay Springs High School	Y	N	N
8	Pioneer Manor Senior Center	N	N	N
9	NWRPPD	N	N	N
10	St. Columbkille Catholic Church	Y	N	N
11	United Methodist Church	Y	N	N
12	Zion Lutheran Church	Y	N	N

Figure HYS.3: Critical Facilities



Historical Occurrences

See the Sheridan County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were then prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the community's capabilities.

Drought and Extreme Heat

The local planning team identified drought as a top concern to the community. Drought is generally a regional event, with impacts from a single drought event impacting multiple communities, counties, and even states. Based on historic records, drought has an annual probability of 15 percent. The community's economy is closely tied to the agricultural sector which may be significantly impacted by drought events. Additionally, drought impacts significantly exacerbate wildfire events. The 2012 drought was the most recent significant event which created noticeable impacts on the community, specifically on the local economy.

High Winds and Tornadoes

The local planning team identified tornadoes and high winds as a top concern for the community. According to the NCEI, there were two tornadoes which passed nearby Hay Springs. Both were E/F0 tornadoes which caused no property damages, injuries, or fatalities. In total there were 21 storms reported that had winds reported between 60 and 85 miles per hour. Winds of this magnitude, according to the Beaufort Wind Force Ranking, can cause trees to uproot, considerable structure damage, and over turning of improperly anchored mobile homes. The local planning team indicated a need for a list of emergency shelter locations in the community. Additionally, the community should establish routes for emergency evacuation for residents.

Severe Thunderstorms

The county planning team identified hailstorms as a top concern for the city of Hay Springs. The NCEI reported 95 events with a total of over \$1,114,000 in property damages. One thunderstorm lightning event in 2012 caused injuries to three individuals. The NCEI reported, "Lightning ignited a wildfire on August 29th that spread quickly north across grassland and timbers across northwest Sheridan County. The wildfire burned approximate 44,159 acres in Nebraska and moved north into South Dakota. Initial assessments showed the wildfire burned approximately 100 power poles. The Rushville Sheriff requested an Evacuate Immediate (NWEM) message as the fire spread into parks and to alert homeowners and campers in the area. The fire stats showed 50 to 60 outbuildings destroyed, and approximately 10 homes damaged. The wildfire continued into September."

Wildfire

As discussed above, a lightning sparked wildfire event caused significant damage to Hay Springs. According to the CWPP, the community is entirely within the WUI. The Hay Springs Fire Department reported 125 wildfire events which burned 79,191 acres between 2000 and 2018. The fire department has mutual aid agreements with the fire departments in the surrounding areas, but during large scale events it is possible nearby fire department would be unable to lend assistance due to addressing the needs of their respective community/protection area.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Hay Springs has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. The City has a mayor and a five member council and the following offices.

- City Clerk
- Planning and Zoning
- Fire Department
- Police Department
- Public Works Department
- Water/Wastewater Department

Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

Table HYS.5: Capability Assessment

Survey Components/Subcomponents		Yes/No
PLANNING & REGULATORY CAPABILITY	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	No
	Emergency Operational Plan	Yes (County)
	Floodplain Management Plan	Yes (in progress)
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	Yes
	Building Codes	No
	National Flood Insurance Program	Yes
	Community Rating System	No
	Community Wildfire Protection Plan	Yes
Other (if any)		
ADMINISTRATIVE & TECHNICAL CAPABILITY	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	No
	Grant Manager	No
	Mutual Aid Agreement	No
	Other (if any)	

SECTION SEVEN: CITY OF HAY SPRINGS COMMUNITY PROFILE

Survey Components/Subcomponents		Yes/No
FISCAL CAPABILITY	Capital Improvement Plan/ 1 & 6 Year plan	No
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	
EDUCATION & OUTREACH CAPABILITY	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

Overall Capability	Limited/Moderate/High
Does your county have the financial resources need to implement mitigation projects?	Limited
Does your county have the staff/expertise to implement projects?	Limited
Does your county have the community support to implement projects?	Limited
Does your county staff have the time to devote to hazard mitigation?	Moderate

Plan Integration

The Hay Springs Comprehensive Plan was last updated in August 2016 and discusses housing and infrastructure needs for the city. In particular, the plan identifies stormwater improvement needs to meet local demand for residents. The plan emphasizes hazard mitigation principles for future land use and housing development to take place outside of flood hazard areas.

