Box Butte County Appendix

County Profile

BOX BUTTE COUNTY

Region 23 Emergency Management Agency

Multi-Jurisdictional Hazard Mitigation Plan Update

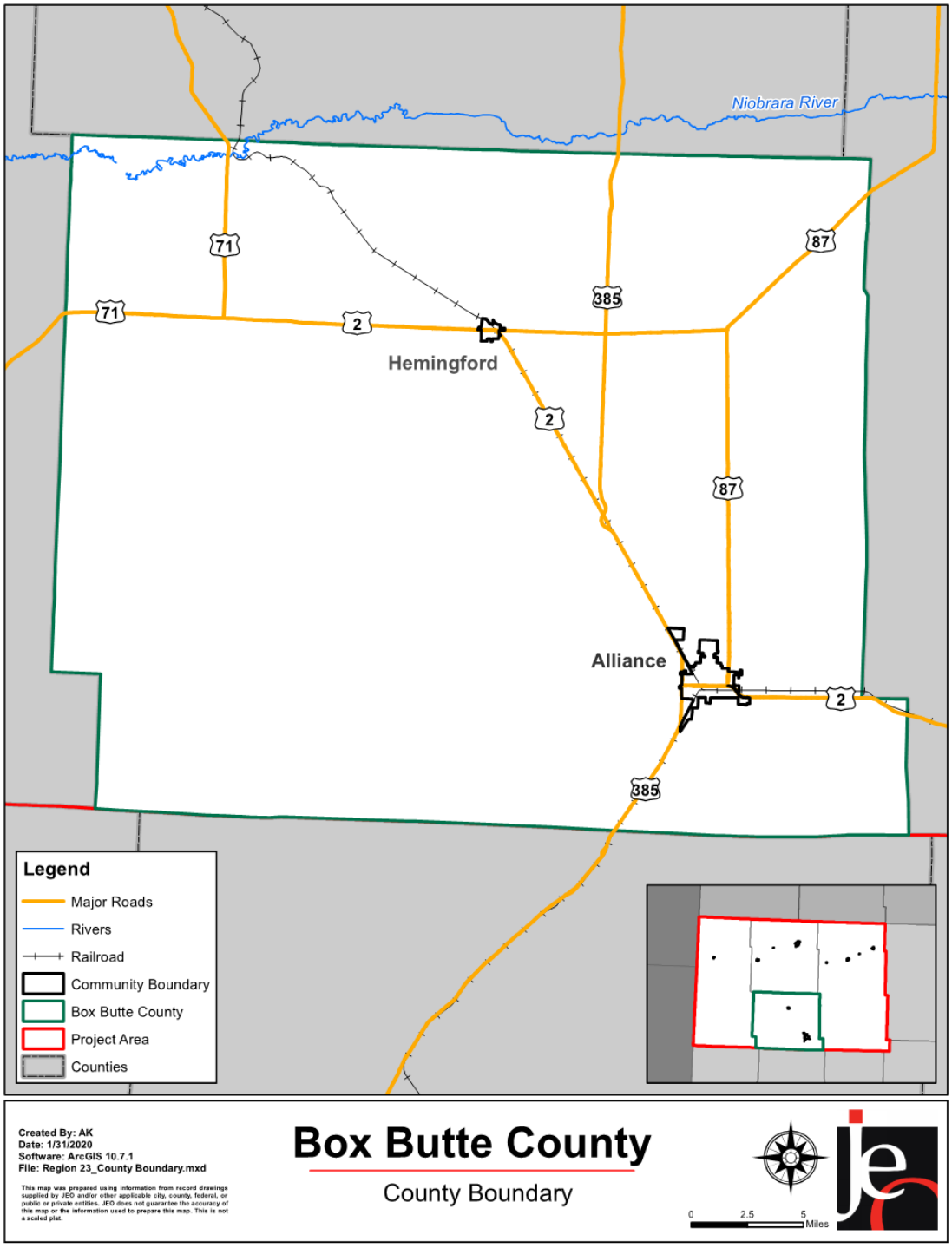
2020

Local Planning Team

Table BBC.1: Box Butte County Local Planning Team

NAME	TITLE	JURISDICTION
BARBARA KEEGAN	Highway Superintendent	Box Butte County
MIKE MCGINNIS	Commissioner	Box Butte County

Figure BBC.1: Box Butte County



Location, Geography, and Climate

Box Butte County is located in northwestern Nebraska and is bordered by Sioux, Dawes, Sheridan, and Morrill counties. The total area of Box Butte County is 1,078 square miles. The Niobrara River bisects the far northwestern corner of the county. Box Butte County is comprised of Dissected Plains, Plains, and Sand Hills topographic regions[1], with the majority of land used as rangeland for livestock.

Climate

For Box Butte County, the normal high temperature for the month of July is 88.7°F and the normal low temperature for the month of January is 12.3°F. On average, Box Butte County receives 15.48 inches of precipitation and 42.7 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 BBC.2: Box Butte County Climate Normals

	Box Butte County	State of Nebraska
JULY NORMAL HIGH TEMP	88.7°F	87.4°F
JANUARY NORMAL LOW TEMP	12.3°F	13.8°F
ANNUAL NORMAL PRECIPITATION	15.48”	23.8”
ANNUAL NORMAL SNOWFALL	42.7”	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

Box Butte County’s major transportation corridors include Nebraska Highway 2 running east to west, Nebraska Highway 87 running north to south, and U.S. Highway 385 running north to south. A Burlington Northern Santa Fe rail line also bisects the county and runs through both communities in the county, Hemingford and Alliance. Rail lines commonly transport hazardous materials through the county including coal, oil, or waste materials. The county also has an air landing strip located near Alliance. The county experienced an influx of users to its highway transportation routes in 2017 for viewing a total solar eclipse. No major incidents were reported as a result. Transportation information is important to hazard mitigation plans insofar as is suggests possible evacuation corridors in the county, as well as areas more at risk to transportation incidents.

Chemical Transportation

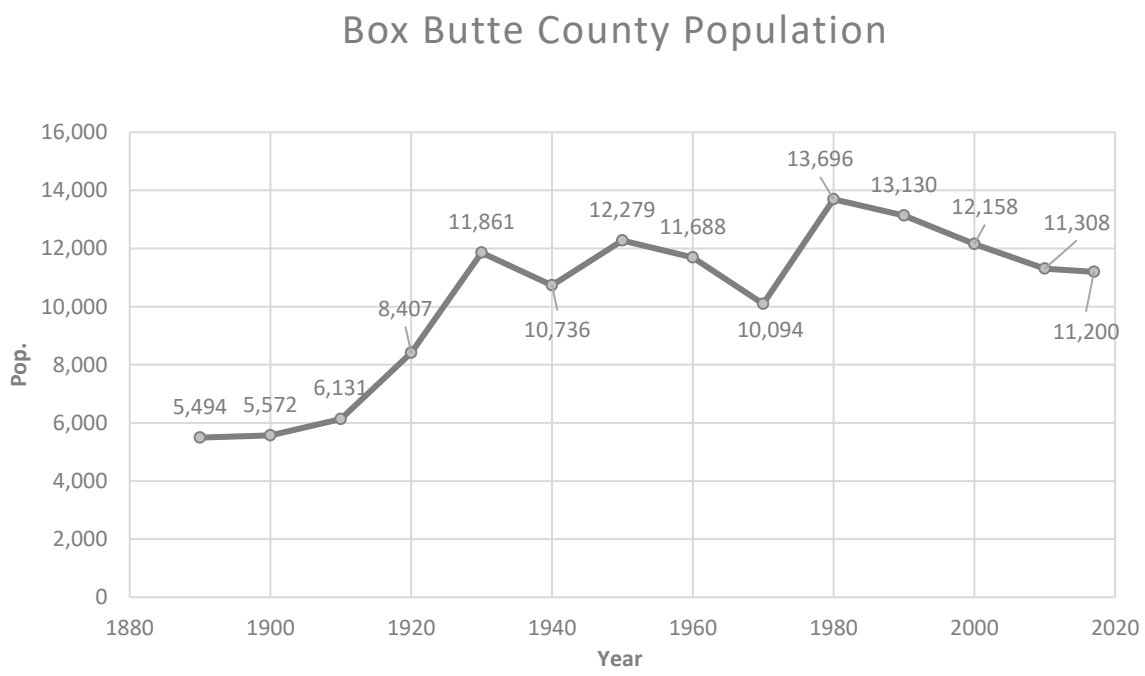
Hazardous materials are commonly transported by a range of transportation methods, including highways, rail, air, and pipeline. Railway and highway transportation spills are the most frequently occurring chemical transportation incidents. While incident proximity will always occur near or on transportation 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 and 87, and U.S. Highway 385 are all commonly used to transport hazardous chemicals across the county. The planning team indicated that a chemical spill occurred in Hemingford when a Farmer’s Co-op fertilizer tank collapsed, and fertilizer runoff impacted the northeast part of the village.

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 – Alliance NE.” Accessed December 2019. http://climod.unl.edu/.

Demographics

The following figure displays the historical population trend from 1890 to 2017. This figure indicates that the population of Box Butte County has experienced several growth periods since the early 1900s. However, population has been declining since 1980. This is notable for hazard mitigation as communities with declining population have a higher probability of unoccupied housing that is not being maintained and may be less prone to pursuing residential/commercial development, which may reduce the number of structures vulnerable to hazards in the future. Increasing populations can represent tax revenue growth for the county which could make implementation of mitigation actions more fiscally available.

Figure BBC.2: Population 1890 – 2017



Source: U.S. Census Bureau[4]

The following table indicates the State of Nebraska has a higher percentage of people under the age of five; however, Box Butte County has a greater proportion of residents over the age of 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*.

Table BBC.3: Population by Age

AGE	BOX BUTTE COUNTY	STATE OF NEBRASKA
<5	6.5%	6.9%
5-64	76.9%	78.3%
>64	16.7%	14.8%
MEDIAN	40.5	36.2

Source: U.S. Census Bureau[5]

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

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.

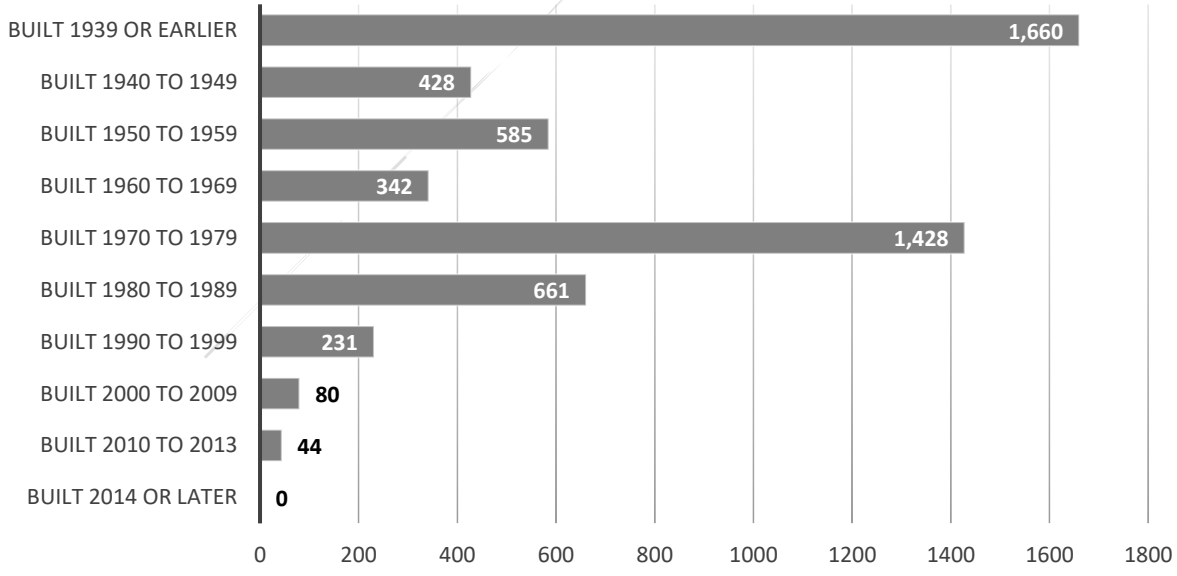
Table BBC.4: Housing and Income

	BOX BUTTE COUNTY	STATE OF NEBRASKA
MEDIAN HOUSEHOLD INCOME	$56,328	$56,675
PER CAPITA INCOME	$28,483	$29,866
MEDIAN HOME VALUE	$105,400	$142,000
MEDIAN RENT	$575	$773

Source: U.S. Census Bureau[6,7]

The following figure indicates that the majority of housing in Box Butte County was built prior to 1980 (81.4%). According to 2017 ACS 5-year estimates, the county has 5,459 housing units with 84.4% percent of those units occupied. There are approximately 348 mobile homes in the county. The local planning team indicated mobile homes within unincorporated Box Butte County are primarily located east of the City of Alliance. 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 BBC.3: Housing Units by Year Built



Source: U.S. Census Bureau[8]

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 BBC.5: Housing Units

Jurisdiction	Total Housing Units				Occupied Housing Units			
	Occupied		Vacant		Owner		Renter	
	Number	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
BOX BUTTE COUNTY	4,610	84.4%	849	15.6%	3,305	71.7%	1,305	28.3%
NEBRASKA	748,405	90.8%	75,771	9.2%	494,189	66.0%	254,216	34.0%

Source: U.S. Census Bureau[9]

Major Employers

According to 2016 Business Patterns Census Data, Box Butte County had 315 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 BBC.6: Business in Box Butte County

	TOTAL BUSINESSES	NUMBER OF PAID EMPLOYEES	ANNUAL PAYROLL (IN THOUSANDS)
TOTAL FOR ALL SECTORS	315	2,791	$94,363

Source: U.S Census Bureau[10]

Agriculture is also important to the economic fabric of Box Butte County, and the state of Nebraska as a whole. Box Butte County's 431 farms cover 677,164 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 BBC.7: Box Butte County Agricultural Inventory

BOX BUTTE COUNTY AGRICULTURAL INVENTORY	
NUMBER OF FARMS	431
LAND IN FARMS	677,164

Source: USDA 2017 Census of Agriculture[11]

Future Development Trends

A small number of businesses have been added over the past five years, including two agricultural cooperatives. A Vitalix manufacturing plant in Alliance burnt down in 2018, leading to decreased employment in the area. In addition to the lost manufacturing plant, the planning team indicated that mechanized agriculture and a decline in the rail industry have contributed to the decreased county population over the past few decades.

Two new housing developments are planned for the Alliance area in the next five years. These include an apartment complex on the west side of the city and a new development on the east side. At this time, no new commercial developments are planned for the county.

[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.

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 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 BBC.8: Box Butte County Parcel Valuation

NUMBER OF PARCELS	NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
8,142	5,017	$57,699,4092	313	$35,604,589

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 23 chemical storage sites throughout Box Butte County which house hazardous materials; however, only one is located in unincorporated Box Butte County. According to the U.S. Coast Guard National Response Center, one incident has occurred at the site in which anhydrous ammonia was released into the air. For a description and map of chemical sites located in incorporated areas, please see the jurisdiction's participant section.

Table BBC.9: Chemical Storage Fixed Sites

FACILITY NAME	ADDRESS
SIMPLOT GROWERS SOLUTIONS	1610 County Road 65

Source: Nebraska Department of Environment and Energy[12]

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. For the county, local fire departments, Box Butte County Sheriff, and Nebraska State Patrol would respond to chemical transportation incidents. While the local fire departments have some training, additional training is needed.

