HAMILTON COUNTY

Hamilton County
Multi-Jurisdictional Hazard Mitigation Plan

March 2015

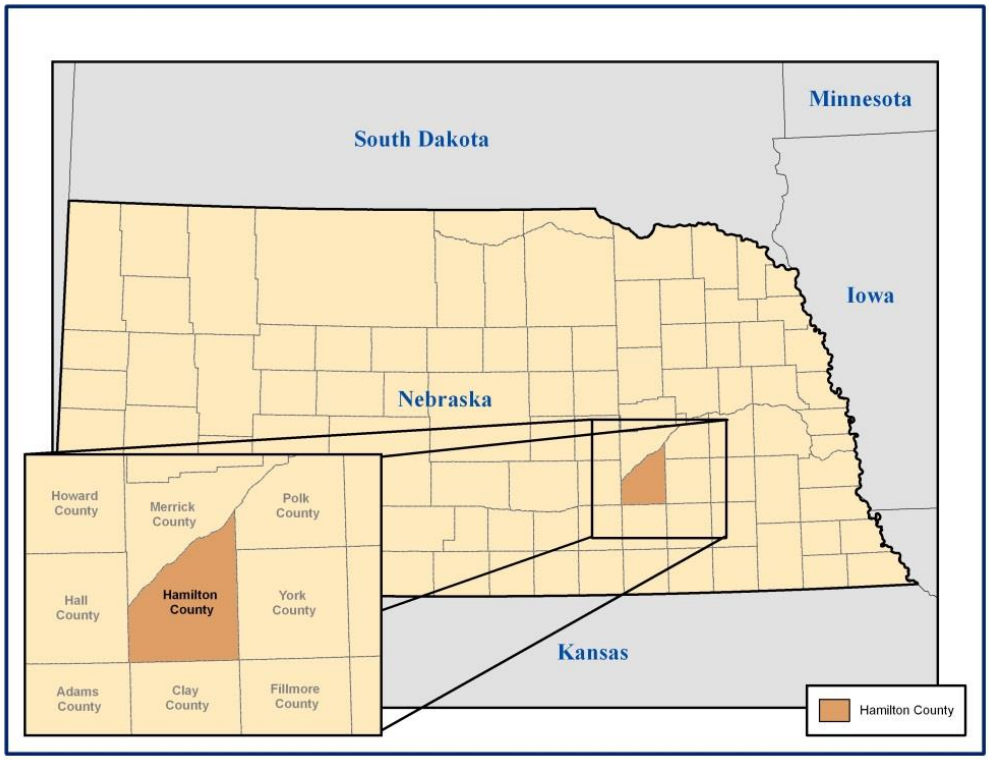
HISTORY

The boundaries of Hamilton County were defined by a proclamation of Governor David Butler on March 13, 1870. The county was named for Alexander Hamilton, a former United States Secretary of the Treasury under President George Washington.

LOCATION

Hamilton County is one of the 93 counties in the state of Nebraska. It is located in southeastern Nebraska, immediately east of Hall County and the Grand Island area. The communities in Hamilton County include Aurora, Giltner, Hampton, Hordville, Marquette, Phillips, and Stockham. The City of Aurora is the county seat. As shown in Figure 52, counties adjacent or near Hamilton County include: Merrick County to the north-northwest, Polk County to the northeast, York County to the east, Fillmore County to the southeast, Clay County to the south, Adams County to the southwest, and Hall County to the west. Hamilton County covers an area of approximately 547 square miles.

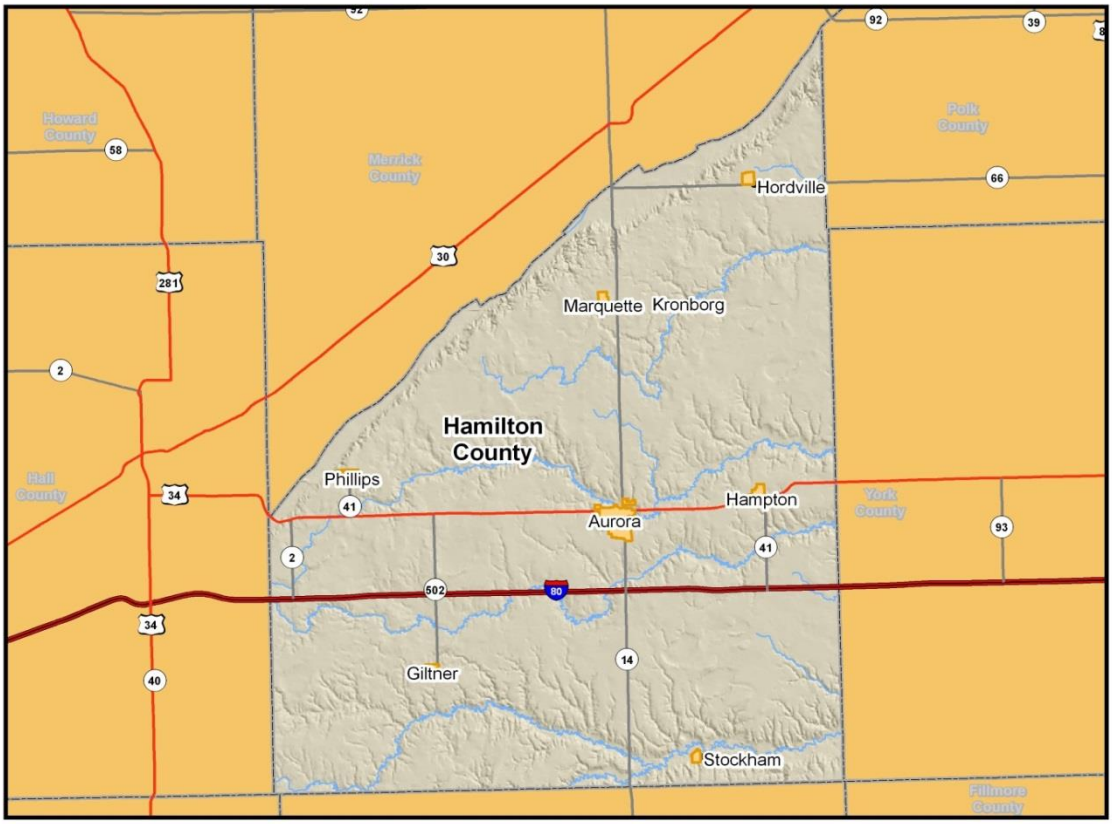
Figure.52: Hamilton County Location



CLIMATE

Weather data for Hamilton County is taken in Aurora, a representative location for the rest of the county. The warmest month in Aurora is July with an average high temperature of 87 degrees and the coolest month is January with an average low temperature of 11 degrees. The highest and lowest temperatures recorded are 108 degrees Fahrenheit in 1983 and 28 degrees Fahrenheit below zero in 1989. The average annual precipitation, which falls as rain, snow, and sometimes hail, is approximately 27 inches per year. The month of June has the highest average precipitation of four inches per year.

Figure 53: Hamilton County Shaded Relief Map



GEOGRAPHY

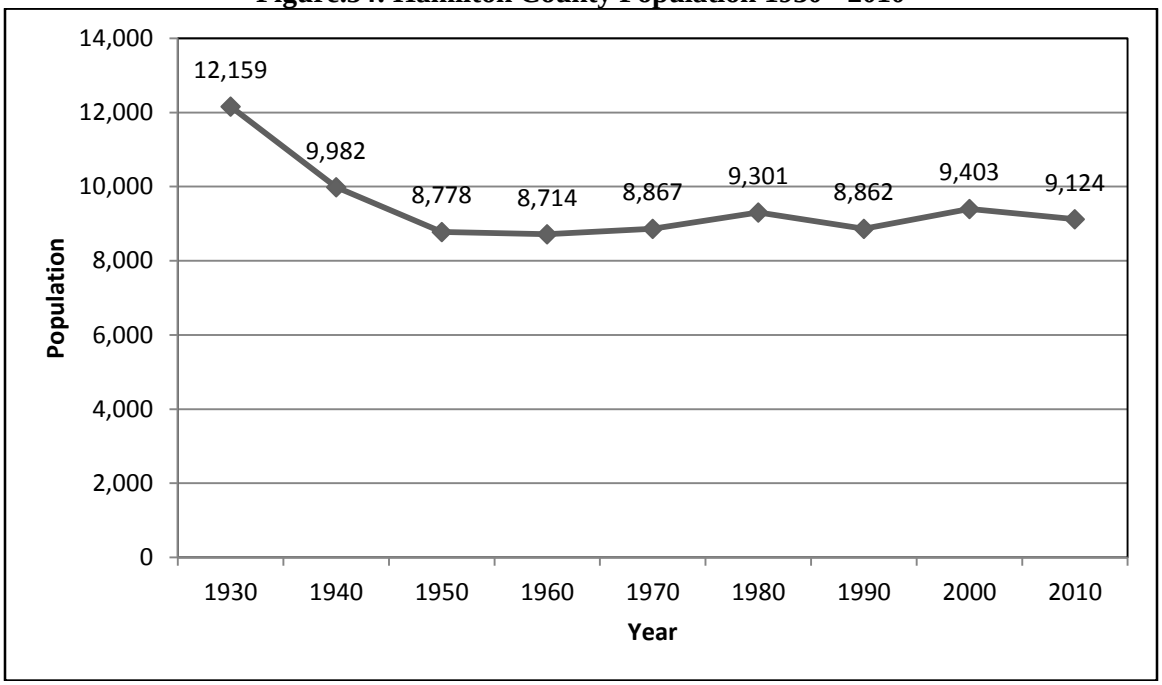
The northern edge of Hamilton County lies along the southern shore of the Platte River. The general drainage direction through the county is from West to East. The county lies in an area of plains, which are generally flat and above river valleys and consists of sandstone or stream deposited materials overlaid by wind-deposited silt. Most topographic relief throughout the county is provided by the Platte River's bluffs and by stream-eroded valleys.

DEMOGRAPHICS

As of the 2010 census, there were 9,124 people living in Hamilton County, and from that total, 3,166 were living in unincorporated areas. Figure 54 shows that the county population declined from 1930 to 1960 and then slowly grew until 1980. After 1980, it declined again over the following decade, and then grew again to 9,403 in 2000. Since then, the population decreased to 9,124. These changes in population over the last few decades are reflective of the changing landscape in employment, particularly in the manufacturing industry. The region experienced growth during the 1970s due to new industries that were brought into the area, including Aurora and Grand Island in Hall County. In recent years, the economy has been slowing and manufacturing has been impacted, resulting in a decrease in available jobs.

Table 87 provides a summary of the population for the county and the seven jurisdictions in the county from 2000 and 2010. The percent change in population from 2000 to 2010 is then calculated and applied to the 2010 population to determine the projected 2020 population. This assumes that the population trend will remain the same over the next ten year period.

Figure.54: Hamilton County Population 1930 - 2010



Source: United States Census Bureau

The county and all of the jurisdictions, except for the City of Aurora, which saw an increase of six percent, have experienced a decline in population since 2000. If this population trend continues, Hamilton County's population will fall below 9,000 residents by the year 2020.

Table.87: Hamilton County Projected Population Trend

Jurisdiction	2000 Population	2010 Population	% Change	2020 Projected Population
Aurora	4,225	4,479	6.01%	4,748
Giltner	389	352	-9.51%	319
Hampton	439	423	-3.64%	408
Hordville	150	144	-4.00%	138
Marquette	282	229	-18.79%	186
Phillips	336	287	-14.58%	245
Stockham	60	44	-26.67%	32
Hamilton County (unincorporated)	3,522	3,166	-10.11%	2,846
Hamilton (total)	**9,403**	**9,124**	**-2.97%**	**8,922**

Source: United States Census Bureau – 2000, 2010

Table 88 illustrates the age distribution and median age of individuals by jurisdiction. Overall, the county's median age is 42.3 years. The Village of Hampton has the highest median age of 52 years, and the youngest median age of 40 is in Giltner.

Table.88: Hamilton County Population by Age

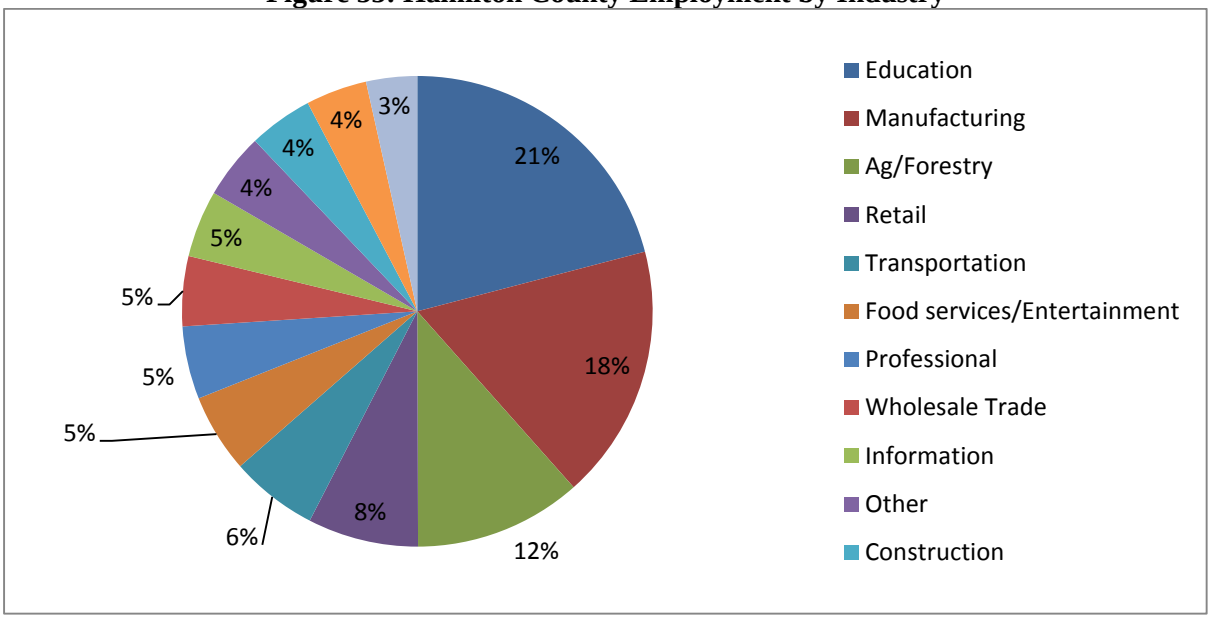
	Hamilton	Aurora	Giltner	Hampton	Hordville	Marquette	Phillips	Stockham
< 5 yrs.	5.8%	6.9%	5.1%	3.5%	2.8%	4.8%	4.9%	6.8%
5 - 64 yrs.	77.8%	74.3%	81.3%	78.2%	83.9%	82.1%	84.3%	77.2%
> 65 yrs.	16.4%	18.8%	13.7%	18.1%	13.3%	13.1%	10.8%	15.8%
Median Age	42.3	40.4	40.0	45.5	44.0	41.3	41.3	52.0

Source: U.S. Census Bureau, 2010

EMPLOYMENT

Figure 55 shows employment by industry for Hamilton County.

Figure 55: Hamilton County Employment by Industry



Source: U.S. Census Economic Characteristics, 2010

More than 20 percent of Hamilton County relies on education and health care services for their employment with manufacturing close behind at 18 percent. Agriculture and forestry is the third top industry for the county at 12 percent. These three industries combined represent 51 percent of the total economy. The other 49 percent of employment provides a healthy mix of industries that are available in the county.

AGRICULTURE

Although the agricultural and forestry industry accounts for only 12 percent of employment in the county, ranking it third of all industries, it is an integral part of the economy and local communities. For example, other industries such transportation are related to the agricultural industry as some of their transports include crops, feed, and animals for farmers. Hamilton County's 572 farms (Table 89) cover 304,395 acres of land, which accounts for 83 percent of the surface land in the county. 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.89: Hamilton County Agricultural Inventory

Agricultural Assets	Inventory
Number of farms	572
Land in farms	304,395 acres
Estimated market value of land and buildings (per farm)	$304,395
Crop lands	273,153 acres
Cattle Inventory	41,093 head
Grain corn bushels	34,678,560
Silage corn tons	27,550

Source: USDA Census of Agriculture, 2012

HOUSING AND ECONOMICS

Median household income, per capita income, home value, and rent for the county are shown and compared to the seven jurisdictions in Table 90. The median household income for the county is $50,702 with a median home value at $108,600.

Table.90: Hamilton County Income and Housing Values

	County	Aurora	Giltner	Hampton	Hordville	Marquette	Phillips	Stockham
Median Household Income	$50,702	$52,188	$55,000	$50,500	$35,938	$41,563	$43,929	$65,000
Per Capita Income	$23,240	$22,836	$21,158	$22,798	$22,491	$17,500	$19,252	$19,902
Median Home Value	$108,600	$106,100	$80,000	$75,000	$53,000	$59,300	$67,300	$80,000
Median Rent	$581	$388 - $720*	N/A	$585 - $915*	N/A	$331 - 1,007*	$570	N/A

Source: Selected Housing Characteristics: 2006 - 2010 ACS 5-year estimate
**Range based on margin of error*

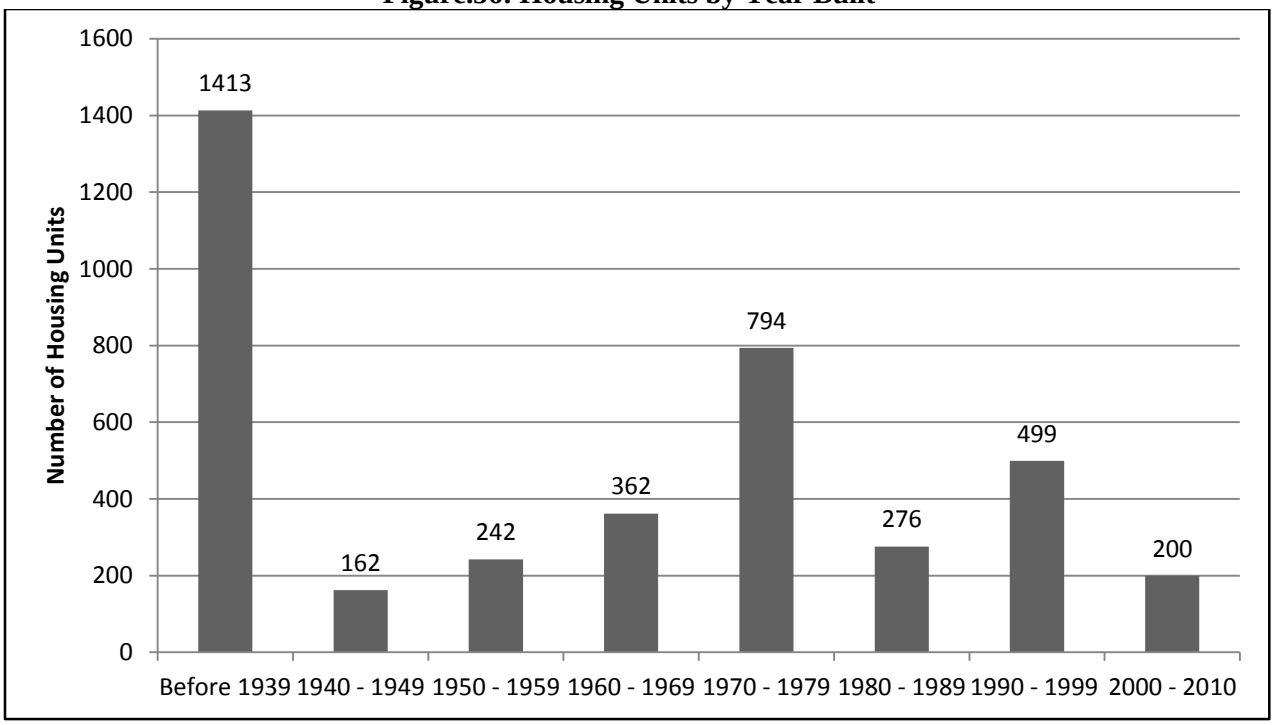
According to 2010 Census data (Table 91), Hamilton County has 3,948 housing units with 87.7% percent of those units occupied. About 4.1 percent of the county's housing is classified as mobile homes and over 35 percent of the housing was built prior to 1939 (Figure 56). Vacant buildings, mobile homes, and aging housing stock are susceptible to high winds, severe thunderstorms, and tornados. Residents living near or in these types of structures will be vulnerable to severe weather hazards.

Table.91: Hamilton County Housing Unit Occupancy

Jurisdiction	Total Housing Units					Occupied Housing Units			
	Occupied		Vacant			Owner		Renter	
	Number	Percent	Number	Percent		Number	Percent	Number	Percent
Hamilton County	3,464	87.7%	484	12.3%		2,667	77.0%	797	23.0%
Aurora	1,597	89.0%	197	11.0%		1,152	72.1%	445	27.9%
Giltner	124	87.3%	18	12.7%		124	100%	0	0%
Hampton	198	89.2%	24	10.8%		164	82.8%	34	17.2%
Hordville	61	96.8%	2	3.2%		50	82.0%	11	18.0%
Marquette	83	94.3%	5	5.7%		67	80.7%	16	19.3%
Phillips	108	78.8%	29	21.2%		100	92.6%	8	7.4%
Stockham	18	72.0%	7	28.0%		18	100%	0	0%

Source: Selected Housing Characteristics: 2006 - 2010 ACS 5-year estimate

Figure.56: Housing Units by Year Built



Source: Selected Housing Characteristics: 2006 -2010 ACS 5-year estimate

STRUCTURAL INVENTORY AND VALUATION

A structural inventory was completed for the corporate limits of each incorporated community in Hamilton County through a window survey using GIS for the 2009 hazard mitigation plan. For the purposes of this plan, a structural inventory for the unincorporated areas of the County was not completed, but county assessor data was available for the total value of structures in the county. This information is outlined below in Table 92.

Table.92: Hamilton County Structural Inventory

Hamilton County	Structure Valuation
Structure Type	**Total Value**
Commercial/Industrial	$150,950,765
Agriculture	$40,515,965
Residential	$415,145,954
Public/Quasi Public	$1,139,786
Total	**$607,752,470**

Source: Nebraska Department of Revenue, Property Assessment Division

CRITICAL INFRASTRUCTURE/KEY RESOURCES

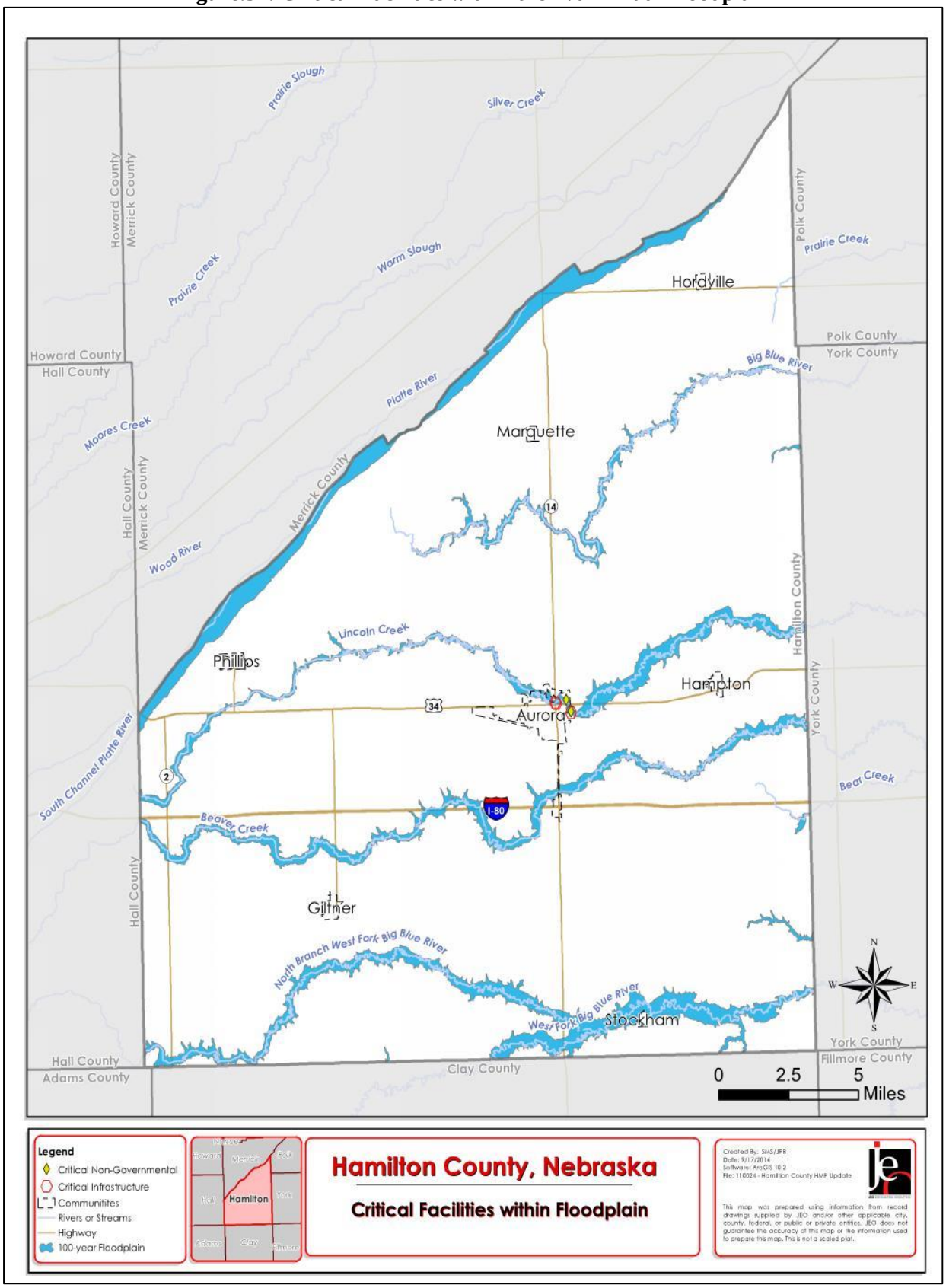
According to FEMA, "A critical facility is a structure that, if flooded (or damaged), would present an immediate threat to life, public health, and safety." Examples of critical facilities include hospitals, emergency operations centers, schools, city shops, wells, and sanitary sewer lift stations, etc.

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. Additional information regarding critical facilities belonging to each jurisdiction can be found in the following individual participant sections. For Hamilton County, only the critical facilities that are located within the 1 % annual floodplain are identified in this section. Table 93 and Figure 57 identify these facilities, all of which are located in the City of Aurora.

Table.93: Critical Facilities in the 1% Annual Floodplain

Type	Location	Critical Facility
Non-Governmental	City of Aurora	Humane Society
Municipal	City of Aurora	Main Waste Water Lift Station
Non-Governmental	City of Aurora	Youth Leadership Center/Camp
Municipal	City of Aurora	Well
Municipal	City of Aurora	Lift Station

Figure.57: Critical Facilities within the 1% Annual Floodplain



FUTURE DEVELOPMENT TRENDS

Hamilton County, by nature, cannot and will not change its borders and will not experience any future development outside of its borders. It is likely that structures will be built in both the incorporated and unincorporated areas of the county. New structures in the incorporated areas will likely be housing units (single family homes) and commercial structures. It will be important that residential areas will be protected from site-specific hazards such as flood prone areas. See the participant sections of the communities for their own future development trends.

RISK ASSESSMENT

Hazard Identification

Table 94 is a risk assessment identified specifically for the county. Refer to *Section Four: Community Based Risk Assessment* for an explanation as to what the methodology is.

Table.94: Hamilton County Risk Assessment

HAZARD TYPE	PREVIOUS OCCURRENCE? Yes/No	Approximate Annual Probability (Regional Risk Assessment)	Specific Concerns Identified
Severe Winter Storm*	Yes	100%	22% of population at higher level of vulnerability; potential loss of life and properties
Tornado*	Yes	~90%	Potential loss of life and properties
High Winds*	Yes	100%	Potential loss of life and properties
Severe Thunderstorm*	Yes	100%	Potential loss of life and properties; Economic impacts; Secondary hazards such as hail and tornados
Hail*	Yes	100%	Potential loss of life and properties; Economic impacts
Flooding	Yes	100%	Potential loss of properties
Extreme Heat	Yes	100%	22% of population at higher level of vulnerability; Ag losses; Secondary hazards such as wildfires
Drought	Yes	~10%	Economic impacts; Land degradation; Secondary hazards such as wildfires
Grass/Wildfire	Yes	100%	Potential loss of life and properties; Economic impacts
Dam Failure	No	1%	None
Levee Failure	No	0	None
Ag Animal Disease	Yes	100%	Economic concerns; Ag is major sector for the county
Ag Plant Disease	Yes	~50%	Economic concerns; Ag is major sector for the county
Earthquakes	Yes	<5%	None
Landslides	No	0	None
Urban Fire	Yes	100%	None
Radiological Fixed Facilities	Not present in the planning area	NA	None
Chemical Transportation	20/30	~70%	None

HAZARD TYPE	PREVIOUS OCCURRENCE? Yes/No	Approximate Annual Probability (Regional Risk Assessment)	Specific Concerns Identified
Terrorism	0	1%	None
Chemical Fixed Sites	0/23	<5%	None
Radiological Transportation	0	1%	None
Civil Disorder	No	unknown	None

**Identified by the planning team as a top concern for the jurisdiction*

Based on the risk assessment and feedback from the local planning team the hazards of top concern are severe winter storms, tornados, high winds, severe thunderstorms, and hail. These five hazards that raise the greatest concerns for the community are discussed in detail.