The City of Hay Springs follows Sheridan County's building and zoning codes and ordinances. As a NFIP participant, the city has a floodplain ordinance which requires any development in the floodplain to receive a permit and be built at least one foot above BFE. A floodplain management plan is currently under development.

The City of Hay Springs has an annex within the Sheridan County LEOP, last updated May 2018. This plan incorporates mitigation by: identifying hazards of concern requiring emergency action; specific responsibilities of individual communities or community roles; scenarios that would require evacuation; sheltering locations; an animal disease response plan; media contacts; and other information for the county. This plan is updated every five years by Region 23 Emergency Management Agency.

Mitigation Strategy

New or Ongoing Actions

MITIGATION ACTION	PUBLIC AWARENESS/EDUCATION
DESCRIPTION	Through activities such as outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. Also, educate citizens on water conservation methods, evacuation plans, etc. In addition, purchasing equipment such as overhead projectors and laptops.
HAZARD(S)	All Hazards
ESTIMATED COST	\$500+
FUNDING	General Funds, HMGP, PDM
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	City Clerk
STATUS	This project has not yet been started.

MITIGATION ACTION	RE-EVALUATE FLOOD ZONES
DESCRIPTION	Re-evaluate and correct flood zones due to relocation of dams north of town
HAZARD(S)	Flooding
ESTIMATED COST	Unknown
FUNDING	General Fund, HMGP, PDM
TIMELINE	2 – 5 years
PRIORITY	High
LEAD AGENCY	Floodplain Administrator
STATUS	This project has not yet been started.

MITIGATION ACTION	STORMWATER SYSTEM AND DRAINAGE IMPROVEMENTS
DESCRIPTION	Smaller communities may utilize storm water systems comprising of ditches, culverts, or drainage ponds to convey runoff. Undersized systems can contribute to localized flooding. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements. Bridges typically serve as flow restrictions along streams and rivers. Cleanout and reshaping of channel segments at bridge crossings can increase conveyance, reducing the potential for flooding. Replacement or modification of bridges may be necessary to provide greater capacity, maintain or improve structural integrity during flood events, and eliminate flooding threats and damages.
HAZARD(S)	Flooding
ESTIMATED COST	\$10,000+
FUNDING	General Funds, HMGP, PDM
TIMELINE	1 year
PRIORITY	High
LEAD AGENCY	Streets Department
STATUS	Drainage improvements are needed along the alleyway between N. Baker and N. Miller Street from First to Third Streets. These improvements may include installation of a storm drain and sewer line repairs and lining.

SECTION SEVEN: CITY OF HAY SPRINGS COMMUNITY PROFILE

Community Profile

CITY OF RUSHVILLE

Region 23 Emergency Management Agency
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