Critical Facilities

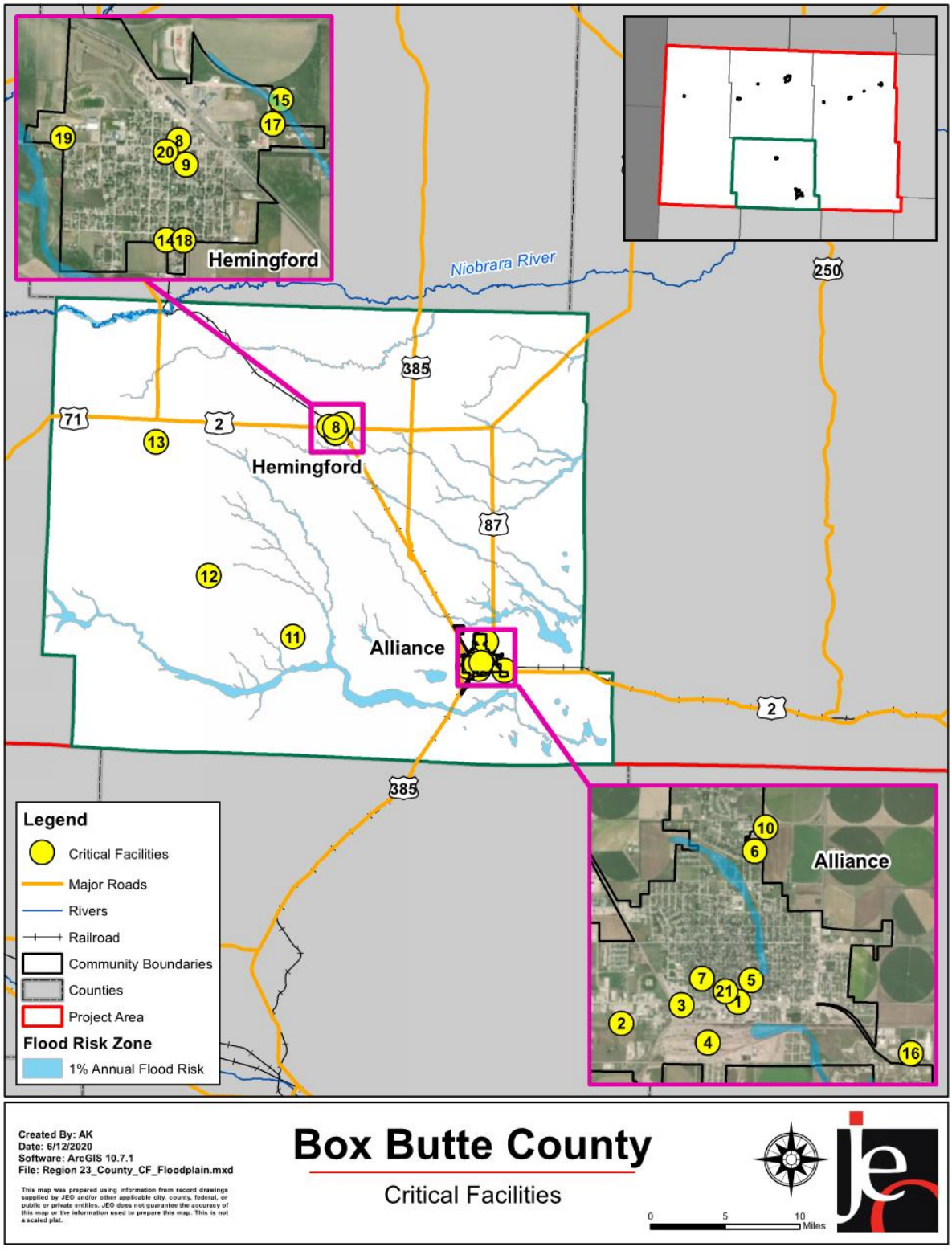
Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and are essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified 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 following table and figure provide a summary of the critical facilities for the jurisdiction.

[12] *Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed November 2018. https://deq-iis.ne.gov/tier2/search.faces.*

Table BBC.10: Box Butte Critical Facilities

CF Number	Name	Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Alliance Municipal Building	N	Y	N
2	Alliance Public Works	N	Y	N
3	Black Hills Energy	N	N	N
4	BNSF Railroad Facilities/Viaduct	N	N	N
5	Box Butte County Courthouse/Sheriff's Office	N	N	N
6	Box Butte Hospital	N	Y	N
7	First Presbyterian Church - Alliance	Y	N	N
8	Hemingford Co-op Telephone Company	N	N	N
9	Hemingford Village Office/Utilities	Y	N	N
10	Radio Tower - Alliance	N	N	N
11	Radio Tower - CR72	N	N	N
12	Radio Tower - CR78	N	N	N
13	Radio Tower - CR82	N	N	N
14	Radio Tower – Hemingford #1	N	N	N
15	Radio Tower – Hemingford #2	N	N	Y
16	State Roads Dept Shop - Alliance	N	N	N
17	State Roads Dept Shop - Hemingford	N	N	N
18	County Maintenance Shop	N	N	N
19	County Fairgrounds	N	N	N
20	Hemingford Fire Department	N	Y	N
21	Alliance Fire Department	N	Y	N

Figure BBC.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 Box Butte County between 2000 and 2019.

Table BBC.11: Severe Weather Events for Box Butte County

HAZARD TYPE		Count	Property	Crop
Agricultural Disease	Animal Disease[1]	7	33	N/A
	Plant Disease[2]	57	N/A	$1,389,114
Dam Failure[3]		0	$0	N/A
Drought and Extreme Heat[4,5]	Drought	253/1,489 months	$0	$7,048,344
	Extreme Heat	Avg 2 days/year	$0	$2,718,207
Flooding[5]	Flash Flood	4	$0	$32,418
	Flood	0	$0	
High Winds and Tornadoes[5]	High Winds	46	$66,500	$6,289,256
	Tornadoes	15	$1,000,000	$0
Severe Thunderstorms[5]	Hail	228	$348,700	$52,619,706
	Heavy Rain	8	$0	$4,477,161
	Lightning	2	$17,000	N/A
	Thunderstorm Wind	65	$427,200	N/A
Severe Winter Storms[5]	Blizzard	14	$2,000	$10,391,787
	Extreme Cold/Wind Chill	12	$0	
	Heavy Snow	12	$0	
	Ice Storm	0	$0	
	Winter Storm *1 fatality*	31	$45,000	
	Winter Weather *2 injuries*	15	$15,000	
Terrorism[7]		0	$0	N/A
Wildfires[8]		333	5,931 acres	$72,900
		839	**$1,921,400**	**$85,038,893**

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.

High Winds and Tornadoes

The county planning team identified high winds and tornadoes as a significant concern for the county. According to the NCEI, there were 46 high wind events and 15 tornadic events from 1996 to 2019. These events caused a total of $1,066,500 in property damage and $2,500 in crop damage. There are no FEMA certified safe rooms in the county; however, several churches and community centers in Alliance and Hemingford have been identified as shelter locations for residents in those communities. Sirens are located in each community and are managed by the county and Region 23 EMA.

Severe Thunderstorms

Severe thunderstorms are likely to occur annually across the planning area. The NCEI reported a total of 303 thunderstorm events, which included hail, heavy rain, lighting, and thunderstorm wind. These events totaled $792,900 in property damages and $210,000 in crop damages. Property damages include downed trees and tree limbs. Hail in the unincorporated areas of the county is most likely to impact the agricultural areas of the county and lightning strikes are the leading cause of wildfires in the planning area. There are more than 337,000 acres devoted to crops; primarily corn. Hailstorms can have devastating impacts on crops, causing up to a 100 percent loss and lightning strikes are a leading cause of wildfires which can devastate local farming operations.

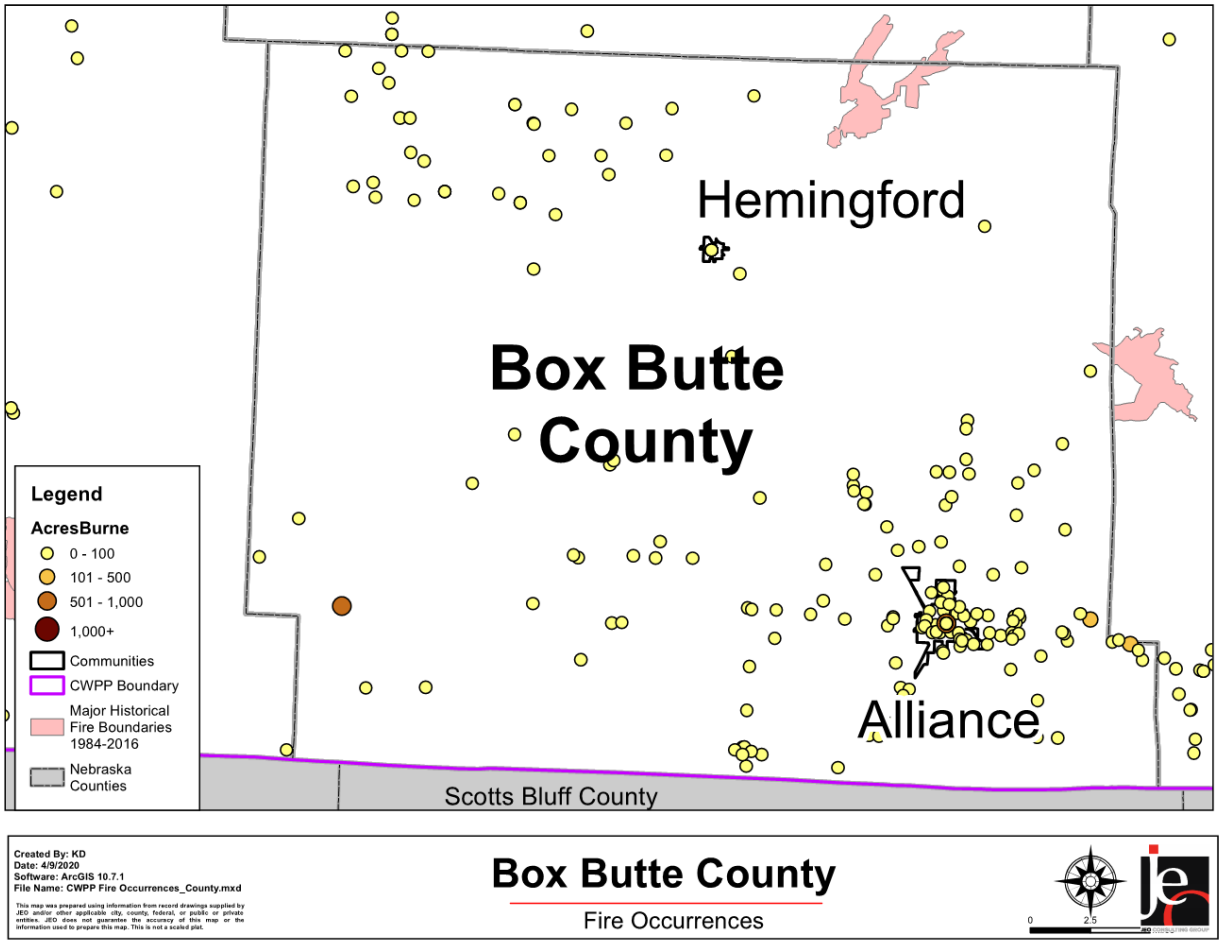
Severe Winter Storms

Severe winter storms are likely to occur annually across the planning area. The NCEI reported 84 severe winter storm events in Box Butte County from 1996 through December 2019. These events resulted in $62,000 in property damage, $1,000 in crop damage, one death, and two injuries. Most recorded events included a combination of factors including snow, wind, and ice. There were 12 reported events resulting solely from extreme cold temperatures. The local planning team noted extreme low temperature events in Box Butte County recorded wind chills between 20 and 50 degrees below zero.

Wildfire

The local planning team identified grass/wildfire as the greatest threat to Box Butte County. The entire county falls within the WUI as defined in the CWPP. According to the Nebraska Forestry Department there were 333 reported fires by Alliance and Hemingford Fire Departments from 2000 to August 2018 which consumed a total of 5,931 acres. The fires also resulted in $72,900 in damages to crops and $94,102 in damages to structures. Of the reported fires, the most frequent cause is lightning (33 percent) followed by debris burning (27 percent). The largest reported fire in the county occurred in August 2012 when a BNSF rail line-sparked fire burned 1,000 acres in southwest northwest Box Butte County. Specific concerns for wildfire include the BNSF rail corridor and areas surrounding communities for wildfire encroachment.

Figure BBC.5: Wildfire Events in Box Butte County



Governance

A community's governance structure impacts its capability to implement mitigation actions. Box Butte 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
- Emergency Management
- Highway Superintendent
- Sheriff's Office
- Zoning Administrator
- Public Defender
- County Extension Office
- Veterans' Service Officer
- Weed Superintendent

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 BBC.12: Capability Assessment

Survey Components/Subcomponents		Yes/No
PLANNING & REGULATORY CAPABILITY	Comprehensive Plan	*Yes*
	Capital Improvements Plan	*No*
	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	*No*
	Building Codes	*Yes*
	National Flood Insurance Program	*No*
	Community Rating System	*No*
	Community Wildfire Protection Plan	*Yes*
	Other (if any)	
ADMINISTRATIVE & TECHNICAL CAPABILITY	Planning Commission	*Yes*
	Floodplain Administration	*No*
	GIS Capabilities	*Yes*
	Chief Building Official	*Yes*
	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	*No*
	Storm Water Service Fees	*No*
	Water/Sewer Service Fees	*No*
	Development Impact Fees	*No*
	General Obligation Revenue or Special Tax Bonds	*Yes*
	Other (if any)	

Survey Components/Subcomponents		Yes/No
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.	*Yes*
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	*Yes*
	Natural Disaster or Safety related school programs	*Yes*
	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?	Limited
Does your county staff have the time to devote to hazard mitigation?	Limited

Plan Integration

The Box Butte County LEOP, last updated November 2017, 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 Box Butte County Zoning Ordinance was adopted in 2004 and Box Butte County was one of the first counties in the state to adopt IBC building codes. Both codes and ordinances are updated on an as needed basis.

The county's Drainage Study and Stormwater Master Plan is currently under revision with an anticipated completion date by 2021. The county also has a 1&6 year plan which is updated annually with the budget. Both plans emphasize flood risk reduction as a priority. The county currently has several road repair projects identified in the current 1&6 plan and in the budget which they have partnered with NEMA and FEMA to accomplish as a result of the March 2019 flood event.

Mitigation Strategy

Completed Actions

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
STATUS	This project was completed during the planning process of the Pine Ridge Area Community Wildfire Protection Plan.

Ongoing or New Actions

MITIGATION ACTION	ADOPT A "NO ADVERSE IMPACT" APPROACH TO FLOODPLAIN MANAGEMENT
DESCRIPTION	"No Adverse Impact" floodplain management reduces cumulative impacts to floodplain development on flood heights.
HAZARD(S)	Flooding
ESTIMATED COST	Staff Time
FUNDING	County General Fund
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	County Assessor, County Commissioners
STATUS	Adoption and implementation of this approach to floodplain management is currently in progress.

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)	Severe Thunderstorms, Tornadoes and High Winds, Severe Winter Storms
ESTIMATED COST	$15,000 - $30,000 per generator
FUNDING	County General Fund, HMGP, PDM
TIMELINE	5+ years
PRIORITY	High
LEAD AGENCY	Emergency Management, Utilities Departments
STATUS	The county is currently evaluating locations and funding sources to purchase generators. The county courthouse has been identified as a priority location.