Historical Occurrences

Two types break down the events recorded by NCDC: county-based and zone-based events. The county-based records are events that affect the jurisdictions within the county while the zone-based records are those affecting the zone that include the county as part of the affected zone. Please refer to specific villages or cities within the county for the previous county-based severe weather events retrieved from NCDC. For zone-based events, there are 108-recorded events from 1996 to 2014, but due to the large number of the record, only those that resulted in property or crop damages (23 events) are shown in Table 93.

Table.95: Hamilton County Historical Occurrences

Date	Hazard	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
11/28/2005	Blizzard		0	0	$25,000	$0
9/1/2000	Drought		0	0	0	$10,000,000
12/1/2002	Drought		0	0	0	$20,000,000
10/1/2012	Drought		0	0	0	$5,000,000
5/11/2005	Flash Flood		0	0	$2,000,000	$500,000
4/3/2007	Frost/freeze		0	0	$0	$50,000
6/22/2009	Heat		0	0	$1,500,000	$0
6/10/2002	Heavy Rain		0	0	$100,000	$500,000
4/7/2000	High Wind	50 kts. E/57 mph	0	0	$45,000	$0
7/7/2003	High Wind	62 kts. EG/ 71 mph	0	0	$200,000	$0
4/18/2004	High Wind	52 kts. EG/ 60 mph	0	0	$10,000	$0
3/10/2005	High Wind	55 kts. MG/63 mph	0	0	$5,000	$0
10/26/2008	High Wind	53 kts. MG/ 61 mph	0	0	$2,000	$0
12/20/2006	Ice Storm		0	0	$50,000	$0

Date	Hazard	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
12/30/2006	Ice Storm		0	0	$4,000,000	$0
12/1/2007	Ice Storm		0	0	$20,000	$0
3/1/2002	Winter Storm		0	0	$5,000	$0
1/25/2004	Winter Storm		0	0	$50,000	$0
2/4/2004	Winter Storm		0	0	$30,000	$0
3/20/2006	Winter Storm		0	0	$200,000	$0
12/10/2007	Winter Storm		0	0	$50,000	$0
2/8/2005	Winter Weather		0	0	$200,000	$0
11/26/2006	Winter Weather		0	0	$5,000	$0
		Totals	**0**	**0**	**$8,497,000**	**$36,050,000**

Source: NCDC Storm Events 1996-2014

Since NCDC data provides limited information on crop losses, additional crop loss information from 2000-2013 was gathered from the RMA located within the USDA. RMA information is only available at the county level so additional data is not provided for the individual jurisdictions. The RMA data shows greater impacts to crops than all of the NCDC data. This discrepancy occurs because all the crop losses for every event may not be reported to NCDC like it is to RMA. In Table 94, the total crop loss is provided for each hazard type along with the number of events or records over the 14 year period. Annual crop loss was calculated by diving the total crop loss by the number of years, which is 14 years.

Table.96: Hamilton County RMA Crop Losses

Hazard Type	Number of Records	Total Crop Loss	Annual Crop Loss
Extreme Cold	35	$165,572	$11,827
Drought	69	$13,635,840	$973,989
Flooding	14	$109,329	$7,809
Hail Events	64	$3,047,138	$217,653
Heat	55	$2,912,921	$208,066
Severe Thunderstorms	76	$1,465,741	$104,696
Tornados	5	$158,785	$11,342
High Wind	47	$1,056,740	$75,481
Plant Disease	7	$45,793	$3,271
Insects/Wildlife	20	$74,847	$5,346

Source: USDA, RMA Cause of Loss 2000-2013
** Amounts rounded to the nearest dollar*

Severe Winter Storms

The local planning team identified severe winter storms as a top concern for the county. The NCDC data reported 67 winter storms for Hamilton County between 1996 and 2014, and seven of those resulted in $540,000 in property damage. Based on historic records severe winter storms have an annual probability of 100 percent.

While Hamilton County does not have officially designated snow routes, the local planning team identified that high volume traffic roads are cleared first. Moreover, the county utilizes back-up power on its critical

facilities, specifically: the law enforcement center, jail, dispatch, EMS, public works, and the emergency management office. Also, educational programs are available to the public on severe winter storms.

Severe Thunderstorms

The local planning team identified severe thunderstorms as a top concern for the county. There were 50 thunderstorm events recorded by the NCDC across the county area, but the worst event occurred in and around the Village of Giltner on August 1, 2013. This event recorded a thunderstorm wind of 61 kts (70 mph) magnitude along with large hail and heavy rain. With this combination of wind driven hail, it resulted in a total of $100,000 in property damages and $10 million in crop damages. A summary of the events with recorded damages can be found in the participant sections where they occurred. Most events reported strong winds between 50 and 70 knots. Based on historic records severe thunderstorms have an annual probability of 100 percent.

Along with high winds, flash flooding and hail often accompany severe thunderstorms, which can result in a loss of electricity, blocked roadways, damages to trees, and flooding. Blocked roadways, as an effect of downed trees or flooded roadways, may also present life safety concerns to those needing immediate medical attention. Damages reported can include downed trees and tree limbs, roofs torn from structures, and damages to outbuildings.

The county utilizes surge protection and currently has weather radios in its critical facilities. As part of educational outreach, Hamilton County offers educational programs on thunderstorm preparedness, severe weather, first aid, and CPR.

Hail

The local planning team identified hail as a top concern for the county. The NCDC recorded 89 events with hail size reaching as large as 7 inches. A total of $1.607 million in property damages and $14.33 million in crop damages occurred from these hail storms. A summary of the events with recorded damages can be found in the participant sections. Hail in the unincorporated areas of the county is most likely to impact the agricultural areas of the county. There are more than 270,000 acres devoted to crops, and hailstorms can have devastating impacts on crops causing up to a 100 percent loss in some cases. Based on historic records hail has an annual probability of 100 percent.

The county utilizes surge protection and currently has weather radios in its critical facilities. As part of educational outreach, Hamilton County offers educational programs on hail preparedness, severe weather, first aid, and CPR.

High Winds

The local planning team identified high winds as a top concern for the county. The NCDC recorded 18 high wind events of severe magnitude (60 to 71 mph) that resulted in $262,000 of property damages and no reported crop damages. Based on historic records high winds have an annual probability of 100 percent.

It was reported by the local planning team that Hamilton County utilizes a back-up system for municipal records. While Hamilton County does not have a community safe room, the County Emergency Management offers emergency text alerts. In addition to educational programs, Hamilton County has mutual aid agreements with the neighboring counties of Hall, Clay, Adams, and South Central Planning Exercise Training region.

Tornados

The local planning team identified tornados as a top concern for the county. The NCDC recorded 17 tornado events with a total of $3,710,000 in damages to property and $1,200,000 in crop damage. Among the reported events, the NCDC reported an EF2 Tornado in Hamilton County near Hampton in 2011 that

resulted in a $2.5 million of property damage and $500,000 of crop damages. A summary of the specific tornado events with recorded damages can be found in the participant sections where they occurred. Based on historic records tornados have an annual probability of about 90 percent.

It was reported by the local planning team that Hamilton County utilizes a back-up system for municipal records. While Hamilton County does not have a community safe room, the County Emergency Management offers emergency text alerts. In addition to educational programs, Hamilton County has mutual aid agreements with the neighboring counties of Hall, Clay, Adams, and South Central Planning Exercise Training region.

CAPABILITY ASSESSMENT

Thus far the planning process has identified the significant hazards for the community and described and quantified the vulnerability to these risks by acquiring updated information from FEMA, local jurisdiction, and other sources. The following step shall be assessing what loss prevention or preparedness mechanisms are already in place, which is referred to as capability assessment. Combining the risk assessment with the local capability assessment results in a stronger mechanism in understanding locality's "net vulnerability" and to what extent they could be able to implement the goals, objectives, and actions.

A two-step approach was applied to conduct this assessment for each participant. First, an inventory of common mitigation activities was developed through the Capability Assessment Survey completed by the participants' representatives. There are four major local capabilities considered by this assessment and they are: planning and regulatory capabilities, administrative and technical capability, fiscal capability, and education and outreach capability. Please refer to *Capability Assessment* in *Section Three: Community Profile and Capability Assessment* for the overall picture of the whole county. The purpose of this effort was to identify policies and programs that were either in place, needed improvement, or could be undertaken, if deemed appropriate. Second, local existing policies, regulation, plans, and the programs were reviewed and evaluated to determine their contributions to reducing hazard-related losses or if they inadvertently increased such losses.

Unincorporated Hamilton County Governance

Hamilton County is governed by a board of commissioners and has the following departments and staff:

- Assessor
- Attorney
- Surveyor
- Treasurer
- Clerk/Election Commissioner/Register of Deeds
- Emergency Manager
- Highway Superintendent/Planning and Zoning
- Sheriff
- Veterans Service Officer

Table.97: Hamilton County Capability Assessment

Survey Components/Subcomponents		Comments
Planning and Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Hazard Mitigation Plan	Yes
	Economic Development Plan	No
	Emergency Operational Plan	Yes
	National Resources Protection Plan	Under Development
	Floodplain Management Plan	Under Development
	Storm Water Management Plan	Under Development
	Zoning Ordinance	Yes

Survey Components/Subcomponents		Comments
	Subdivision Regulation/Ordinance	In Progress
	Floodplain Ordinance	In Progress
	Building Codes	No
	Well Head Protection Area/District	Yes
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	
Administrative and Technical Capability	Planning Commission	Yes
	Hazard Mitigation Planning Commission	Yes
	Floodplain Administration	Yes
	Emergency Manager	Yes
	GIS Coordinator	Yes
	Chief Building Official	No
	Civil Engineering	No
	Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Other (if any)	
Fiscal Capability	Capital Improvement Project Funding	No
	Community Development Block Grant	Yes
	Authority to Levy Taxes for Specific Purposes	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	Yes
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes
Education and Outreach Capability	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	No
	Firewise Communities Certification	No
	Public-private partnership initiatives addressing disaster-related issues	Yes
	Other (if any)	

Plan Integration

Building codes are sufficient for the hazards that occur with regularity. When building codes are revisited in the future the community may consider encouraging the use of building materials that will help reduce structural damages as well as some non-structural impacts resulting from natural hazards. Option include but are not limited to: hail resistant siding and roofing, increase strapping materials, low flow fixtures, xeriscaping, and requiring safe rooms in newly built critical facilities.

Zoning codes for the county currently prevent constructing new buildings in the floodway, but do allow for construction in floodplain areas. Codes are in compliance with the state of Nebraska minimum standards for construction within the floodplain. Any new buildings must have a minimum of one foot freeboard under the lowest floor of the structure. When zoning codes are revised in the future Aurora's planning and zoning board should consider requiring or at minimum encouraging the use of green infrastructure in floodprone areas. These requirements might include (but are not limited to): bioretention areas, permeable parking areas, cluster development and density transfers.

At this time there is no scheduled update to local planning mechanisms. To this point little has been done to incorporate the principles of hazard mitigation into other community documents. When a decisions is made to update the comprehensive plan, the community will review the goals and objectives of this plan as well as the ranking of hazards for the city. These, as well as areas know to have a specific vulnerability (i.e. floodplains), should be reviewed during any updates to ensure all community plans are consistent with the information they include and any growth objectives.

Summary

Hamilton County has the administrative staff and technical and fiscal capabilities to implement some mitigation projects without assistance. Larger projects such as safe rooms or drainage improvements may require that the county look to partner with the UBBNRD, and other regional and state agencies. Through this update process, the planning team reviewed previously identified mitigation projects and added new projects as well.

MITIGATION ACTIONS

Completed Mitigation Projects

Description	Emergency Signage
Analysis	Place signs around community and vulnerable areas to warn of potential hazards with an indication of storm shelter locations, evacuation routes or safest places to be during an event.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	All hazards
Benefits	Provides residents and non-residents the information needed to seek shelter or to evacuate during an event.
Lead Agency	Law Enforcement
Action since 2009 plan	New mobile sign board

Ongoing/New Mitigation Projects

Description	Backup Power Generators
Analysis	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other critical facilities and shelters.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$15,000-$30,000 per generator
Benefits	Back-up power for critical facilities (i.e. nursing home). A measure that would reduce or prevent damage to property or prevent loss of life or serious injury.
Potential Funding	HMGP
Timeline	Ongoing
Priority	High
Lead Agency	All departments
Action since 2009 plan	In progress, Currently have generators at Law Enforcement Center, Jail, Dispatch, Ambulance/EMS Public Works, and EOC

Description	Storm Shelter / Safe Rooms
Analysis	Design and construct fully supplied storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, school, and other areas.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Tornados and high winds, severe thunderstorms
Estimated Cost	$200-$300/sf stand alone; $150-$200/sf addition/retrofit
Benefits	Useful for many residents that do not have basements or cellars to go for shelter, especially beneficial for the nursing home and other vulnerable populations.
Potential Funding	PDM, HMGP
Timeline	5 years
Priority	High
Lead Agency	All departments
Action since 2009 plan	None

Description	Electrical System Looped Distribution / Redundancies
Analysis	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.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$40,000/mile
Benefits	More reliable and resistant power distribution system
Potential Funding	HMGP, PDM, PPDs
Timeline	3 – 5 years
Priority	High
Lead Agency	Power Companies
Action since 2009 plan	None but NPPD provides power supply and maintenance.

Description	**Continue Participation in the National Flood Insurance Program (NFIP)**
Analysis	Maintain good standing with National Flood Insurance Program (NFIP).
Goal/Objective	Goal 2/Objective 2.3
Hazard(s) Addressed	Flooding
Estimated Cost	N/A
Benefits	Enable property owners to purchase insurance protection against flood losses. Good standing enables participants to apply for PDM and HMGP cost-share.
Potential Funding	N/A
Timeline	Ongoing
Priority	High
Lead Agency	Floodplain Administrator
Action since 2009 plan	In progress, continue to meet NFIP standards

Description	**Warning Systems**
Analysis	Improve city cable TV interrupt warning system and implement telephone interrupt system such as Reverse 911, emergency text messaging warning system, etc.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$5,000+
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Potential Funding	HMGP, PDM
Timeline	5 years
Priority	High
Lead Agency	Emergency Management Agency
Action since 2009 plan	None

Description	**Weather Radios**
Analysis	Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed.
Goal/Objective	Goal 4/Objective 4.3 and Goal 1/Objective 1.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$50 / radio
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Potential Funding	HMGP, PDM
Timeline	Ongoing
Priority	High
Lead Agency	Emergency Management Agency
Action since 2009 plan	In progress, have radios at Law enforcement center jail, dispatch, EMS, and EOC

Description	**Alert Sirens**
Analysis	Perform an evaluation of existing alert sirens in order to determine sires which should be replaced or upgraded. Install new sirens where needed.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$15,000+
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Potential Funding	HMGP
Timeline	High
Priority	2-3 years
Lead Agency	Local Governments
Action since 2009 plan	In progress, upgrade sirens as they become obsolete

Description	**Comprehensive City Disaster / Emergency Response Plan**
Analysis	Create or update Comprehensive City/Village Disaster and Emergency Response Plan
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$6,000+
Benefits	Identification of vulnerabilities and better response to a disaster/hazard.

Description	**Comprehensive City Disaster / Emergency Response Plan**
Potential Funding	Emergency Management Performance Grant, Homeland Security Funding
Timeline	5 years
Priority	High
Lead Agency	Emergency Management Agency
Action since 2009 plan	None

Description	**Floodplain Mapping/Remapping**
Analysis	Update of existing floodplain maps for communities/counties that participate in the NFIP.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding
Estimated Cost	$30,000 to $100,000
Benefits	Up-to-date identification of flood prone areas, compliance with NFIP.
Potential Funding	Cooperating Technical Program, USACE, UBB NRD
Timeline	Ongoing
Priority	High
Lead Agency	Floodplain Administrator
Action since 2009 plan	In progress, updating to get a DFIRM

Description	**Floodplain Regulation Enforcements/Updates**
Analysis	Continue to enforce local floodplain regulations for structures located in the 100-year floodplain.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding
Estimated Cost	$4,000+
Benefits	Protection of repetitive loss structures from flooding, compliance with the Community Ratings System (NFIP).
Potential Funding	HMGP, CDBG
Timeline	Ongoing
Priority	High
Lead Agency	Zoning, Floodplain Administrator
Action since 2009 plan	In progress, review regulations and update as changes are needed

Description	**Stormwater System and Drainage Improvements**
Analysis	Undersized systems can contribute to localized flooding. Stormwater system improvements, such as pipe upsizing and additional inlets, installation of retention and detention facilities can be implemented to decrease runoff rates while also decrease the need for other stormwater system improvements.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding
Estimated Cost	$100,000+
Benefits	Decreased stormwater runoff, improved retention and detention systems for managing stormwater runoff and preventing localized flooding.
Potential Funding	HMGP, PDM, Community Development Block Grant (CDBG)
Timeline	1 - 3 years
Priority	Medium
Lead Agency	Public Works
Action since 2009 plan	Not Yet Started

Description	**Public Awareness / Education**
Analysis	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. In addition, educate citizens on erosion control and water conservation methods. Educate residents on response and rescue plans for all hazard types.
Goal/Objective	Goal 3/Objective 3.1, Goal1/Objective 1.1
Hazard(s) Addressed	All hazards
Estimated Cost	$500+

Description	**Public Awareness / Education**
Benefits	Increase knowledge to new comers to the area as well as elderly in how to react when an event is going to occur or is occurring. Education to reduce or prevent damage to property or prevent loss of life or serious injury.
Potential Funding	HMGP, PDM
Timeline	Ongoing
Priority	Medium
Lead Agency	Emergency Management Agency, All departments
Action since 2009 plan	In progress, provide education to the public year round based on hazards present

Description	**Drainage Improvements**
Analysis	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. Drainage ponds, both retention detention, may also be implemented to decrease runoff rates while decreasing the need for other stormwater system improvements.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding
Estimated Cost	$10,000 - $50,000+
Benefits	These improvements can serve to more effectively convey runoff within jurisdictions, preventing interior localized flooding resulting in damages.
Potential Funding	HMGP, CDBG
Timeline	1 – 3 years
Priority	Medium
Lead Agency	Public Works
Action since 2009 plan	Not Yet Started

Description	**Snow fences**
Analysis	Construct snow fences to protect main transportation routes and critical facilities from excessive snow drifting and road closure.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Severe winter storms
Estimated Cost	$1,000+
Benefits	Increased road accessibility for the population and emergency vehicles.
Potential Funding	PDM, HMGP
Timeline	5 years
Priority	Low
Lead Agency	Public Works
Action since 2009 plan	None

Description	**Fire Wise Defensible Space**
Analysis	Work with the Nebraska Forest Service and US Forest Service to become a Fire Wise Communities/USA participant. Develop a Community Wildfire Protection Plan. Train land owners about creating defensible space. Enact ordinances and building codes to increase defensible space, improve building materials to reduce structure ignitability, and increase access to structures by responders. Develop and implement brush and fuel thinning projects.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Wildfire
Estimated Cost	$20,000
Benefits	Structures are less vulnerable to wildfire, easier for firefighters to defend structure during a wildfire event, and removes fuel from an approaching fire.
Potential Funding	HMGP, NFS, USFS, National Fire Plan
Timeline	3 – 5 years
Priority	Medium
Lead Agency	Zoning, Fire Departments
Action since 2009 plan	None

Description	**Civil Service Improvements**
Analysis	Improve emergency rescue and response equipment and facilities by providing additional, or updating existing emergency response equipment. This could include fire trucks, ATV's, water

Description	Civil Service Improvements
	tanks/truck, snow removal equipment, etc. This would also include developing backup systems for emergency vehicles, and identifying and training additional personnel for emergency response.
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	All hazards
Estimated Cost	Varies depending on what equipment is needed
Benefits	Increase local capabilities to respond to disasters
Potential Funding	Homeland Security, Emergency Management, NEMA, Governing County and Board of Commissioners, Nebraska Forest Service
Timeline	Ongoing
Priority	Low
Lead Agency	All departments
Action since 2009 plan	In progress, would like to update snow removal equipment

Description	Emergency Communications
Analysis	Establish an action plan to improve communication between agencies to better assist residents and businesses during and following emergencies. Establish inner-operable communications. Provide equipment such as satellite telephones and radios.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$10,000+
Benefits	More efficient and effective communication between different departments
Potential Funding	Homeland Security
Timeline	Ongoing
Priority	Medium-Low
Lead Agency	All departments
Action since 2009 plan	In progress, need to update radios

Description	Formal Evacuation Plan
Analysis	Establish a plan to effectively evacuate residents during storm events and major flooding.
Goal/Objective	Goal 4/Objective 4.2
Hazard(s) Addressed	Severe thunderstorms, tornados and high winds, severe winter storms, flooding
Estimated Cost	$2,000+
Benefits	Save lives by being prepared before or during a disaster
Potential Funding	Homeland Security
Timeline	Ongoing
Priority	High
Lead Agency	Emergency Management Agency
Action since 2009 plan	In progress, in the planning stages

Description	Improve Snow/Ice Removal Program
Analysis	Continue to revise and improve the snow and ice removal program for streets.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Severe winter storms
Estimated Cost	$20,000+
Benefits	Increase local capabilities to remove snow/ice from roadways during severe winter storms
Potential Funding	PDM
Timeline	Ongoing
Priority	High
Lead Agency	Public Works
Action since 2009 plan	In progress, review the plan every fall to find improvements

Description	Weather Radar System Program
Analysis	Provide information from weather radar like the motion, type of precipitation, location, and a forecast of movement would be provided
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Severe thunderstorms, severe winter storms, tornados and high winds
Estimated Cost	N/A

Description	**Weather Radar System Program**
Benefits	To keep responders p to date with the weather to be able to be prepared to respond and warn the public
Potential Funding	N/A
Timeline	5 years
Priority	Medium
Lead Agency	Emergency Management Agency
Action since 2009 plan	None

Description	**Shelter in Place Education and Training**
Analysis	Ensure that all critical facilities, businesses, and residents located near major transportation corridors and near fixed site chemical facilities are aware of how to safely shelter in place in the event of a chemical incident
Goal/Objective	Goal 3/Objective 3.1; Goal 4/Objective 4.1
Hazard(s) Addressed	Man-made hazards
Estimated Cost	$1,000+
Benefits	Losses and injuries to residents and businesses could be substantially reduced during and following a hazmat incident.
Potential Funding	Homeland Security, Emergency Management Agency
Timeline	Ongoing
Priority	Low
Lead Agency	Emergency Management Agency
Action since 2009 plan	In progress, developing protocols

Description	**Training for Response to Train Derailment**
Analysis	Provide training for first responders in the event of a train derailment and related hazmat incident.
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	Chemical spills (transport)
Estimated Cost	$1,000+
Benefits	Through adequate training, Emergency Management will reduce losses and lessen the threat to public health and safety
Potential Funding	Homeland Security, Emergency Management, Village, and Railroad Company
Timeline	Ongoing
Priority	Low
Lead Agency	All departments
Action since 2009 plan	In progress, Hold a training every year

Description	**Develop Continuity Plans**
Analysis	Develop continuity plans for critical community services
Goal/Objective	Goal 2/Objective 2.2
Hazard(s) Addressed	All hazards
Estimated Cost	N/A
Benefits	Plans would be in place during an event to provide support and methods for addressing issues.
Potential Funding	N/A
Timeline	1 year
Priority	High
Lead Agency	Emergency Management Agency
Action since 2009 plan	New Project

Description	**Education about Continuity Plans**
Analysis	Educate local businesses on the value of continuity planning.
Goal/Objective	Goal 2/Objective 2.2
Hazard(s) Addressed	All hazards
Estimated Cost	$500+
Benefits	Education would help businesses to implement a continuity plan.
Potential Funding	HMGP
Timeline	1 year
Priority	Low
Lead Agency	Emergency Management Agency

Description	**Education about Continuity Plans**
Action since 2009 plan	New Project

Description	**Develop Database of Vulnerable Populations**
Analysis	Work with stakeholders to develop a database of vulnerable populations and the organizations which support them
Goal/Objective	Goal 1/Objective 1.1
Hazard(s) Addressed	All hazards
Estimated Cost	NA
Benefits	Provides the county and local communities with a list of individuals requiring additional assistance should a disaster occur
Potential Funding	NA
Timeline	1 – 3 years
Priority	Medium
Lead Agency	Emergency Management Agency
Action since 2009 plan	New project

Description	**Promote Higher Codes/Standards**
Analysis	Promote the use of higher codes and standards, such as the Fortified for Safer Living Standard
Goal/Objective	Goal 2/Objective 2.2
Hazard(s) Addressed	All hazards
Estimated Cost	NA
Benefits	Provides greater protection for any new construction or building retrofits
Potential Funding	NA
Timeline	5 – 10 years
Priority	Low
Lead Agency	Zoning
Action since 2009 plan	New project

Description	**Floodplain Management**
Analysis	Preserve natural and beneficial functions of floodplain land through measures such as: retaining natural vegetation, restoring streambeds, and preserving open space in the floodplain.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding
Estimated Cost	Varies depending on what is incorporated
Benefits	Reduces risk to flooding
Potential Funding	HMGP
Timeline	5 years
Priority	Low
Lead Agency	Public Works
Action since 2009 plan	New project

Description	**No Adverse Impact Adoption**
Analysis	Adopt a No Adverse Impact approach to floodplain management
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding
Estimated Cost	N/A
Benefits	Prevents worsening of flooding and reduced flood damage
Potential Funding	N/A
Timeline	Ongoing
Priority	Medium
Lead Agency	Floodplain Manager
Action since 2009 plan	New Project

Description	**Low Impact Development Best Practices**
Analysis	Utilize Low Impact Development practices and Green Infrastructure to reduce flood risk
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding
Estimated Cost	N/A

Description	Low Impact Development Best Practices
Benefits	Reduces flood risk to community
Potential Funding	N/A
Timeline	Ongoing
Priority	Medium
Lead Agency	Zoning
Action since 2009 plan	New Project

Description	Vulnerable Populations Locations
Analysis	Ensure that facilities which house vulnerable populations are placed in the least vulnerable areas of the community.
Goal/Objective	Goal 2/Objective 2.3, Goal 1/Objective 1.1
Hazard(s) Addressed	All hazards
Estimated Cost	N/A
Benefits	Provides a safer location for vulnerable populations to reside to reduce their risk to hazards
Potential Funding	N/A
Timeline	2 – 5years
Priority	Medium
Lead Agency	Zoning
Action since 2009 plan	New Project

Description	Install Vehicular Barriers
Analysis	Install Vehicular Barriers to protect critical facilities and key infrastructure where possible
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Terrorism, Civil Disorder
Estimated Cost	$500 - $25,000
Benefits	Provides protection for critical facilities
Potential Funding	HMGP, DHHS
Timeline	5 – 10 years
Priority	Low
Lead Agency	All departments
Action since 2009 plan	New project

Description	First Aid Training
Analysis	Promote first aid training for all residents
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	All hazards
Estimated Cost	$500+
Benefits	Provides the residents the knowledge to perform first aid during a disaster.
Potential Funding	HMGP, City Administration
Timeline	Ongoing
Priority	Medium
Lead Agency	EMS
Action since 2009 plan	New Project

Removed Mitigation Projects

Description	Obtaining Missing Data
Analysis	Obtain necessary data to improve vulnerability assessments when updating the plan.
Hazard(s) Addressed	All Hazards
Reason for Removal	The local planning team was unsure what was intended by this project. While there is always additional data that can be gathered there is not a specific need at this time so the local planning team wishes to remove this project.