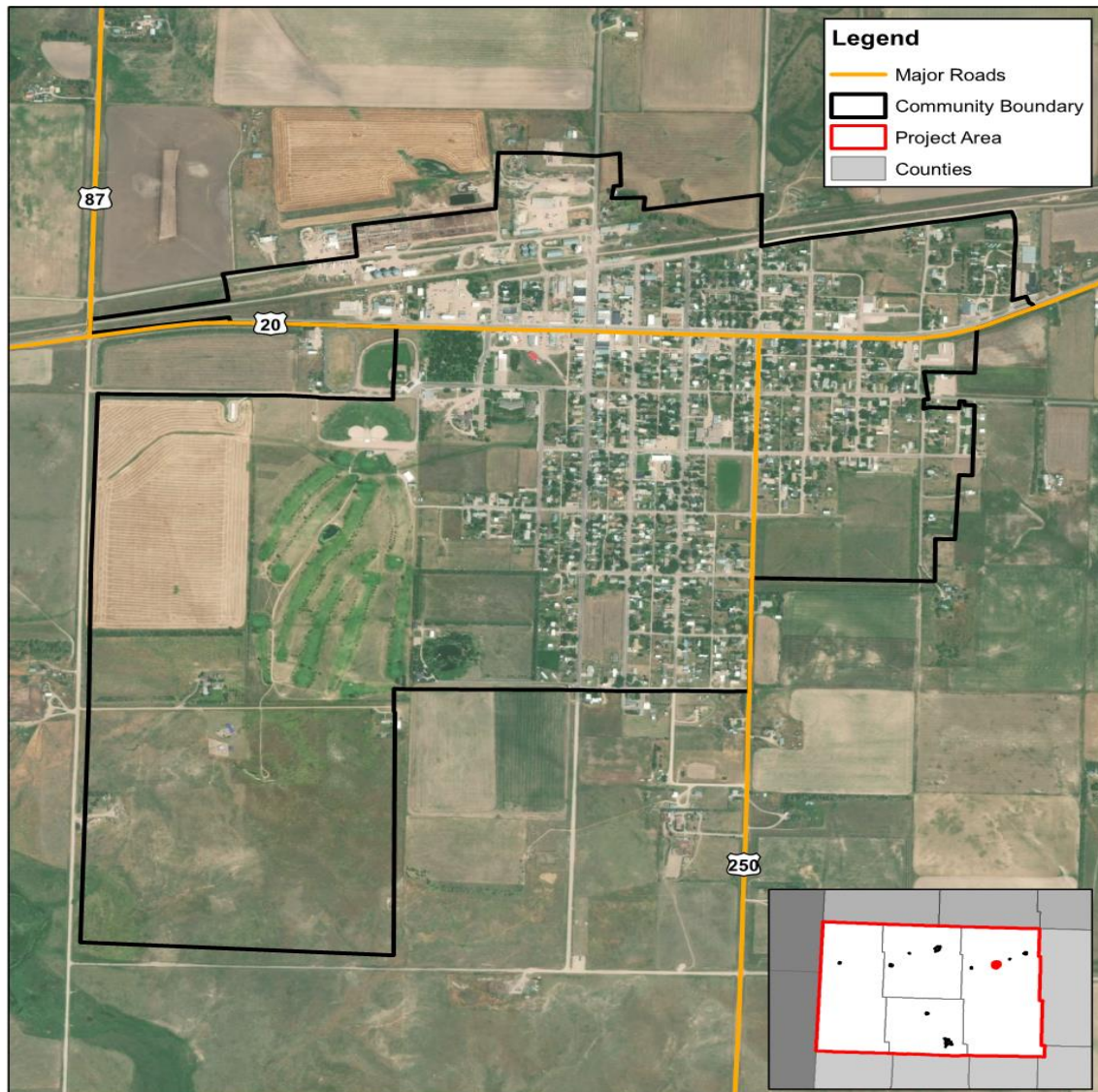
Table RSV.1: Rushville Local Planning Team

NAME	TITLE	JURISDICTION
CONNIE ROFFERS	City Clerk	City of Rushville

Location and Geography

The City of Rushville is located in north central Sheridan County and covers an area of 1.15 square miles. The City of Rushville is the county seat for Sheridan County. Rush Creek is located south of the City.

Figure RSV.1: City of Rushville



Created By: AK
 Date: 1/23/2020
 Software: ArcGIS 10.7.1
 File: Region 23_Community Boundary.mxd

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City of Rushville

Community Boundary

0 0.1 0.2 Miles

Transportation

Rushville's major transportation corridors include Nebraska Highway 250 which averages 220 vehicles per day, Nebraska Highway 87 which averages 910 vehicles per day, and U.S. Highway 20 which averages 2,345 vehicles per day.³⁸ The Modisett Airport is located in Rushville, but there are no railroads located in or near the city. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