MITIGATION ACTION	CIVIL SERVICE IMPROVEMENTS
DESCRIPTION	Improve emergency rescue and response equipment and facilities by updating existing emergency response equipment or providing additional equipment. This can include fire trucks, ATVs, 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	$5,000 - $400,000 per vehicle, varies depending on equipment needed
FUNDING	County General Fund, HMGP, PDM, Roads Fund
TIMELINE	Ongoing
PRIORITY	Medium
LEAD AGENCY	Emergency Management, Roads Department, Utilities Departments
STATUS	Improvements to emergency rescue and response equipment are made regularly or as needed.

MITIGATION ACTION	COMPREHENSIVE COUNTY DISASTER AND EMERGENCY RESPONSE/RESCUE PLAN
DESCRIPTION	Update comprehensive county disaster and emergency response /rescue plan.
HAZARD(S)	All Hazards
ESTIMATED COST	$6,000+
FUNDING	County General Fund
TIMELINE	Ongoing
PRIORITY	Medium
LEAD AGENCY	County Commissioners, County Planning and Zoning Office, County Department of Roads
STATUS	This is an ongoing project. The plan is updated regularly or as needed.

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	County General Fund
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	County Commissioners, Region 23 Emergency Management Agency
STATUS	This action is currently in the planning stage.

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 - $100,000+
FUNDING	County General Fund, Upper Niobrara White NRD
TIMELINE	2-5 years
PRIORITY	Low
LEAD AGENCY	County Commissioners, Upper Niobrara White NRD, Region 23 Emergency Management Agency
STATUS	A fully revision of a drainage study and storm water master plan is currently in progress.

MITIGATION ACTION	EDUCATE BUSINESSES OF THE VALUE OF CONTINUITY PLANNING
DESCRIPTION	Educate local businesses on the value of continuity planning.
HAZARD(S)	All Hazards
ESTIMATED COST	Staff Time
FUNDING	County General Fund
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Region 23 Emergency Management Agency, County Clerk
STATUS	This project has not yet been started.

MITIGATION ACTION	EMERGENCY COMMUNICATION
DESCRIPTION	Establish an action plan to improve communication between agencies to better assist residents and businesses during and following emergencies. Establish inter-operable communications.
HAZARD(S)	All Hazards
ESTIMATED COST	$10,000+
FUNDING	County General Fund, Region 23
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Sheriff's Office, Region 23 EMA
STATUS	This is an ongoing project. The County uses the Code Red alert system as provided by Region 23 EMA. Improvements to emergency communication are evaluated and made regularly or as needed.

MITIGATION ACTION	EVACUATION PLAN
DESCRIPTION	Establish a plan to effectively evacuate residents during storm events and major flooding.
HAZARD(S)	All Hazards
ESTIMATED COST	$2,000+
FUNDING	County General Fund
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Sheriff's Office, Region 23 EMA
STATUS	An evacuation plan is currently being developed by the county and sheriff's office.

MITIGATION ACTION	FIRE WISE COMMUNITY
DESCRIPTION	Work to become a Fire Wise Community USA participant though the NFS and USFS in order to educate homeowners, community leaders, planners, developers, and others in the effort to protect people, property, and natural resources from the risk of wildland fire. The Fire Wise Community approach emphasizes community responsibility for planning in the design of a safe community as well as effective emergency response, and individual responsibility for safer home construction and design, landscaping and maintenance
HAZARD(S)	Wildfire
ESTIMATED COST	Staff Time
FUNDING	County General Fund
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	County Planning and Zoning Office, Region 23 EMA
STATUS	This project has not yet been started. The Pine Ridge Area CWPP evaluates fire risk reduction measures.

MITIGATION ACTION	FIRST AID TRAINING
DESCRIPTION	Promote first aid training for all residents.
HAZARD(S)	All Hazards
ESTIMATED COST	$500+
FUNDING	County General Fund
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Region 23 EMA, County Administration, Sheriff's Office
STATUS	This is an ongoing project. The Region 23 EMA regularly promotes and provides first aid training to county residents.

MITIGATION ACTION	FLOODPLAIN MAPPING
DESCRIPTION	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.
HAZARD(S)	Flooding
ESTIMATED COST	Varies
FUNDING	County General Fund, FEMA, NeDNR
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	County Department of Roads, NeDNR
STATUS	Due to the March 2019 flood event, floodplain maps in the county need to be evaluated for accuracy. This action is a top priority for the county and may determine if the county chooses to participate in the NFIP.

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 or 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 General Fund, Upper Niobrara White NRD, NDEE
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	County Commissioners, Region 23 EMA
STATUS	This is an ongoing project. Water conservation and best management practices are updated regularly or as needed.

MITIGATION ACTION	HAIL RESISTANT ROOFING
DESCRIPTION	Encourage the use of hail resistant roofing for any new construction.
HAZARD(S)	Severe Thunderstorms (including hail)
ESTIMATED COST	Staff Time
FUNDING	County General Fund
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	County Assessor, County Clerk, County Commissioners
STATUS	This is an ongoing action. Hail resistant roofing is encouraged for new construction as part of local building codes.

MITIGATION ACTION	HAZARDOUS TREE REMOVAL
DESCRIPTION	Identify and remove hazardous limbs and/or trees.
HAZARD(S)	Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
ESTIMATED COST	$20,000
FUNDING	County General Fund, Roads Fund
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	County Department of Roads
STATUS	Hazardous trees and limbs are identified and removed as needed.

MITIGATION ACTION	IMPLEMENT LOW IMPACT DEVELOPMENT PRACTICES
DESCRIPTION	Low impact development practices and green infrastructure can reduce runoff and result in a reduction in stormwater related flooding.
HAZARD(S)	Flooding
ESTIMATED COST	Varies
FUNDING	County General Fund
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	County Planning and Zoning Office
STATUS	This is an ongoing action. The county encourages low impact development practices for all new construction.

MITIGATION ACTION	IMPROVE SNOW/ICE REMOVAL PROGRAMS
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	$20,000+
FUNDING	County General Fund
TIMELINE	5+ years
PRIORITY	High
LEAD AGENCY	County Department of Roads
STATUS	This is an ongoing action. The Department of Roads regularly monitors and improves snow routes and snow/ice removal procedures as needed.

MITIGATION ACTION	INSTALL VEHICULAR BARRIERS
DESCRIPTION	Install vehicular barriers to protect critical facilities and key infrastructure where possible.
HAZARD(S)	Chemical Transportation, Terrorism
ESTIMATED COST	$2,000+
FUNDING	County General Fund
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Sheriff's Office
STATUS	This project has not yet been started.

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
ESTIMATED COST	Staff Time
FUNDING	County General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	County Planning and Zoning
STATUS	This is an ongoing project. Building code improvements are updated regularly or as needed. Additional codes regarding wildfire protection should be evaluated for inclusion.

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, purchase equipment such as overhead projectors and laptops.
HAZARD(S)	All Hazards
ESTIMATED COST	$500+
FUNDING	County General Fund
TIMELINE	2-5 years
PRIORITY	Low
LEAD AGENCY	County Clerk/Administration, Region 23 EMA
STATUS	Education efforts to residents is an ongoing outreach effort.

MITIGATION ACTION	SAFE ROOMS
DESCRIPTION	Design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, schools, and other areas.
HAZARD(S)	Tornadoes and High Winds, Severe Thunderstorms
ESTIMATED COST	$200-$300/sf stand-alone; $150-$200/sf addition/retrofit
FUNDING	County General Fund, PDM, HMGP
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	County Commissioners
STATUS	This project has not yet been started.

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 or high wind event.
HAZARD(S)	All Hazards
ESTIMATED COST	$1,000
FUNDING	County General Fund
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	County Department of Roads
STATUS	This is an ongoing project. Fuel tanks are anchored as resources allow.

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 storm water 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 - $100,000+
FUNDING	County General Fund, CDBG, UNW NRD
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	County Department of Roads
STATUS	This project has not yet been started.

MITIGATION ACTION	WARNING SYSTEMS
DESCRIPTION	Improve city cable TV interrupt warning system and implement telephone interrupt system such as Reverse 911, emergency text messaging warning system, etc.
HAZARD(S)	All Hazards
ESTIMATED COST	$5,000
FUNDING	County General Fund, HMGP, PDM
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Sheriff's Office, Region 23 EMA
STATUS	This is an ongoing project. Warning systems are updated regularly or as needed.

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
ESTIMATED COST	$2,000+
FUNDING	County General Fund, Roads Fund, NRD cost share
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	County Department of Roads, Upper Niobrara White NRD
STATUS	This project has not yet been started.

Removed Actions

MITIGATION ACTION	DAM ENGINEERING ANALYSIS/REPAIRS AND REINFORCEMENTS
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
REASON FOR REMOVAL	This project was determined to no longer be needed due to limited number of dams and low hazard potential.

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
REASON FOR REMOVAL	This action was deemed to be too vague and will be replaced with more specific actions as applicable to the County. Through the development of the Pine Ridge Area CWPP, other priority areas and needs were identified. Box Butte County will continue to utilize existing relationships with entities such as the Nebraska Forest Service to identify and mitigate wildfire risks.

MITIGATION ACTION	PARTICIPATE IN THE NFIP
DESCRIPTION	Participate in the National Flood Insurance Program (NFIP).
HAZARD(S)	Flooding
REASON FOR REMOVAL	At this time the County has not prioritized participating in the NFIP. Floodplain mapping should be done to evaluate flood risk before the county participates in the NFIP.

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)	Tornadoes and High Winds, Severe Winter Storms, Severe Thunderstorms
REASON FOR REMOVAL	This project is no longer a priority for the county.

Community Profile

CITY OF ALLIANCE

Region 23 Emergency Management Agency

Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

Table ALL.1: Alliance Local Planning Team

NAME	TITLE	JURISDICTION
BRENT KUSEK	Community Development Director	City of Alliance
TROY SHOEMAKER	Fire Chief	City of Alliance

Location and Geography

The City of Alliance is located in the southeast portion of Box Butte County and covers an area of 4.99 square miles. The City of Alliance is the county seat for Box Butte County. There are no major rivers or streams through the city.

Transportation

Alliance's major transportation corridors include Nebraska Highway 2 which averages 1,330 vehicles per day, Nebraska Highway 87 which averages 2,435 vehicles per day, and U.S. Highway 385 which averages 3,660 vehicles per day.[13] A Burlington Northern Santa Fe rail depot is located within the city and connects three primary tracts. The Alliance Municipal Airport is located in Alliance and is the only public airport in Box Butte County. The railroad commonly transports hazardous materials including coal, oil, and waste products through town. Derailments have occurred in Alliance and remain a concern for the community. Chemicals are regularly transported along the local highways and BNSF Railway lines. 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.

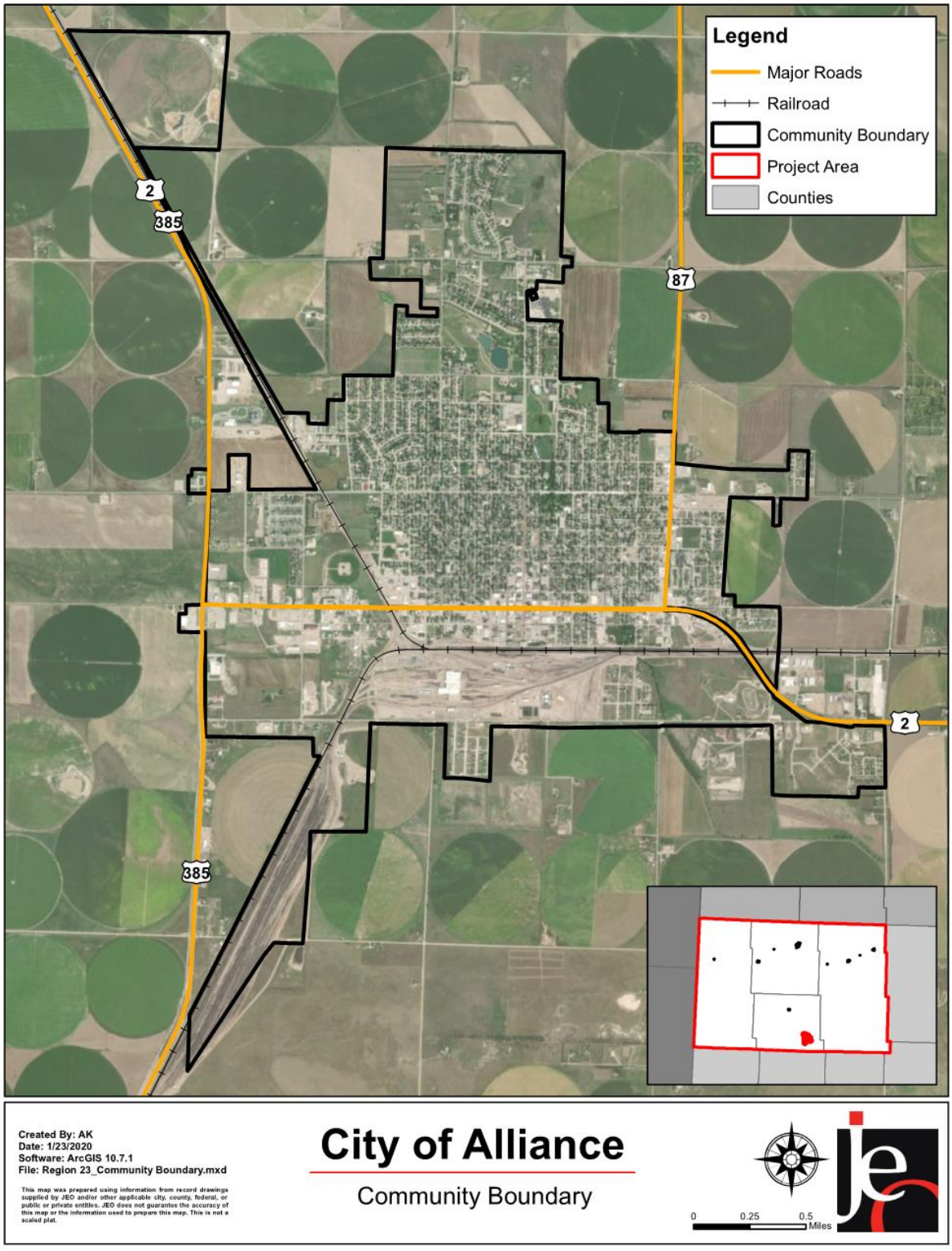
Chemical Transportation

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. A BNSF rail depot is located in the center of Alliance, and several highways are commonly used to transport hazardous chemicals through Alliance. 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.

There has been one transportation-related spill which resulted in 250 gallons of diesel fuel spilling onto a parking lot. The spill had no impact on people or other property. The Alliance Fire Department is the initial agency to respond to chemical spills. The fire department has trained responders at the hazardous materials operations level and hazardous materials technician level. Chemical protective gear is limited.