CITY OF AURORA

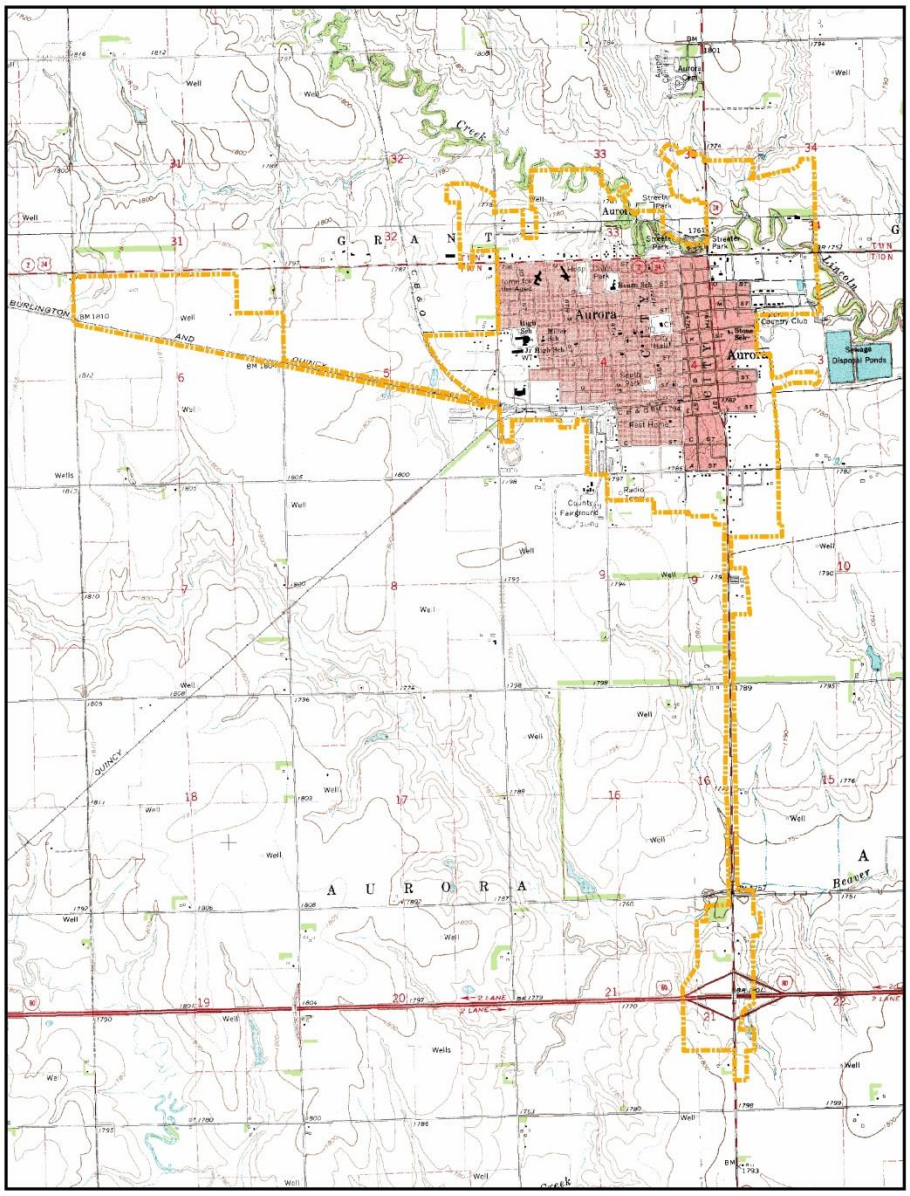
Hamilton County
Multi-Jurisdictional Hazard Mitigation Plan Update

March 2015

HISTORY

Settlement began in the community of Aurora in 1871 when an agreement between seven men from Iowa, led by David Stone, resulted in the acquisition of the future town site. The future town site was located near the twin cottonwood trees on Lincoln Creek, a landmark on the open prairie. The city was named after Aurora, Illinois. In 1876 the county seat was moved to Aurora from Orville City, and the town was incorporated on July 3, 1877. At this point the population of Aurora, already over 400, increased greatly when Orville and Hamilton merged with Aurora. The Burlington and Missouri River Railroad line arrived in Aurora in 1879. The city also served as a terminal for branch lines southwest to Hastings and northwest to Burwell, Sargent, and Ericson.

Figure 58: Aurora Topographic Map



LOCATION

The City of Aurora is a second class city located in the central portion of Hamilton County. The City of Aurora covers 2.89 square miles of land area and has an elevation of 1,790 feet above sea level. Aurora is 91.3 miles west of Lincoln.

CLIMATE

The warmest month in Aurora is July with an average high temperature of 87 degrees and the coolest month is January with an average low temperature of 11 degrees. The highest and lowest temperatures recorded are 108 degrees in 1983 and 28 degrees below zero in 1989. The month of May has the highest precipitation average of 4.68 inches per year.

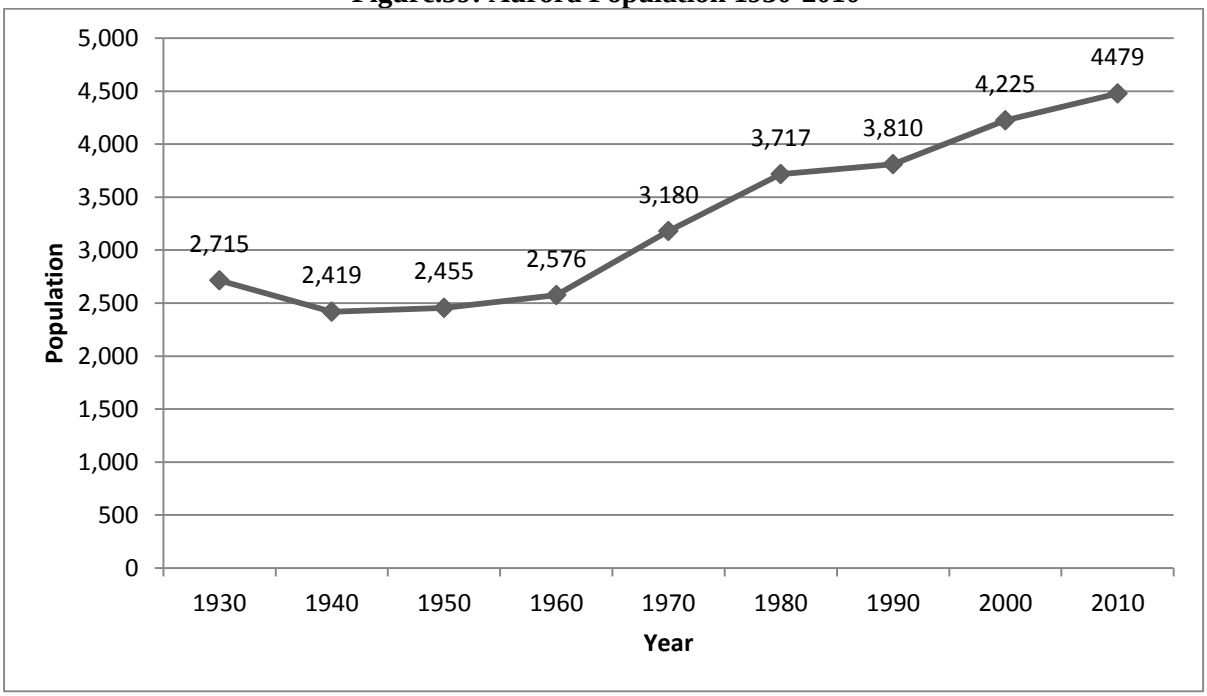
GEOGRAPHY

The community of Aurora lies in an area of plains. The land use surrounding the community is mainly agricultural crops with some ranching. Flat lying land above the valley with materials of sandstone or stream deposited silt, clay, sand and gravel overlain by wind deposited silt is prevalent. Lincoln Creek runs through the north portion of town with Beaver Creek approximately six miles south of the community. The watershed flows generally from the northwest to the southeast, and a current floodplain has been delineated for Aurora.

DEMOGRAPHICS

Figure 60 displays the historical population trend for the City of Aurora from 1930 to 2010. After a period of population decline between 1930 and 1940, the City of Aurora saw a steady increase of its population from 1930 to 2010. This increase is in contrast to the overall population decline across the planning area. Population growth in Aurora can be attributed to the developing industries such as Education Services and Manufacturing, as well as its close proximity to three major transportation routes, such as Interstate 80, U.S. Highway 34, and State Highway 14.

Figure.59: Aurora Population 1930-2010



Source: US Census

As shown in Table 98, age distribution and median age for Aurora are compared with Hamilton County. The median age of 40.4 in the City of Aurora is younger than the median age of 42.3 in the county by almost 2 years, which is likely attributed to the higher percentage of young children under the age of five. The Aurora Public School system in the city will be attractive to young families, and in conjunction with more opportunities for jobs in education and manufacturing, this will continue to draw new residents to Aurora.

Table.98: Aurora Population by Age

Age	Hamilton County	Aurora
<5	5.8%	6.9%
5-64	77.8%	74.3%
>64	16.4%	18.8 %
Median	42.3	40.4

Source: U.S. Census Bureau, 2010

HOUSING AND ECONOMICS

Median household income, per capita income, home value, and rent for the county are compared to the village in Table 99. All four categories are slightly lower in the jurisdiction than the county values. This lower cost of living can be beneficial to current residents and attractive to new residents that are looking for job opportunities in the area.

Table.99: Aurora Housing and Income

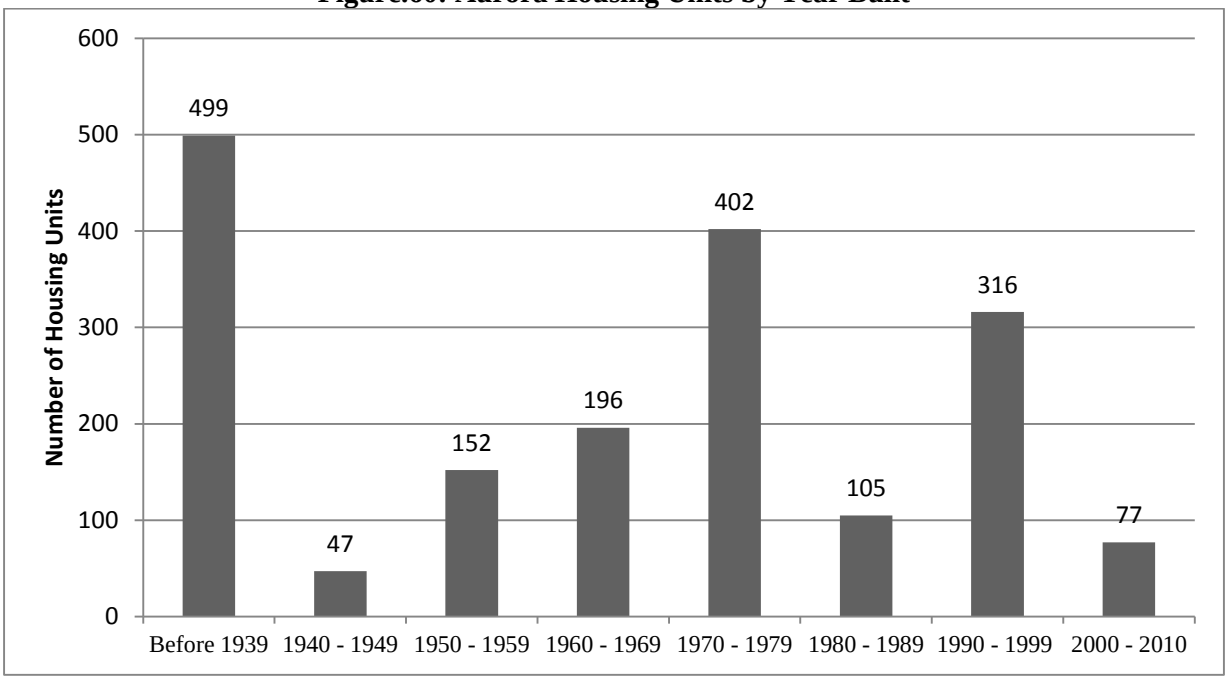
	Hamilton County	Aurora
Median Household Income	$56,809	$52,188
Per Capita Income	$26,785	$22,836
Median Home Value	$112,000	$106,100
Median Rent	$581	$388 - $720*

Source: U.S. Census Bureau, 2010 American Community Surveys 5-year Estimates
**Range based on margin of error*

According to 2010 Census data for housing units (Figure 60), the City of Aurora has 1,794 housing units with 89 percent of those units occupied (Table 100). About two percent of the city's housing is classified as mobile homes and are located in mobile home parks in the community. Additionally, nearly 39 percent of the city's housing was built before 1960. High winds, tornados, and severe thunderstorms pose a threat to aging housing stock, vacant buildings, and mobile homes. Residents living in these types of structures will be vulnerable to severe weather hazards.

There are three mobile home parks in the city. The largest park is located in the south between 10th and 12th Streets as the east-west boundaries and the C and E Streets north-south; there are 28 mobile homes in this park. The next largest park is just to the south of US Highway 34 and to the east of McCullough Lane; there are 26 mobile homes in this park. The third park Countryside Court in the north has 23 homes.

Figure.60: Aurora Housing Units by Year Built



Source: US Census 2006 - 2010 American Community Survey 5 Year Estimates

Table.100: Aurora Housing Unit Occupancy

Jurisdiction	Total Housing Units					Occupied Housing Units			
	Occupied		Vacant			Owner		Renter	
	Number	Percent	Number	Percent		Number	Percent	Number	Percent
Hamilton County	3,464	87.7%	484	12.3%		2,667	77.0%	797	23.0%
Aurora	1,597	89.0%	197	11.0%		1,152	72.1%	445	27.9%

Source: US Census 2006 - 2010 American Community Survey 5 Year Estimates

STRUCTURAL INVENTORY AND VALUATION

A structural inventory was completed for the corporate limits of Aurora through a window survey using GIS for the 2009 hazard mitigation plan. The values of these structure types were updated utilizing the 2013 Property Type Values as provided by the Nebraska Department of Revenue Property Assessment Division.

Results from the structural inventory completed for the City of Aurora are found in Table 99 below.

Table.101: Aurora Structural Inventory

Total Structures		Structure Valuation	
Structure Type	**Number of Structures**	**Total Value**	**Value per Structure**
Commercial/Industrial	213	$43,233,173	$202,973
Agriculture	223	$1,589,990	$7,130
Residential	1730	$173,203,328	$100,118
Public/Quasi Public	93	$1,329,618	$14,297
Total	**2259**	**$219,356,109**	N/A

Source: Nebraska Department of Revenue, Property Assessment Division

The following table shows the properties in Aurora that are identified on the National Register of Historic Places.

Table.102: Aurora Historic Places

Name	Type	Year Listed
Hearn Kathleen Building	Building	1984
Hamilton County Courthouse	Building	1985
Royal Highlanders Building	Building	1985
Streeter-Peterson House	Building	1991
United Brethren Church	Building	2008

EDUCATIONAL FACILITIES

Aurora Public Schools

Aurora Public School is an In-Direct Participant in this planning process and provided data relevant to the district to be used through this planning process. The school district serves the following communities: Aurora, Marquette, Phillips, and Stockham. There are three campuses in Aurora serving 1,250 students, and they are a K-5 Elementary School, a 6-8 Middle School, and a 9-12 High School.

The risk assessment for Aurora Public Schools is consistent with that of the City of Aurora. All of the structures for Aurora Public Schools are located outside of the 1% annual floodplain. Several mitigation projects have been identified for this plan update including a safe room project, back-up power generators, and adding a weather radio to each school.

Aurora Public Schools are able to implement mitigation projects (such as facility upgrades and retrofits) as needed so long as those items are included in long range budgeting for the district. The district does look for opportunities to partner with other entities (the city, local fire districts, Hamilton County, etc.) in the implementation of major mitigation projects.

CRITICAL INFRASTRUCTURE/KEY RESOURCES

According to FEMA, "A critical facility is a structure that, if flooded (or damaged), would present an immediate threat to life, public health, and safety." Examples of critical facilities include hospitals, emergency operations centers, schools, city shops, wells, and sanitary sewer lift stations, etc.

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. Critical facilities were identified during the 2009 planning process and updated by the Aurora planning team as a part of the plan update. Figures 61 – 64 in the following pages are a summary of the critical facilities for the jurisdiction.

The city of Aurora has five critical facilities in the 1% annual floodplain. Table 103 shows the facilities located in the 1% annual floodplain.

Table.103: Aurora Critical Facilities in the 1% Annual Floodplain

Type	Location	Critical Facility
Non-Governmental	City of Aurora	Humane Society
Municipal	City of Aurora	Main Waste Water Lift Station
Non-Governmental	City of Aurora	Youth Leadership Center/Camp
Municipal	City of Aurora	Well
Municipal	City of Aurora	Lift Station

Figure.61: Aurora Locations of Critical Facilities (Emergency Management)

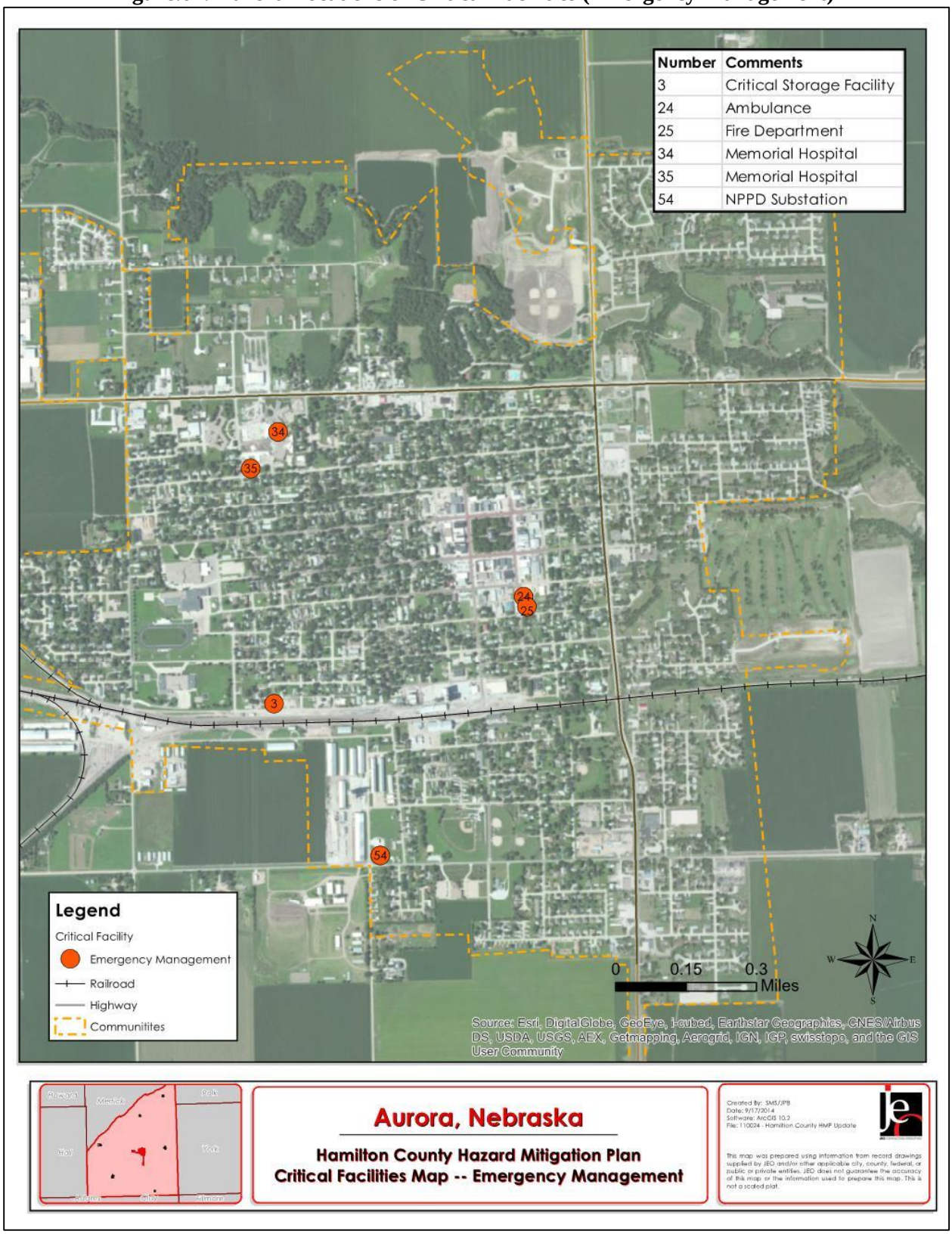


Figure.62: Aurora Locations of Critical Facilities (Infrastructure)

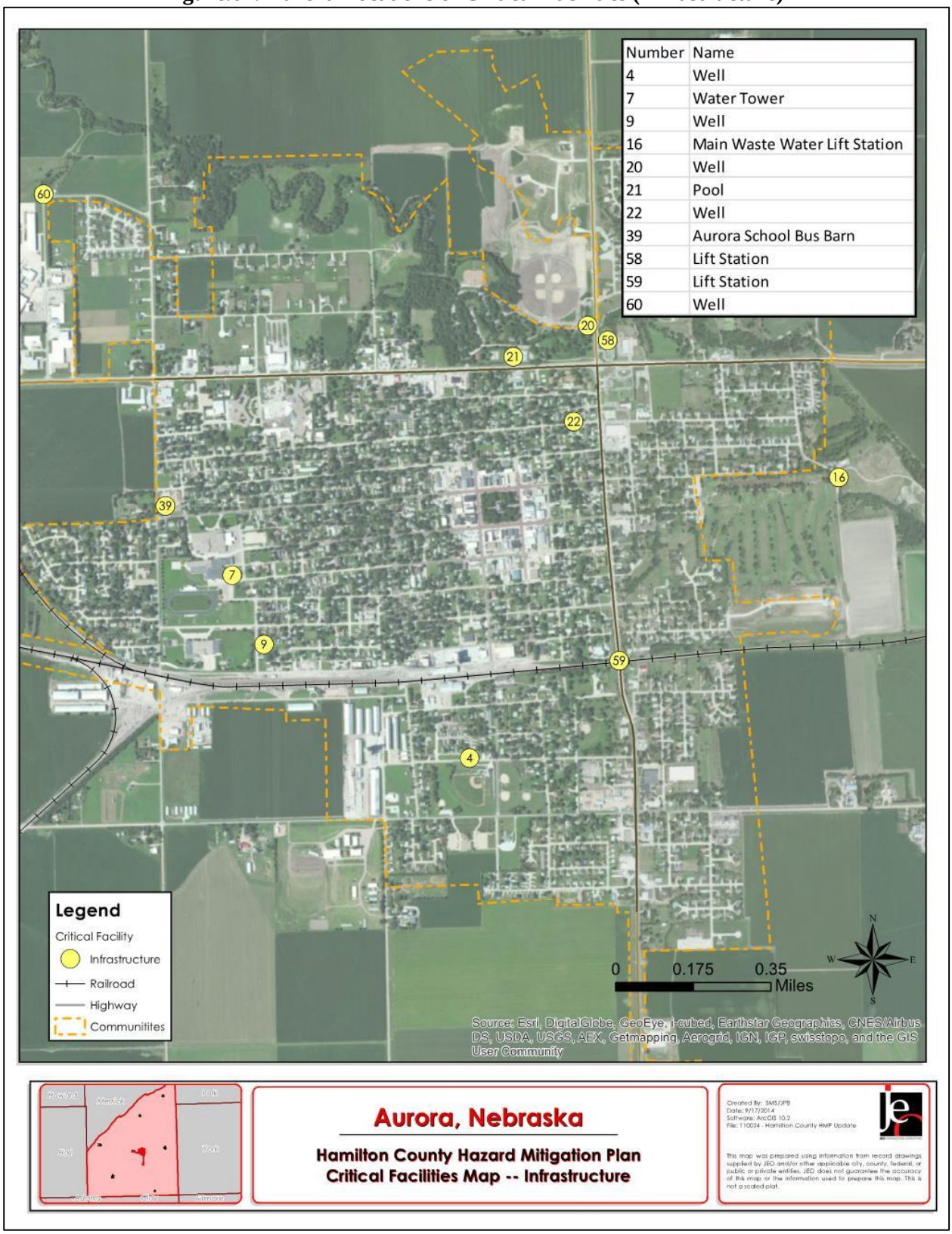


Figure.63: Aurora Locations of Critical Facilities (Municipal)

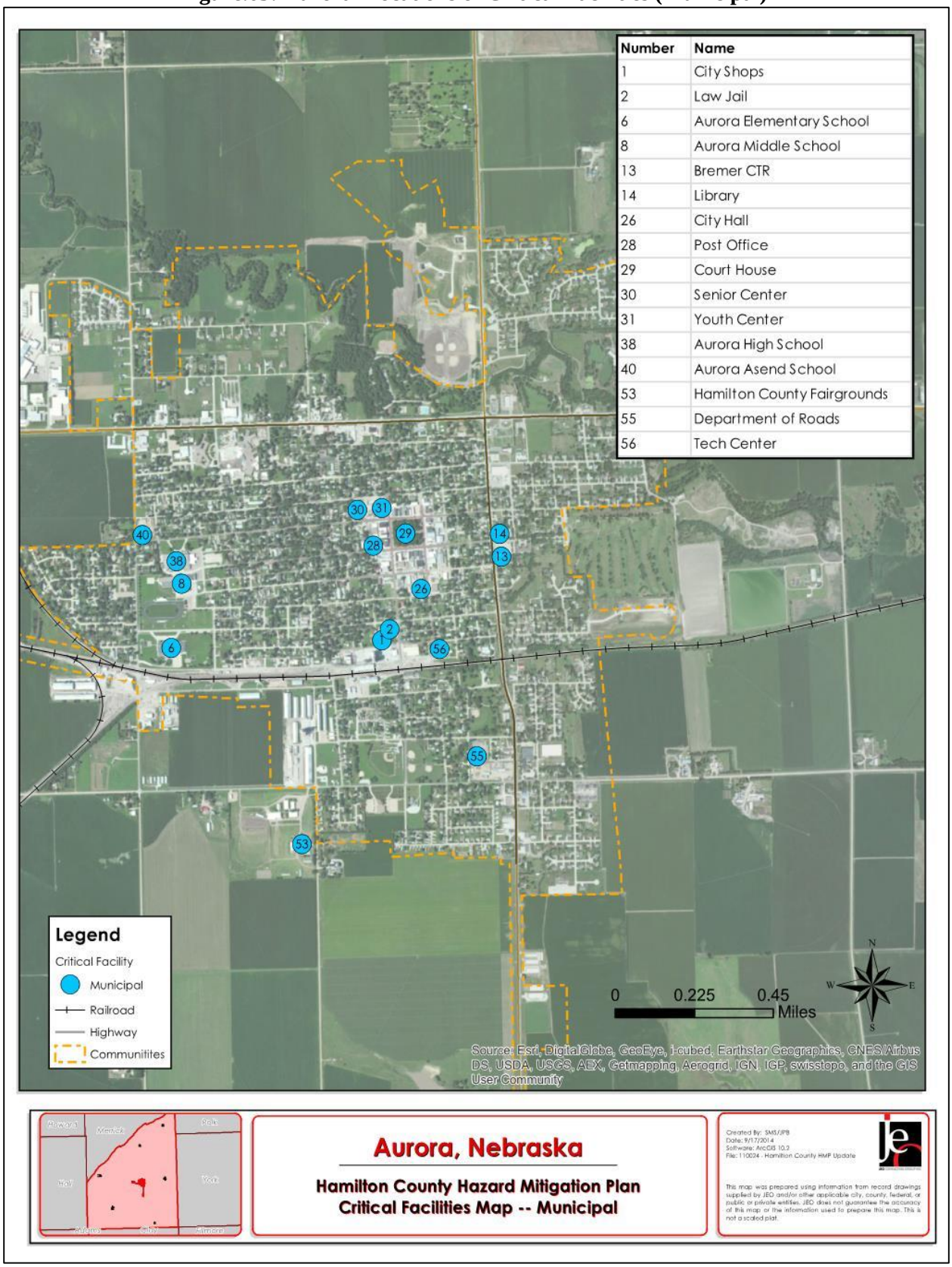
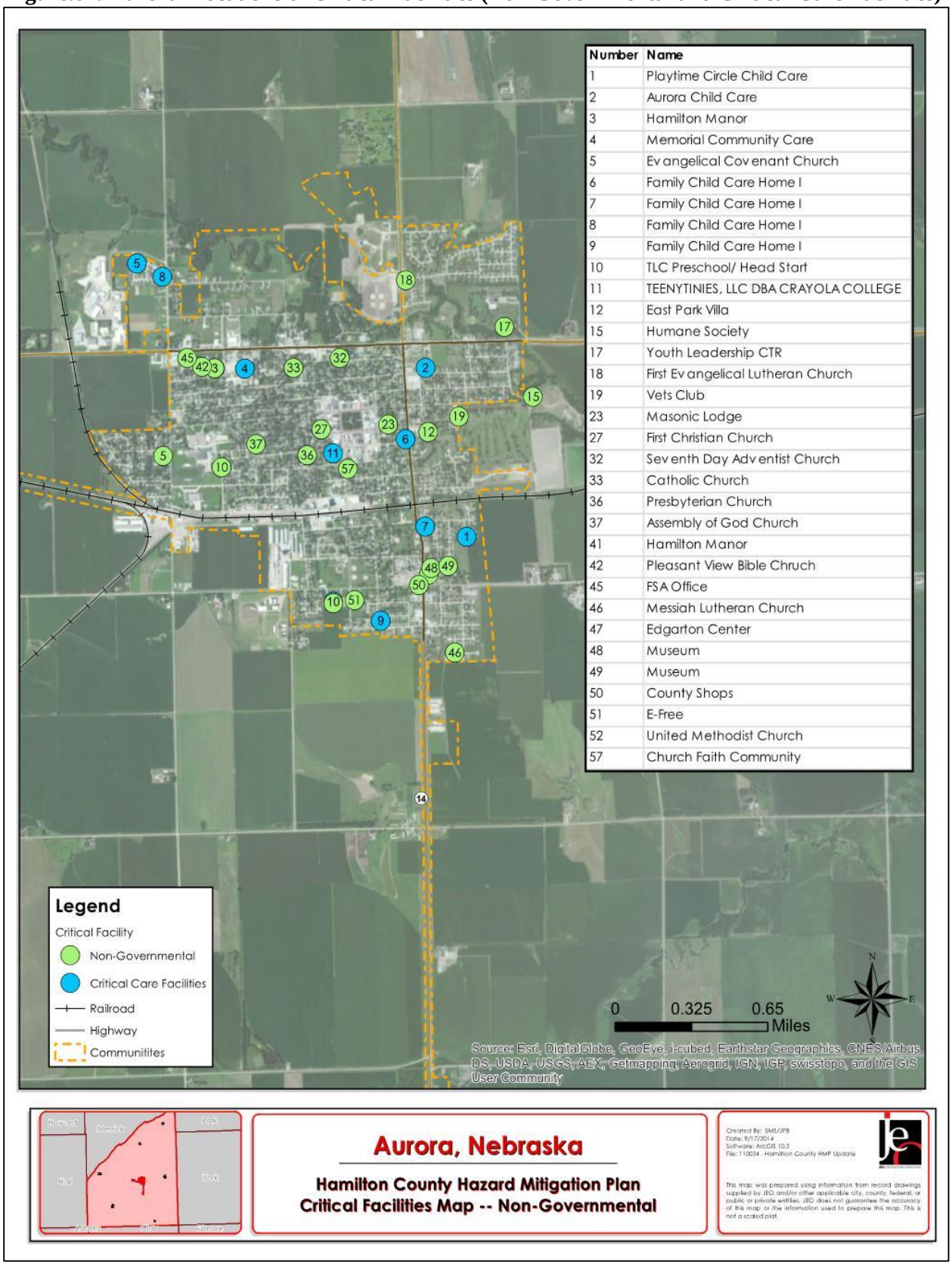


Figure.64: Aurora Locations of Critical Facilities (Non-Governmental and Critical Care Facilities)



FUTURE DEVELOPMENT TRENDS

The City of Aurora has been experiencing stable population growth and is expected to continue to grow in the coming years. As indicated in the comprehensive plan for the City of Aurora developed in 1999, multiple forces will stimulate additional growth of residential areas to the North, East, and South of the current built area, and the local planning team agreed that these are the areas anticipated for further development. Moreover, continued commercial growth is expected along State Highway 34, and also, future development is expected at the I-80 interchange. The following future land use map (Figure 65) indicates areas in Aurora which are likely to experience growth in the future. Some areas in the northern and eastern parts of Aurora are exposed to flooding hazards, as shown in Figure 66, and along sections of State Highway 14.