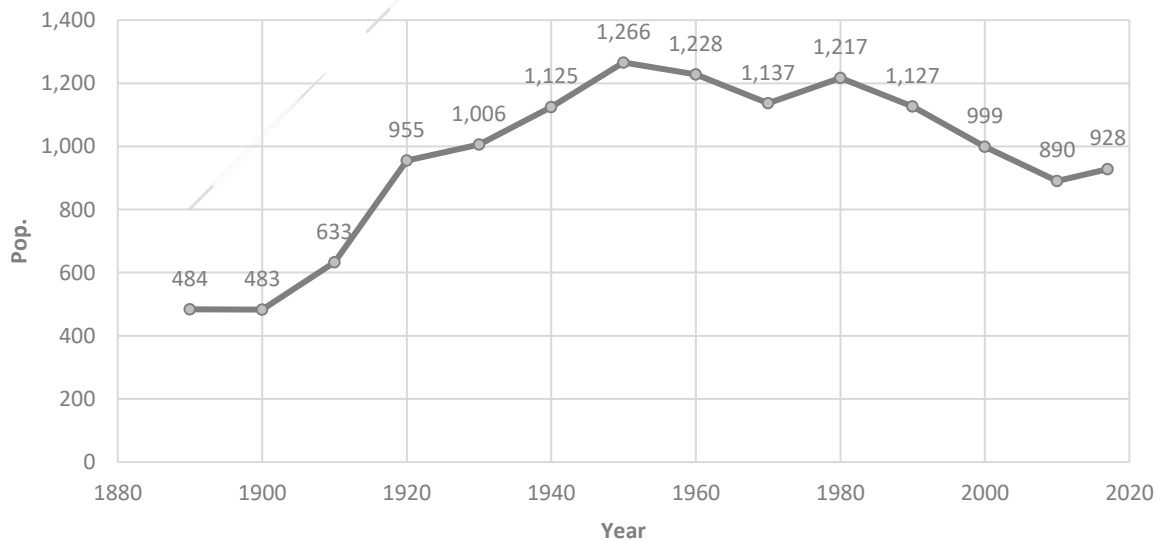
Chemical Transportation

Hazardous materials are commonly transported by a range of transportation methods, including highways, rail, air, and pipeline. Railway and highway transportation spills are the most frequently occurring chemical transportation incidents. While incident proximity will always occur near or on transportation methods, it is not possible to predict precise locations of possible future events. Proximity of pipelines, rail lines, and highways near critical facilities or vulnerable population centers, including schools, daycares, nursing homes, and/or hospitals, increases overall vulnerability to chemical transportation spills. No rail lines are located near the City, however highways are commonly used transport hazardous chemicals through Rushville. The local planning team indicated a large number of semi-trucks travel through town. The local volunteer fire department would respond to any chemical incidents. Private entities, local emergency response units, and state resources have strict regulatory oversight and emergency action plans in place to respond to significant chemical spills.

Demographics

Rushville's population declined from a peak of 1,266 in 1950 to 928 people in 2017. Declining populations make communities more vulnerable to hazards as it leads to more unoccupied or vacant housing units and decreasing tax revenues to pursue mitigation projects. Rushville's population accounted for 18% percent of Sheridan County's population in 2017.³⁹

Figure RSV.2: Estimated Population 1890 - 2017



Source: U.S. Census Bureau⁴⁰

³⁸ Nebraska Department of Roads. "Traffic Flow Map of the State Highways: State of Nebraska." [map]. Scale 1"= 20 miles. State of Nebraska: Department of Roads, 2015. <http://www.roads.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>

³⁹ United States Census Bureau. "2017 American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

⁴⁰ United States Census Bureau. "2017 American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to the County, Rushville's population was:

- **Younger.** The median age of Rushville was 38 years old in 2017, compared with the County average of 46.1 years. Rushville's population has grown older since 2010, when the median age was 36.1 years old. Rushville had a larger proportion of people under 20 years old (28.9%) than the County (24.9%).⁴¹
- **More ethnically diverse.** Since 2010, Rushville was similarly ethnically diverse. In 2010, 17.8% of Rushville's population was American Indian and 8.6% was two or more races. By 2017, about 14.4% of Rushville's population was American Indian and 14.5% was two or more races. During that time, the American Indian population in the County grew from 14.4% in 2010 to 9.5% in 2017.⁴²
- **More likely to be at the federal poverty line.** The poverty rate in Rushville (12.9% of families living below the federal poverty line) is slightly greater than the County's poverty rate (7.9%) in 2017.⁴³

Employment and Economics

The City's economic base is a mixture of industries. In comparison to Sheridan County, Rushville's economy had:

- **Similar mix of industries.** Sheridan County and Rushville's major employment sectors, accounting for 10% or more of employment each include Retail and Educational Services in 2017. Additionally, Sheridan County's industries also included Agriculture/Fishing/Forestry.⁴⁴
- **Lower household income.** Rushville's median household income in 2017 (\$37,898) was about \$3,311 lower than the County (\$41,209).⁴⁵
- **Mix of short or long-distance commuters.** About 44.6% percent of workers in Rushville commuted for fewer than 15 minutes, compared with about 56.7% of workers in Sheridan County. About 30.7% of workers in Rushville commute 30 minutes or more to work, compared to about 25.6% of the County workers.⁴⁶

Major Employers

Major employers in the City of Rushville include Gordon-Rushville Public Schools, the local bank, Sand Ridge Golf Course, Sheridan Livestock Auction, and numerous smaller businesses. Many residents commute to the surrounding areas and Pine Ridge for work as well.