[13] *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

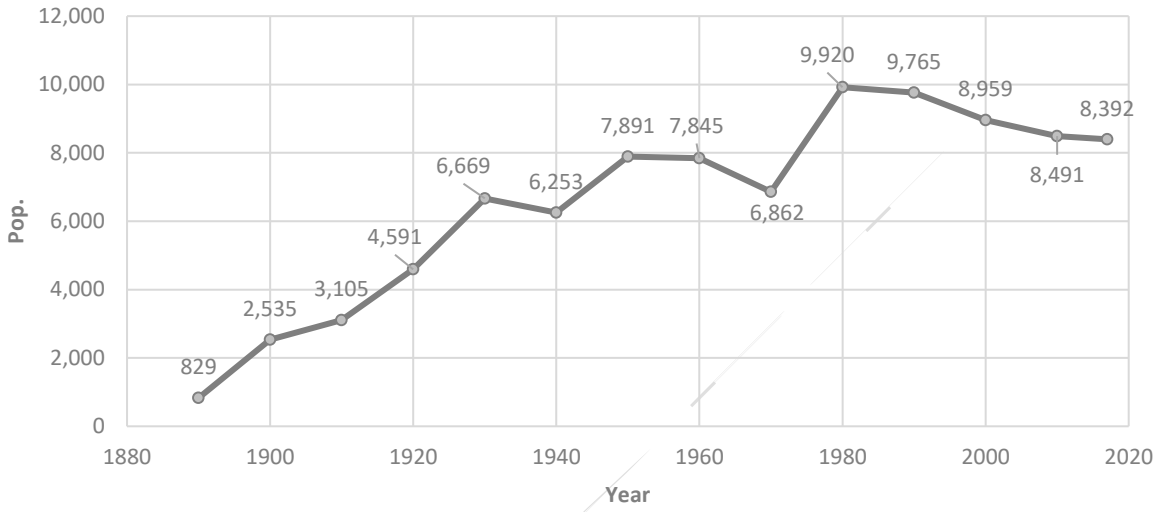
Figure ALL.1: City of Alliance



Demographics

Alliance's population declined from a peak of 9,920 in 1980 to 8,491 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. Alliance's population accounted for 75% percent of Box Butte County's population in 2017.[14]

Figure ALL.2: Estimated Population 1890 - 2017



Source: U.S. Census Bureau[15]

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

- **Younger.** The median age of Alliance was 39.3 years old in 2017, compared with the County average of 40.5 years. Alliance's population has remained relatively stable since 2010, when the median age was 39.2 years old. Alliance had a larger proportion of people under 20 years old (29.3%) than the County (27.6%).[16]
- **More ethnically diverse**. Since 2010, Alliance grew more ethnically diverse. In 2010, 3.8% of Alliance's population was American Indian and 2.6% was two or more races. By 2017, about 4.4% of Alliance's population was American Indian and 3.3% was two or more races. During that time, the American Indian population in the County grew from 3.1% in 2010 to 3.3% in 2017.[17]
- **Similar likelihood to be at the federal poverty line.** The poverty rate in Alliance (4.5% of families living below the federal poverty line) is slightly greater than the County's poverty rate (4.1%) in 2017.[18]

Employment and Economics

The city's economic base is a mixture of industries. In comparison to Box Butte County, Alliance's economy had:

[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: S0101: Age and Sex." [database file]. https://factfinder.census.gov/.*
[17] *United States Census Bureau. "2017 American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. https://factfinder.census.gov/.*
[18] *United States Census Bureau. "2017 American Fact Finder: DP03: Selected Economic Characteristics." [database file]. https://factfinder.census.gov/.*

- **Similar mix of industries.** Both Box Butte County and Alliance's major employment sectors, accounting for 10% or more of employment each, were: Transportation and Warehousing, and Educational Services in 2017.[19]
- **Lower household income.** Alliance's median household income in 2017 ($54,291) was about $2,037 lower than the County ($56,328).[20]
- **Fewer long-distance commuters.** About 82% percent of workers in Alliance commuted for fewer than 15 minutes, compared with about 73% of workers in Box Butte County. About 4% of workers in Alliance commute 30 minutes or more to work, compared to about 8% of the County workers.[21]

Major Employers

Alliance's top employers include BNSF Railway, Box Butte General Hospital, Parker-Hannifin, and Alliance Public Schools. About 8% of residents commute to the greater Scottsbluff area.

Housing

In comparison to Box Butte County, Alliance's housing stock was:

- **Less owner occupied**. About 67.7% of occupied housing units in Alliance are owner occupied compared with 71.7% of occupied housing in Box Butte County in 2017.[22]
- **Similarly aged housing stock.** Alliance and Box Butte County have a similar share of housing built prior to 1970 (53.1% compared to 55.2%).[23]
- **More multifamily homes.** Although the predominant housing type in the city is single family detached, Alliance contains more multifamily housing with five or more units per structure compared to the County (19.1% compared to 15.0%). About 69.1% of housing in Alliance was single-family detached, compared with 73.3% of the County's housing. Alliance has a smaller share of mobile and manufactured housing (5.2%) compared to the County (6.4%).[24]

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

The City of Alliance has about 310 mobile homes located in six different mobile home parks. Three parks are adjacent to the east city limits between Flack Avenue and Elkhorn Avenue. One is located along the south city limits, south of Kansas Street. One is located along the west city limits off US Highway 385/NE 2, and one is located south of West 10th Street between Cody Avenue and Buffalo Avenue. 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

In the last five years seven new homes were built as infill development; however, the city has seen no new lots platted. Four buildings have been recently demolished. The city has seen a decline in population over the last few decades. The planning team indicated this was due to the

[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: DP03: Selected Economic Characteristics." [database file]. https://factfinder.census.gov/.*
[21] *United States Census Bureau. "2017 American Fact Finder: S0802: Means of Transportation to Work by Selected 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/.*
[24] *United States Census Bureau. "2017 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. https://factfinder.census.gov/.*

low number of jobs for college educated individuals and the declining coal industry. In the next five years, a forty-unit multiplex is planned and would be located on the west side of the city. A new agricultural manufacturing plant is currently being discussed for construction.

Figure ALL.3: Existing Land Use Map

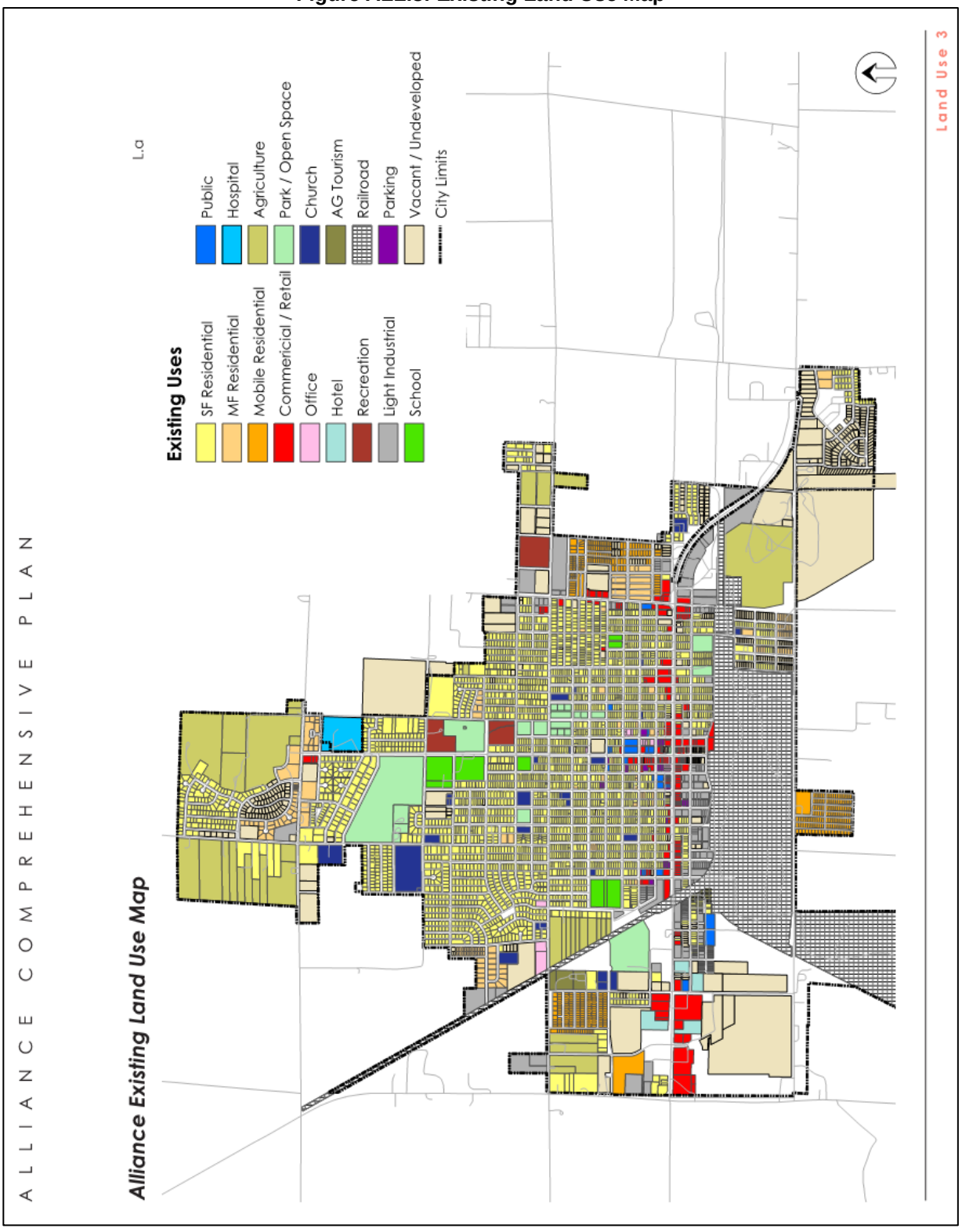
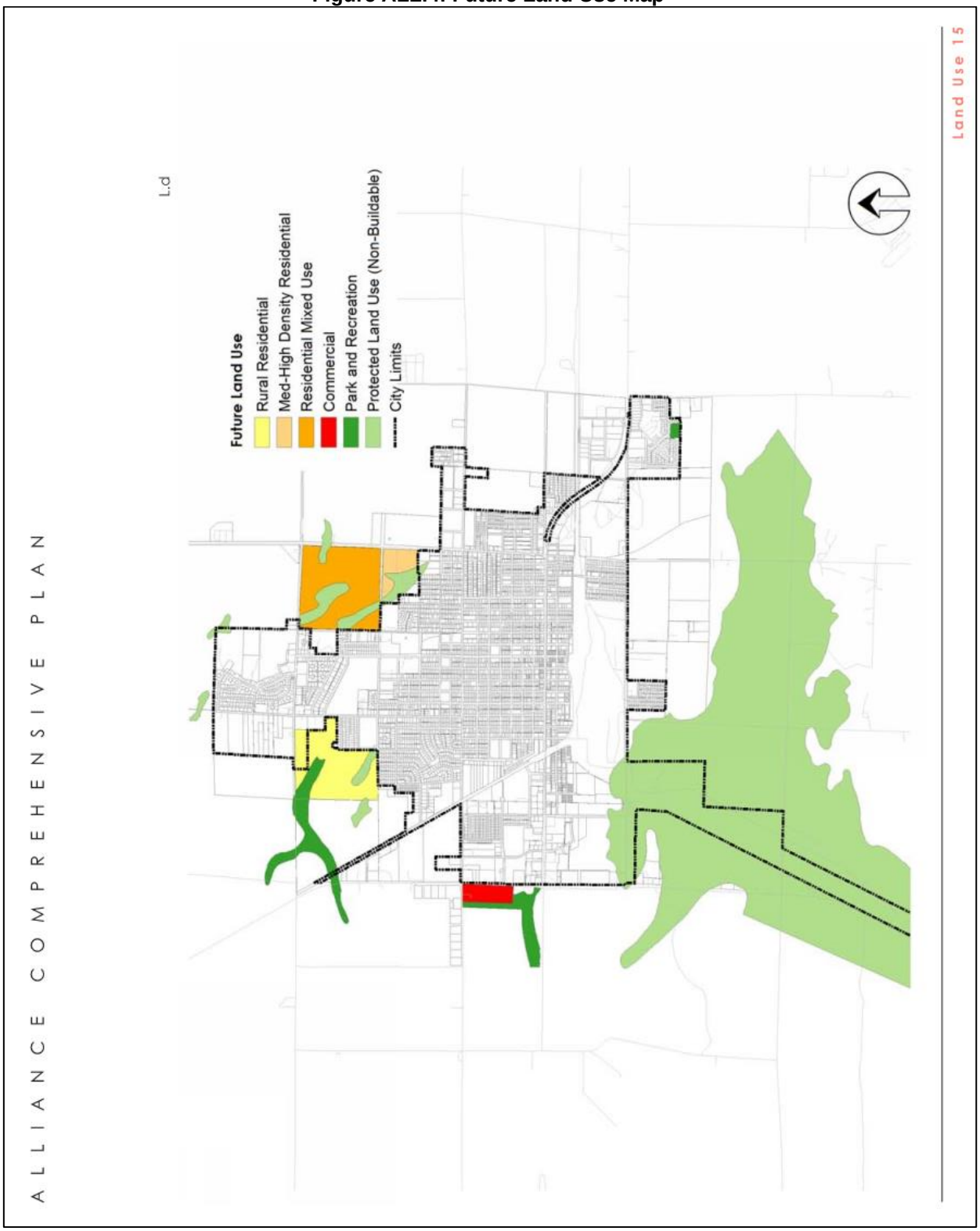


Figure ALL.4: Future Land Use Map



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 ALL.2: Alliance Parcel Valuation

NUMBER OF PARCELS	NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
3,884	3,375	$380,880,371	65	$7,521,508

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 16 chemical storage sites in Alliance that contain hazardous chemicals. According to the U.S. Coast Guard National Response Center, four fixed chemical spills have occurred in the planning area with no reported damages, injuries, or fatalities.

Table ALL.3: Chemical Storage Fixed Sites

FACILITY NAME	ADDRESS
AEP/SWEPCO RAILCAR FACILITY	5552 Perkins Rd
CROELL-ALLIANCE BATCH PLANT	103 Cody Ave
AMERIGAS	301 Woolridge Rd
BNSF RAILWAY COMPANY	111 W 1st St
CENTURYLINK	510 Box Butte Ave
NDOT ALLIANCE YARD 52700	298 Husker Dr
PANHANDLE CO-OP FERT/BULK FUEL	2220 County Road 61
PARKER HANNIFIN CORPORATION	2490 County Road 58
PEPSI-COLA BOTTLING CO	1639 Holsten Dr
PROGRESS RAIL SERVICES CORP	2472 County Road 55
SIMPLOT GROWER SOLUTIONS*	1610 County Road 65
WAPA ALLIANCE SUBSTATION	Otoe Rd
WESTCO INC	2371 Highway 2
WESTCO INC	724 W 3rd St
WESTCO PROPANE BULK PLANT	Highway 2 E
WESTCO WESTERN AVIATION	5631 Sarpy Rd
YESWAY STORE #1170	610 E 3rd St

Source: Nebraska Department of Environment and Energy[25]
**Facility is located 10 miles from Alliance*

[25] *Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed December 2019. 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 ALL.4: Critical Facilities

CF Number	Name	Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Alliance Fire Department	N	Y	N
2	Alliance Municipal Airport*	N	Y	N
3	Alliance Municipal Building (City Manager, City Clerk)	N	Y	N
4	Alliance Outdoor Warning Siren #1	N	N	N
5	Alliance Outdoor Warning Siren #2	N	N	N
6	Alliance Outdoor Warning Siren #3	N	N	N
7	Alliance Outdoor Warning Siren #4	N	N	Y
8	Alliance Outdoor Warning Siren #5	N	N	N
9	Alliance Outdoor Warning Siren #6	N	N	N
10	Alliance Outdoor Warning Siren #7	N	N	N
11	Alliance Public Works (Water, Sewer, Electric, Public Transit)	N	Y	N
12	Box Butte County Courthouse/Sheriff's Office	N	N	N
13	Box Butte Hospital	N	Y	N
14	Broadwater Substation	N	N	Y
15	Cody Substation	N	N	N
16	Elkhorn Water Tower	N	N	N
17	Emerson Substation	N	N	N
18	Good Samaritan Society-The Sandhills	N	N	N
19	Good Samaritan Society-Wildflower Terrace Senior Living	N	N	N
20	Highland Park Care Center	N	Y	N
21	Highland Park-Cross Roads Assisted Living	N	N	N
22	Lift Station A	N	N	Y
23	Lift Station B	N	N	N
24	Lift Station C	N	N	N
25	Lift Station D	N	N	N
26	Lift Station E	N	N	N
27	Marian Residence	N	N	N
28	Regional Law Enforcement Center	N	Y	N
29	Toluca Water Tower	N	N	N