Flood prone areas north and northeast of town include low density residential and commercial uses, which have for the most part been elevated above the 1% annual flood elevation. It will be important that Aurora ensure that any growth in these areas recognize the threat posed by the floodplain. Aurora does have a Floodplain Ordinance, and the requirements are consistent with the Nebraska State Minimum Standards for floodplain management, including a one (1) foot freeboard for all new or substantially improved structures in the floodplain.

Figure.65: Aurora Future Land Use Map

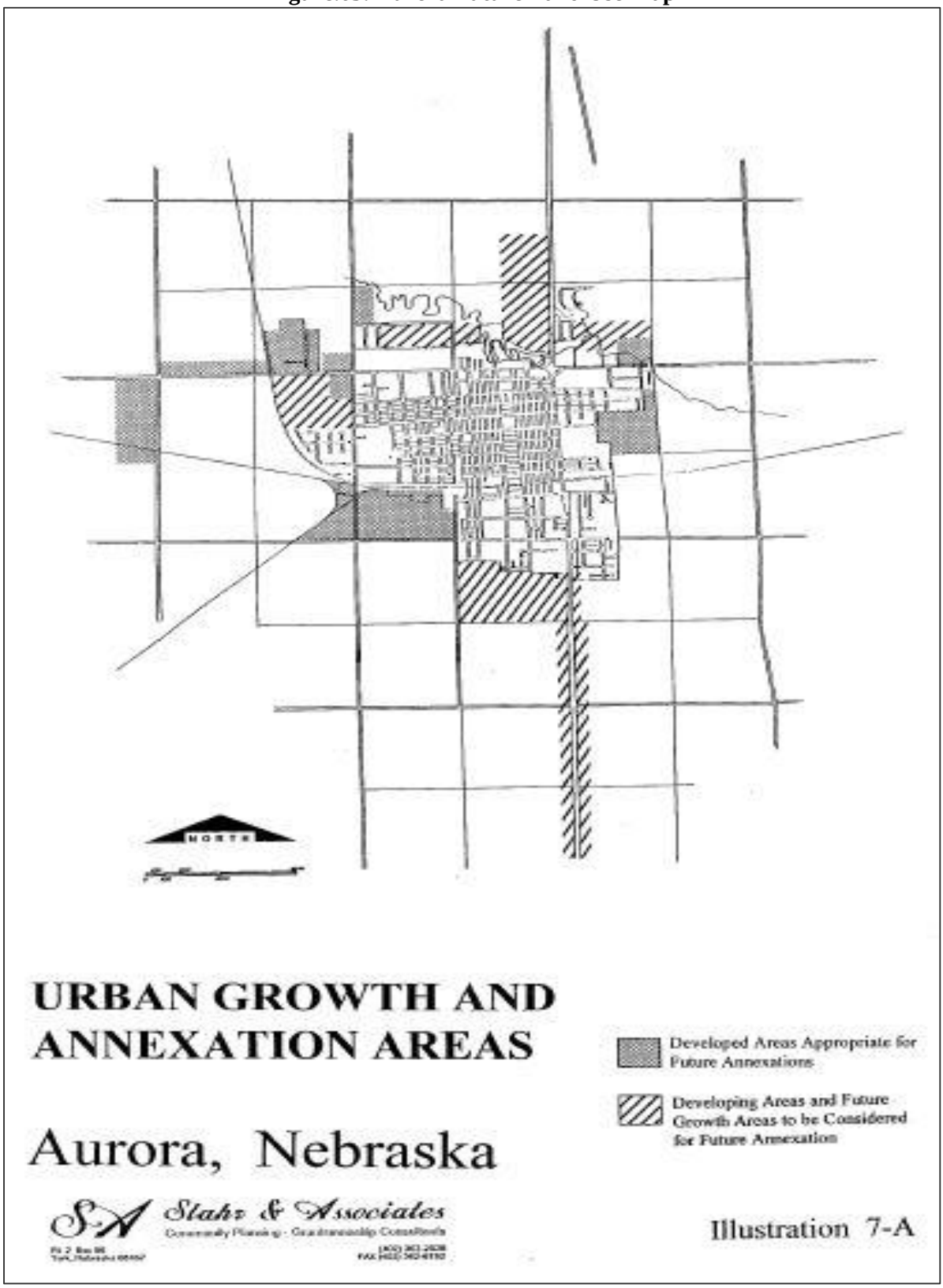


Figure 66: Floodplain Map for Aurora

RISK ASSESSMENT

Hazard Identification

Table 104 is a risk assessment of hazards as determined by the jurisdictional representatives. Refer to *Section Four: Community Based Risk Assessment* for an explanation as to what the methodology is.

Table.104: Aurora Risk Assessment

HAZARD TYPE	PREVIOUS OCCURRENCE? Yes/No	Approximate Annual Probability (Regional Risk Assessment)	Specific Concerns Identified
Severe Winter Storm	Yes	100%	26% of population at higher level of vulnerability; potential loss of life and properties
Tornado	Yes	~20%	Potential loss of life and properties
High Winds	Yes	100%	Potential loss of life and properties
Severe Thunderstorm	Yes	100%	Potential loss of life and properties; Economic impacts; Secondary hazards such as hail and tornados
Hail	Yes	100%	Potential loss of life and properties; Economic impacts
Flooding*	Yes	~10%	Potential loss of properties
Extreme Heat	Yes	100%	26% of population at higher level of vulnerability; Ag losses; Secondary hazards such as wildfires
Drought	Yes	~10%	Economic impacts; Land degradation; Secondary hazards such as wildfires
Grass/Wildfire	Yes	100%	Potential loss of life and properties; Economic impacts
Dam Failure	No	1%	None
Levee Failure	No	0	None
Ag Animal Disease	Yes	100%	None
Ag Plant Disease	Yes	~50%	None
Earthquakes	Yes	<5%	None
Landslides	No	0	None
Urban Fire	Yes	100%	None
Radiological Fixed Facilities	Not present in the planning area	NA	None
Chemical Transportation	20/30	~70%	None
Terrorism	0	1%	None
Chemical Fixed Sites	0/23	<5%	None
Radiological Transportation	0	1%	None
Civil Disorder	No	unknown	None

**Identified by the planning team as a top concern for the jurisdiction*

Based on the risk assessment and feedback from the local planning team the hazards of top concern are severe winter storms, high winds, severe thunderstorms, hail, and flooding. These five hazards that raise the greatest concerns for the community are discussed in detail.

Historical Occurrences

The NCDC reported 57 severe weather events in Aurora from 1996 to 2014. There were no recorded deaths, but one injury occurred from lightning on May 16, 1996. Additionally, there was a reported $1,775,500 in damages to property and $7,702,800,000 in crop damages. Refer to Table 105 for detailed information of each severe weather event including date, extent, property damage, and crop damage.

Table.105: NCDC Severe Weather Events for Aurora

Date	Hazard	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
5/29/2007	Flash Flood		0	0	$5,000	$100,000
7/29/2007	Flash Flood		0	0	$30,000	$100,000
7/29/1996	Hail	1.75 in.	0	0	$10,000	$50,000
9/8/1997	Hail	0.75 in.	0	0	$15,000	$1,200,000,000
5/4/1998	Hail	0.75 in.	0	0	$0	$0
5/11/1998	Hail	2.00 in.	0	0	$0	$250,000
5/21/1998	Hail	1.00 in.	0	0	$10,000	$3,500,000,000
11/5/2000	Hail	1.00 in.	0	0	$5,000	$0
6/10/2002	Hail	1.75 in.	0	0	$75,000	$0
8/16/2002	Hail	1.00 in.	0	0	$0	$0
5/13/2003	Hail	1.00 in.	0	0	$0	$0
6/22/2003	Hail	1.25 in.	0	0	$0	$0
6/22/2003	Hail	7.00 in.	0	0	$500,000	$1,000,000
4/10/2005	Hail	0.75 in.	0	0	$0	$0
7/2/2008	Hail	0.88 in.	0	0	$0	$0
7/9/2008	Hail	0.75 in.	0	0	$0	$0
3/23/2009	Hail	0.88 in.	0	0	$0	$0
7/10/2011	Hail	1.00 in.	0	0	$0	$0
5/1/2012	Hail	1.00 in.	0	0	$0	$0
5/1/2012	Hail	1.50 in.	0	0	$25,000	$500,000
5/19/2012	Hail	0.88 in.	0	0	$0	$0
5/23/2012	Hail	0.88 in.	0	0	$0	$0
11/10/2012	Hail	0.88 in.	0	0	$0	$0
4/30/2013	Hail	0.75 in.	0	0	$0	$0

Date	Hazard	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
4/30/2013	Hail	0.75 in.	0	0	$0	$0
4/30/2013	Hail	0.75 in.	0	0	$0	$0
5/11/2014	Hail	1.00 in.	0	0	$0	$0
6/3/2014	Hail	1.00 in.	0	0	$0	$0
6/11/2014	Hail	1.50 in.	0	0	$25,000	$3,000,000
5/16/1996	Lightning		0	1	$500	$0
5/23/1996	Lightning		0	0	$20,000	$0
7/5/1997	Lightning		0	0	$15,000	$0
5/16/1996	Thunderstorm Wind	70 kts./81 mph	0	0	$150,000	$0
7/7/1996	Thunderstorm Wind	60 kts./69 mph	0	0	$10,000	$50,000
6/20/1997	Thunderstorm Wind	70 kts./81 mph	0	0	$400,000	$300,000
10/4/1998	Thunderstorm Wind	61 kts./70 mph	0	0	$30,000	$250,000
7/20/2003	Thunderstorm Wind	61 kts. EG/70 mph	0	0	$35,000	$0
5/23/2006	Thunderstorm Wind	50 kts. EG/57 mph	0	0	$0	$0
6/5/2008	Thunderstorm Wind	52 kts. EG/60 mph	0	0	$0	$0
6/20/2008	Thunderstorm Wind	52 kts. EG/60 mph	0	0	$0	$0
7/15/2008	Thunderstorm Wind	52 kts. MG/60 mph	0	0	$5,000	$50,000
6/3/2010	Thunderstorm Wind	52 kts. EG/60 mph	0	0	$0	$0
6/11/2010	Thunderstorm Wind	52 kts. EG/60 mph	0	0	$0	$0
6/22/2010	Thunderstorm Wind	61 kts. EG/70 mph	0	0	$0	$0
5/29/2000	Thunderstorm Wind	63 kts. M/72 mph	0	0	$25,000	$100,000
6/23/2000	Thunderstorm Wind	56 kts. M/64 mph	0	0	$5,000	$50,000
3/30/2006	Thunderstorm Wind	50 kts. MG/57 mph	0	0	$0	$0
6/12/2010	Thunderstorm Wind	53 kts. MG/61 mph	0	0	$0	$0
6/22/2010	Thunderstorm Wind	50 kts. MG/57 mph	0	0	$0	$0
7/17/2010	Thunderstorm Wind	53 kts. MG/61 mph	0	0	$0	$0
7/17/2010	Thunderstorm Wind	50 kts. MG/57 mph	0	0	$0	$0
8/12/2011	Thunderstorm Wind	61 kts. MG/70 mph	0	0	$50,000	$0
6/14/2013	Thunderstorm Wind	52 kts. MG/60 mph	0	0	$0	$0
6/14/2014	Thunderstorm Wind	52 kts. EG/60 mph	0	0	$0	$0

Date	Hazard	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
4/8/1999	Tornado	F1	0	0	$300,000	$0
6/22/2003	Tornado	F0	0	0	$30,000	$0
5/10/2005	Tornado	F0	0	0	$0	$0
		Totals	**0**	**1**	**$1,775,500**	**$7,702,800,000**

Source: NCDC Storm Events 1996-2013

Severe Winter Storms

The local planning team identified severe winter storms as a top concern for the community. NCDC defines winter storms as "zonal" events. The NCDC data reported 67 winter storms for Hamilton County between 1996 and 2014, and seven of those resulted in $540,000 in property damage. Based on historic records severe winter storms have an annual probability of 100 percent.

There are some demographic populations that are vulnerable to this hazard in the Aurora. More than 18 percent of the population is over the age of 64, and this population may be more likely to sustain an injury or have a medical emergency as a result of shoveling snow following a winter storm. Community members and families below the poverty line are also at a higher risk related to severe winter storms, as they may lack resources needed to sustain themselves through a severe winter storm. According to the 2010 census for the city, approximately 10.5 percent of the population and 9.3 percent of families were at or below the poverty line.

The City of Aurora has designated snow routes and finds their snow removal equipment sufficient. The planning team has suggested that the city continue to revise and improve the snow removal program to increase local capabilities during severe winter storms. In addition, the city's critical facilities, such as wells, Fire Department, EMS Department, Emergency Management and Public Works Departments are equipped with back-up power. Also, the City of Aurora provides local educational programs to the community on severe winter storms.

High Winds

The local planning team identified high winds as a top concern for the community. In total there were 18 storms reported that had winds reported between 60 and 75 miles per hour. Winds of this magnitude, according to the Beaufort Wind Force Ranking, can cause trees to uproot, considerable structure damage, and over turning of improperly anchored mobile homes. Based on historic records high winds have an annual probability of 100 percent.

The local planning team identified a list of existing and potentially beneficial projects that would reduce risk and exposure of the community and its population to known high winds identified in this plan update. The city has backup generators on some wells, the fire department, the EMS department, the county EOC, and public works. Specifically, the local planning team identified constructing storm shelters and safe rooms, creating/updating City Disaster/Emergency Response Plan, installing alert sirens, warning systems and weather radios as highly important and currently ongoing projects.

Severe Thunderstorms

The local planning team identified severe thunderstorms as a top concern for the community. NCDC reported 22 thunderstorm winds (50+ knots) in Aurora between 1996 and 2014. The reported events produced a total of $710,000 in property damages and $800,000 in crop damages. In addition to high winds associated with severe thunderstorms, torrential downpours can occur, which introduces a risk to flash

flooding in the community. In 2007, two flash flood events caused a total of $35,000 in damages to property and $200,000 in damages to crops. The city of Aurora has already taken steps to reduce their risks to this hazard by using surge protectors and weather radios in its critical facilities. In addition to these preventive measures, the City of Aurora conducts local educational programs, such as Fire Prevention, DARE, Preparedness, First Aid, CPR, and Severe Weather Awareness Week.

Additional mitigation projects have been identified by the local planning team and are in this plan update to further reduce the risk and exposure to the community. Some of the projects include static detectors, which diminishes the chance of injury or death to the public at outside events, and stormwater system and drainage improvements to reduce the threat of flash flooding.

Hail

The local planning team identified hail as a top concern to the community. The NCDC reported 26 hail events in Aurora from 1996 to 2014 with hail size ranging from 0.75 inches to 7.00 inches, which previously held the record for largest hailstone in the United States. In addition to causing significant damage to crops and trees, hail size of one inch or greater can impact critical facilities, businesses and homes by damaging windows, plastic siding or structures, and roofs. The reported hail events resulted in a total of $665,000 in property damages and $7,701,800,000 in crop damages over a 18 year period. Based on historic records high winds have an annual probability of 100 percent.

Aurora's critical facilities are equipped with weather radios, and the city continues to educate residents about severe thunderstorms and hail.

Flooding

Flooding was identified as a top concern for the city of Aurora. Aurora is located in the 1% annual floodplain. There have been two flash flood events for the city that caused $35,000 in property damage and $200,000 in crop damages. This does not include loss of displacement, functional downtime, injury or loss of life. There is also one repetitive loss property, a single family home, in Aurora. Based on historic records flooding has an annual probability of about 10 percent.

For the purposes of calculating potential losses, it was estimated that all structures in the flooding hazard area would sustain 20 percent building damage at a flood depth of two feet. The evaluation was based on the average for one to two story buildings with basements. This information is from the Flood Building Loss Estimation Table provided by the FEMA Benefit-Cost Analysis Full Data Module. Using this estimated flood event, the potential building damages in Aurora would be $1,506,041.

Below, the table summarizes the potential damages to structures in the corporate limits within Aurora's 1-percent annual flood hazard area.

Table.106: Structures in the 1% Annual Floodplain for Aurora

Structures in 1% annual floodplain		**Structure Valuation**		
Structure Type	Number of Structures	Average Value	Total Value	Approximate Damage Value
Commercial/Industrial	0	$202,973	$0	$0
Agricultural	13	$7,130	$92,690	$18,592
Residential	72	$100,118	$7,208,496	$1,441,699
Public/ Quasi Public	16	$14,297	$228,752	$45,750
Total Structures	**101**	**-**	**$7,529,938**	**$1,506,041**

** Values are rounded to the nearest dollar*

CAPABILITY ASSESSMENT

The capability assessment consisted of two main components: a Capability Assessment Survey completed by the jurisdiction and a review of the current comprehensive plan and zoning ordinances. 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.

Thus far the planning process has identified the major hazards for the communities and described and quantified the vulnerability of the community to these risks by acquiring updated information from FEMA, local jurisdiction, and other sources. The purpose of capability assessment is to identify what loss prevention or preparedness mechanisms are already in place. Combining the risk assessment with the local capability assessment results in a stronger mechanism in understanding locality's "net vulnerability" and the extent to which they could be able to implement the goals, objectives, and actions.

Please refer to *Capability Assessment* in *Section Three: Community Profile and Capability Assessment* for the overall picture of the whole county.

Governance

The City of Aurora is governed by a Mayor and a 6 member City Council; the city also has the following departments and city staff:

- Administration
- Cemetery
- City Attorney
- Fire Department
- Library
- Parks and Recreation Department
- Police Department
- Street Department
- Water Department
- Sewer and Waste Water Treatment

Table.107: Aurora Capability Assessment

Survey Components/Subcomponents		Comments
Planning and Regulatory Capability	Comprehensive Plan	Yes, 1999
	Capital Improvements Plan	Yes
	Hazard Mitigation Plan	Yes
	Economic Development Plan	Yes
	Emergency Operations Plan	Yes
	National Resources Protection Plan	Yes
	Open Space Preservation plan	N/A
	Floodplain Management Plan	Yes
	Storm Water Management Plan	Yes
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes
	National Flood Insurance Program	Yes
	Community Rating System	In progress
	Flood Insurance Study (FIS)	Yes, completed in 1988
	Other (if any)	
Administrative and Technical Capability	Planning Commission	Yes
	Hazard Mitigation Planning Commission	Yes
	Floodplain Administration	Yes
	Emergency Manager	Yes
	GIS Coordinator	Yes

Survey Components/Subcomponents		Comments
	Chief Building Official	Yes
	Civil Engineering	Consultant
	Staff Who Can Assess Community's Vulnerability to Hazards	Consultant
	Grant Manager	Yes
	Other (if any)	
Fiscal Capability	Capital Improvement Project Funding	Yes
	Community Development Block Grant	Yes
	Authority to Levy Taxes for Specific Purposes	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
Education and Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, 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	No
	Firewise Communities Certification	No
	Public-private partnership initiatives addressing disaster-related issues	Yes
	Other (if any)	

PLAN INTEGRATION

The City of Aurora has not updated the comprehensive plan since 1999, therefore there has been little inclusion of the hazard mitigation plan to this point. When Aurora does update the comprehensive plan they should consider including the 1% annual flood risk area on the future land use map. This is a tool that will allow the community to evaluate how best to utilize lands in the future without creating more vulnerability to flood events.

Building codes are sufficient for the hazards that occur with regularity. When building codes are revisited in the future the community may consider encouraging the use of building materials that will help reduce structural damages as well as some non-structural impacts resulting from natural hazards. Option include but are not limited to: hail resistant siding and roofing, increase strapping materials, low flow fixtures, xeriscaping, and requiring safe rooms in newly built critical facilities.

Zoning codes for the city currently prevent constructing new buildings in the floodway, but do allow for construction in floodplain areas. Codes are in compliance with the state of Nebraska minimum standards for construction within the floodplain. Any new buildings must have a minimum of one foot freeboard under the lowest floor of the structure. When zoning codes are revised in the future Aurora's planning and zoning board should consider requiring or at minimum encouraging the use of green infrastructure in floodprone areas. These requirements might include (but are not limited to): bioretention areas, permeable parking areas, cluster development and density transfers. Zoning for future land use areas may also be

reconsidered from that which was outlined in the 1999 Aurora Comprehensive Plan which projected growth into the floodplain north and northeast of the community.

The Aurora planning team reviewed and included information from various other community document in their update of this plan. Planning team members reviewed projects and needs identified in the Capital Improvements Plan, Economic Development Plan, Floodplain and Stormwater Management plans, and the Local Emergency Operations Plan during the update of this document. Projects and strategies identified in this plan are consistent with other community planning mechanisms.

At this time there is no scheduled update to local planning mechanisms. When a decisions is made to update the comprehensive plan, the community will review the goals and objectives of this plan as well as the ranking of hazards for the city. These, as well as areas know to have a specific vulnerability (i.e. floodplains), should be reviewed during any updates to ensure all community plans are consistent with the information they include and any growth objectives.

Summary

The City of Aurora will be able to implement some mitigation projects without assistance. The city is in a good position with its strong fiscal, administrative, and technical capabilities. Having a higher population and structural inventory allows for a higher tax base than some of the other communities in the county, but Aurora will look for opportunities to partner with county emergency management, Hamilton County, and other regional and state agencies when possible. Through this update process, the planning team reviewed previously identified mitigation projects and added new projects as well.

MITIGATION ACTIONS

Completed Mitigation Projects

None

Ongoing/New Mitigation Projects

Description	Static Detectors
Analysis	Deploying a static detector at outdoor events can warn of approaching, fast moving storms and associated lightening, thus helping officials to respond appropriately.
Goal/Objective	Goal1/Objective 1.1
Hazard(s) Addressed	Severe thunderstorms
Estimated Cost	$1000
Benefits	Increase public safety at outdoor events prior to the occurrence of a lightning storm that may be in the areas.
Potential Funding	N/A
Timeline	5 years
Priority	High
Lead Agency	Tom Cox- Aurora Fire Chief, Eric Melcher- Public Works Director
Action since 2009 plan	None

Description	Backup Power Generators
Analysis	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other critical facilities and shelters.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$15,000-$30,000 per generator
Benefits	Back-up power for critical facilities (i.e. nursing home). A measure that would reduce or prevent damage to property or prevent loss of life or serious injury.
Potential Funding	HMGP
Timeline	Ongoing
Priority	High
Lead Agency	Fire Department, Public Works, Aurora Public Schools

Description	Backup Power Generators
Action since 2009 plan	Currently the fire department, emergency operation center, public works, and some wells have back-up power generators

Description	Stormwater System and Drainage Improvements
Analysis	Undersized systems can contribute to localized flooding. Stormwater system improvements, such as pipe upsizing and additional inlets, installation of retention and detention facilities can be implemented to decrease runoff rates while also decrease the need for other stormwater system improvements.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding
Estimated Cost	$100,000+
Benefits	Decreased stormwater runoff, improved retention and detention systems for managing stormwater runoff and preventing localized flooding.
Potential Funding	HMGP, PDM, Community Development Block Grant (CDBG)
Timeline	5 years
Priority	Medium
Lead Agency	Public Works
Action since 2009 plan	None

Description	Fire Wise Defensible Space
Analysis	Work with the Nebraska Forest Service and US Forest Service to become a Fire Wise Communities/USA participant. Develop a Community Wildfire Protection Plan. Train land owners about creating defensible space. Enact ordinances and building codes to increase defensible space, improve building materials to reduce structure ignitability, and increase access to structures by responders. Develop and implement brush and fuel thinning projects.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Wildfire
Estimated Cost	$20,000
Benefits	Structures are less vulnerable to wildfire, easier for firefighters to defend structure during a wildfire event, and removes fuel from an approaching fire.
Potential Funding	HMGP, NFS, USFS, National Fire Plan
Timeline	5 years
Priority	Medium
Lead Agency	Fire Department, Zoning and Planning
Action since 2009 plan	None

Description	Improve and Revise Snow/Ice Removal Program
Analysis	Continue to revise and improve the snow and ice removal program for streets.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Severe Winter storms
Estimated Cost	$20,000+
Benefits	Increase local capabilities to remove snow/ice from roadways during severe winter storms
Potential Funding	PDM
Timeline	Ongoing
Priority	Low
Lead Agency	Public Works
Action since 2009 plan	Ongoing; Local officials review snow removal procedures annually or following significant events.