Housing

In comparison to Sheridan County, Rushville's housing stock was:

- **Less owner occupied.** About 60.9% of occupied housing units in Rushville are owner occupied compared with 70.3% of occupied housing in Sheridan County in 2017.⁴⁷

⁴¹ United States Census Bureau. "2017 American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

⁴² United States Census Bureau. "2017 American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

⁴³ United States Census Bureau. "2017 American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

⁴⁴ United States Census Bureau. "2017 American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

⁴⁵ United States Census Bureau. "2017 American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

⁴⁶ United States Census Bureau. "2017 American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

⁴⁷ United States Census Bureau. "2017 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

- **Similarly aged housing stock.** Rushville and Sheridan County have a similar share of housing built prior to 1970 (87.0% compared to 82.4%).⁴⁸
- **More multifamily homes.** Although the predominant housing type in the City is single family detached, Rushville contains more multifamily housing with five or more units per structure compared to the County (8.0% compared to 3.4%). About 74.8% of housing in Rushville was single-family detached, compared with 83.7% of the County's housing. Rushville has a smaller share of mobile and manufactured housing (10.9%) compared to the County (8.1%).⁴⁹ Mobile homes are located along the northeastern corner of the City.

This housing information is relevant to hazard mitigation insofar as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

Future Development Trends

The City of Rushville has seen little change in the past five years. No new housing or commercial developments have been constructed. The local planning team does not expect much growth over the next five to ten years. Given the rate of vacant buildings there is sufficient space for development to occur within the existing corporate limits. At this time the planning team did not expect to see an increase in codes or zoning. If expansion does occur it would be suggest that Rushville expand to the south to remain outside the WUI.

Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table RSV.2: Rushville Parcel Valuation

NUMBER OF PARCELS	NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
651	518	\$22,511,245	4	\$486,388

Source: County Assessor

Critical Infrastructure/Key Resources

Hazardous Materials

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there is one chemical storage sites in Rushville that contain hazardous chemicals. According to the U.S. Coast Guard National Response Center, no fixed chemical spills have occurred in the community.

⁴⁸ United States Census Bureau. "2017 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

⁴⁹ United States Census Bureau. "2017 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