CF Number	Name	Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
30	Tower Apartments	N	N	N
31	Underground Reservoir	N	N	N
32	West 10th Street Substation	N	N	N
33	West 3rd Water Tower	N	N	N

**Not pictured in map: Alliance Municipal Airport located southeast of the City.*

Figure ALL.5: Critical Facilities

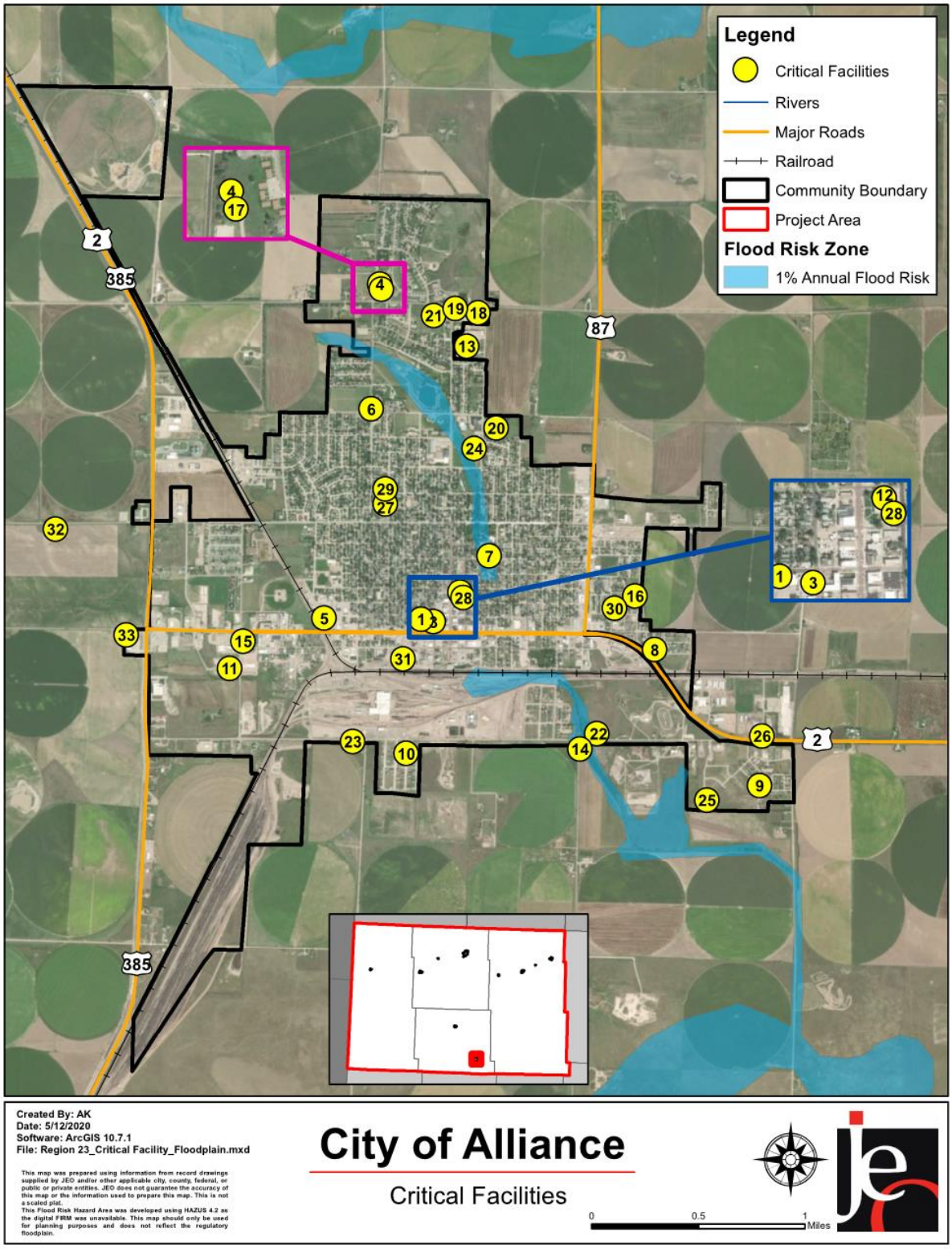
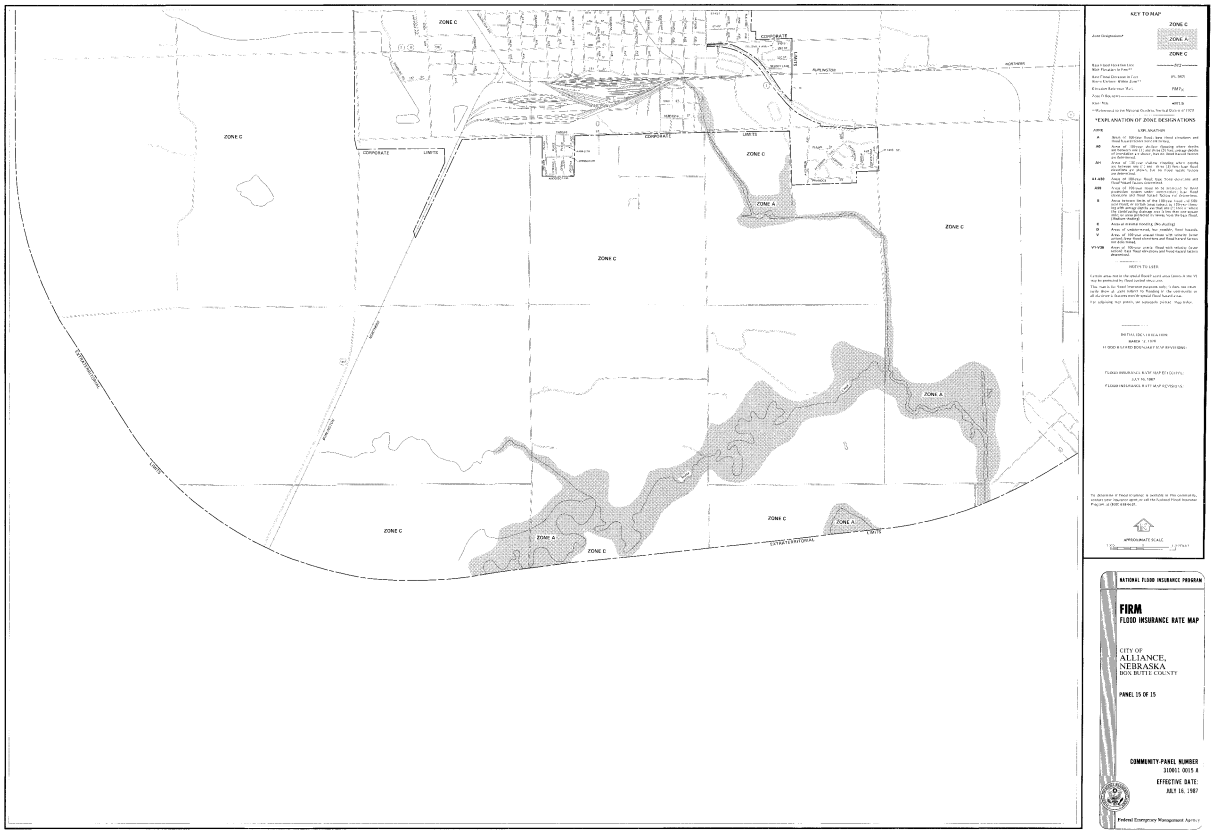


Figure ALL.6: Alliance FIRM - North

Figure ALL.7: Alliance FIRM - South



Historical Occurrences

See the Box Butte 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 a significant concern for the City of Alliance. According to the NCEI data, there were seven tornadoes that passed near Alliance from 1996 to 2019. All tornados were either EF/F0 with all but one having no reported damages. A June 2017 tornado caused $1,000,000 in property damage when 65 train cars were blown over and the roof of a large building was damaged near the Alliance Airport. There are no FEMA certified safe rooms located in the City of Alliance. High winds have also caused significant tree damage in Alliance which have blocked roads, downed powerlines, and caused some property damages. Tree debris removal is the responsibility of the city and hazardous trees are removed as needed. As a strong agricultural community, numerous fertilizer, fuel, and propane tanks are located in town and the surrounding areas. The city has adopted codes which require such tanks to be anchored to prevent tipping during high wind events.

Severe Thunderstorms

Severe thunderstorms are a regular part of the climate for Box Butte County and Alliance. The NCEI recorded 176 severe thunderstorm events from 1996 to 2019, with $509,100 in damages to property and $110,000 in crop damage. Severe thunderstorms and hail can result in the loss of electricity, blocked roadways, damages to trees, and flooding. Blocked roadways present life safety concerns to those needing evacuation or immediate medical attention. The city has experienced tree damage from severe thunderstorms and high winds. Hazardous trees are removed as identified throughout the city. While the city has not experienced significant power outages lasting more than a few hours, current codes require new construction to bury powerlines and old infrastructure is buried as resources allow. The city has installed seven warning sirens which encompass the entire city limits. These sirens were recently updated, and weather radios were purchased as part of a city partnership and HMGP grant.

Severe Winter Storms

The planning teams estimated that severe winter storms were highly probable in the future for Alliance. According to the NCEI, there were 84 severe winter storms in Box Butte County from 1996 through September 2019. These storms resulted in $62,000 in property damage and $1,000 in crop damage. A winter storm in 1997 caused significant damage by downing power poles and lines and up to a foot of snow blocked major transportation routes. A semi-trailer tipped and crashed in Alliance while north of town approximately 55 cattle escaped enclosures and were killed on the railroad tracks when struck by a BNSF train in near-zero visibility conditions.

Since the storm event is zonal in nature, the number that impacted Alliance is unknown. Major local concerns regarding severe winter storms include blocked transportation routes and the safety of residents. The city is responsible for clearing snow from local roads and snow removal plans and resources are reviewed or updated annually as needed.

Wildfires

The local planning team identified grass/wildfire as a significant threat for the city. According to the Nebraska Forestry Department there were 298 reported fires by the Alliance Fire Department from 2000 to 2018 which consumed a total of 5,589 acres. Of the reported events, one fire in August of 2012 consumed approximately 1,000 acres. The City of Alliance participates in the Pine Ridge Community Wildfire Protection Plan (CWPP). According to the CWPP, Alliance is located within the WUI. The Alliance 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. Alliance has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. The city has a five member council and the following offices.

- City Manager
- City Clerk
- City Attorney
- Community Redevelopment Authority
- Housing Authority
- Planning Commission
- Police/Citizen Advisory Board
- Building and Zoning (Community Development)
- Electric Department
- Fire Department
- Police Department
- Streets Department – Public Works
- Sewer/Water Department – Public Works
- Public Transit

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 ALL.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 (local and County)*
	Floodplain Management Plan	*Yes*
	Storm Water Management Plan	*Yes*

Survey Components/Subcomponents		Yes/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	*No*
	Local Staff Who Can Assess Community's Vulnerability to Hazards	*Yes*
	Grant Manager	*No*
	Mutual Aid Agreement	*No*
	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	*Yes*
	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)	*Yes*
	Natural Disaster or Safety related school programs	*No*
	StormReady Certification	*Yes*
	Firewise Communities Certification	*No*
	Tree City USA	*Yes*

Survey Components/Subcomponents		Yes/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 Alliance last updated their Comprehensive Plan in 2009. The plan discusses goals and objectives for future growth of the city and specifically identifies drainage issues and ensuring future development avoids the floodplain as priorities. The plan indicates which areas surrounding the current city limits are suitable for development and annexation. At this time there are no plans to update the Comprehensive Plan.

The City's Building and Zoning codes were last updated in April 2019. The City uses the 2015 International Building Codes and follows state guidance for floodplain regulations. Development in the floodplain is either prohibited, built with flood protection measures, or require appropriate elevation to one foot above base flood elevation. The codes do not current prohibit or limit development in the WUI; however, the City follow the International Fire Code which provides guidance on storage of chemicals and other hazardous materials. The City also has a Storm Water Management Plan that was developed in 1989 which addresses some flooding concerns including: increasing on-site water detention storage during development and construction and increase overall system capacity in key areas such as Potash Street underpass.

The city has both a Capital Improvement Budget which outlines projects in five year increments and a 1 and 6 Year Street Plan. Both plans are reviewed and updated annually as needed. Major projects identified in these plans include stormwater and sewer system maintenance, water main replacement, street improvements, and electrical grid updates.

The city has a city-specific Disaster and Emergency Response Plan which is updated alongside the county LEOP every five years. The city plan is shared with all city employees and addresses general safety, reporting requirements, emergency procedures for fire, medical emergencies, shelter-in-place or lockdowns, evacuation procedures, bomb threats, explosions, active shooters, workplace violence, and hazardous materials emergencies. Alliance has an annex to the Box Butte County LEOP, last updated November 2017. 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

Completed Actions

MITIGATION ACTION	HAZARDOUS TREE REMOVAL
DESCRIPTION	Identify and remove hazardous limbs or trees
HAZARD(S)	Drought and Extreme Heat, Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
STATUS	The city has a hazardous tree removal program as part of normal city activities. Problem trees or limbs are removed on an as needed basis.

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)	All Hazards
STATUS	Burying power lines is now part of normal operations for all new construction. Old construction is transferred to underground as needed.

MITIGATION ACTION	SOURCE WATER CONTINGENCY PLANS
DESCRIPTION	Villages and cities can evaluate and locate new sources of groundwater to ensure adequate supplies to support the existing community and any additional growth which may occur. Water sources for fire protection may also be developed.
HAZARD(S)	Drought and Extreme Heat
STATUS	Evaluating options for water sources is now part of normal city operations.

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)	Chemical Transportation, Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
STATUS	This has become part of normal code enforcement for the city.

MITIGATION ACTION	WARNING SYSTEMS
DESCRIPTION	Improve city cable TV interrupt warning system and implement telephone interrupt system such as Reverse 911, emergency text messaging warning system, etc.
HAZARD(S)	All Hazards
STATUS	New sirens were installed in the city as part of an HMGP/City Budget partnership.

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
STATUS	New equipment was installed for the city as part of an HMGP/City Budget partnership.

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
STATUS	This project was completed during the planning process of the Pine Ridge Area Community Wildfire Protection Plan which identified wildfire risk areas for Alliance and the county.

Ongoing or New 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 - $30,000+ per generator
FUNDING	City General Fund, HMGP, PDM
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	City of Alliance Electrical Department
STATUS	This project has not yet been started. All city offices are in need of backup generators.

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	Varies by need
FUNDING	City General Fund, Box Butte County, PDM, HMGP
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	City Clerk, Utilities Departments
STATUS	This project has not yet been started.

MITIGATION ACTION	COMPLETE/UPDATE COMMUNITY WILDFIRE PROTECTION PLAN
DESCRIPTION	Complete and/or update a CWPP. A CWPP enables a community to plan how it will reduce the risk of wildfire.
HAZARD(S)	Wildfire
ESTIMATED COST	$25,000
FUNDING	HMGP, PDM, Region 23 Cost Share, City Staff Time
TIMELINE	1 year
PRIORITY	High
LEAD AGENCY	Region 23 Emergency Management Agency, Fire Department
STATUS	The Pine Ridge Area Community Wildfire Protection Plan is being updated as part of the 2020 HMP Update. The city will continue to participate in ongoing updates of the CWPP.