Description	New Municipal Well
Analysis	Provide a safe backup water supply for the community; replace existing wells affected by drought, increase of demand in water, and additional water for fire protection.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Drought
Estimated Cost	$350,000 to $450,000
Benefits	Provide adequate water sources to mitigate potential damages or expenses due to drought
Potential Funding	CDBG, State Revolving Fund (SRF)
Timeline	3 years
Priority	Medium

Description	**New Municipal Well**
Lead Agency	Public Works
Action since 2009 plan	None

Description	**Storm Shelter / Safe Rooms**
Analysis	Design and construct fully supplied storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, school, and other areas.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Tornados and high winds, severe thunderstorms
Estimated Cost	$200-$300/sf stand alone; $150-$200/sf addition/retrofit
Benefits	Useful for many residents that do not have basements or cellars to go for shelter, especially beneficial for the nursing home and other vulnerable populations.
Potential Funding	PDM, HMGP
Timeline	5 years
Priority	High
Lead Agency	Emergency Management Agency, City Administration, Aurora Public Schools
Action since 2009 plan	None

Description	**Drainage Study/Stormwater Master Plan**
Analysis	Drainage studies can be conducted to identify and prioritize improvements to address site specific localized flooding/drainage problems.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding
Estimated Cost	$10,000 to $100,000+
Benefits	To help prevent flooding by evaluating problem areas in order to improve drainage/flooding problems
Potential Funding	CDBG
Timeline	5 years
Priority	Medium
Lead Agency	Public Works
Action since 2009 plan	None

Description	**Floodplain Mapping/Remapping**
Analysis	Update of existing floodplain maps for communities/counties that participate in the NFIP.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding
Estimated Cost	$30,000 to $100,000
Benefits	Up-to-date identification of flood prone areas, compliance with NFIP.
Potential Funding	Cooperating Technical Program, USACE
Timeline	5 years
Priority	High
Lead Agency	Floodplain Administrator, FEMA, NDNR
Action since 2009 plan	None

Description	**Floodplain Regulation Enforcements/Updates**
Analysis	Continue to enforce local floodplain regulations for structures located in the 100-year floodplain.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding
Estimated Cost	$4,000+
Benefits	Protection of repetitive loss structures from flooding, compliance with the Community Ratings System (NFIP).
Potential Funding	HMGP, CDBG
Timeline	Ongoing
Priority	High
Lead Agency	Floodplain Administrator
Action since 2009 plan	Floodplain regulations have consistently been implemented

Description	**Participation in the National Flood Insurance Program (NFIP)**
Analysis	Maintain good standing with National Flood Insurance Program (NFIP).
Goal/Objective	Goal 2/Objective 2.3
Hazard(s) Addressed	Flooding
Estimated Cost	N/A
Benefits	Enable property owners to purchase insurance protection against flood losses. Good standing enables participants to apply for PDM and HMGP cost-share.
Potential Funding	N/A
Timeline	Ongoing
Priority	High
Lead Agency	Floodplain Administrator
Action since 2009 plan	Aurora has and will maintain their participation in the NFIP

Description	**Flood-Prone Property Acquisition**
Analysis	Encourage flood-prone property owners to voluntarily relinquish/sell that property to the City. Aurora has 1 repetitive loss property that the city should consider acquiring
Goal/Objective	Goal 2/Objective 2.3
Hazard(s) Addressed	Flooding
Estimated Cost	Varies
Benefits	Removes repetitive loss properties from areas prone to flooding.
Potential Funding	FMA
Timeline	1 – 2 years
Priority	Low
Lead Agency	Floodplain Administrator
Action since 2009 plan	None

Description	**Tree City USA – Tree Maintenance Programs**
Analysis	Work to become a Tree City USA through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a hazardous tree identification and removal program in order to limited potential tree damage and damages caused by trees in a community when a storm event occurs. The four main requirements include: 1) Establish a tree board; 2) Enact a tree care ordinance; 3) Establish a forestry care program; 4) Enact an Arbor Day observance and proclamation.
Goal/Objective	Goal 2/Objective 2.3
Hazard(s) Addressed	Severe thunderstorms, tornados and high winds, severe winter storms, drought
Estimated Cost	$1,000+
Benefits	Better maintained trees and hazard tree removal will eliminate damages to power lines and personal property during hazards events. Participation in Tree City USA will support community actions to mitigation damages from trees.
Potential Funding	Arbor Day Foundation, US Forest Service
Timeline	3 years
Priority	Medium
Lead Agency	City Administration
Action since 2009 plan	Schools, county emergency management, fire departments and public works all have and will maintain education programs

Description	**Public Awareness / Education**
Analysis	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. In addition, educate citizens on erosion control and water conservation methods. Educate residents on response and rescue plans for all hazard types.
Goal/Objective	Goal 3/Objective 3.1, Goal1/Objective 1.1
Hazard(s) Addressed	All hazards
Estimated Cost	$500+
Benefits	Increase knowledge to new comers to the area as well as elderly in how to react when an event is going to occur or is occurring. Education to reduce or prevent damage to property or prevent loss of life or serious injury.
Potential Funding	HMGP, PDM
Timeline	5 years

Description	**Public Awareness / Education**
Priority	Medium
Lead Agency	Public Works, EMA, Aurora Public Schools
Action since 2009 plan	None

Description	**Civil Service Improvements**
Analysis	Improve emergency rescue and response equipment and facilities by providing additional, or updating existing emergency response equipment. This could include fire trucks, ATV's, water tanks/truck, snow removal equipment, etc. This would also include developing backup systems for emergency vehicles, and identifying and training additional personnel for emergency response.
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	All hazards
Estimated Cost	Varies depending on what equipment is needed
Benefits	Increase local capabilities to respond to disasters
Potential Funding	Homeland Security, Emergency Management, NEMA, Governing County and Board of Commissioners, Nebraska Forest Service
Timeline	5 years
Priority	Low
Lead Agency	Fire Department
Action since 2009 plan	Local Emergency Operation Plans were last updated in 2012

Description	**Comprehensive City Disaster / Emergency Response Plan**
Analysis	Create or update Comprehensive City/Village Disaster and Emergency Response Plan
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$6,000+
Benefits	Identification of vulnerabilities and better response to a disaster/hazard.
Potential Funding	Emergency Management Performance Grant, Homeland Security Funding
Timeline	5 years
Priority	High
Lead Agency	EMA
Action since 2009 plan	None

Description	**Formal Evacuation Plan**
Analysis	Develop an evacuation plan to be prepared for any disaster that would require evacuation.
Goal/Objective	Goal 4/Objective 4.2
Hazard(s) Addressed	Severe thunderstorms, tornados and high winds, severe winter storms, flooding
Estimated Cost	$2,000+
Benefits	Save lives by being prepared before or during a disaster
Potential Funding	Homeland Security
Timeline	5 years
Priority	Medium
Lead Agency	Law Enforcement
Action since 2009 plan	None

Description	**Alert Sirens**
Analysis	Perform an evaluation of existing alert sirens in order to determine sires which should be replaced or upgraded. Install new sirens where needed.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$15,000+
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Potential Funding	HMGP
Timeline	High
Priority	Ongoing
Lead Agency	Fire Department
Action since 2009 plan	Replaced a siren and added a new siren at a new location in 2012

Description	**Emergency Communications**
Analysis	Establish an action plan to improve communication between agencies to better assist residents and businesses during and following emergencies. Establish inner-operable communications. Provide equipment such as satellite telephones and radios.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$10,000+
Benefits	More efficient and effective communication between different departments
Potential Funding	Homeland Security
Timeline	Ongoing
Priority	Medium
Lead Agency	All Departments
Action since 2009 plan	None

Description	**Warning Systems**
Analysis	Improve city cable TV interrupt warning system and implement telephone interrupt system such as Reverse 911, emergency text messaging warning system, etc.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$5,000+
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Potential Funding	HMGP, PDM
Timeline	Ongoing
Priority	High
Lead Agency	Dispatch, Emergency Management Agency
Action since 2009 plan	None

Description	**Weather Radios**
Analysis	Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed.
Goal/Objective	Goal 4/Objective 4.3 and Goal 1/Objective 1.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$50 / radio
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Potential Funding	HMGP, PDM
Timeline	Ongoing
Priority	High
Lead Agency	Emergency Management Agency, Aurora Public Schools
Action since 2009 plan	Many critical facilities are equipped with weather radios. Aurora will need to complete an inventory of facilities still needing weather radios to complete this project

Description	**Develop Continuity Plans**
Analysis	Develop continuity plans for critical community services
Goal/Objective	Goal 2/Objective 2.2
Hazard(s) Addressed	All hazards
Estimated Cost	N/A
Benefits	Helps establish continuity of operations procedures for critical facilities
Potential Funding	N/A
Timeline	1 year
Priority	High
Lead Agency	City Administration, Emergency Management Agency
Action since 2009 plan	New project

Description	**Education about Continuity Plans**
Analysis	Educate local businesses on the value of continuity planning.
Goal/Objective	Goal 2/Objective 2.2
Hazard(s) Addressed	All hazards
Estimated Cost	$500+
Benefits	Education would help businesses to implement a continuity plan.

Description	**Education about Continuity Plans**
Potential Funding	HMGP
Timeline	Ongoing
Priority	Low
Lead Agency	Emergency Management Agency, Chamber of Commerce
Action since 2009 plan	New project

Description	**Develop Database of Vulnerable Populations**
Analysis	Work with stakeholders to develop a database of vulnerable populations and the organizations which support them
Goal/Objective	Goal 1/Objective 1.1
Hazard(s) Addressed	All hazards
Estimated Cost	NA
Benefits	Provides the county and local communities with a list of individuals requiring additional assistance should a disaster occur
Potential Funding	NA
Timeline	Ongoing
Priority	Low
Lead Agency	Emergency Management Agency, Fire Department
Action since 2009 plan	New project

Description	**Promote Higher Codes/Standards**
Analysis	Promote the use of higher codes and standards, such as the Fortified for Safer Living Standard
Goal/Objective	Goal 2/Objective 2.2
Hazard(s) Addressed	All hazards
Estimated Cost	NA
Benefits	Provides greater protection for any new construction or building retrofits
Potential Funding	NA
Timeline	Ongoing
Priority	Low
Lead Agency	Fire Department and Zoning
Action since 2009 plan	New project

Description	**Floodplain Management**
Analysis	Preserve natural and beneficial functions of floodplain land through measures such as: retaining natural vegetation, restoring streambeds, and preserving open space in the floodplain.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding
Estimated Cost	Varies depending on what is incorporated
Benefits	Reduces risk to flooding
Potential Funding	HMGP
Timeline	Ongoing
Priority	Low
Lead Agency	Floodplain Manager
Action since 2009 plan	New project

Description	**No Adverse Impact Adoption**
Analysis	Adopt a No Adverse Impact approach to floodplain management
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding
Estimated Cost	N/A
Benefits	Prevents worsening of flooding and reduced flood damage
Potential Funding	N/A
Timeline	Ongoing
Priority	Low
Lead Agency	Floodplain Manager
Action since 2009 plan	New project

Description	**Low Impact Development Best Practices**
Analysis	Utilize Low Impact Development practices and Green Infrastructure to reduce flood risk
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding
Estimated Cost	N/A
Benefits	Reduces flood risk to community
Potential Funding	N/A
Timeline	Ongoing
Priority	Low
Lead Agency	Zoning
Action since 2009 plan	New project

Description	**Join the Community Rating System (CRS)**
Analysis	Join the CRS
Goal/Objective	Goal 2/Objective 2.3
Hazard(s) Addressed	Flooding
Estimated Cost	N/A
Benefits	Enable property owners to save money on flood insurance premiums to protect against flood losses.
Potential Funding	N/A
Timeline	Ongoing
Priority	High
Lead Agency	Floodplain Administrator
Action since 2009 plan	New project

Description	**Shelter in Place Education and Training**
Analysis	Ensure that all critical facilities, businesses, and residents located near major transportation corridors and near fixed site chemical facilities are aware of how to safely shelter in place in the event of a chemical incident
Goal/Objective	Goal 3/Objective 3.1; Goal 4/Objective 4.1
Hazard(s) Addressed	Man-made hazards
Estimated Cost	$1,000+
Benefits	Losses and injuries to residents and businesses could be substantially reduced during and following a hazmat incident.
Potential Funding	Homeland Security, Emergency Management Agency
Timeline	1 year
Priority	Low
Lead Agency	Zoning
Action since 2009 plan	New project

Description	**Install Vehicular Barriers**
Analysis	Install Vehicular Barriers to protect critical facilities and key infrastructure where possible
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Terrorism, Civil Disorder
Estimated Cost	$500 - $25,000
Benefits	Provides protection for critical facilities
Potential Funding	HMGP, DHHS
Timeline	1 year
Priority	Low
Lead Agency	Law Enforcement
Action since 2009 plan	New project

Description	**First Aid Training**
Analysis	Promote first aid training for all residents
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	All hazards
Estimated Cost	$500+
Benefits	Provides the residents the knowledge to perform first aid during a disaster.
Potential Funding	HMGP, City Administration

Description	First Aid Training
Timeline	1 year
Priority	Low
Lead Agency	EMS
Action since 2009 plan	New project

Removed Mitigation Projects

Description	Obtaining Missing Data
Analysis	Obtain necessary data to improve vulnerability assessments when updating the plan.
Hazard(s) Addressed	All Hazards
Reason for Removal	The local planning team was unsure what was intended by this project. While there is always additional data that can be gathered there is not a specific need at this time so the local planning team wishes to remove this project.

Description	Snow fences
Analysis	Construct snow fences to protect main transportation routes and critical facilities from excessive snow drifting and road closure.
Hazard(s) Addressed	Severe winter storms
Reason for Removal	The local planning team reported that, within the corporate limits, snow fences have minimal impact on blowing or drifting of snow. Given the amount of work required to install/remove snow fences annually the planning team (and the Department of Public Works) feels this action is not necessary for the community.

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VILLAGE OF GILTNER

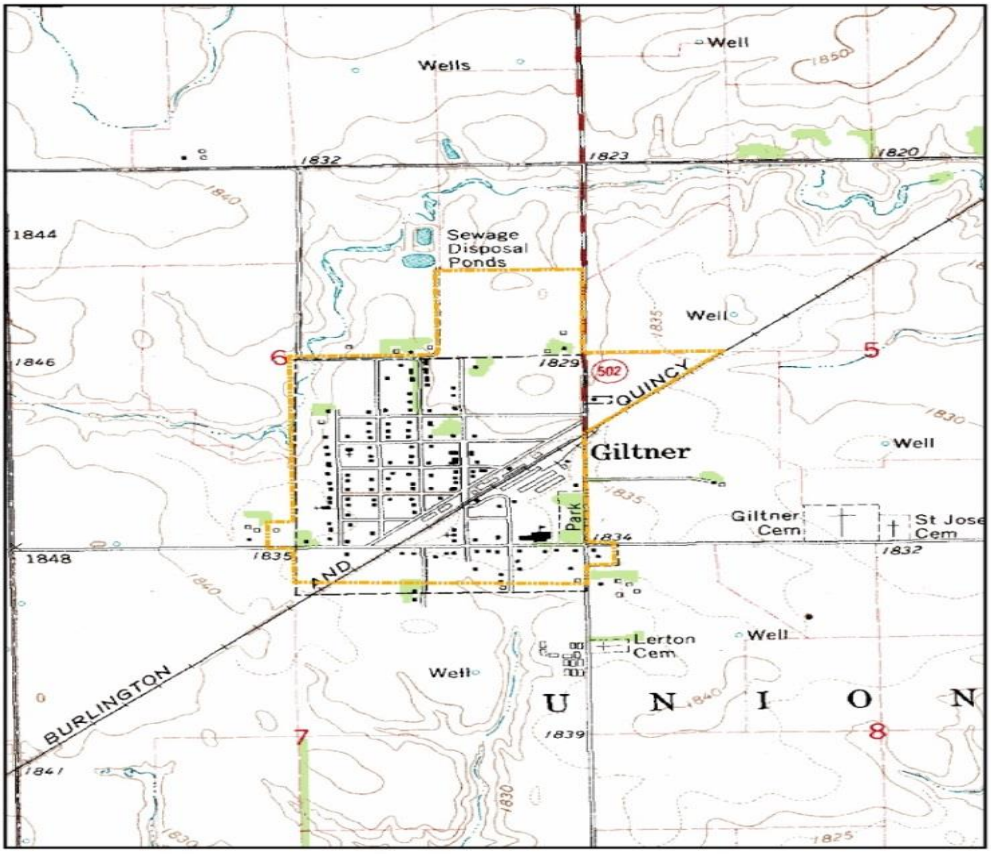
Hamilton County
Multi-Jurisdictional Hazard Mitigation Plan

March 2015

HISTORY

Settlement began in the community of Giltner in 1886 when the Lincoln Land Company, a business that developed towns along the railroad lines, bought land in the Union Township. On May 25, 1886, the town was platted and named "Huntington" by a worker on the railroad line for his hometown in Pennsylvania. The first train arrived in September and people proclaimed that Huntington was "the new pearl on the line and sure to become the best of them all". In February 1887, the name was changed to "Bromfield" at the request of the post office because the mail was getting mixed up with Hartington in Cedar County. By 1890 the population of Bromfield was just under 200. The name still did not suit the post office because of Bloomfield in Knox County. The post office in Knox County had not opened until 1890, so there was heated debate as to which one should choose another name. To help the community move forward, the town was re-named in honor of Reverend H.M. Giltner, the minister who founded the Presbyterian Church in 1893. The town name of "Giltner" became official on September 14, 1895.

Figure.67: Giltner Topographic Map



LOCATION

Giltner is a village located in the southwest portion of Hamilton County. The Village of Giltner covers an area of 192 acres and has an elevation of 1,835 feet above sea level. Giltner is 101.6 miles west of Lincoln.

CLIMATE

The warmest month in Giltner is July with an average high temperature of 87 degrees and the coolest month is January with an average low temperature of 11 degrees. The highest and lowest temperatures recorded are 108 degrees in 1983 and 28 degrees below zero in 1989. The month of May has the highest precipitation average of 4.68 inches per year.

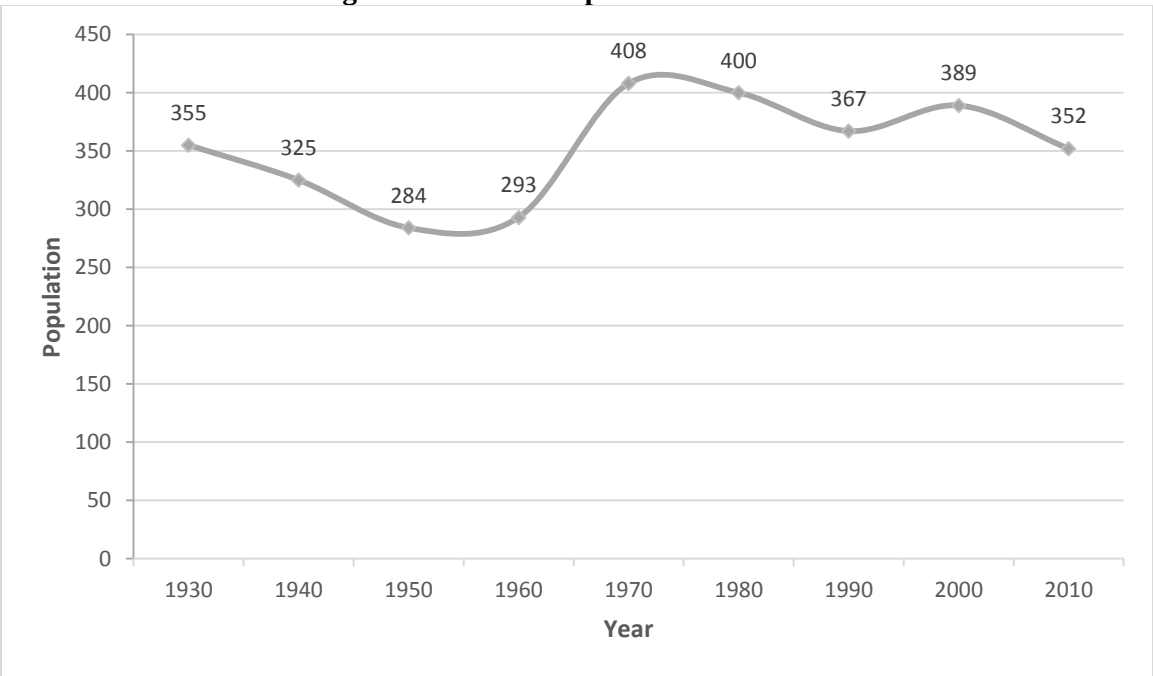
GEOGRAPHY

The community of Giltner lies in an area of plains. The land use surrounding the community is mainly agricultural crops with some ranching. Flat lying land above the valley with materials of sandstone or stream deposited silt, clay, sand and gravel overlain by wind deposited silt is prevalent. The community lies approximately eight miles south of Beaver Creek and six miles north of the North Branch of the West Fork of the Big Blue River. The watershed flows generally from the northwest to the southeast. River flooding is not of significant concern.

DEMOGRAPHICS

Below, Figure 68 displays the historical population trends for the Village of Giltner from 1930 to 2010. The population of Giltner declined between 1930 and 1950 followed by a period of growth to 1970 and now a slower decline through 2010.

Figure 68: Giltner Population 1930 - 2010



Source: US Census

Table 108 illustrates the age distribution and median age for Hamilton County in comparison to the Village of Giltner.

Table.108: Giltner Population by Age

Age	Hamilton County	Giltner
<5	5.8 %	5.1%
5-64	77.8%	81.3 %
>64	16.4%	13.7 %
Median	42.3	40.0

Source: U.S. Census Bureau, 2010

The median age of 40 in the Village of Giltner is younger than the county by two years, and it also has slightly fewer residents over the age of 64.

HOUSING AND ECONOMICS

Median household income, per capita income, home value, and rent for the county as a whole are compared with the Village of Giltner in Table 109. Median home values are $32,000 lower than Hamilton County's median home value, but household income is comparable with the county. Although population has declined slightly in the last decade as noted in the demographics section, the lower cost of living as compared with the rest of the county may be beneficial to the future of the community's population stability.

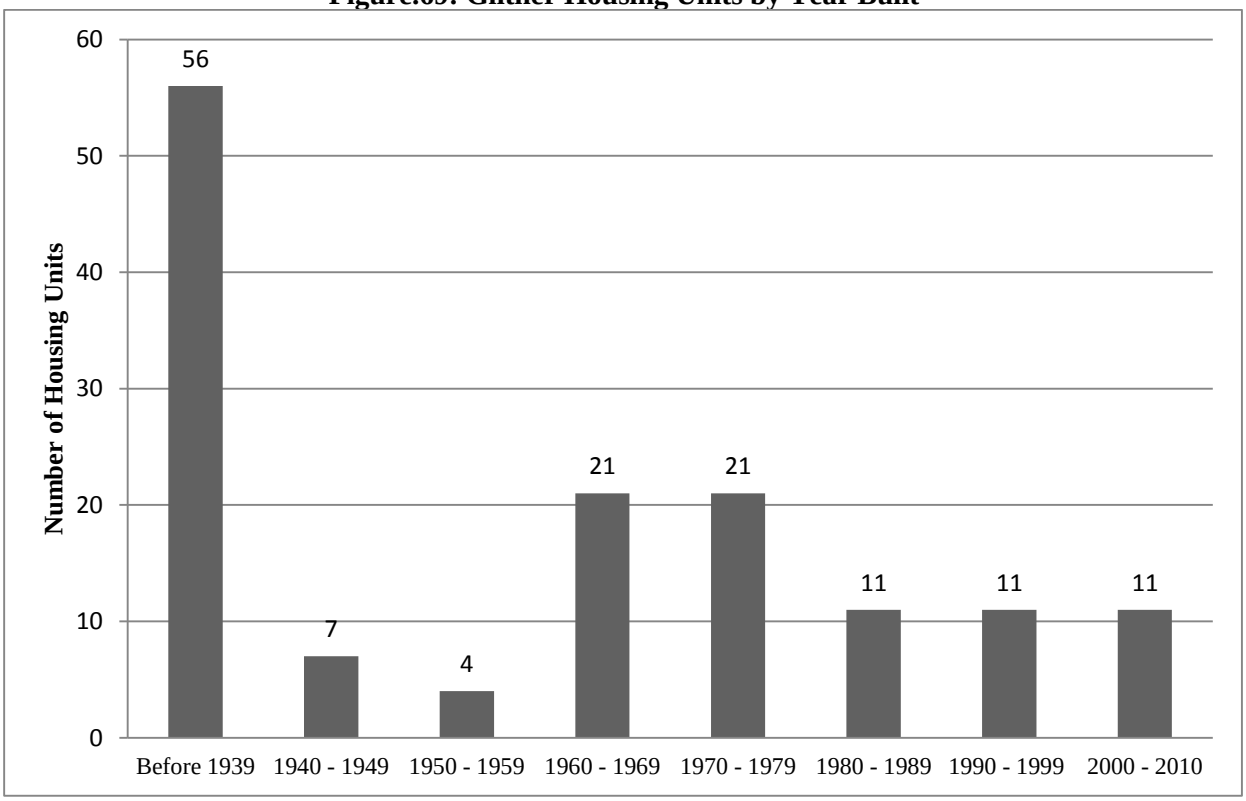
Table.109: Giltner Housing and Income

	Hamilton County	Giltner
Median Household Income	$56,809	$55,000
Per Capita Income	$26,785	$21,158
Median Home Value	$112,000	$80,000
Median Rent	$581	N/A*

Source: U.S. Census Bureau, 2010 American Community Surveys 5-year Estimates
**Not listed due to zero renters in the village*

According to the 2010 Census data (Figure 69), the village has 142 housing units; with 87.3 percent of those units occupied (Table 110). 7.7 percent of the village's housing is classified as mobile homes and 47.1 percent of the village's housing was built before 1960. Although there are mobile homes in the community, they are not located in a single, identified mobile home park in the village but are spread throughout the village. In conjunction with the aging housing stock, residents living within these types of structures will be especially vulnerable to high winds, severe thunderstorms, and tornados.

Figure.69: Giltner Housing Units by Year Built



Source: US Census 2006 - 2010 American Community Survey 5 Year Estimates

Table.110: Giltner Housing Unit Occupancy

Jurisdiction	Total Housing Units					Occupied Housing Units			
	Occupied		Vacant			Owner		Renter	
	Number	Percent	Number	Percent		Number	Percent	Number	Percent
Hamilton County	3,464	87.7%	484	12.3%		2,667	77.0%	797	23.0%
Giltner	124	87.3%	18	12.7%		124	100%	0	0.0%

Source: US Census 2006 - 2010 American Community Survey 5 Year Estimates

STRUCTURAL INVENTORY AND VALUATION

A structural inventory was completed for the corporate limits of Giltner through a window survey using GIS for the 2009 hazard mitigation plan. The values of these structure types were updated utilizing the 2013 Property Type Values as provided by the Nebraska Department of Revenue Property Assessment Division.

Results from the structural inventory completed for the Village of Giltner are found in Table 111 below.

Table.111: Giltner Structural Inventory

Total Structures		Structure Valuation	
Structure Type	**Number of Structures**	**Total Value**	**Value per Structure**
Commercial/Industrial	54	$3,097,538	$57,362
Agriculture	85	$606,050	$7,130
Residential	158	$10,671,969	$67,544
Public/Quasi Public	21	$94,188	$4,485
Total	**318**	**$14,469,744**	N/A

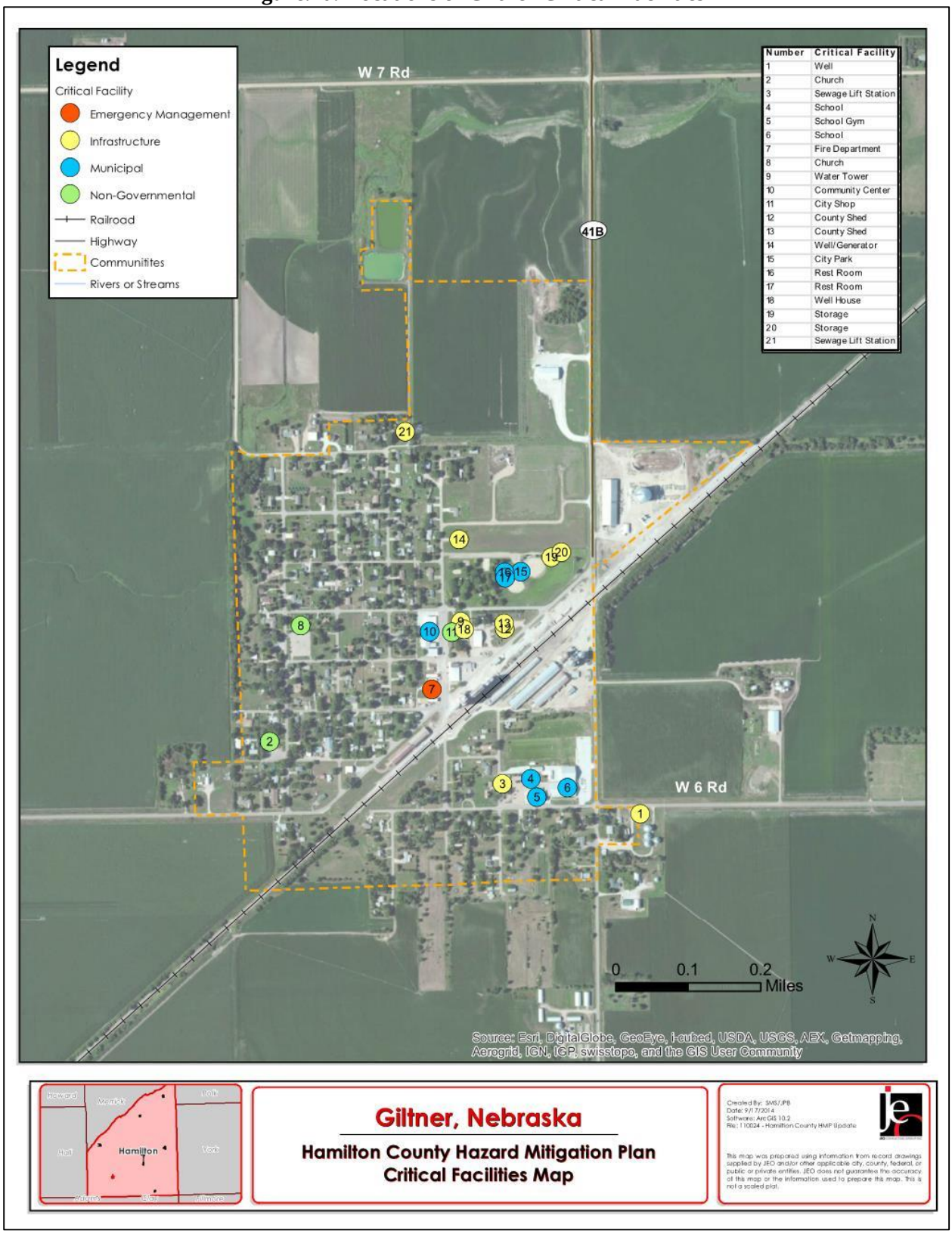
Source: Nebraska Department of Revenue, Property Assessment Division

CRITICAL INFRASTRUCTURE/KEY RESOURCES

According to FEMA, "A critical facility is a structure that, if flooded (or damaged), would present an immediate threat to life, public health, and safety." Examples of critical facilities include hospitals, emergency operations centers, schools, city shops, wells, and sanitary sewer lift stations, etc.