Table RSV.3: Chemical Storage Fixed Sites

FACILITY NAME	ADDRESS
WESTCO STATION	304 W 2nd St

Source: Nebraska Department of Environment and Energy⁵⁰

Critical Facilities

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

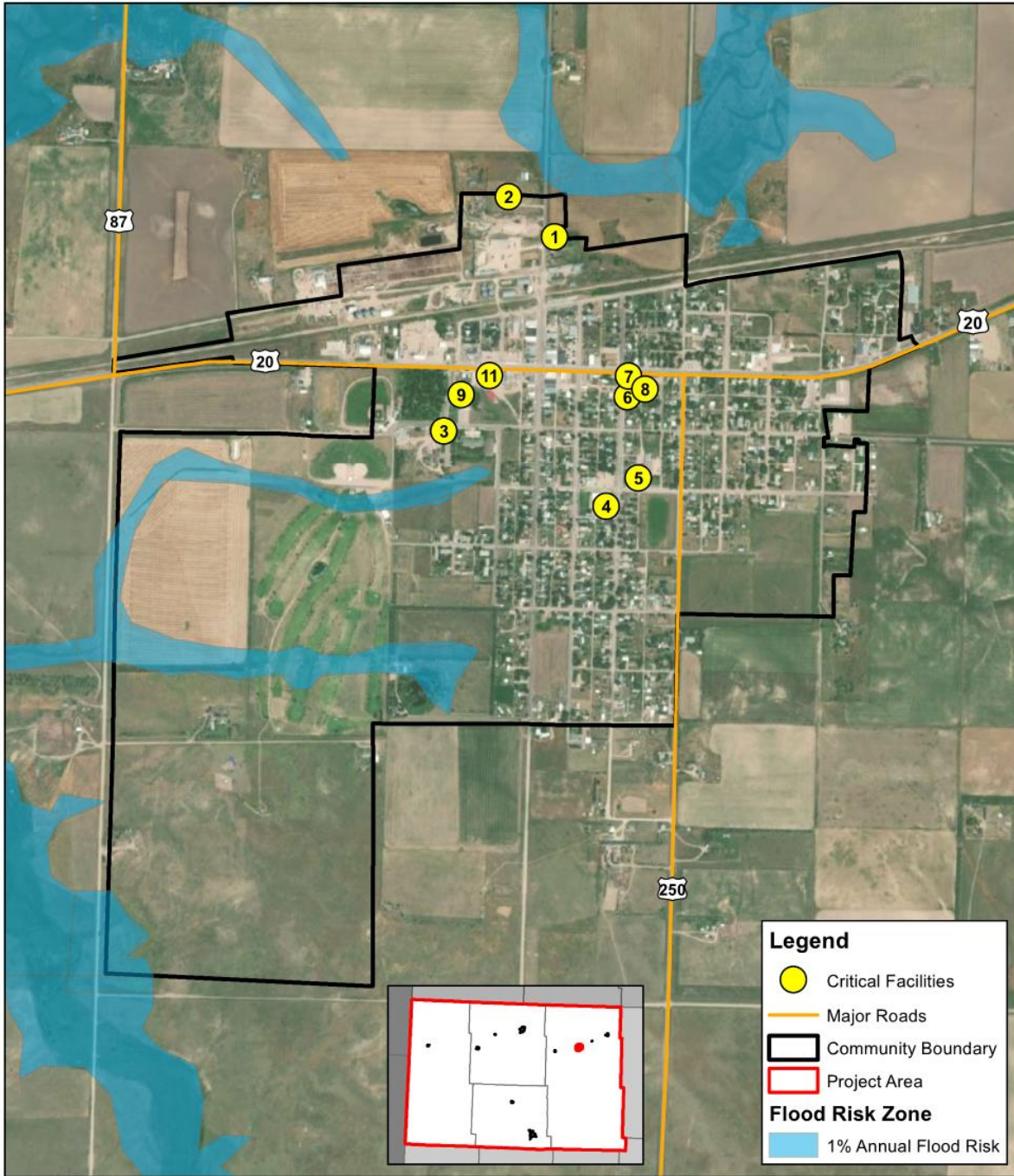
Table RSV.4: Critical Facilities

CF Number	Name	Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Water Tower	N	N	N
2	NPPD Substation	N	N	N
3	Parkview Lodge Assisted Living	N	Y	N
4	Rushville Elementary School	N	Y	N
5	Gordon-Rushville Middle School	N	Y	N
6	American Legion	N	N	N
7	County Courthouse	N	N	N
8	Sheriff's Office	N	N	N
9	City Office	N	N	N
10	Sewer Plant*	N	Y	N
11	Rushville Volunteer Fire Department	Y	N	N

*Not mapped: Sewer Plant located west of town

⁵⁰ Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed November 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Figure RSV.3: Critical Facilities



Created By: AK
 Date: 6/11/2020
 Software: ArcGIS 10.7.1
 File: Region 23_Critical Facility_Floodplain.mxd

This map was prepared using information from record drawings supplied by JEO and/or other applicable city, county, federal, or public or private entities. JEO does not guarantee the accuracy of this map or the information used to prepare this map. This is not a scaled plot.
 The Flood Risk Hazard Area was developed using HAZUS 4.2 as the digital FRM was unavailable. This map should only be used for planning purposes and does not reflect the regulatory floodplain.

City of Rushville

Critical Facilities

Legend

- Critical Facilities
- Major Roads
- Community Boundary
- Project Area

Flood Risk Zone

- 1% Annual Flood Risk

0 0.1 0.2 Miles

Historical Occurrences

See the Sheridan County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were then prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the community's capabilities.

Drought and Extreme Heat

The local planning team identified drought as a top concern to the community. Drought is generally a regional event, with impacts from a single drought event impacting multiple communities, counties, and even states. Rushville relies heavily on the agricultural sector and drought impacts can significantly impact the industry. Wildfire is also of greater concern during times of drought with reduced water supplies and highly flammable landcover.