MITIGATION ACTION	COMPREHENSIVE CITY DISASTER/EMERGENCY RESPONSE/RESCUE PLAN
DESCRIPTION	Update comprehensive city/village disaster and emergency response /rescue plan.
HAZARD(S)	All Hazards
ESTIMATED COST	$6,000+
FUNDING	City General Fund, Box Butte County, HMGP, PDM
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	City Commissioners, Police Department, Region 23 Emergency Management Agency
STATUS	This is an ongoing action. The plan is updated regularly or as needed.

MITIGATION ACTION	DRAINAGE STUDY/STORMWATER MANAGEMENT PLAN
DESCRIPTION	Preliminary drainage studies and assessments can be conducted to identify and prioritize design improvements to address site specific localized flooding/drainage issues to reduce and/or alleviate flooding. Stormwater master plans can be conducted to perform a community-wide stormwater evaluation, identifying multiple problem areas and potential drainage improvements. Update the current Stormwater Management Plan.
HAZARD(S)	Flooding
ESTIMATED COST	$10,000 - $15,000
FUNDING	City General Fund, CDBG, Upper Niobrara White NRD
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	City of Alliance Public Works, Floodplain Administrator
STATUS	This project has not yet been started.

MITIGATION ACTION	EMERGENCY COMMUNICATIONS
DESCRIPTION	Establish a county-wide inter-operable communication system that ties the City of Alliance Public Safety Answering Point (PSAP) to the South-Central 911 System for the sharing of 911 equipment to strengthen regionalization efforts. Establish a county-wide emergency radio communication system that connects to Nebraska's Statewide Radio System (SRS)
HAZARD(S)	All Hazards
ESTIMATED COST	$1,500,000 - $2,000,000
FUNDING	General Fund, HMGP, Emergency Communications Grants, Partnerships with Village of Hemingford and Box Butte County
TIMELINE	1 year
PRIORITY	High
LEAD AGENCY	Alliance Fire Department, City of Alliance
STATUS	This project is in progress. The Alliance Fire Department has purchased new radio equipment and is currently working with Motorola Solutions to engineer connections with all city departments.

MITIGATION ACTION	EVACUATION PLAN
DESCRIPTION	Establish a plan to effectively evacuate residents during storm events and major flooding
HAZARD(S)	All Hazards
ESTIMATED COST	$2,000+
FUNDING	Region 23 EMA, DHS
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Region 23 Emergency Management, Alliance Fire Department
STATUS	This project has not yet been started. Some evacuation planning is available in city emergency plan. Plan needs to be updated to meet local needs.

MITIGATION ACTION	EXPAND WATER STORAGE CAPACITY
DESCRIPTION	Evaluate the need to expand water storage capacity through a new water tower, standpipe, etc. to provide a safe water supply for the community and additional water for fire protection. Establish emergency water supplies such as dry hydrants and individual or community cisterns for defending structures from wildland fires.
HAZARD(S)	Drought and Extreme Heat
ESTIMATED COST	$30,000+
FUNDING	CDBG, UNWNRD, City General Fund
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Alliance Public Works Department
STATUS	This project has not yet been started.

MITIGATION ACTION	GROUNDWATER/IRRIGATION/WATER CONSERVATION MANAGEMENT PLAN AND 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	City General Fund, UNWNRD, NDEE, HMGP, PDM
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Alliance Public Works Department
STATUS	This project has not yet been started.

MITIGATION ACTION	IMPROVE SNOW/ICE REMOVAL PROGRAMS
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	$20,000+
FUNDING	City General Fund
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Alliance Public Works Department
STATUS	This is an ongoing action. The city annually reviews and updates its program.

MITIGATION ACTION	PUBLIC AWARENESS/EDUCATION
DESCRIPTION	Considerations for activities include outreach projects and the distribution of maps and environmental education materials to increase public awareness of natural hazards to public and private property owners, property renters, businesses, and local officials. Other activities include providing education to citizens on water conservation methods. Purchasing and using equipment such as overhead projectors and laptops can allow for easier ways to educate the public during meetings
HAZARD(S)	All Hazards
ESTIMATED COST	$500+
FUNDING	City General Fund, HMGP, PDM
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	City Administration, Region 23 EMA
STATUS	Education efforts to residents is an ongoing outreach effort.

MITIGATION ACTION	SAFE ROOMS
DESCRIPTION	Design and construct fully supplied safe rooms in highly vulnerable urban and rural areas such as mobile home parks, campgrounds, schools, and other such areas throughout the planning area
HAZARD(S)	Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
ESTIMATED COST	$200-$300/sf stand-alone; $150-$200/sf addition/retrofit
FUNDING	City General Fund, HMGP, PDM
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Alliance Fire Department, Region 23 EMA
STATUS	This project has not yet been started.

MITIGATION ACTION	STORMWATER SYSTEM AND DRAINAGE IMPROVEMENTS
DESCRIPTION	Smaller communities may utilize stormwater 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-$100,000+
FUNDING	City General Fund, Upper Niobrara White NRD
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	City of Alliance Public Works, Floodplain Manager
STATUS	The city has stated that a drainage study/stormwater management plan should take place to identify improvements to address flooding and drainage issues. Improvements will be made after the drainage study/stormwater management plan are developed.

Removed Actions

MITIGATION ACTION	DROUGHT MONITORING PLAN AND PROCEDURES
DESCRIPTION	Develop and implement a plan/program to monitor the effects of drought
HAZARD(S)	Drought and Extreme Heat
REASON FOR REMOVAL	This project is no longer a priority for the city.

MITIGATION ACTION	ELECTRIC SYSTEM LOOPED DISTRIBUTION/REDUNDANCIES
DESCRIPTION	Provide looped distribution services and other redundancies in the electrical system as a backup power supply in the event the primary system is destroyed or fails.
HAZARD(S)	Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
REASON FOR REMOVAL	This project was deemed to not be needed for the community. Power lines in new construction are required to be buried and the local PPD manages other electrical redundancy needs.

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
REASON FOR REMOVAL	This action was deemed to be too vague and will be replaced with more specific actions as identified or needed. The City of Alliance will continue to utilize existing relationships with entities such as the Nebraska Forest Service to identify and mitigate wildfire risks.

MITIGATION ACTION	FIRE WISE COMMUNITY
DESCRIPTION	Work to become a Fire Wise Community USA participant though the NFS and USFS in order to educate homeowners, community leaders, planners, developers, and others in the effort to protect people, property, and natural resources from the risk of wildland fire. The Fire Wise Community approach emphasizes community responsibility for planning in the design of a safe community as well as effective emergency response, and individual responsibility for safer home construction and design, landscaping and maintenance
HAZARD(S)	Wildfire
REASON FOR REMOVAL	Participation in the program is no longer a priority for the city. The city will continue to identify and implement alternative wildfire mitigation strategies.

MITIGATION ACTION	FLOODPLAIN REGULATION ENFORCEMENT 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 any community. Continue education of building inspectors or Certified Floodplain Managers
HAZARD(S)	Flooding
REASON FOR REMOVAL	This action was deemed to be too vague and will be replaced with more specific actions as identified or needed. The city continues to participate in the NFIP and enforces or updates local ordinances as appropriate.

MITIGATION ACTION	FLOOD-PRONE PROPERTY ACQUISITION
DESCRIPTION	Voluntary acquisition of properties prone to flooding will reduce the general threat of flooding for communities. Additionally, this can provide flood insurance benefits to those communities within the NFIP. Repetitive loss structures are typically highest priority.
HAZARD(S)	Flooding
REASON FOR REMOVAL	This project was identified to no longer be a priority for the city.

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	This type of project falls under the obligation of the Nebraska Forest Service rather than the community. The city will continue to work with the Forest Service to reduce fuels as opportunities are identified.

MITIGATION ACTION	MAINTAIN GOOD STANDING IN THE NFIP
DESCRIPTION	Maintain Good Standing in the NFIP
HAZARD(S)	Flooding
REASON FOR REMOVAL	While the city will continue to participate in the NFIP, this is no longer considered a mitigation action.

MITIGATION ACTION	MAINTAIN TREE CITY USA STATUS
DESCRIPTION	Maintain Tree City USA Status
HAZARD(S)	Drought and Extreme Heat, Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
REASON FOR REMOVAL	While the city will continue to participate in the Tree City program, continued participation is no longer considered a mitigation action.

MITIGATION ACTION	NEW MUNICIPAL WELL
DESCRIPTION	Evaluate the need to install a new well to provide a safe backup water supply for the community, replace existing wells affected by drought, and additional water for fire protection
HAZARD(S)	Drought and Extreme Heat
REASON FOR REMOVAL	This project was determined to no longer be needed for the city as the current water supply is sufficient to meet local needs.

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)	Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
REASON FOR REMOVAL	This project was determined to no longer be needed for the city.

Community Profile

VILLAGE OF HEMINGFORD

Region 23 Emergency Management Agency

Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

Table HEM.1: Hemingford Local Planning Team

NAME	TITLE	JURISDICTION
BARB STRAUB	Village Administrator	Village of Hemingford
DUSTY BRYNER	Police Chief	Village of Hemingford
JOHN ANNEN	Village Board Member	Village of Hemingford
RICK WACKER	Village Board Member	Village of Hemingford
SHAD BRYNER	Fire Chief	Village of Hemingford

Location and Geography

The Village of Hemingford is located in central Box Butte County and covers an area of 0.68 square miles. There are no major rivers or creeks in Hemingford

Transportation

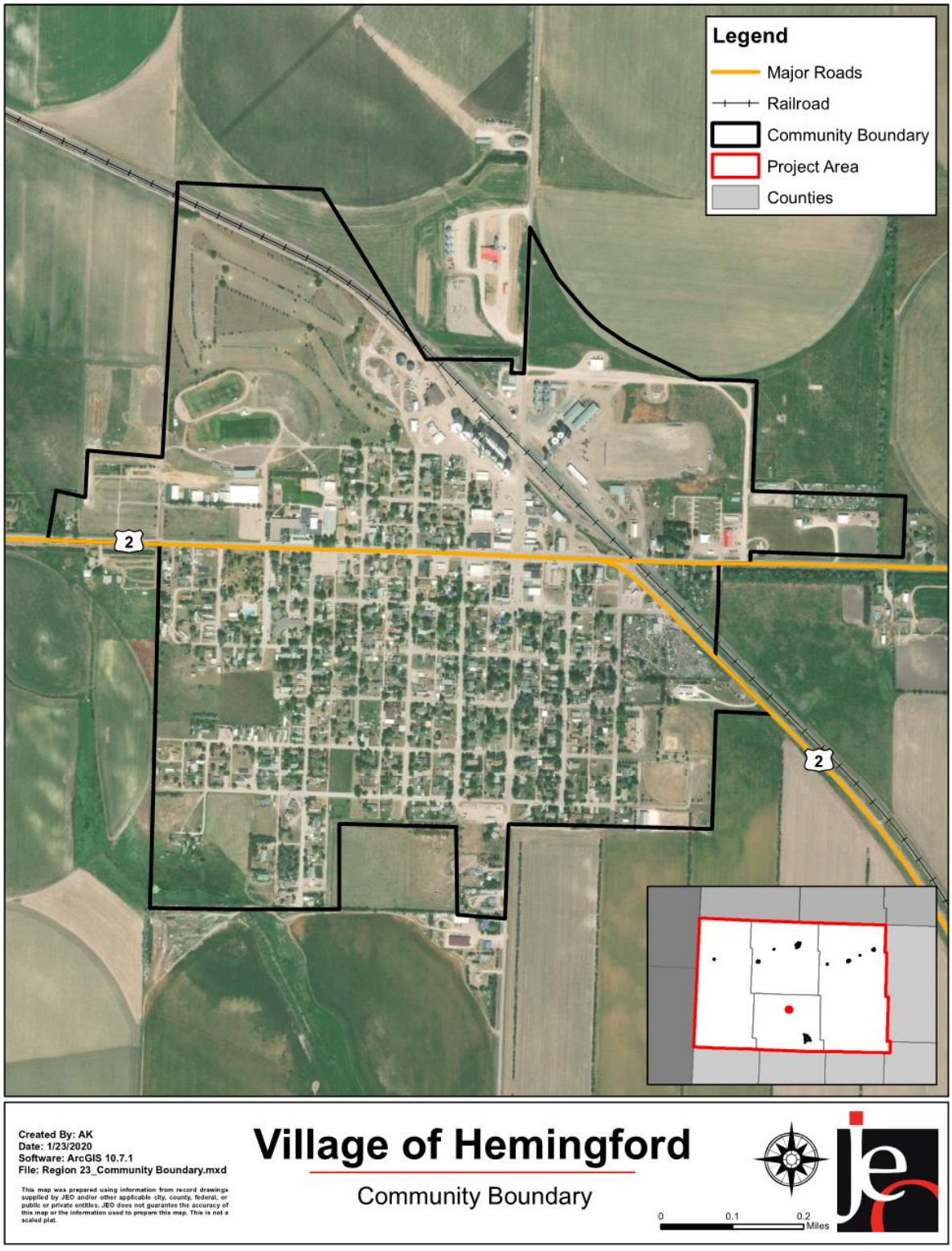
Hemingford's major transportation corridors include Nebraska Highway 2 which averages between 875 and 1,440 vehicles per day.[26] The local planning team also identified the 7E link, highway 385, and highway 71 as transportation routes of top concern as well. A Burlington Northern Santa Fe rail line is located along the northeastern edge of the Village. The railroad commonly transports hazardous materials including coal, oil, and waste products through town. No derailments have occurred in Hemingford. 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. A BNSF rail line run through the eastern portion of the Village. The rail line and local highways are commonly used to transport hazardous chemicals through Hemingford. 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.