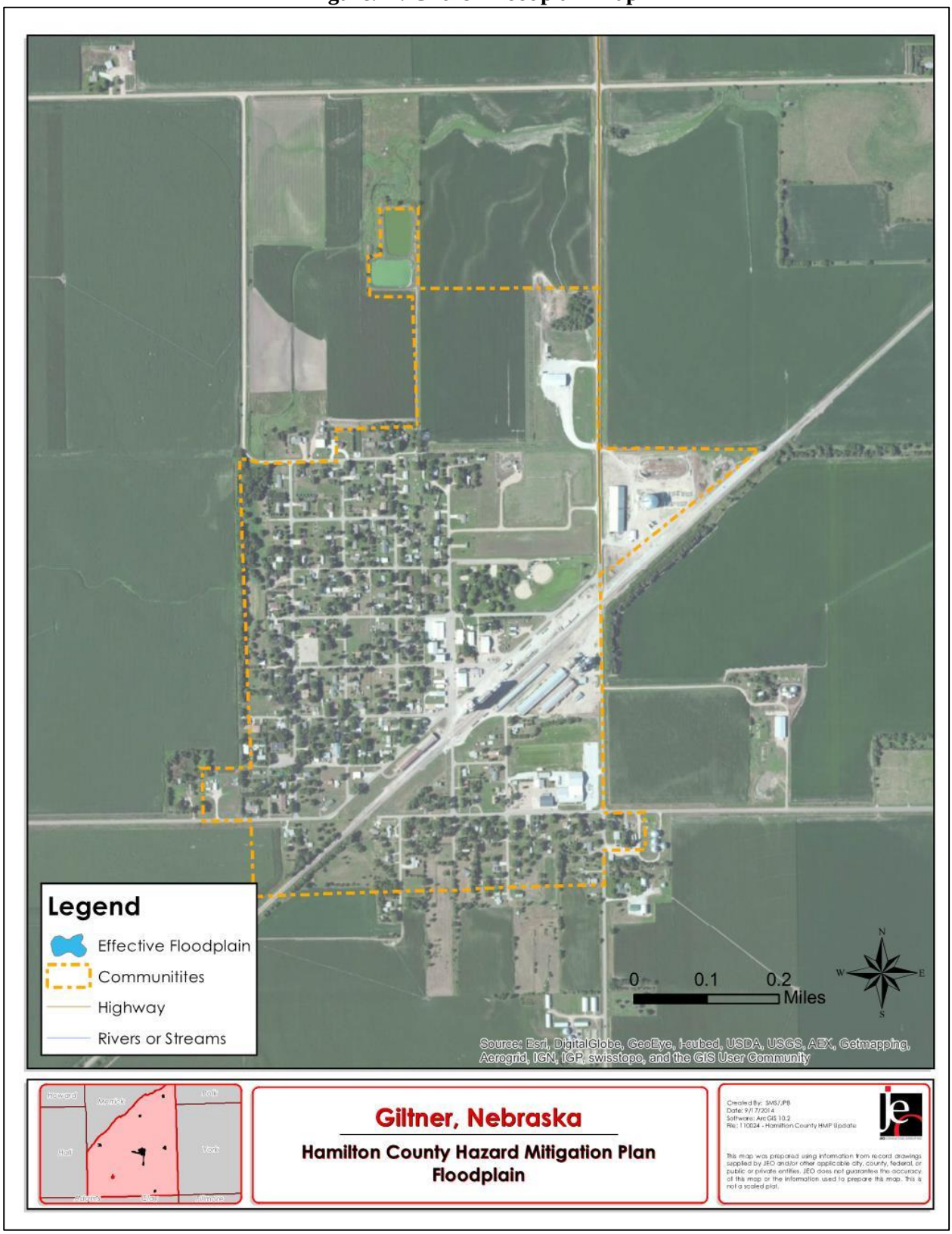
Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster. Critical facilities were identified during the 2009 planning process and updated by the Giltner planning team as a part of the plan update. Figure 70 is a summary of the type and location of critical facilities for the jurisdiction.

Figure.70: Locations of Giltner Critical Facilities



Number	Critical Facility
1	Well
2	Church
3	Sewage Lift Station
4	School
5	School Gym
6	School
7	Fire Department
8	Church
9	Water Tower
10	Community Center
11	City Shop
12	County Shed
13	County Shed
14	Well/Generator
15	City Park
16	Rest Room
17	Rest Room
18	Well House
19	Storage
20	Storage
21	Sewage Lift Station

Figure.71: Giltner Floodplain Map



FUTURE DEVELOPMENT TRENDS

At this time, the planning team for the Village of Giltner does not expect much growth over the next five to ten years, and this matches the recent population trend as shown in Figure GLT 2. Additionally, there are no current plans for future development outside of the current boundaries of the village. Furthermore, the village does not lie in a floodplain (Figure 71). Given the percentage of vacant buildings at nearly 13 percent (see Table 110), it is likely that few new housing units will be built within the corporate limits of Giltner.

RISK ASSESSMENT

Hazard Identification

Table 112 is a risk assessment of hazards determined by the jurisdictional representatives. Refer to *Section Four: Community Based Risk Assessment* for an explanation as to what the methodology is.

Table.112: Giltner Risk Assessment

HAZARD TYPE	PREVIOUS OCCURRENCE? Yes/No	Approximate Annual Probability (Regional Risk Assessment)	Specific Concerns Identified
Severe Winter Storm	Yes	100%	19% of population at higher level of vulnerability; potential loss of life and properties
Tornado	Yes	~10%	Potential loss of life and properties
High Winds	Yes	100%	Potential loss of life and properties
Severe Thunderstorm	Yes	~40%	Potential loss of life and properties; Economic impacts; Secondary hazards such as hail and tornados
Hail	Yes	100%	Potential loss of life and properties; Economic impacts
Flooding	Yes	~10%	Potential loss of properties
Extreme Heat	Yes	100%	19% of population at higher level of vulnerability; Ag losses; Secondary hazards such as wildfires
Drought*	Yes	~10%	Economic impacts; Land degradation; Secondary hazards such as wildfires
Grass/Wildfire	No	1%	None
Dam Failure	No	1%	None
Levee Failure	No	0	None
Ag Animal Disease	Yes	100%	None
Ag Plant Disease	Yes	~50%	None
Earthquakes	Yes	<5%	None
Landslides	No	0	None
Urban Fire	Yes	100%	None
Radiological Fixed Facilities	Not present in the planning area	NA	None
Chemical Transportation	No	<5%	None

Terrorism	0	1%	None
Chemical Fixed Sites	0/23	<5%	None
Radiological Transportation	0	1%	None
Civil Disorder	No	unknown	None

**Identified by the planning team as a top concern for the jurisdiction*

Based on the risk assessment and feedback from the local planning team the hazards of top concern are severe winter storms, high winds, extreme heat, hail, and drought. These five hazards that raise the greatest concerns for the community are discussed in detail.

Historical Occurrences

The NCDC reported 40 severe weather events from 1996 to 2014 in the Village of Giltner. There were no recorded deaths, but five injuries resulted from one severe thunderstorm wind event in 2008. Also, a reported $895,000 in damages to property and $12,290,000 in crop damages occurred as a result from these hazards. Refer to the table below for detailed information of each severe weather event including date, extent, property damage, and crop damage.

Table.113: NCDC Severe Weather Events for Giltner

Date	Hazard	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
7/17/2008	Flash Flood	-	0	0	60,000	90,000
8/26/2009	Flood	-	0	0	10,000	0
5/30/1999	Funnel Cloud	-	0	0	0	0
6/13/2007	Funnel Cloud	-	0	0	0	0
5/11/1998	Hail	1.00 in.	0	0	25,000	50,000
5/20/1998	Hail	0.75 in.	0	0	20,000	25,000
5/21/1998	Hail	1.75 in.	0	0	10,000	200,000
5/30/1999	Hail	0.75 in.	0	0	0	0
5/30/1999	Hail	1.00 in.	0	0	10,000	50,000
5/8/2000	Hail	1.50 in.	0	0	0	0
6/10/2002	Hail	1.75 in.	0	0	50,000	0
5/4/2003	Hail	0.88 in.	0	0	0	0
6/22/2003	Hail	1.00 in.	0	0	0	0
7/20/2003	Hail	1.00 in.	0	0	25,000	150,000
8/1/2006	Hail	1.00 in.	0	0	5,000	50,000
9/15/2006	Hail	1.75 in.	0	0	25,000	75,000
6/11/2008	Hail	1.75 in.	0	0	10,000	250,000
7/11/2008	Hail	1.00 in.	0	0	5,000	100,000
7/17/2008	Hail	1.00 in.	0	0	5,000	100,000
6/5/2009	Hail	0.88 in.	0	0	0	0
7/24/2009	Hail	1.00 in.	0	0	0	50,000

Date	Hazard	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
6/8/2010	Hail	0.75 in.	0	0	0	0
7/5/2011	Hail	0.88 in.	0	0	0	0
7/5/2011	Hail	1.75 in.	0	0	25,000	1,000,000
5/2/2012	Hail	0.88 in.	0	0	0	0
4/9/2013	Hail	1.75 in.	0	0	25,000	0
5/11/2014	Hail	1.00 in.	0	0	0	0
8/1/2013	Heavy Rain	-	0	0	0	0
4/14/1998	Thunderstorm Wind	61 kts./70 mph	0	0	30,000	0
3/30/2006	Thunderstorm Wind	65 kts. EG/75 mph	0	0	75,000	0
6/24/2006	Thunderstorm Wind	52 kts. EG/60 mph	0	0	0	0
5/29/2008	Thunderstorm Wind	70 kts. EG/81 mph	0	5	250,000	100,000
3/23/2009	Thunderstorm Wind	61 kts. EG/70 mph	0	0	30,000	0
6/22/2010	Thunderstorm Wind	52 kts. EG/60 mph	0	0	0	0
6/22/2010	Thunderstorm Wind	61 kts. EG/70 mph	0	0	0	0
5/30/2011	Thunderstorm Wind	59 kts. MG/68 mph	0	0	100,000	0
8/1/2013	Thunderstorm Wind	61 kts MG/70 mph	0	0	100,000	10,000,000
10/29/2000	Tornado	F0	0	0	0	0
5/12/2011	Tornado	EF0	0	0	0	0
6/14/2014	Tornado	EF0	0	0	0	0
		Totals	**0**	**5**	**$895,000**	**$12,290,000**

Source: NCDC Storm Events 1996-2014

Severe Winter Storms

The local planning team has identified severe winter storms as a significant concern for the community. The NCDC data reported 67 winter storms for Hamilton County between 1996 and 2014, and seven of those resulted in $540,000 in property damage. Based on historic records severe winter storms have an annual probability of 100 percent.

With the population of 352 people (US Census Bureau, 2010) the community did not indicate having designated snow routes. While the city is responsible for clearing the roads, the planning team indicated having sufficient snow removal equipment and is in the process of purchasing a new snow plow truck. In addition to snow plow trucks, Giltner utilizes a snow fence. The community lift-station and water well are equipped with power back-up. The village would like a backup generator at the community center.

High Winds

The local planning team identified high winds as a top concern for the community. In total there were 18 storms reported that had winds reported between 60 and 75 miles per hour. Winds of this magnitude, according to the Beaufort Wind Force Ranking, can cause trees to uproot, considerable structure damage, and over turning of improperly anchored mobile homes. Based on historic record have winds have an annual probability of 100 percent.

The community does not have hospitals or assisted living facilities, but is aware of the elderly population and its needs in case of an emergency. Giltner utilizes the TV station and cell phone alerts for emergency messaging. In addition, Giltner has a county-wide mutual aid agreement if additional support were necessary during an emergency, and an evacuation plan has been established if needed during any severe storm event.

Extreme Heat

The local planning team identified extreme heat as a top concern for the community. According to NCDC there were 2 heat advisories or warning issued from 1996 to 2014. NCDC reported no losses from any of the events. Based on data provided by the High Plains Regional Climate Center, Hampton has an average of 40 days a year with temperatures at or above. Extreme heat has an annual probability of 100 percent in the village.

The community does not have hospitals or assisted living facilities, but is aware of the elderly population and its needs in case of an emergency. The community lift-station and water well are equipped with power back-up. The village would like a backup generator at the community center, which could also serve as a cooling center if needed.

Hail

The local planning team identified hailstorms as a top concern for the community. NCDC data recorded 23 hail events, which ranged in size from 0.75-1.75 inches in diameter that resulted in a total of $240,000 in property damages and $2,100,000 in monetary losses recorded to crops (Table 113). As noted earlier and as indicated by previous damage caused by hail, this hazard can cause significant damage to critical facilities, businesses, residential properties, and crops. Based on historic records hail has an annual probability of 100 percent.

The jurisdictional representatives identified that the village would like to update the comprehensive village disaster and emergency response plan.

Drought

The local planning team identified drought as a top concern to the community. Drought is generally a regional event, with impacts from a single drought event impacting multiple communities, counties, and even states. Based on historic records drought has an annual probability around 10 percent.

While the Village of Giltner does not have a drought monitoring board, public education and awareness programs will be important for the community to implement, specifically on water conservation and erosion control methods. Please refer to Section Four: Risk Assessment for more information regarding the vulnerability of the entire planning area.

CAPABILITY ASSESSMENT

Thus far the planning process has identified the significant hazards for the community and described and quantified the vulnerability to these risks by acquiring updated information from FEMA, local jurisdiction, and other sources. The following step shall be assessing what loss prevention or preparedness mechanisms

are already in place, which is referred to as capability assessment. Combining the risk assessment with the local capability assessment results in a stronger mechanism in understanding locality's "net vulnerability" and to what extent they could be able to implement the goals, objectives, and actions.

A two-step approach was applied to conduct this assessment for each participant. First, an inventory of common mitigation activities was developed through the Capability Assessment Survey completed by the participants' representatives. There are four major local capabilities considered by this assessment and they are: planning and regulatory capabilities, administrative and technical capability, fiscal capability, and education and outreach capability. Please refer to *Capability Assessment* in *Section Three: Community Profile and Capability Assessment* for the overall picture of the whole county. The purpose of this effort was to identify policies and programs that were either in place, needed improvement, or could be undertaken, if deemed appropriate. Second, local existing policies, regulation, plans, and the programs were reviewed and evaluated to determine their contributions to reducing hazard-related losses or if they inadvertently increased such losses.

Governance

The Village of Giltner is governed by a village board and offers the following services:

- Health Care
- Fire and Rescue Service
- Library
- Utilities

Table.114: Giltner Capability Assessment

Survey Components/Subcomponents		Comments
Planning and Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	Yes
	Hazard Mitigation Plan	Yes
	Economic Development Plan	Yes
	Emergency Operational Plan	Yes
	National Resources Protection Plan	Yes
	Open Space Preservation Plan	N/A
	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
	Other (if any)	
Administrative and Technical Capability	Planning Commission	Yes
	Hazard Mitigation Planning Commission	Yes
	Floodplain Administration	No
	Emergency Manager	Yes
	GIS Coordinator	County
	Chief Building Official	No
	Civil Engineering	Contractor
	Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Other (if any)	

Survey Components/Subcomponents		Comments
Fiscal Capability	Capital Improvement Project Funding	Yes
	Community Development Block Grant	Yes
	Authority to Levy Taxes for Specific Purposes	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
Education and Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes, Red Cross
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes, first aid training provided to residents through Red Cross
	Natural Disaster or Safety related school programs	Yes
	StormReady Certification	No
	Firewise Communities Certification	No
	Public-private partnership initiatives addressing disaster-related issues	Yes
	Other (if any)	Yes: county-wide mutual aid agreement

PLAN INTEGRATION

Giltner participates in planning and zoning with the county. This allows Giltner to have codes and plans that might otherwise be cost prohibitive to develop. The comprehensive plan representing Giltner has not been updated since the 2009 hazard mitigation plan was developed so there are no changes related to how hazard mitigation has been incorporated into that document. At this time there is no planned update for the comprehensive plan. When the plan is updated the community and the planning team will review the goals and objectives of the hazard mitigation plan for inclusion in the comprehensive plan.

Giltner also collaborates with the county for building codes and zoning ordinances. Building codes are sufficient for the hazards that occur with regularity. When building codes are revisited in the future the community may consider encouraging the use of building materials that will help reduce structural damages as well as some non-structural impacts resulting from natural hazards. Option include but are not limited to: hail resistant siding and roofing, increase strapping materials, low flow fixtures, xeriscaping, and requiring safe rooms in newly built critical facilities.

Summary

While the population of Giltner has declined slightly over the last decade, the community is capable of implementing some mitigation projects, as indicated by following list of completed mitigation projects. Giltner will continue to benefit from strong partnerships, such as with the county, and will need to explore outside funding assistance for project implementation. Through this update process, the planning team reviewed previously identified mitigation projects and removed projects that were deemed unrealistic or no longer necessary.

MITIGATION ACTIONS

Completed Mitigation Projects

Description	Weather Radios
Analysis	Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed.
Goal/Objective	Goal 4/Objective 4.3 and Goal 1/Objective 1.1
Hazard(s) Addressed	All hazards
Benefits	Help those who do not have access to local TV or radio warnings
Lead Agency	Village, Fire Department, Emergency Management Agency
Action since 2009 plan	School has a weather radio and all residents receive alerts on their cell phones.

Description	Electrical System Looped Distribution/Redundancies
Analysis	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.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Benefits	More reliable and resistant power distribution system
Lead Agency	Local Public Power District, Village
Action since 2009 plan	Implemented

Description	Warning Systems
Analysis	Improve/ implement city cable TV interrupt warning system and telephone interrupt system such as Reverse 911.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Lead Agency	Emergency Management Agency, Village
Action since 2009 plan	Tornado alarms in place. Residents receive text alerts on their cell phones.

Description	Alert Sirens
Analysis	Perform an evaluation of existing alert sirens in order to determine sirens that should be replaced or upgraded. Install new sirens where lacking
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds
Benefits	Maintains and reduces risk of sirens failing during a severe weather event. Provides complete outdoor alert coverage.
Lead Agency	Emergency Management Agency, Village
Action since 2009 plan	Sirens were evaluated and upgraded a couple of years ago.

Description	Emergency Communications
Analysis	Establish an action plan to improve communication between agencies to better assist residents and businesses during and following emergencies.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Benefits	Improves communication and establishes roles for disaster response across the village and county prior to an event.
Lead Agency	Fire Department, Emergency Management Agency
Action since 2009 plan	Within the village there are established contacts in place and county wide mutual aid agreement.

Description	Evacuation Plan
Analysis	Establish a plan to effectively evacuate residents during storm events and major flooding.
Goal/Objective	Goal 4/Objective 4.2
Hazard(s) Addressed	Severe thunderstorms, tornados and high winds, severe winter storms, flooding
Benefits	Save lives by being prepared before or during a disaster
Lead Agency	Village, Emergency Management Agency
Action since 2009 plan	Plan established and in good standing.

Description	First Aid Training
Analysis	Promote first aid training for all residents
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	All hazards
Benefits	Provides the residents the knowledge to perform first aid during a disaster.
Lead Agency	Village
Action since 2009 plan	The village offers CPR classes through the Red Cross.

Ongoing/New Mitigation Projects

Description	Backup Power Generators
Analysis	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other critical facilities and shelters.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$15,000-$30,000 per generator
Benefits	Back-up power for critical facilities. A measure that would reduce or prevent damage to property or prevent loss of life or serious injury.
Potential Funding	HMGP
Timeline	1-2 years
Priority	High
Lead Agency	Emergency Management Agency and Village
Action since 2009 plan	Lift station and water wells have backup generators. One still needed for community center.

Description	Bury Power and Service Lines
Analysis	Work with local Public Power District or Electricity Department to identify vulnerable transmission and distribution lines and plan to bury lines underground or retrofit existing structures/infrastructure to be less vulnerable to storm events.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$70,000/mile
Benefits	Eliminate the possibility of power lines being damaged or destroyed.
Potential Funding	HMGP, PDM, PPDs
Timeline	Ongoing
Priority	Medium
Lead Agency	Local Public Power District / Local Electric Dept., Village
Action since 2009 plan	Newer lines have been buried but everything else is above ground. The village's electricity is double fed.

Description	Enroll in the National Flood Insurance Program (NFIP)
Analysis	Participate in the National Flood Insurance Program (NFIP).
Goal/Objective	Goal 2/Objective 2.3
Hazard(s) Addressed	Flooding
Estimated Cost	N/A
Benefits	Enable property owners to purchase insurance protection against flood losses. Good standing enables participants to apply for PDM and HMGP cost-share.
Potential Funding	N/A
Timeline	5 years
Priority	Low
Lead Agency	Village Board
Action since 2009 plan	None

Description	Public Awareness / Education
Analysis	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. In addition, educate citizens on erosion control and water conservation methods. Educate residents on response and rescue plans for all hazard types.
Goal/Objective	Goal 3/Objective 3.1 and Goal1/Objective 1.1

Description	**Public Awareness / Education**
Hazard(s) Addressed	All hazards
Estimated Cost	$500+
Benefits	Increase knowledge to new comers to the area as well as elderly in how to react when an event is going to occur or is occurring. Education to reduce or prevent damage to property or prevent loss of life or serious injury.
Potential Funding	HMGP, PDM
Timeline	Ongoing
Priority	Medium
Lead Agency	Village and Emergency Management Agency
Action since 2009 plan	There are no advertised public awareness programs. However, information is available for anyone who is interested.

Description	**Civil Service Improvements**
Analysis	Improve emergency rescue and response equipment and training by providing additional, or updating existing emergency response equipment and training workshops. This could include fire trucks, ATV's, water tanks/truck, etc. This would also include developing backup systems for emergency vehicles, and identifying and training additional personnel for emergency response.
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	All hazards
Estimated Cost	Varies depending on what equipment is needed
Benefits	Increase local capabilities to respond to disasters
Potential Funding	Homeland Security, Emergency Management, NEMA, Governing County and Board of Commissioners, Nebraska Forest Service
Timeline	Ongoing
Priority	Low
Lead Agency	Fire Department and Village
Action since 2009 plan	A new snow plow truck is being purchased.. Fire Department and village continue to work together on civil service improvements.

Description	**Comprehensive Village Disaster/Emergency Response/Rescue Plan**
Analysis	Update comprehensive village disaster and emergency response/rescue plan
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$6,000+
Benefits	Better respond to disasters, plan so when it happens we are ready, can save lives and protect properties
Potential Funding	Emergency Management Performance Grant, Homeland Security Funding
Timeline	5 years
Priority	Low – Medium
Lead Agency	Village
Action since 2009 plan	New project

Description	**Improve Snow/Ice Removal Program**
Analysis	Improve snow routes and snow/ice removal procedures. Improvements should address plowing snow, ice removal, parking during snow and ice removal, and removal of associated storm debris.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Severe winter storms
Estimated Cost	$20,000+
Benefits	Increase local capabilities to remove snow/ice from roadways during severe winter storms
Potential Funding	PDM
Timeline	1 year
Priority	High
Lead Agency	Public Works
Action since 2009 plan	Ongoing: a new snow plow truck is being purchased within the next year.

Description	Training for Response to Train Derailment
Analysis	Provide training for first responders in the event of a train derailment and related hazmat incident.
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	Chemical spills (transport)
Estimated Cost	$1,000+
Benefits	Through adequate training, Emergency Management will reduce losses and lessen the threat to public health and safety
Potential Funding	Homeland Security, Emergency Management, Village, and Railroad Company
Timeline	5 years
Priority	Low
Lead Agency	Fire Department, Village, Emergency Management Agency
Action since 2009 plan	New project

Removed Mitigation Projects

Description	Stormwater System and Drainage Improvements
Analysis	Undersized systems can contribute to localized flooding. Stormwater system improvements, such as pipe upsizing and additional inlets, installation of retention and detention facilities can be implemented to decrease runoff rates while also decrease the need for other stormwater system improvements.
Hazard(s) Addressed	Flooding
Reason for Removal	There are no drainage systems in the community.

Description	Storm Shelter / Safe Rooms
Analysis	Design and construct fully supplied storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, school, and other areas.
Hazard(s) Addressed	Severe Weather
Reason for Removal	The school is utilized as a shelter. In addition, many residents have basements which provide some measure of safety. The city does not have the funding available for safe rooms at this time.

Description	Tree City USA – Tree Maintenance Programs
Analysis	Work to become a Tree City USA through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a hazardous tree identification and removal program in order to limited potential tree damage and damages caused by trees in a community when a storm event occurs. The four main requirements include: 1) Establish a tree board; 2) Enact a tree care ordinance; 3) Establish a forestry care program; 4) Enact an Arbor Day observance and proclamation.
Hazard(s) Addressed	Severe thunderstorms, tornados and high winds, severe winter storms
Reason for Removal	The village is no longer interested in the program.

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VILLAGE OF HAMPTON

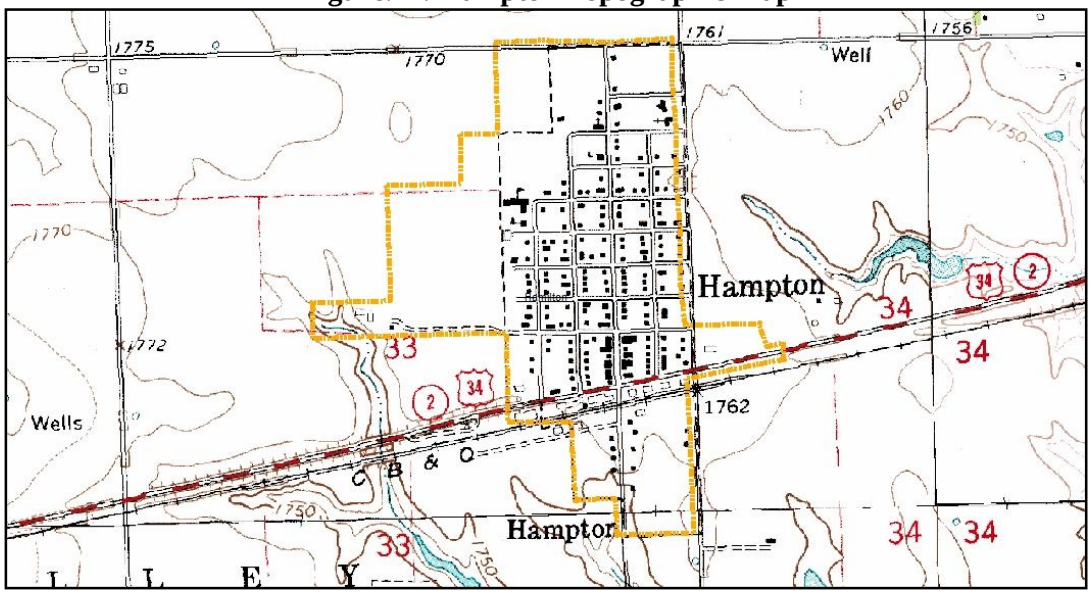
Hamilton County
Multi-Jurisdictional Hazard Mitigation Plan Update

March 2015

HISTORY

Settlement began in the community of Hampton in 1879 when the Burlington and Missouri River Railroad built a line west from Lincoln. In 1879, Mr. Joshua Cox purchased 400 acres of land in the area and platted a town. Mr. Cox drove all over the entire eastern part of the county in a lumber wagon to gather signatures on a petition to get a town established in the area. He later purchased an additional 600 acres next to the original tract, and his brother James purchased 1,000 acres adjoining his land. The Cox brothers named the town "Plano" after the city in Illinois where they had lived. The name did not suit the railroad because there was already a station by that name. The railroad proposed the name "Murray", but the people objected for unknown reasons. Finally the name "Hampton" was agreed upon by all and building began immediately. Hampton celebrated its centennial in 1979.

Figure.72: Hampton Topographic Map



LOCATION

Hampton is a village located in the east central portion of Hamilton County. The Village of Hampton covers an area of 211 acres and has an elevation of 1,763 feet above sea level. Hampton is 83.4 miles west of Lincoln.

CLIMATE

The warmest month in Hampton is July with an average high temperature of 87 degrees and the coolest month is January with an average low temperature of 11 degrees. The highest and lowest temperatures recorded are 108 degrees in 1983 and 28 degrees below zero in 1989. The month of May has the highest precipitation average of 4.68 inches per year.