Flooding

Flooding was identified as a hazard of concern for Rushville based on past flood damages. During the March 2019 flood event, numerous roads surrounding the community were washed out and the primary route of Highway 20 was significantly damaged. Residents and emergency responders experienced significant transportation delays. However, few residents in town experienced flooding impacts to homes or businesses. Currently there is no flood insurance held on community buildings due to prohibitive cost.

High Winds and Tornadoes

The local planning team identified high winds and tornadoes as a significant concern for the community. According to the NCEI, there were ten tornadoes located within Sheridan County and passed nearby Rushville between 1996 and 2019. Nine tornadoes were rated an EF/F0 and caused \$1,000 property damage and \$1,000 in crop damage. There was also one tornado in 2006 that was rated an F1 and caused \$150,000 in property damage.

Severe Thunderstorms

Severe thunderstorms are a regular part of the climate for Sheridan County and Rushville. The local planning team identified severe thunderstorms as a significant threat for Rushville. The NCEI recorded 91 thunderstorm events (heavy rain, thunderstorm wind, lightning strikes, and hail) between 1996 and 2019 with \$340,000 in damages to property and over \$28 million in crop damages across the County, including to Rushville. The local airport has experienced severe damage from both hail and high wind events.

Severe thunderstorms and hail can result in loss of electricity, blocked roadways, damages to trees, and flooding. Blocked roadways may also present life safety concerns to those needing immediate medical attention or evacuation.

Severe Winter Storms

Severe winter storms are a regular occurrence for Rushville. The planning team identified severe winter storms as the greatest threat in the future, but given the frequency of occurrence, residents across the county are prepared for the events and able to effectively cope with their occurrences. According to the NCEI there were 79 severe winter storms in Sheridan County which included

Rushville from 1996 through December 2019. These events resulted in \$85,000 in property damage.

Wildfire

Wildfire is a top concern for the City and across the entire planning area. A major fire in 2012 ran across the county and spanned between hay Springs and Pine Ridge. There is a local volunteer fire department who have mutual aid agreements across the planning area. The Rushville Fire Department reported 135 fire events which burned 57,561 acres between 2000 and 2018. There are also concerns about high winds on the plains pushing wildfire across swaths of land and towards or around communities.

Governance

A community’s governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Rushville has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. The City has a mayor and a four member council and the following offices.

- City Clerk
- City Superintendent
- Chamber of Commerce
- Economic Development Committee
- Planning Commission
- Electric Department
- Fire Department
- Police Department
- Streets Department
- Sewer/Water Department

Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

Table RSV.5: Capability Assessment

Survey Components/Subcomponents		Yes/No
PLANNING & REGULATORY CAPABILITY	Comprehensive Plan	Yes
	Capital Improvements Plan	Yes
	Economic Development Plan	No
	Emergency Operational Plan	Yes (County)
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes (County)
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes (County)
	National Flood Insurance Program	Yes

SECTION SEVEN: CITY OF RUSHVILLE COMMUNITY PROFILE

Survey Components/Subcomponents		Yes/No
	Community Rating System	No
	Community Wildfire Protection Plan	Yes
	Other (if any)	
ADMINISTRATIVE & TECHNICAL CAPABILITY	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	No
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	
FISCAL CAPABILITY	Capital Improvement Plan/ 1 & 6 Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	
EDUCATION & OUTREACH CAPABILITY	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

Overall Capability	Limited/Moderate/High
Does your county have the financial resources need to implement mitigation projects?	Limited

Does your county have the staff/expertise to implement projects?	Limited
Does your county have the community support to implement projects?	Moderate
Does your county staff have the time to devote to hazard mitigation?	Limited

Plan Integration

The City of Rushville has an annex within the Sheridan County LEOP, last updated May 2018. This plan incorporates mitigation by: identifying hazards of concern requiring emergency action; specific responsibilities of individual communities or community roles; scenarios that would require evacuation; sheltering locations; an animal disease response plan; media contacts; and other information for the county. This plan is updated every five years by Region 23 Emergency Management Agency.

The city has a floodplain ordinance and zoning which regulates development within the floodplain and flood hazard areas. Local plans including the Comprehensive Plan and Capital Improvement Plans do not emphasize hazard mitigation objectives. No other plan integration capabilities were identified during this plan update.