[26] *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

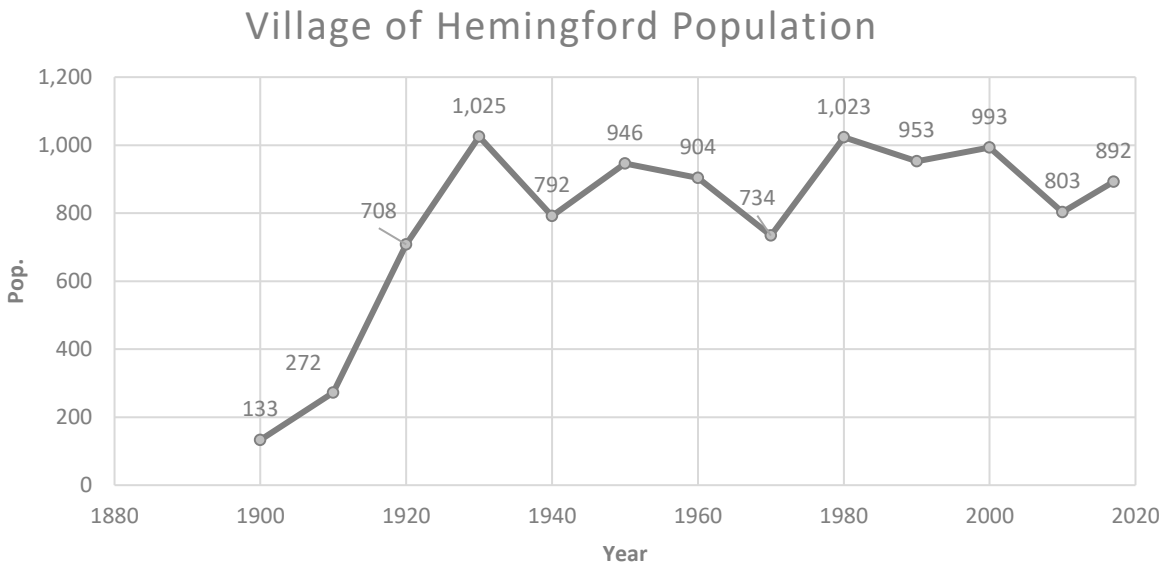
Figure HEM.1: Village of Hemingford



Demographics

Hemingford's population peaked at 1,025 in 1930 and has generally declined since the 1980s. 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. Hemingford's population accounted for 8% percent of Box Butte County's population in 2017.[27]

Figure HEM.2: Estimated Population 1890 – 2017



Source: U.S. Census Bureau[28]

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

- **Younger.** The median age of Hemingford was 38.5 years old in 2017, compared with the County average of 40.5 years. Hemingford's population has grown younger since 2010 when the median age was 48.8 years old. Hemingford has a similar proportion of people under 20 years old (27.1%) as the County (27.6%).[29]
- **Less ethnically diverse**. Since 2010, Hemingford has grown less ethnically diverse. In 2010, 2.4% of Hemingford's population was American Indian and 2.5% was two or more races. By 2017, about 0% of Hemingford's population was American Indian and 2.7% was two or more races. During that time, the American Indian population in the County grew from 3.1% in 2010 to 3.3% in 2017.[30]
- **Less likely to be below the federal poverty line.** The poverty rate in Hemingford (1.3% of families living below the federal poverty line) is lower than the County's poverty rate (4.1%) in 2017.[31]

Employment and Economics

The Village's economic base is a mixture of industries. In comparison to Box Butte County, Hemingford's economy had:

[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: S0101: Age and Sex." [database file]. https://factfinder.census.gov/.*
[30] *United States Census Bureau. "2017 American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. https://factfinder.census.gov/.*
[31] *United States Census Bureau. "2017 American Fact Finder: DP03: Selected Economic Characteristics." [database file]. https://factfinder.census.gov/.*

- **Similar mix of industries.** Both Box Butte County and Hemingford's major employment sectors, accounting for 10% or more of employment each, were: Transportation and Warehousing, and Educational Services in 2017.[32]
- **Higher household income.** Hemingford's median household income in 2017 ($63,393) was $7,065 greater than the County ($56,328).[33]
- **More long-distance commuters.** About 44.6% percent of workers in Hemingford commuted for fewer than 15 minutes, compared with about 73% of workers in Box Butte County. About 16.1% of workers in Hemingford commute 30 minutes or more to work, compared to about 8% of the County workers.[34]

Major Employers

The major employers in Hemingford include BNSF, public school district, and the CO-OP. A large portion of residents also commute to Alliance for employment.

Housing

In comparison to Box Butte County, Hemingford's housing stock was:

- **More owner occupied**. About 74.9% of occupied housing units in Hemingford are owner occupied compared with 71.7% of occupied housing in Box Butte County in 2017.[35]
- **Similarly aged housing stock.** Hemingford and Box Butte County have a similar share of housing built prior to 1970 (58.1% compared to 55.2%).[36]
- **Fewer multifamily homes. T**he predominant housing type in the Village is single family detached. Hemingford contains fewer multifamily housing with five or more units per structure compared to the County (7.0% compared to 15.0%). About 71.5% of housing in Hemingford was single-family detached, compared with 73.3% of the County's housing. Hemingford has a larger share of mobile and manufactured housing (15.6%) compared to the County (6.4%).[37] The local planning team identified mobile homes primarily along the west side of town and the remainder scattered throughout the community.

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

Numerous changes have occurred in Hemingford over the past five years including new homes and commercial developments. New businesses in town include a hair shop, a machine shop, a grain seed business, a new solar farm, and an expansion of the co-op. However, the population in Hemingford has declined over the past five years which the local planning team attributed to limited housing and an aging population. At this time there are no new housing developments planned but a new storage unit facility is currently under development.

[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: DP03: Selected Economic Characteristics." [database file]. https://factfinder.census.gov/.*
[34] *United States Census Bureau. "2017 American Fact Finder: S0802: Means of Transportation to Work by Selected 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/.*
[37] *United States Census Bureau. "2017 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. https://factfinder.census.gov/.*

Figure HEM.3: Hemingford Future Land Use Map

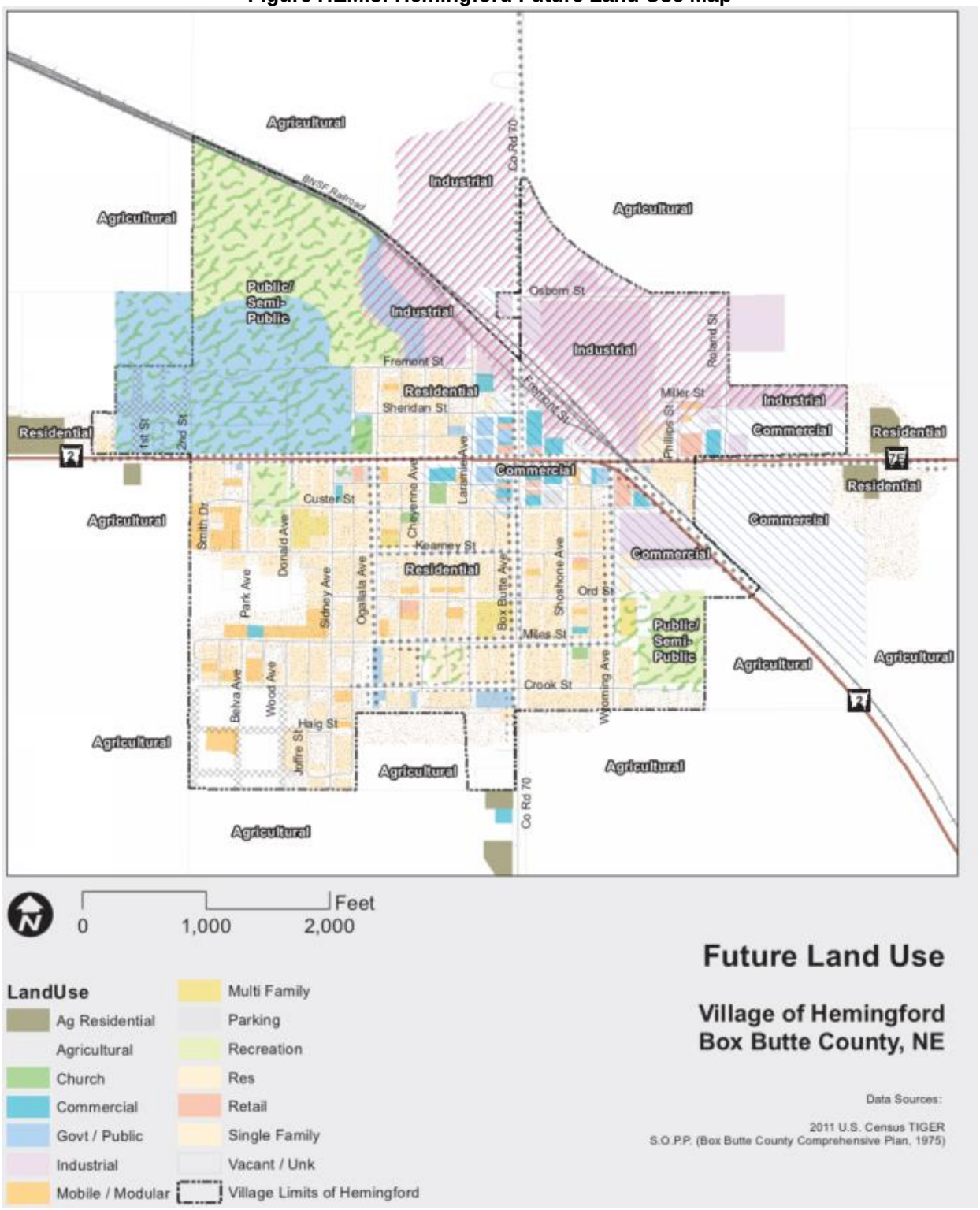
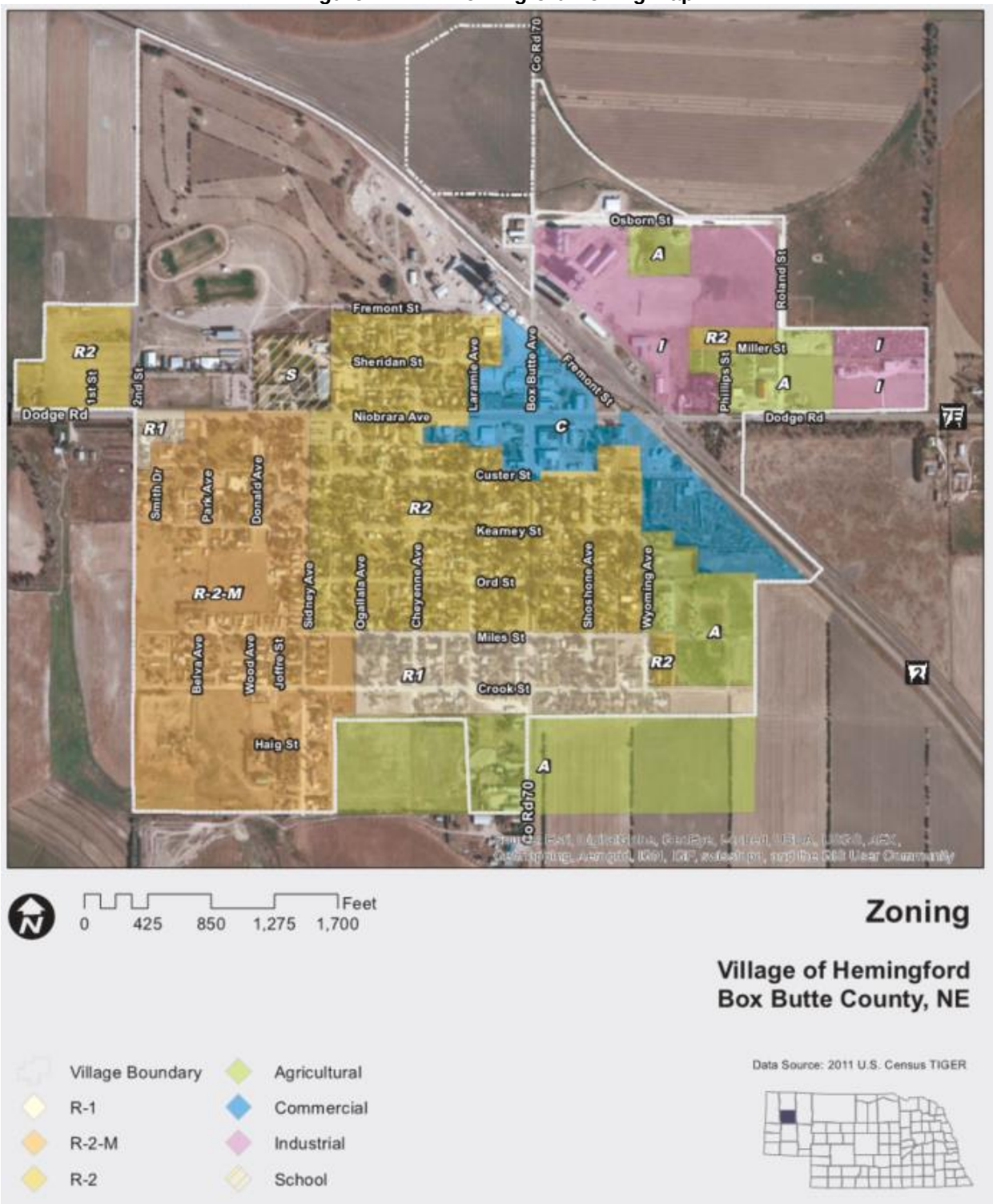


Figure HEM.4: Hemingford Zoning Map



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 HEM.2: Hemingford Parcel Valuation

NUMBER OF PARCELS	NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
508	445	$35,557,320	5	$115,860

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 five chemical storage sites in Hemingford that contain hazardous chemicals. According to the U.S. Coast Guard National Response Center, no fixed chemical spills have occurred in the community; however, the local planning team indicated the CO-OP has had some spills which only impacted the surrounding ground.

Table HEM.3: Chemical Storage Fixed Sites

FACILITY NAME	ADDRESS
PHILLIPS F & T INC	7600 Dodge Rd
FARMERS CO-OP ELEVATOR CO	1017 Laramie Ave
NDOT HEMINGFORD YARD	Roland St
WESTCO BULK FUEL	Osborn St
WESTCO PROPANE	Box Butte Ave

Source: Nebraska Department of Environment and Energy[38]

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 HEM.4: Critical Facilities

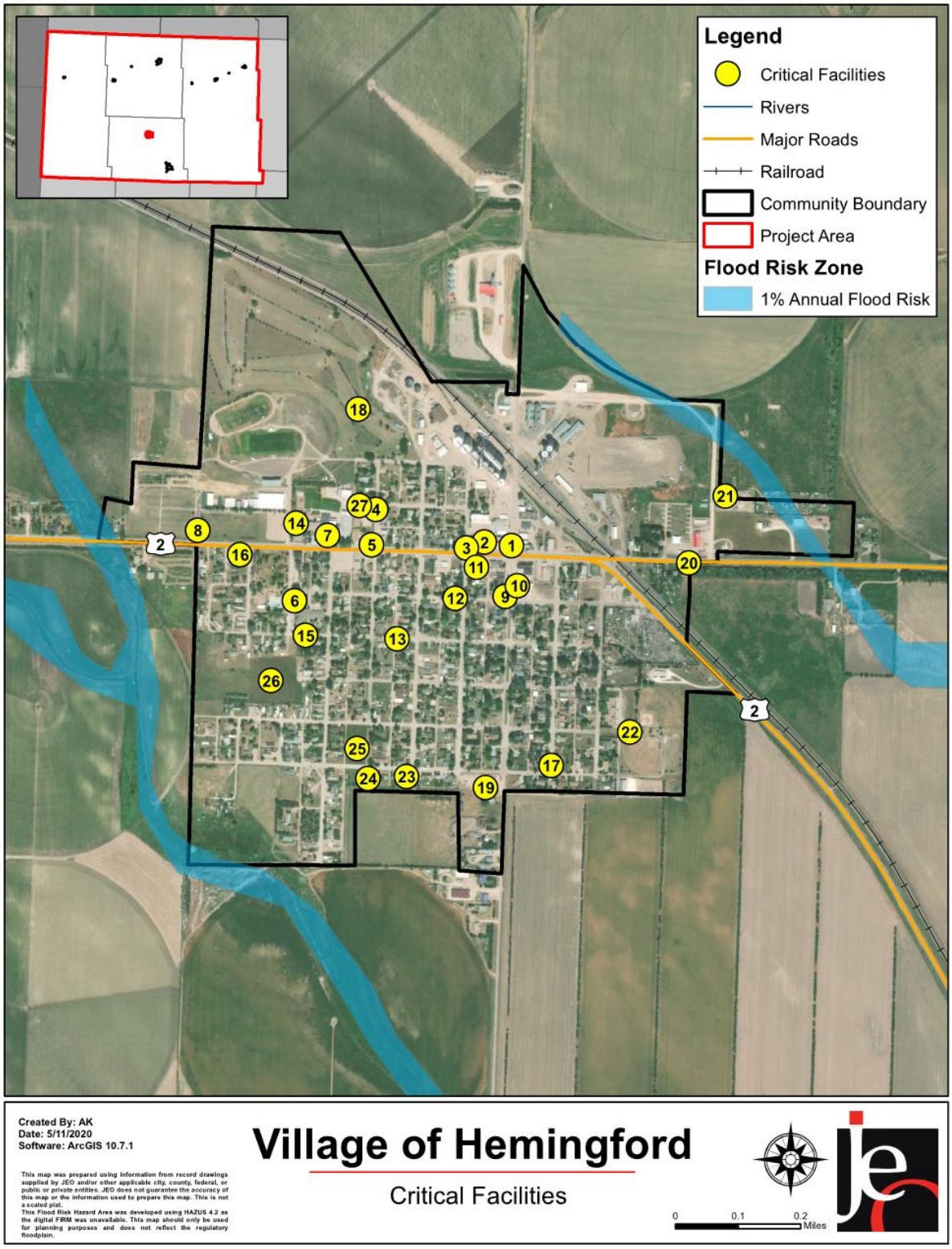
CF Number	Name	Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Panhandle Public Health District	N	N	N
2	CO-OP Telephone Service	N	Y	N
3	Clinic	N	N	N
4	Water Tower	N	Y	N