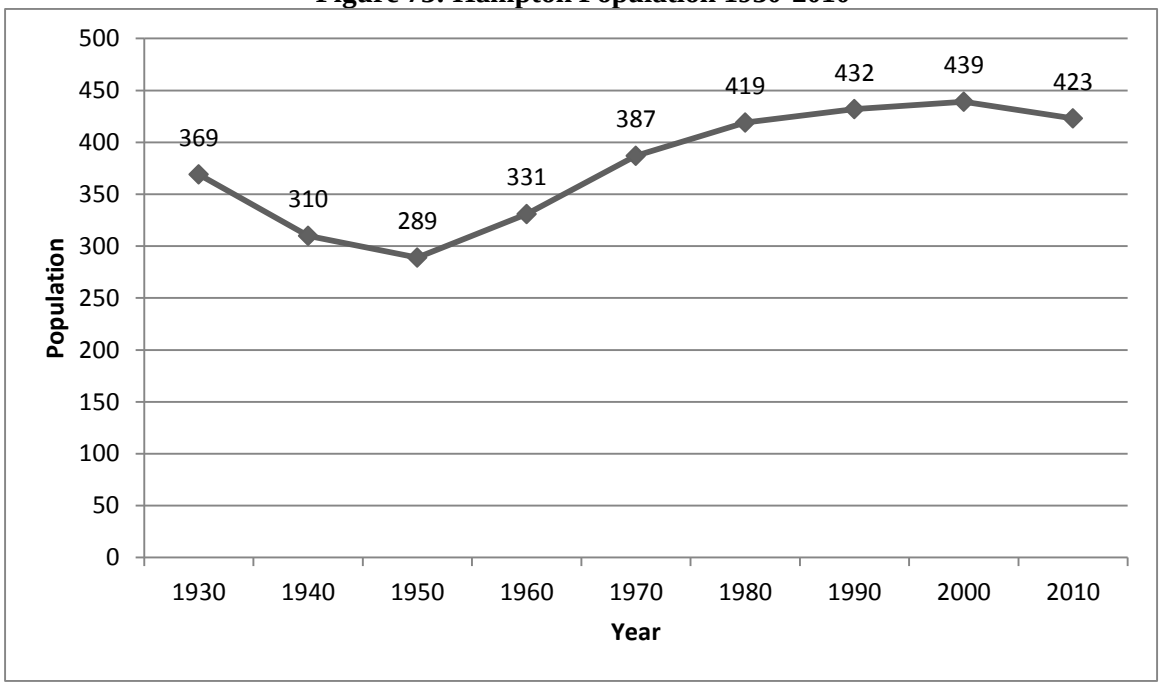
GEOGRAPHY

The community of Hampton lies in an area of plains. The land use surrounding the community is mainly agricultural crops with some ranching. Flat lying land above the valley with materials of sandstone or stream deposited silt, clay, sand and gravel overlain by wind deposited silt is prevalent. The community lies approximately eight miles south of Lincoln Creek and six miles north of Beaver Creek. The watershed flows generally from the northwest to the southeast. River flooding is not of significant concern.

DEMOGRAPHICS

Below, Figure 73 displays the historical population trend for the Village of Hampton from 1930 to 2010. The population of Hampton declined between 1930 and 1950 followed by a steady period of growth to 2000. The village is in a prime location on U.S. Highway 34 between the City of Aurora and York. This proximity allows for more opportunities for employment while maintaining a lower cost of living in Hampton. The last decade has shown a slowing in growth and slightly declined in population.

Figure 73: Hampton Population 1930-2010



Source: US Census

Table 115 illustrates the age distribution and median age for Hamilton County in comparison to the Village of Hampton. The median age of 45.5 in Hampton is higher than the median age in the county, and there are a higher percentage of residents over the age of 64 in the village.

Table.115: Hampton Population by Age

Age	County	Hampton
<5	5.8%	3.5%
5-64	77.8%	78.2%
>64	16.4%	18.1%
Median	42.3	45.5

Source: U.S. Census Bureau, 2010

HOUSING AND ECONOMICS

Median household income, per capita income, home value, and rent for the county as a whole are compared with the village in Table 116. The median home value is a third lower than Hamilton County's median home value, but the median household income is only ten percent less than the county. This lower cost of living may be beneficial to the future of the community's population stability.

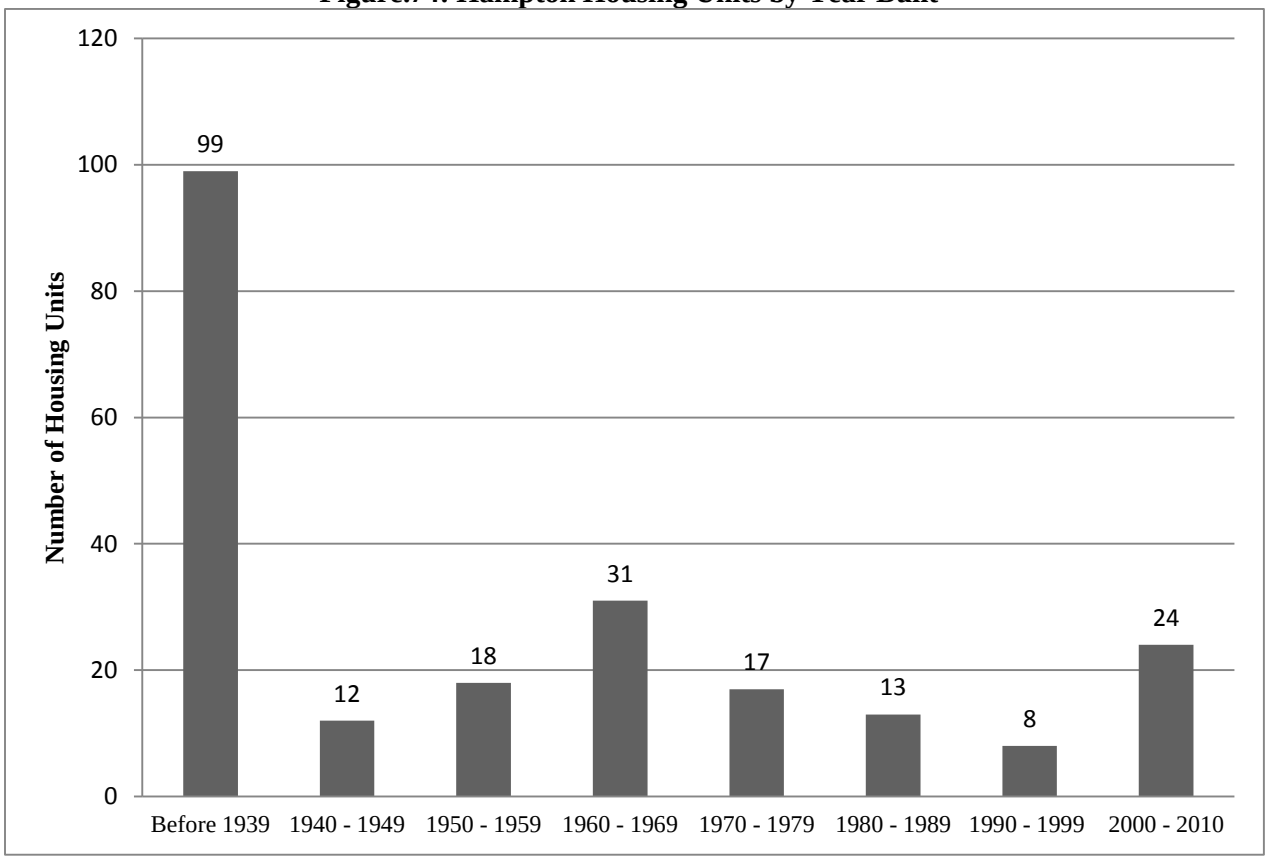
Table.116: Hampton Housing and Income

	Hamilton County	Hampton
Median Household Income	$56,809	$50,500
Per Capita Income	$26,785	$22,798
Median Home Value	$112,000	$75,000
Median Rent	$581	$585-$915*

Source: U.S. Census Bureau, 2010 American Community Surveys 5-year Estimates
**Range based on margin of error*

According to the 2010 Census data, the village has 222 housing units with 89.2 percent of those units occupied (Table 117). About 2.7 percent of the village's housing is classified as mobile homes and 58.1 percent of the village's housing was built before 1960 (Figure 74). The county zoning ordinances for mobile homes do require that they have anchors and tie-downs as cast-in-place concrete "dead men" and other devices to secure the stability of the mobile home. These requirements will help reduce the vulnerability to high winds that could overturn, slide, or uplift a mobile home. Older, dilapidated housing stock and insufficient or improperly anchored mobile homes will be susceptible to high winds, tornados, and severe thunderstorms.

Figure.74: Hampton Housing Units by Year Built



Source: US Census 2006 - 2010 American Community Survey 5 Year Estimates

Table.117: Hampton Housing Unit Occupancy

Jurisdiction	Total Housing Units					Occupied Housing Units			
	Occupied		Vacant			Owner		Renter	
	Number	Percent	Number	Percent		Number	Percent	Number	Percent
Hamilton County	3,464	87.7%	484	12.3%		2,667	77.0%	797	23.0%
Hampton	198	89.2%	24	10.8%		164	82.8%	34	17.2%

Source: US Census 2006 - 2010 American Community Survey 5 Year Estimates

STRUCTURAL INVENTORY AND VALUATION

A structural inventory was completed for the corporate limits of Hampton through a window survey using GIS for the 2009 hazard mitigation plan. The values of these structure types were updated utilizing the 2013 Property Type Values as provided by the Nebraska Department of Revenue Property Assessment Division.

Results from the structural inventory completed by the Village of Hampton are found in Table 118 below.

Table.118: Hampton Structural Inventory

Total Structures		Structure Valuation	
Structure Type	**Number of Structures**	**Total Value**	**Value per Structure**
Commercial/Industrial	34	$3,579,872	$105,290
Agriculture	22	$156,860	$7,130
Residential	186	$14,673,898	$78,892
Public/Quasi Public	13	$109,541	$8,426
Total	**255**	**$18,520,172**	N/A

Source: Nebraska Department of Revenue, Property Assessment Division

The following table shows the properties in Hampton that are identified on the National Register of Historic Places.

Table.119: Hampton Historic Places

Name	Type	Year Listed
IOOF Opera House	Building	1988

CRITICAL INFRASTRUCTURE/KEY RESOURCES

According to FEMA, "A critical facility is a structure that, if flooded (or damaged), would present an immediate threat to life, public health, and safety." Examples of critical facilities include hospitals, emergency operations centers, schools, city shops, wells, and sanitary sewer lift stations, etc.

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. Critical facilities were identified during the 2009 planning process and updated by the Hampton planning team as a part of the plan update. Figure 75 is a summary of the critical facilities for the jurisdiction.

Figure.75: Location of Hampton Critical Facilities

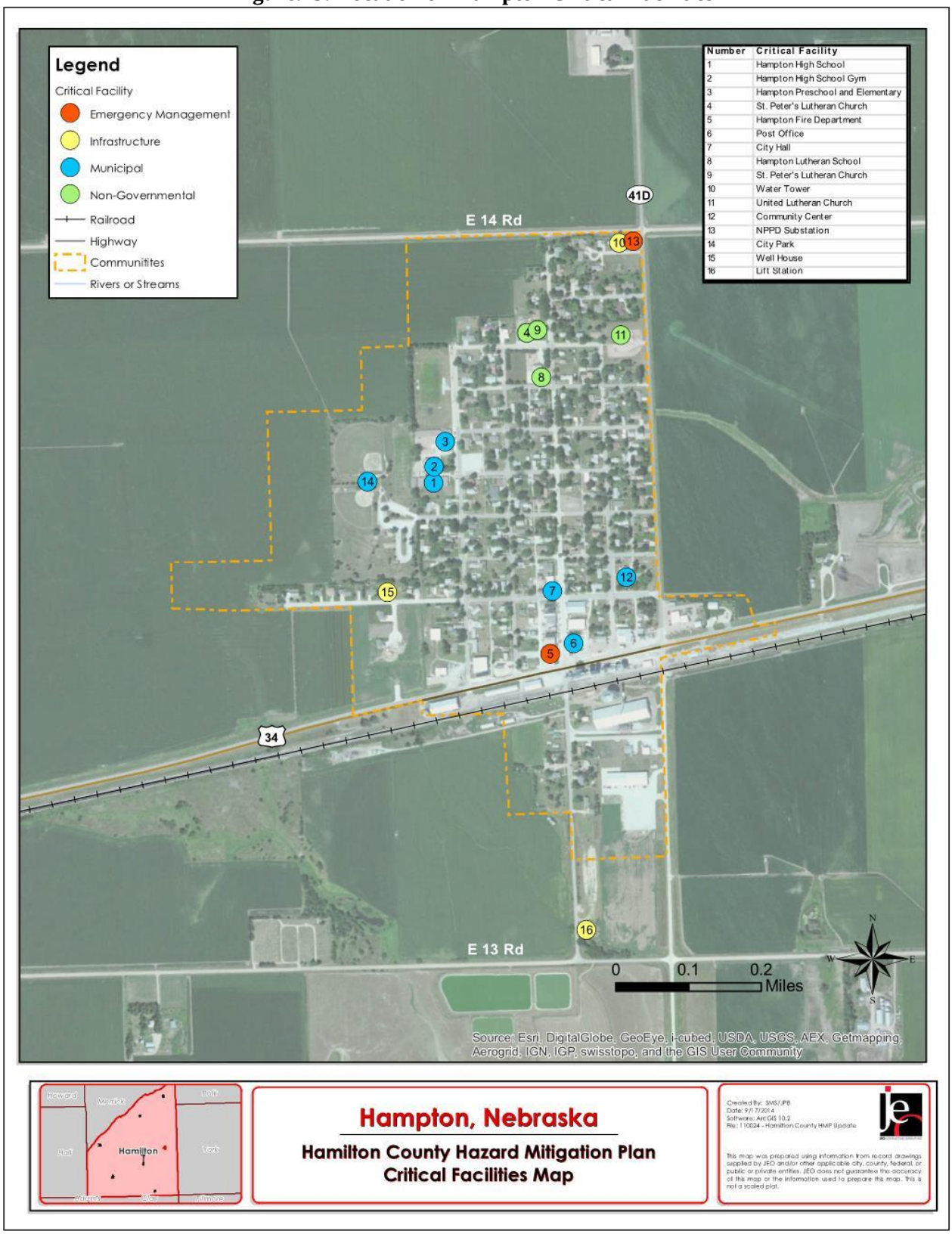
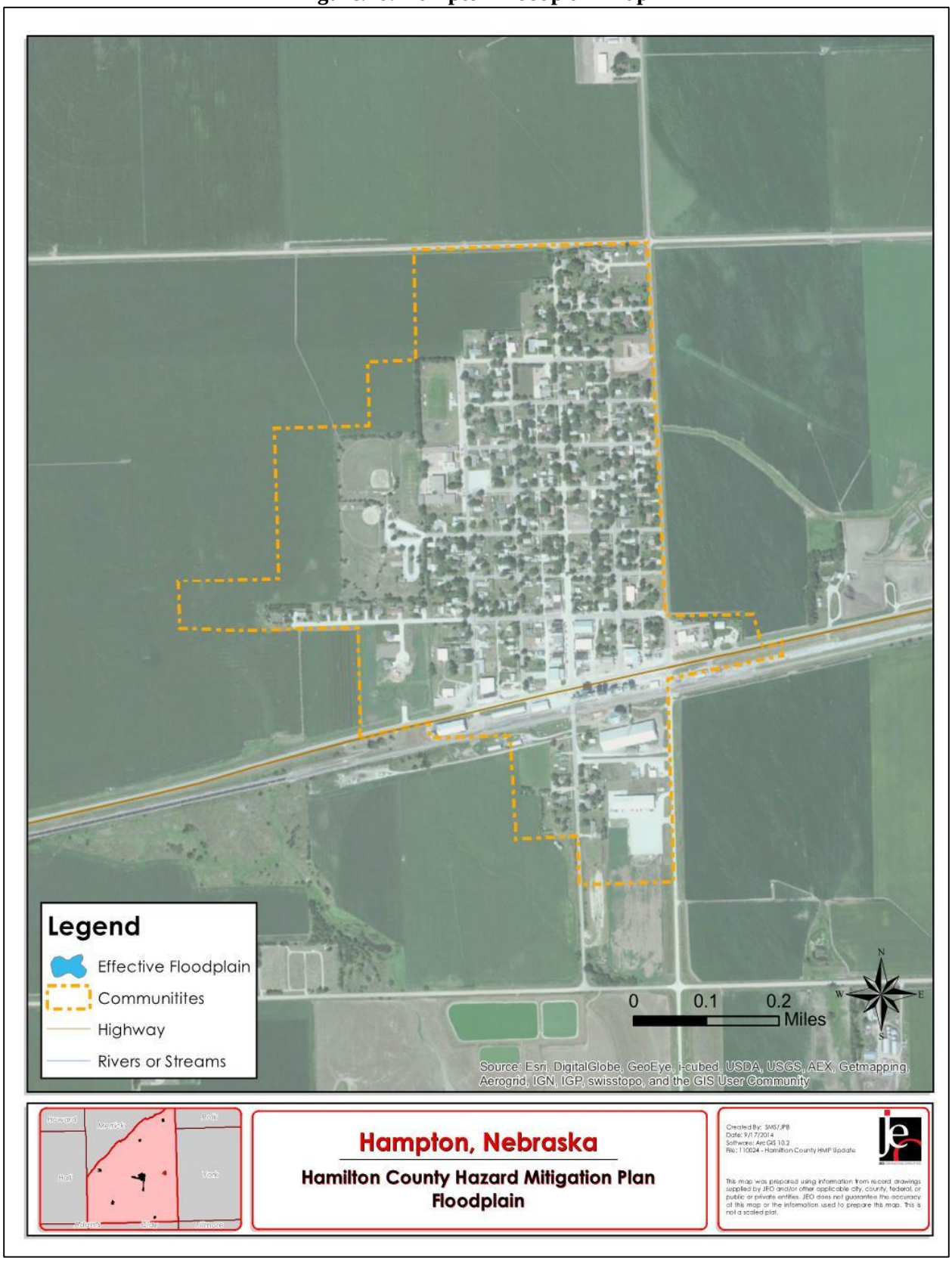


Figure.76: Hampton Floodplain Map



FUTURE DEVELOPMENT TRENDS

The planning team identified areas where housing and commercial developments have occurred recently. New home construction has been primarily located on the west side of the village, and some commercial development has occurred on the southern and western sides of the village near U.S. Highway 34. It is anticipated that some additional areas for growth will continue to the south and west over the next few years, but construction is expected to remain within the corporate limits of the village. The Village of Hampton is not located in or near a floodplain, so building in a flood prone area will not be a concern for the village. Also with the railroad and highway located on the south side of Hampton, construction near this area will need to consider how transportation of hazardous materials could pose a risk to businesses and residents.

RISK ASSESSMENT

Hazard Identification

Table 120 is a risk assessment of hazards identified specifically in the community. Refer to *Section Four: Community Based Risk Assessment* for an explanation as to what the methodology is.

Table.120: Hampton Risk Assessment

HAZARD TYPE	PREVIOUS OCCURRENCE? Yes/No	Approximate Annual Probability (Regional Risk Assessment)	Specific Concerns Identified
Severe Winter Storm	Yes	100%	22% of population at higher level of vulnerability; potential loss of life and properties
Tornado	Yes	~10%	Potential loss of life and properties
High Winds	Yes	100%	Potential loss of life and properties
Severe Thunderstorm*	Yes	~40%	Potential loss of life and properties; Economic impacts; Secondary hazards such as hail and tornados
Hail*	Yes	~10%	Potential loss of life and properties; Economic impacts
Flooding	Yes	~10%	Potential loss of properties
Extreme Heat	Yes	100%	22% of population at higher level of vulnerability; Ag losses; Secondary hazards such as wildfires
Drought	Yes	~10%	Economic impacts; Land degradation; Secondary hazards such as wildfires
Grass/Wildfire	Yes	~20%	Potential loss of life and properties; Economic impacts
Dam Failure	No	1%	None
Levee Failure	No	0	None
Ag Animal Disease	Yes	100%	None
Ag Plant Disease	Yes	~50%	None
Earthquakes	Yes	<5%	None
Landslides	No	0	None
Urban Fire	No	<5%	None
Radiological Fixed Facilities	Not present in the planning area	NA	None
Chemical Transportation	No	<5%	None

HAZARD TYPE	PREVIOUS OCCURRENCE? Yes/No	Approximate Annual Probability (Regional Risk Assessment)	Specific Concerns Identified
Terrorism	0	1%	None
Chemical Fixed Sites	0/23	<5%	None
Radiological Transportation	0	1%	None
Civil Disorder	No	unknown	None

**Identified by the planning team as a top concern for the jurisdiction*

Based on the risk assessment and feedback from the local planning team the hazards of top concern are severe winter storms, high winds, extreme heat, severe thunderstorms and hail. These five hazards that raise the greatest concerns for the community are discussed in detail.

Historical Occurrences

The NCDC recorded 13 severe weather events in Hampton from 1996 to 2014 with reported property and crop damage. Refer to the table below for detailed information of each severe weather event including date, extent, property damage, and crop damage.

Table.121: NCDC Severe Weather Events for Hampton

Date	Hazard	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
7/9/2008	Flash Flood	-	0	0	20,000	70,000
9/13/2010	Hail	0.75 in.	0	0	0	0
7/5/2011	Hail	1.75 in.	0	0	25,000	1,000,000
6/11/2014	Hail	1.00 in.	0	0	0	0
5/29/2013	Heavy Rain	-	0	0	0	0
6/11/1997	Thunderstorm Wind	60 kts./69 mph	0	0	25,000	50,000
6/20/1997	Thunderstorm Wind	65 kts./75 mph	0	0	150,000	300,000
4/8/1999	Thunderstorm Wind	52 kts./60 mph	0	0	75,000	0
4/8/1999	Thunderstorm Wind	52 kts./60 mph	0	0	70,000	0
5/23/2006	Thunderstorm Wind	52 kts. EG/60 mph	0	0	25,000	0
6/22/2010	Thunderstorm Wind	61 kts. EG/70 mph	0	0	0	0
8/4/2009	Thunderstorm Wind	61 kts. EG/70 mph	0	0	500,000	250,000
6/3/2014	Tornado	EF1	0	0	500,000	2,000,000
		Totals	**0**	**0**	**$1,390,000**	**$3,670, 000**

Source: NCDC Storm Events 1996-2014

High Winds

The local planning team identified high winds as a top concern for the community. In total there were 18 storms reported that had winds reported between 60 and 75 miles per hour. Winds of this magnitude, according to the Beaufort Wind Force Ranking, can cause trees to uproot, considerable structure damage, and over turning of improperly anchored mobile homes. Based on historic records, high winds have an annual probability of 100 percent.

The local planning team estimates that while the overwhelming majority of power lines are above ground, the school and sections of the new subdivision have their power lines buried. Given that the bulk of power lines are on poles, a considerable portion of the power lines in the community could be affected by strong winds and result in power outages. Hampton has a backup generator on one of the village's two wells. The village would like to add generators to city hall, the city auditorium, and to the other well. Additionally, municipal records are kept in one location off-site where they are being backed up regularly. While Hampton reported having one community safe room located in the fire barn, the community relies on basements of individual houses as the primary safe shelter. The community did not report having an emergency text alert system; however, emergency warning emails are sent through the county. Hampton also reported having mutual aid agreements across the county, as well as with the neighboring communities of Marquette, Hordville and Aurora.

Severe Winter Storms

The local planning team identified severe winter storms as a top concern according to the information provided by the Village of Hampton planning team. The NCDC data reported 67 winter storms for Hamilton County between 1996 and 2014, and seven of those resulted in $540,000 in property damage. Based on historic records, severe winter storms have an annual probability of 100 percent.

The elderly may be more likely to sustain an injury or have a medical emergency as a result of shoveling snow following a winter storm. Community members and families below the poverty line are also at a higher risk related to severe winter storms, as they may lack resources needed to sustain themselves through a major severe winter storm. The local planning team did not identify designated snow routes in the Village of Hampton and reported having sufficient snow removal equipment. Additional contractors are hired on an as need basis in the event of increased snow fall.

Extreme Heat

The local planning team identified extreme heat as a top concern for the community. According to NCDC there were 2 heat advisories or warning issued from 1996 to 2014. NCDC reported no losses from any of the events. Based on data provided by the High Plains Regional Climate Center, Hampton has an average of 40 days a year with temperatures at or above. Extreme heat has an annual probability of 100 percent in the village.

The community does not have hospitals or assisted living facilities, but is aware of the elderly population and its needs in case of an emergency. The community lift-station and water well are equipped with power back-up. The village would like a backup generator at the city hall or city auditorium, which could also serve as a cooling center if needed.

Severe Thunderstorms

The local planning team identified severe thunderstorms as the third greatest concern for the community. According to the NCDC data, seven severe thunderstorm events were reported for the Village of Hampton. In addition to the reported thunderstorms, two hail events, a heavy rain event and a flashflood event were reported to have occurred in the community within the same period. Flash flood, hail, and rain often accompany severe thunderstorm weather, which can result in a loss of electricity, blocked roadways,

damages to trees, and flooding. Based on historic records, severe thunderstorms have an annual probability of about 40 percent.

Blocked roadways, as an effect of downed trees, may also present life safety concerns to those needing immediate medical attention. Damages to roofs and siding can result in significant losses for homeowners as well as business owners. Critical facilities can also be damaged by hail events.

The Village of Hampton did not report having weather radios with the exception of the fire department. The village would like to place static detectors at the ball fields to help warn those at the fields of incoming storms. Also, the community does not utilize surge protection at its critical facilities and may need an alternative water source if one of the municipal wells goes out of order.

Hail Events

The local planning team identified hail as a significant concern for the community The NCDC reported two hail events in Hampton between 1996 and 2014, one of the two 1.75 inches in diameter resulting in one million dollars of crop damage. In addition to damage to crops, hail can have significant impacts to critical facilities where roofs, siding and windows can be damaged. Based on historic records, hail has an annual probability of about 10 percent.

The Village of Hampton did not report having weather radios with the exception of the fire department. The village also needs generators at city hall, the city auditorium, and one well (the other currently has a generator).

CAPABILITY ASSESSMENT

Thus far the planning process has identified the major hazards for the communities and described and quantified the vulnerability of the community to these risks by acquiring updated information from FEMA, local jurisdiction, and other sources. The following step shall be assessing what loss prevention or preparedness mechanisms are already in place, which is referred to as capability assessment. Combining the risk assessment with the local capability assessment results in a stronger mechanism in understanding locality's "net vulnerability" and to what extent they could be able to implement the goals, objectives, and actions.

The capability assessment consisted of two main components: 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.

Governance

The Village of Hampton is governed by a village board and has the following staff:

- Clerk/Treasurer
- Utility Superintendent
- Fire Chief
- Sewage Plant Operator
- Street/Water Commissioner
- Engineer

Table.122: Hampton Capability Assessment

Survey Components/Subcomponents		Comments
Planning and	Comprehensive Plan	County
	Capital Improvements Plan	No

Survey Components/Subcomponents		Comments
Regulatory Capability	Hazard Mitigation Plan	County
	Economic Development Plan	No
	Emergency Operational Plan	County
	National Resources Protection Plan	No
	Open Space Preservation plan	No
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	County
	Subdivision Regulation/Ordinance	County
	Floodplain Ordinance	No
	Building Codes	No
	National Flood Insurance Program	No
	Community Rating System	No
	Other (if any)	
Administrative and Technical Capability	Planning Commission	County
	Hazard Mitigation Planning Commission	No
	Floodplain Administration	No
	Emergency Manager	County
	GIS Coordinator	No
	Chief Building Official	No
	Civil Engineering	No
	Staff Who Can Assess Community's Vulnerability to Hazards	County
	Grant Manager	No
	Other (if any)	
Fiscal Capability	Capital Improvement Project Funding	No
	Community Development Block Grant	No
	Authority to Levy Taxes for Specific Purposes	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
Education and Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, 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
	Public-private partnership initiatives addressing disaster-related issues	Yes
	Other (if any)	

Plan Integration

Hampton participates in planning and zoning with the county. This allows Hampton to have codes and plans that might otherwise be cost prohibitive to develop. The comprehensive plan representing Hampton has not been updated since the 2009 hazard mitigation plan was developed so there are no changes related to how hazard mitigation has been incorporated into that document. At this time there is no planned update for the comprehensive plan. When the plan is updated the community and the planning team will review the goals and objectives of the hazard mitigation plan for inclusion in the comprehensive plan.

Hampton also collaborates with the county for building codes and zoning ordinances. Building codes are sufficient for the hazards that occur with regularity. When building codes are revisited in the future the community may consider encouraging the use of building materials that will help reduce structural damages as well as some non-structural impacts resulting from natural hazards. Option include but are not limited to: hail resistant siding and roofing, increase strapping materials, low flow fixtures, xeriscaping, and requiring safe rooms in newly built critical facilities.

Summary

Hampton will be able to implement some mitigation projects independently. The village will need to look for opportunities to partner with county emergency management, Hamilton County, and other regional and state agencies on mitigation projects. Through this update process, the planning team reviewed previously identified mitigation projects and added new projects as well.

MITIGATION ACTIONS

Completed Mitigation Projects

None

Ongoing Mitigation Projects

Description	Static Detectors
Analysis	Deploying a static detector at outdoor events can warn of approaching, fast moving storms and associated lightening, thus helping officials to respond appropriately.
Goal/Objective	Goal1/Objective 1.1
Hazard(s) Addressed	Severe thunderstorms
Estimated Cost	$1000
Benefits	Better response to a storm event, protection of critical facilities
Potential Funding	N/A
Timeline	5 years
Priority	Low
Lead Agency	Village Board, Fire Chief
Action since 2009 plan	None but there are ball fields in the community that this could be useful for.