Mitigation Strategy

Completed Actions:

MITIGATION ACTION		FLOODPLAIN REGULATION ENFORCEMENT AND UPDATES
DESCRIPTION		Continue to enforce local floodplain regulations for structures located in the 1% annual. Strict enforcement of the type of development and elevations of structures should be considered through issuance of building permits by the City of Rushville . Continue education of building inspectors or Certified Floodplain Managers.
HAZARD(S)		Flooding
STATUS		The City enforces floodplain ordinance and codes as needed for development.

MITIGATION ACTION		BECOME A TREE CITY USA
DESCRIPTION		Work to become a Tree City USA through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a hazardous tree identification and removal program in order to limit potential tree damage and damages caused by trees in a community when a storm event occurs.
HAZARD(S)		Drought and Extreme Heat, Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
STATUS		The City is now a Tree City USA member.

New and Ongoing Actions:

MITIGATION ACTION		BACKUP POWER GENERATORS
DESCRIPTION	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other critical facilities and shelters	
HAZARD(S)	All hazards	
ESTIMATED COST	\$15,000-\$35,000+	
FUNDING	General Fund, HMGP, PDM	
TIMELINE	5+ years	
PRIORITY	Low	
LEAD AGENCY	City Clerk, Fire Department	
STATUS	This project has not yet been started. Generators are needed at local schools, fire department, and city office.	

MITIGATION ACTION		DRAINAGE STUDY/STORMWATER MASTER PLAN
DESCRIPTION	Drainage studies can be conducted to identify and prioritize improvements to address site specific localized flooding/drainage problems. Stormwater master plans can be conducted to perform a community-wide stormwater evaluation, identifying multiple problem areas, and potentially multiple drainage improvements for each.	
HAZARD(S)	Flooding	
ESTIMATED COST	\$10,000 - \$100,000+	
FUNDING	General Fund, UNWNRD, CDBG	
TIMELINE	5+ years	
PRIORITY	High	
LEAD AGENCY	Rushville City Council, Clerk, Floodplain Administrator	
STATUS	This project has not yet been started	

MITIGATION ACTION		STORMWATER SYSTEM AND DRAINAGE IMPROVEMENTS
DESCRIPTION	<p>Smaller communities may utilize storm water systems comprising of ditches, culverts, or drainage ponds to convey runoff. Undersized systems can contribute to localized flooding. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other storm water system improvements. Bridges typically serve as flow restrictions along streams and rivers.</p> <p>Cleanout and reshaping of channel segments at bridge crossings can increase conveyance, reducing the potential for flooding. Replacement or modification of bridges may be necessary to provide greater capacity, maintain or improve structural integrity during flood events, and eliminate flooding threats and damages.</p>	
HAZARD(S)	Flooding	
ESTIMATED COST	\$50,000+	
FUNDING	General Fund, CBDG, UNWNRD	
TIMELINE	5+ years	
PRIORITY	High	
LEAD AGENCY	City Council, City Clerk	
STATUS	This project has not yet been started	

MITIGATION ACTION		WEATHER RADIOS
DESCRIPTION	Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed.	
HAZARD(S)	All Hazards	
ESTIMATED COST	\$50 per radio	
FUNDING	General Funds	
TIMELINE	2-5 years	
PRIORITY	High	
LEAD AGENCY	City Clerk	
STATUS	This project has not yet been started	

Removed Actions:

MITIGATION ACTION		MAINTAIN GOOD STANDING IN THE NATIONAL FLOOD INSURANCE PROGRAM
DESCRIPTION	Maintain good standing in the National Flood Insurance Program (NFIP).	
HAZARD(S)	Flooding	
REASON FOR REMOVAL	While the City will continue to meet NFIP requirements and participate in the program, this is no longer considered a mitigation action by FEMA.	

MITIGATION ACTION		PUBLIC AWARENESS/EDUCATION
DESCRIPTION	Through activities such as outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. Also, educate citizens on water conservation methods, evacuation plans, etc. In addition, purchasing equipment such as overhead projectors and laptops	
HAZARD(S)	All Hazards	
REASON FOR REMOVAL	This project was identified to no longer be a priority for the community due to limited staff time and resources.	

MITIGATION ACTION		SAFE ROOMS
DESCRIPTION	Design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, school, and other areas.	
HAZARD(S)	Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds	
REASON FOR REMOVAL	This project is currently not financially feasible for the City to pursue and is no longer a priority.	