[38] *Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed November 2018. https://deq-iis.ne.gov/tier2/search.faces.*

CF Number	Name	Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
5	St. Bridget's Catholic Church	Y	N	N
6	Community Center	Y	N	N
7	Elementary School	N	Y	N
8	County Fairgrounds	N	N	N
9	Village Office	Y	N	N
10	American Legion	N	N	N
11	Hemingford Fire Department	N	Y	N
12	United Methodist Church	Y	N	N
13	Nazarene Church	Y	N	N
14	High School	Y	Y	N
15	Community Care and Assisted Living	N	Y	N
16	Sub Station	N	Y	N
17	7th Day Adventist Church	N	N	N
18	Village Maintenance Shop	N	N	N
19	County Maintenance Shop	N	N	N
20	Natural Gas Substation	N	Y	N
21	State Road Department Shop	N	N	N
22	Well 1	N	Y	N
23	Well 2	N	Y	N
24	Well 3	N	Y	N
25	Well 4	N	Y	N
26	Well 5	N	Y	N
27	Well 6	N	Y	N
28	Lagoons*	N	N	Y

**Not pictured in map: Lagoons are located southeast of the Village*

Figure HEM.5: Critical Facilities



Historical Occurrences

See the Box Butte 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 high winds and tornadoes as a significant concern for the village. In total there were 46 storms reported in Box Butte County that had winds reported between 60 and 91 miles per hour. Winds of this magnitude, according to the Beaufort Wind Force Ranking, can cause trees to uproot, considerable structure damage, and overturning of improperly anchored mobile homes. Four tornado events also occurred near Hemingford which were all E/F0 and had no reported damages. Tornadic events are particularly concerning due to their potential for catastrophic damage. Common damages from high winds and tornadoes include downed trees, power lines, damage to buildings and infrastructure, and potential injury or fatalities. There are currently no safe rooms located in the Village, but community churches and school facilities can be used as sheltering locations or gathering locations post event.

Severe Thunderstorms

The county planning team identified severe thunderstorms as a threat for the Village of Hemingford. The NCEI recorded 89 events from 1996 to 2019 with $267,100 in damages to property and no significant damages to crops. Severe thunderstorms commonly include heavy rain, strong winds, lightning, and hail events. Lightning strikes are the leading cause of wildfire in the planning area. Severe thunderstorms can result in loss of electricity, blocked roadways, damages to trees and flooding. Blocked roadways present life safety concerns to those needing immediate evacuation or medical attention. Heavy rain events can cause localized flooding of roads and major transportation routes. The east and west access to town crosses the 1% annual flood risk area as mapped by HAZUS (Figure HEM.5). The community has experienced significant hail events with hail up to three inches in diameter.

Severe Winter Storms

Severe winter storms occur annually and include blizzards, ice accumulation, extreme cold conditions, and overall winter weather and storms. According to the NCEI there were 83 severe winter storm events between January 1996 and December 2019. These events resulted in $57,000 in property damage, one injury and one death. Windchills reports in the village have ranged from -20 to -40°F. The village is responsible for snow removal in town and reviews and updates their snow removal and response plan annually. Trees have been planted around town to act as a living snow fence; however, many dead or dying trees and shrubs need to be removed and replaced.

Wildfires

According to the Nebraska Forestry Department there were 35 reported fires by the Hemingford Fire Department from 2000 to 2018 which consumed a total of 342 acres. The fires also resulted in $11,250 in crop damages and $645 in damages to structures. The Belmont fire burned a portion of the Pine Ridge just off the northwest corner of the community in 1989, and the 2012 West Ash fire threatened the community. The Village of Hemingford is located within the WUI according to

the CWPP. The Hemingford 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. The Hemingford volunteer fire department has the following equipment: 2 pumpers, 3 tankers, 3 grass rigs, 2 ambulances, and 2 utility vehicles.

Governance

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

- Village Administrator/Clerk
- Village Attorney
- Utilities Department
- Village Engineer
- Fire Department
- Police 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 HEM.5: Capability Assessment

Survey Components/Subcomponents		Yes/No
PLANNING & REGULATORY CAPABILITY	Comprehensive Plan	*Yes*
	Capital Improvements Plan	*No*
	Economic Development Plan	*Yes*
	Emergency Operational Plan	*Yes (County)*
	Floodplain Management Plan	*No*
	Storm Water Management Plan	*Yes*
	Zoning Ordinance	*Yes*
	Subdivision Regulation/Ordinance	*Yes*
	Floodplain Ordinance	*No*
	Building Codes	*Yes*
	National Flood Insurance Program	*No*
	Community Rating System	*No*
	Community Wildfire Protection Plan	*Yes*
	Other (if any)	
ADMINISTRATIVE & TECHNICAL CAPABILITY	Planning Commission	*Yes*
	Floodplain Administration	*No*
	GIS Capabilities	*Yes*
	Chief Building Official	*Yes*
	Civil Engineering	*No*

Survey Components/Subcomponents		Yes/No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	*Yes*
	Grant Manager	*Yes*
	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 Village 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?	Moderate
Does your county staff have the time to devote to hazard mitigation?	Moderate

Plan Integration

The Village's Comprehensive Plan was last updated in 2015. The plan evaluates a range of demographic, housing, economic, environmental, and land use characteristics of the community. It also identifies numerous community facilities as included in the critical facilities list (police and fire, village buildings, utilities, etc.). While the Comprehensive Plan outlines future growth trends and expectations, these are not directly tied to mitigating hazard risk. The objectives of the Comprehensive Plan include smart development strategies including:

- Discouraging incompatible land uses from being located adjacent to one another
- Encourage the development of infill residential
- Identify funding sources that will assist the community in upgrading the infrastructure system
- Develop a Hazard Mitigation Plan for the Village that will identify projects the Village can undertake in order to lessen the damage or loss of life in the event of a natural disaster
- Develop a set of zoning regulations that separates conflicting land uses and provide for proper setbacks from each other and public right of way
- Future developments should be constructed while maintaining natural topographical features, drainage ways, and tree cover
- Execute an annual or biannual review of the Comprehensive Plan, Zoning Ordinance, and Subdivision Regulations.

The Village has its own set of building codes which are updated as needed. All contractors or developments must file an application with the Village Clerk prior to construction to ensure plans meet local requirements. The Village has a Zoning map and ordinance that is reviewed and updated annually. The 1- and 6-year plan is reviewed annually with the annual budget to evaluate infrastructure and equipment needs.

The Village of Hemingford's Community Disaster and Emergency Response Plan is currently under development. While a completion date has not yet been determined, this plan will outline responsible parties and actions during a disaster. This plan will complement the Box Butte County's Local Emergency Operations Plan, of which the village has an annex within.

At this time the village is not a member of the NFIP. The village noted that flooding is not of high concern and participation in the program is not currently a priority. The village will evaluate flood risk concerns as conditions develop.

Mitigation Strategy

New or 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 - $30,000+ per generator
FUNDING	General Fund, PDM, HMGP
TIMELINE	1 year
PRIORITY	High
LEAD AGENCY	Utilities Department
STATUS	This project has not yet been started. An evaluation of generator needs has not yet been done.

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	$5,000 - $450,000+ per vehicle, depending on equipment needs
FUNDING	General Funds
TIMELINE	5+ years
PRIORITY	High
LEAD AGENCY	Village Board
STATUS	This is an ongoing action. Some new equipment has been purchased and is updated on a routine rotating schedule. Needs are evaluated alongside the 1 & 6 year plan.

MITIGATION ACTION	COMPREHENSIVE CITY DISASTER/EMERGENCY RESPONSE RESCUE PLAN
DESCRIPTION	Update comprehensive city/village disaster and emergency response /rescue plan.
HAZARD(S)	All Hazards
ESTIMATED COST	$6,000+
FUNDING	General Funds
TIMELINE	1 year
PRIORITY	High
LEAD AGENCY	Village Board, Region 23 EMA
STATUS	Plan is currently under development and will be distributed to police department, fire departments, utility departments, schools, and the village board. This action was identified as a need in the Comprehensive Plan.

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	General Funds
TIMELINE	2 – 5 years
PRIORITY	High
LEAD AGENCY	Utilities Department
STATUS	This project is not yet started.

MITIGATION ACTION	DRAINAGE STUDY/STORMWATER MASTER PLAN
DESCRIPTION	Study drainage issues on the northwest part of town
HAZARD(S)	Flooding
ESTIMATED COST	$10,000 - $100,000+
FUNDING	General Fund, CDBG, NRD cost share
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Utilities Department
STATUS	This project has not yet been started.

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)	Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
ESTIMATED COST	$50,000+ per mile
FUNDING	NPPD, General Fund, HMGP, PDM
TIMELINE	Ongoing
PRIORITY	High
LEAD AGENCY	Village Board, Utilities Department
STATUS	The village is working at establishing redundancies for the village. The Village had already finished a $300,000 loop for village properties.

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. Combining 911 center for county and Box Butte Agencies
HAZARD(S)	All Hazards
ESTIMATED COST	$10,000+
FUNDING	General Funds, UNWNRD, Region 23 EMA
TIMELINE	2 – 5 years
PRIORITY	High
LEAD AGENCY	Village Board, Box Butte County Commissioners
STATUS	The Village is currently working to update the police department, fire department, and utilities radio communication systems.

MITIGATION ACTION	HAZARDOUS TREE REMOVAL
DESCRIPTION	Remove tree limbs from power lines
HAZARD(S)	Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
ESTIMATED COST	$20,000
FUNDING	General Fund, HMGP, USFS
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Utilities Department
STATUS	Trees are inspected annually and needed limbs or trees are removed as needed. If trees are privately owned, the property owner is notified.

MITIGATION ACTION	IMPROVE SNOW/ICE REMOVAL PROGRAMS
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	$20,000+
FUNDING	General Funds, PDM, HMGP
TIMELINE	1 year
PRIORITY	High
LEAD AGENCY	Utilities Department
STATUS	Snow Routes and Removal procedures are reviewed each fall and updated as required to maintain safety.

MITIGATION ACTION	NEW MUNICIPAL WELL
DESCRIPTION	Evaluate the need to install a new well to provide a safe backup water supply for the community, replace existing wells affected by drought, and additional water for fire protection.
HAZARD(S)	Drought
ESTIMATED COST	$450,000
FUNDING	CDBG, SRF, PDM, HMGP
TIMELINE	2 – 5 years
PRIORITY	Low
LEAD AGENCY	Village Board, Utilities Department
STATUS	This project has not yet been started. While the Village has six functional wells which meet local needs, one well near the village shop is non-potable. A new well is needed to provide potable water to the village.

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. The village is looking to upgrade their substation
HAZARD(S)	Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
ESTIMATED COST	$1,000,000 per mile
FUNDING	Utilities Fund, HMGP, PDM, PPD
TIMELINE	2 – 5 years
PRIORITY	High
LEAD AGENCY	Utilities Department
STATUS	Utility crews have identified and started upgrading and moving lines underground where possible.

MITIGATION ACTION	PUBLIC EDUCATION/AWARENESS
DESCRIPTION	Considerations for activities include outreach projects and the distribution of maps and environmental education materials to increase public awareness of natural hazards to public and private property owners, property renters, businesses, and local officials. Other activities include providing education to citizens on water conservation methods. Purchasing and using equipment such as overhead projectors and laptops can allow for easier ways to educate the public during meetings.
HAZARD(S)	All Hazards
ESTIMATED COST	$500+
FUNDING	General Fund
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Village Board
STATUS	This project has not yet been started.

MITIGATION ACTION	SAFE ROOMS
DESCRIPTION	Design and construct fully supplied safe rooms in highly vulnerable urban and rural areas such as mobile home parks, campgrounds, schools, and other such areas throughout the planning area
HAZARD(S)	Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
ESTIMATED COST	$200 – 300/ Stand alone; $150 – 200/ retrofit
FUNDING	General Fund, HMGP, PDM
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Village Board, Region 23 EMA
STATUS	This project has not yet been started.

MITIGATION ACTION	SOURCE WATER CONTINGENCY PLAN
DESCRIPTION	Villages and cities can evaluate and locate new sources of groundwater to ensure adequate supplies to support the existing community and any additional growth which may occur. Also, identify or develop water sources for fire protection.
HAZARD(S)	Drought
ESTIMATED COST	$5,000+
FUNDING	General Fund, CDBG, SRF, NDEE
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Village Board
STATUS	This project has not yet been started.

MITIGATION ACTION	STORMWATER SYSTEM AND DRAINAGE IMPROVEMENTS
DESCRIPTION	Smaller communities may utilize stormwater 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 - $100,000
FUNDING	General Fund, HMGP, PDM
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Village Board, Utilities Department
STATUS	This project has not yet been started.

MITIGATION ACTION	WARNING SYSTEMS
DESCRIPTION	Improve city cable TV interrupt warning system and implement telephone interrupt system such as Reverse 911, emergency text messaging warning system, etc.
HAZARD(S)	All Hazards
ESTIMATED COST	$5,000+
FUNDING	General Fund, HMGP, PDM, Region 23 EMA
TIMELINE	2 – 5 years
PRIORITY	Medium
LEAD AGENCY	Village Board
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. Installation on the South side of BNSF railroad tracks to reduce wind and noise
HAZARD(S)	All Hazards
ESTIMATED COST	$2,000+
FUNDING	General Fund, NRD cost share
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Village Board
STATUS	Windbreaks are in place around town but additional dead or dying trees or shrubs should be removed and replaced.

Removed Actions

MITIGATION ACTION	BECOME A TREE CITY USA
DESCRIPTION	Become to be 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)	Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
REASON FOR REMOVAL	This is no longer a priority for the Village of Hemingford.

MITIGATION ACTION	EXPAND WATER STORAGE CAPACITY/EMERGENCY WATER SUPPLY
DESCRIPTION	Evaluate the need to expand water storage capacity through a new water tower, stand pipe etc. to provide a safe water supply for the community and additional water for fire protection. Establish emergency water supplies such as dry hydrants and individual or community cisterns for defending structures from wildland fires.
HAZARD(S)	Drought and Extreme Heat, Wildfire
REASON FOR REMOVAL	The Village has six wells that provide sufficient water supply for the Village for fire protection. At this time the Village would like to add a new municipal well to replace a non-potable well. (See New Municipal Well mitigation action)

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	This was identified as no longer a priority for the Village of Hemingford. Hazardous fuels in the surrounding area is managed by the county or NFS. The village removes hazardous trees in town as needed.

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)	Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
REASON FOR REMOVAL	This action was determined to not be a need for the Village as the Fire Department monitors events and notifies individuals as needed and communication systems are currently being updated.