Description	Backup Power Generators
Analysis	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other critical facilities and shelters.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms, flooding
Estimated Cost	$15,000-$30,000 per generator
Benefits	Back-up power for critical facilities (i.e. nursing home). A measure that would reduce or prevent damage to property or prevent loss of life or serious injury.
Potential Funding	HMGP
Timeline	1-3 years
Priority	High
Lead Agency	Village Board, Public Works
Action since 2009 plan	None but one of two wells has a backup generator. Three natural gas generators are needed. City Hall, the city auditorium and one well need backup power generators.

Description	**Stormwater System and Drainage Improvements**
Analysis	Undersized systems can contribute to localized flooding. Stormwater system improvements, such as pipe upsizing and additional inlets, installation of retention and detention facilities can be implemented to decrease runoff rates while also decrease the need for other stormwater system improvements.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding
Estimated Cost	$100,000+
Benefits	Decreased stormwater runoff, improved retention and detention systems for managing stormwater runoff and preventing localized flooding.
Potential Funding	HMGP, PDM, Community Development Block Grant (CDBG)
Timeline	1-3 years
Priority	High
Lead Agency	Public Works
Action since 2009 plan	None

Description	**Electrical System Looped Distribution / Redundancies**
Analysis	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.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$40,000/mile
Benefits	More reliable and resistant power distribution system
Potential Funding	HMGP, PDM, PPDs
Timeline	1-3 years
Priority	High
Lead Agency	Local Public Power District, Village Board
Action since 2009 plan	None but NPPD provides power supply and maintenance.

Description	**New Municipal Well**
Analysis	Provide a safe backup water supply for the community; replace existing wells affected by drought, increase of demand in water, and additional water for fire protection.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Drought
Estimated Cost	$350,000 to $450,000
Benefits	Provide adequate water sources to mitigate potential damages or expenses due to drought
Potential Funding	CDBG, State Revolving Fund (SRF)
Timeline	5 years
Priority	Medium
Lead Agency	Public Works
Action since 2009 plan	None but village currently has 2 wells installed in the last 25 years.

Description	**Snow fences**
Analysis	Construct snow fences to protect main transportation routes and critical facilities from excessive snow drifting and road closure.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Severe winter storms
Estimated Cost	$1,000+
Benefits	Increased road accessibility for the population and emergency vehicles.
Potential Funding	PDM, HMGP
Timeline	Ongoing
Priority	Low
Lead Agency	Village Board
Action since 2009 plan	A couple of snow fences were put in last winter and utilized as needed.

Description	**Storm Shelter / Safe Rooms**
Analysis	Design and construct fully supplied storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, school, and other areas.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Tornados and high winds, severe thunderstorms

Description	**Storm Shelter / Safe Rooms**
Estimated Cost	$200-$300/sf stand alone; $150-$200/sf addition/retrofit
Benefits	Useful for many residents that do not have basements or cellars to go for shelter, especially beneficial for the nursing home and other vulnerable populations.
Potential Funding	PDM, HMGP
Timeline	Ongoing
Priority	High
Lead Agency	Village Board, Emergency Management Agency
Action since 2009 plan	The school has a safe room and two safe rooms are needed for ball fields and other new construction areas.

Description	**Enroll in the National Flood Insurance Program (NFIP)**
Analysis	Participate in the National Flood Insurance Program (NFIP).
Goal/Objective	Goal 2/Objective 2.3
Hazard(s) Addressed	Flooding
Estimated Cost	N/A
Benefits	Enable property owners to purchase insurance protection against flood losses. Good standing enables participants to apply for PDM and HMGP cost-share.
Potential Funding	N/A
Timeline	5 years
Priority	Low
Lead Agency	Village Board
Action since 2009 plan	None

Description	**Tree City USA – Tree Maintenance Programs**
Analysis	Work to become a Tree City USA through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a hazardous tree identification and removal program in order to limited potential tree damage and damages caused by trees in a community when a storm event occurs. The four main requirements include: 1) Establish a tree board; 2) Enact a tree care ordinance; 3) Establish a forestry care program; 4) Enact an Arbor Day observance and proclamation.
Goal/Objective	Goal 2/Objective 2.3
Hazard(s) Addressed	Severe thunderstorms, tornados and high winds, severe winter storms
Estimated Cost	$1,000+
Benefits	Better maintained trees and hazard tree removal will eliminate damages to power lines and personal property during hazards events. Participation in Tree City USA will support community actions to mitigation damages from trees.
Potential Funding	Arbor Day Foundation, US Forest Service
Timeline	5 years
Priority	Low
Lead Agency	Village Board
Action since 2009 plan	None.

Description	**Public Awareness/Education**
Analysis	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. In addition, educate citizens on erosion control and water conservation methods. Educate residents on response and rescue plans for all hazard types.
Goal/Objective	Goal 3/Objective 3.1, Goal1/Objective 1.1
Hazard(s) Addressed	All hazards
Estimated Cost	$500+
Benefits	Increase knowledge to new comers to the area as well as elderly in how to react when an event is going to occur or is occurring. Education to reduce or prevent damage to property or prevent loss of life or serious injury.
Potential Funding	HMGP, PDM
Timeline	Ongoing
Priority	Medium
Lead Agency	Village Board, Emergency Management Agency
Action since 2009 plan	Newsletters include information on tornados.

Description	**Civil Service Improvements**
Analysis	Improve emergency rescue and response equipment and facilities by providing additional, or updating existing emergency response equipment. This could include fire trucks, ATV's, water tanks/truck, snow removal equipment, etc. This would also include developing backup systems for emergency vehicles, and identifying and training additional personnel for emergency response.
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	All hazards
Estimated Cost	Varies depending on what equipment is needed
Benefits	Increase local capabilities to respond to disasters
Potential Funding	Homeland Security, Emergency Management, NEMA, Governing County and Board of Commissioners, Nebraska Forest Service
Timeline	5 years
Priority	Low
Lead Agency	Fire Department
Action since 2009 plan	None

Description	**Alert Sirens**
Analysis	Perform an evaluation of existing alert sirens in order to determine sires which should be replaced or upgraded. Install new sirens where needed.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$15,000+
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Potential Funding	HMGP
Timeline	High
Priority	1-3 years
Lead Agency	Emergency Management Agency
Action since 2009 plan	Identified that one of the battery-operated alert sirens needs to be upgraded and changed to AC/DC power. There is one siren on Main Street purchased in the 1990s that may need replacing.

Description	**Weather Radios**
Analysis	Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed.
Goal/Objective	Goal 4/Objective 4.3, Goal 1/Objective 1.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$50 / radio
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Potential Funding	HMGP, PDM
Timeline	1-3 years
Priority	High
Lead Agency	Utility Superintendent
Action since 2009 plan	The Utility Superintendent needs a weather radio. The fire department does have a weather radio.

Description	**Bury Power and Service Lines**
Analysis	Work with local Public Power District or Electricity Department to identify vulnerable transmission and distribution lines and plan to bury lines underground or retrofit existing structures/infrastructure to be less vulnerable to storm events.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$70,000/mile
Benefits	Eliminate the possibility of power lines being damaged or destroyed.
Potential Funding	HMGP, PDM, PPDs
Timeline	1-3 years
Priority	High
Lead Agency	Local Public Power District, Village Board
Action since 2009 plan	New project

Description	**Warning Systems**
Analysis	Improve/ implement city cable TV interrupt warning system and telephone interrupt system such as Reverse 911.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$5,000+
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Potential Funding	HMGP, PDM
Timeline	1-3 years
Priority	High
Lead Agency	Village Board, Emergency Management Agency
Action since 2009 plan	New project

Description	**Source Water Contingency Plan**
Analysis	Evaluate and locate new sources of groundwater to ensure adequate supplies to support the existing community and any additional growth which may occur.
Goal/Objective	Goal 2/Objective 2.2
Hazard(s) Addressed	Drought, Wildfire
Estimated Cost	$5,000+
Benefits	Planning for additional water sources to keep communities alive and protect from hazards.
Potential Funding	CDBG, SRF, NDEQ
Timeline	1-3 years
Priority	Medium
Lead Agency	Village Board, Fire Department
Action since 2009 plan	New project

Description	**Emergency Communications**
Analysis	Establish an action plan to improve communication between agencies to better assist residents and businesses during and following emergencies. Establish inner-operable communications. Provide equipment such as satellite telephones and radios.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$10,000+
Benefits	More efficient and effective communication between different departments
Potential Funding	Homeland Security
Timeline	1-3 years
Priority	Medium-Low
Lead Agency	All Departments
Action since 2009 plan	New project

Description	**Comprehensive City Disaster / Emergency Response Plan**
Analysis	Update Comprehensive City/Village Disaster and Emergency Response Plan
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	All hazards
Estimated Cost	$6,000+
Benefits	Identification of vulnerabilities and better response to a disaster/hazard.
Potential Funding	Emergency Management Performance Grant, Homeland Security Funding
Timeline	1-3 years
Priority	Medium
Lead Agency	Village Board, Emergency Management Agency
Action since 2009 plan	New project

Description	**Formal Evacuation Plan**
Analysis	Establish a plan to effectively evacuate residents during storm events and major flooding.
Goal/Objective	Goal 4/Objective 4.2
Hazard(s) Addressed	Severe thunderstorms, tornados and high winds, severe winter storms, flooding
Estimated Cost	$2,000+
Benefits	Save lives by being prepared before or during a disaster
Potential Funding	Homeland Security

Description	Formal Evacuation Plan
Timeline	1-3 years
Priority	High
Lead Agency	Fire Department, Emergency Management Agency
Action since 2009 plan	New Project

Description	Drainage Study/Stormwater Master Plan
Analysis	Drainage studies can be conducted to identify and prioritize improvements to address site specific localized flooding/drainage problems. Stormwater master plans can be conducted to perform a community wide evaluation.
Goal/Objective	Goal 2/Objective 2.2
Hazard(s) Addressed	Flooding
Estimated Cost	$10,000 to $100,000+
Benefits	To help prevent flooding by evaluating problem areas in order to improve drainage/flooding problems
Potential Funding	CDBG
Timeline	1-3 years
Priority	High
Lead Agency	Public Works
Action since 2009 plan	New project

Description	Improve Snow/Ice Removal Program
Analysis	Continue to revise and improve the snow and ice removal program for streets.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Severe winter storms
Estimated Cost	$20,000+
Benefits	Increase local capabilities to remove snow/ice from roadways during severe winter storms
Potential Funding	PDM
Timeline	1-3 years
Priority	High
Lead Agency	Public Works
Action since 2009 plan	New project

Description	Weather Radar System Program
Analysis	Provide information from weather radar like the motion, type of precipitation, location, and a forecast of movement would be provided
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Severe thunderstorms, severe winter storms, tornados and high winds
Estimated Cost	N/A
Benefits	To keep responders p to date with the weather to be able to be prepared to respond and warn the public
Potential Funding	N/A
Timeline	1-3 years
Priority	Medium
Lead Agency	Village Board, Emergency Management Agency
Action since 2009 plan	New project

Description	Emergency Signage
Analysis	Place signs around community and vulnerable areas to warn of potential hazards with an indication of storm shelter locations, evacuation routes or safest places to be during an event.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	All hazards
Estimated Cost	N/A
Benefits	Provides residents and non-residents the information needed to seek shelter or to evacuate during an event.
Potential Funding	PDM, HMGP
Timeline	5 years
Priority	Low
Lead Agency	Village Board, Emergency Management Agency

Action since 2009 plan	New project

Description	**Windbreaks**
Analysis	Installation of windbreaks and/or living snow fences to increase water storage capacity in soil and reduce blowing snow.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	High winds, severe winter storms
Estimated Cost	$2,000+
Benefits	Help hold moisture in times of drought and helpful for water storage. Prevents snow from collecting on rural roadways.
Potential Funding	UBB NRD, NRCS
Timeline	5 years
Priority	Low
Lead Agency	Public Works
Action since 2009 plan	New project

Description	**Irrigation/Groundwater Management Plan**
Analysis	Establish a plan to reduce total consumption of groundwater resources by irrigators of agricultural land across the district
Goal/Objective	Goal 2/Objective 2.2
Hazard(s) Addressed	Drought
Estimated Cost	$10,000+
Benefits	Best management practices will reduce the total consumption of groundwater resources and to ensure a better water supply during drought periods.
Potential Funding	UBB NRD
Timeline	3-5 years
Priority	Medium
Lead Agency	Village Board
Action since 2009 plan	New project

Description	**Rural Water District and Water System Upgrades**
Analysis	Upgrade rural water district infrastructure to decrease likelihood of damages and improve water system for emergency uses.
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	Drought
Estimated Cost	$20,000+
Benefits	Stronger infrastructure to respond to emergencies
Potential Funding	SRF, CDBG
Timeline	1-3 years
Priority	High
Lead Agency	NRD
Action since 2009 plan	New project

Description	**Shelter in Place Education and Training**
Analysis	Ensure that all critical facilities, businesses, and residents located near major transportation corridors and near fixed site chemical facilities are aware of how to safely shelter in place in the event of a chemical incident
Goal/Objective	Goal 3/Objective 3.1; Goal 4/Objective 4.1
Hazard(s) Addressed	Train Derailment
Estimated Cost	$1,000+
Benefits	Losses and injuries to residents and businesses could be substantially reduced during and following a hazmat incident.
Potential Funding	Homeland Security, Emergency Management Agency
Timeline	5 years
Priority	Low
Lead Agency	Fire Department
Action since 2009 plan	New project

Description	**Training for Response to Train Derailment**
Analysis	Provide training for first responders in the event of a train derailment and related hazmat incident.

Description	**Training for Response to Train Derailment**
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	Chemical spills (transport)
Estimated Cost	$1,000+
Benefits	Through adequate training, Emergency Management will reduce losses and lessen the threat to public health and safety
Potential Funding	Homeland Security, Emergency Management, Village, and Railroad Company
Timeline	1-3 years
Priority	High
Lead Agency	Fire Department, Village, Emergency Management Agency
Action since 2009 plan	New project

Description	**Develop Continuity Plans**
Analysis	Develop continuity plans for critical community services
Goal/Objective	Goal 2/Objective 2.2
Hazard(s) Addressed	All hazards
Estimated Cost	N/A
Benefits	Plans would be in place during an event to provide support and methods for addressing issues.
Potential Funding	N/A
Timeline	5 years
Priority	Low
Lead Agency	Village Board
Action since 2009 plan	New project

Description	**Education about Continuity Plans**
Analysis	Educate local businesses on the value of continuity planning.
Goal/Objective	Goal 2/Objective 2.2
Hazard(s) Addressed	All hazards
Estimated Cost	$500+
Benefits	Education would help businesses to implement a continuity plan.
Potential Funding	HMGP
Timeline	5 years
Priority	Low
Lead Agency	Village Board, Emergency Management Agency
Action since 2009 plan	New project

Description	**Hail Resistant Roofing/Building Materials**
Analysis	Provide information related to hail resistant building materials to individuals constructing new buildings.
Goal/Objective	Goal 2/Objective 2.4
Hazard(s) Addressed	Hail, Severe Thunderstorms, Severe Winter Storms
Estimated Cost	N/A
Benefits	Educates community members about alternative building materials.
Potential Funding	N/A
Timeline	1-3 years
Priority	High
Lead Agency	Village Board
Action since 2009 plan	New project

Description	**Install Vehicular Barriers**
Analysis	Install Vehicular Barriers to protect critical facilities and key infrastructure where possible
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Terrorism, Civil Disorder
Estimated Cost	$500 - $25,000
Benefits	Provides protection for critical facilities.
Potential Funding	HMGP, DHHS
Timeline	3-5 years
Priority	Medium
Lead Agency	Public Works

Description	Install Vehicular Barriers
Action since 2009 plan	New project

Description	First Aid Training
Analysis	Promote first aid training for all residents
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	All hazards
Estimated Cost	$500+
Benefits	Provides the residents the knowledge to perform first aid during a disaster.
Potential Funding	HMGP
Timeline	3-5 years
Priority	Medium
Lead Agency	Fire Department
Action since 2009 plan	New project

Removed Mitigation Projects

Description	Obtaining Missing Data
Analysis	Obtain necessary data to improve vulnerability assessments when updating the plan.
Hazard(s) Addressed	All Hazards
Reason for Removal	The local planning team was unsure what was intended by this project. While there is always additional data that can be gather there is not a specific need at this time so the local planning team wishes to remove this project.

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VILLAGE OF HORDVILLE

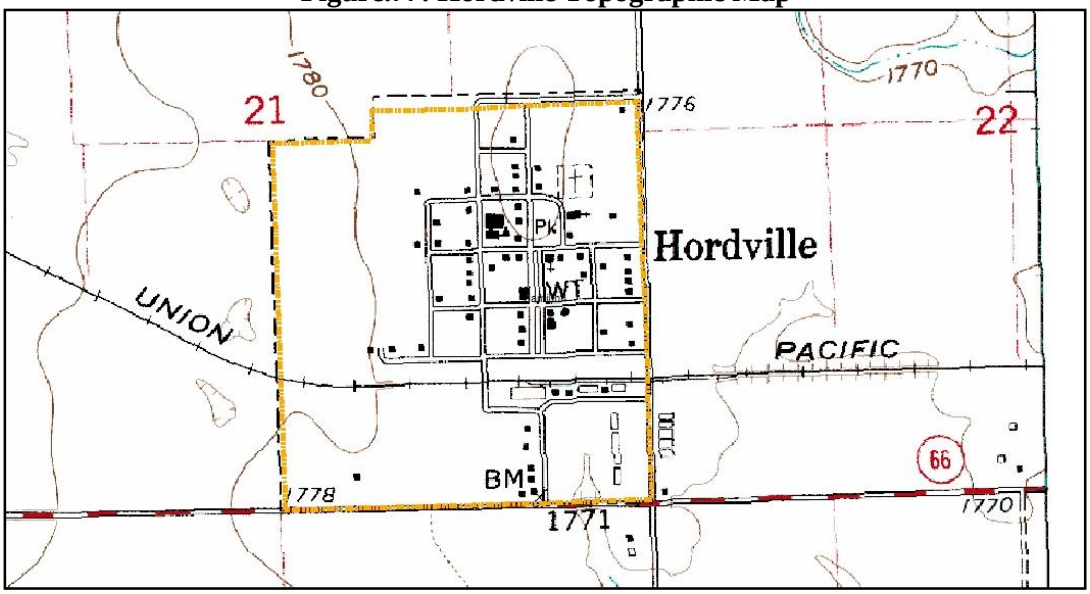
Hamilton County
Multi-Jurisdictional Hazard Mitigation Plan

March 2015

HISTORY

Settlement began in the community of Hordville in September 1906 when the Union Pacific Railroad acquired land to extend a branch line from Stromsburg to Central City and asked the City Improvement Company of Stromsburg to plat a new town in the area. The new town "Hordville" was named for T.B. Hord, a prominent cattle feeder and grain dealer from the area. In 1906 there were only two buildings on the town site, the Fridhem Lutheran Church, built in 1882, and a parsonage. The town was planned with a wide boulevard main street ending in a park. Lots in the new town sold quickly and new buildings sprang up all down the main street. The Nebraska Community Improvement Program recognized Hordville as the outstanding village in its class in 1980. Hordville celebrated its centennial in 2006.

Figure.77: Hordville Topographic Map



LOCATION

Hordville is a village located in the northeast corner of Hamilton County. The Village of Hordville covers an area of 166 acres and has an elevation of 1,770 feet above sea level. Hordville is 85.5 miles northwest of Lincoln.

CLIMATE

The warmest month in Hordville is July with an average high temperature of 87 degrees and the coolest month is January with an average low temperature of 14 degrees. The highest and lowest temperatures recorded are 116 degrees in 1936 and 28 degrees below zero in 1963. The month of May has the highest precipitation average of 4.47 inches per year.

GEOGRAPHY

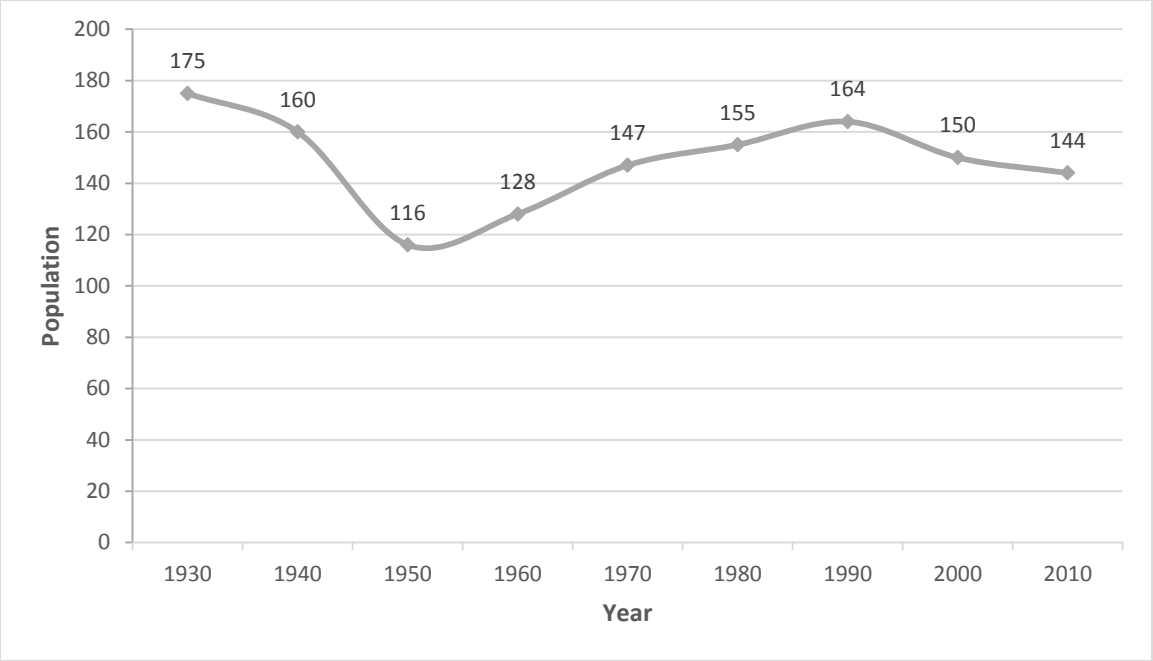
The community of Hordville lies in an area of plains. The land use surrounding the community is mainly agricultural crops with some ranching. Flat lying land above the valley with materials of sandstone or stream deposited silt, clay, sand and gravel overlain by wind deposited silt is prevalent. The community lies immediately west of Prairie Creek. The watershed flows generally from the northwest to the southeast. River flooding is not of significant concern.

DEMOGRAPHICS

Below, Figure 78 displays the historical population trend for the Village of Hordville from 1930 to 2010. Hordville saw a dramatic decline in population from 1930 to 1950 followed by a steady period of growth

to 1990, and this growth may be attributed to new industries and employment opportunities in Grand Island, Aurora, and York. The last two decades have returned to a slow decline in population.

Figure.78: Hordville Population 1930 – 2010



Source: US Census

Table 123 illustrates the age distribution and median age for Hamilton County in comparison to the Village of Hordville. The median age of 44 in the Village of Hordville is slightly higher than the median age for Hamilton County, and there are a higher percentage of residents between the ages of 5 and 64 than in the county. This may be attributed to young, working adults that are attracted to Hordville's proximity to nearby cities that have brought in new industries like in Grand Island.

Table.123: Hordville Population by Age

Age	Hamilton County	Hordville
<5	5.8%	2.8%
5-64	77.8%	83.9%
>64	16.4%	13.3%
Median	42.3	44.0

Source: U.S. Census Bureau, 2010

HOUSING AND ECONOMICS

Median household income, per capita income, home value, and rent for the county as a whole are compared with the Village of Hordville in Table 124. Median home values are significantly lower than the county, which can be attractive to residents, but income is also lower in the village as compared to the county.

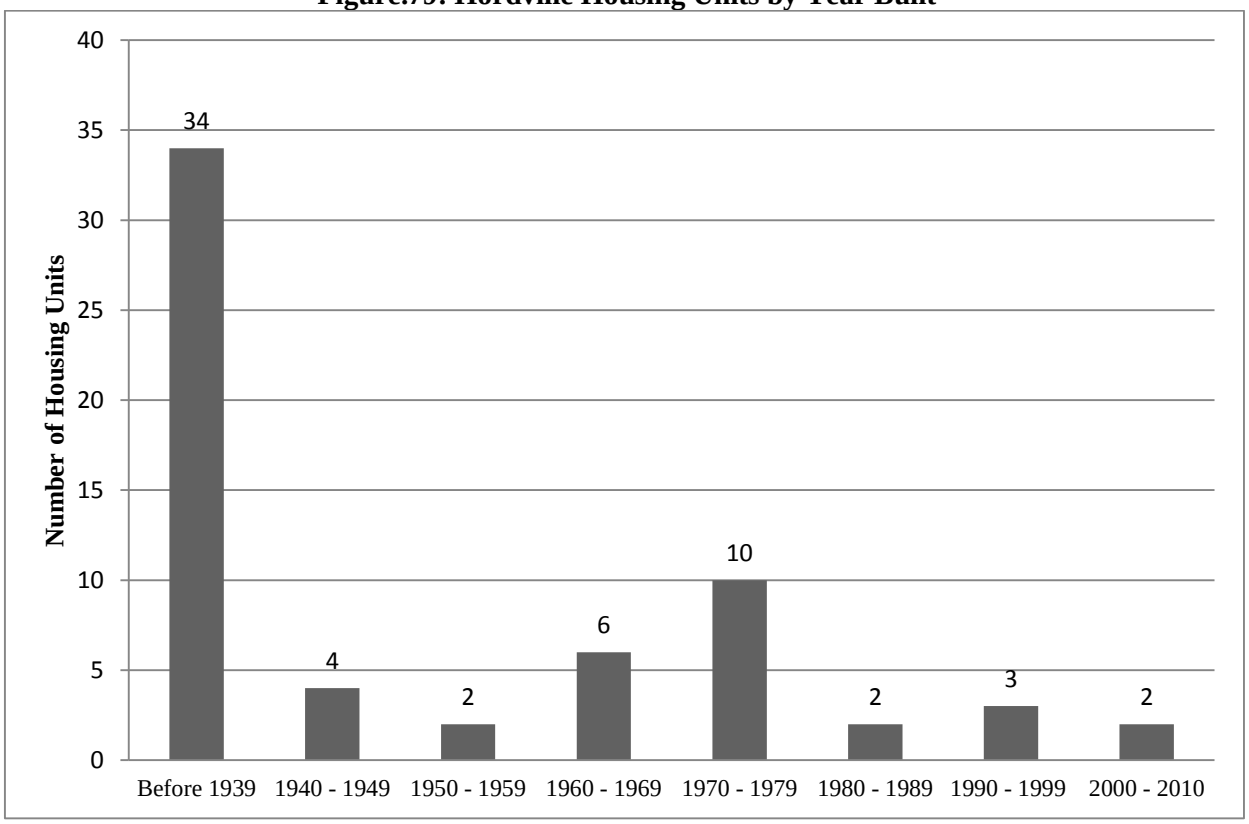
Table.124: Hordville Housing and Income

	Hamilton County	Hordville
Median Household Income	$56,809	$35,938
Per Capita Income	$26,785	$22,491
Median Home Value	$112,000	$53,000
Median Rent	$581	N/A*

Source: U.S. Census Bureau, 2010 American Community Surveys 5-year Estimates
**Not listed due to insufficient data*

According to 2010 Census data (Figure 79), the village has 63 housing units; with 96.8 percent of those units occupied (Table 125). About 9.5 percent of the village's housing is classified as mobile homes and 63.5 percent of the village's housing was built before 1960. Although there are mobile homes in the community, they are not located in a single identified mobile home park in the village, but are spread throughout the village. In conjunction with the aging housing stock, residents living within these types of structures will be especially vulnerable to high winds, severe thunderstorms, and tornados.

Figure.79: Hordville Housing Units by Year Built



Source: US Census 2006 - 2010 American Community Survey 5 Year Estimates

Table.125: Hordville Housing Unit Occupancy

Jurisdiction	Total Housing Units					Occupied Housing Units			
	Occupied		Vacant			Owner		Renter	
	Number	Percent	Number	Percent		Number	Percent	Number	Percent
Hamilton County	3,464	87.7%	484	12.3%		2,667	77.0%	797	23.0%
Hordville	61	96.8%	2	3.2%		50	82.0%	11	18.0%

Source: US Census 2006 - 2010 American Community Survey 5 Year Estimates

STRUCTURAL INVENTORY AND VALUATION

A structural inventory was completed for the corporate limits of Hordville through a window survey using GIS for the 2009 hazard mitigation plan. The values of these structure types were updated utilizing the 2013 Property Type Values as provided by the Nebraska Department of Revenue Property Assessment Division.

Results from the structural inventory completed for the Village of Hordville are found in Table 126 below.

Table.126: Hordville Structural Inventory

Total Structures		Structure Valuation	
Structure Type	**Number of Structures**	**Total Value**	**Value per Structure**
Commercial/Industrial	18	$1,816,080	$100,893
Agriculture	14	$99,820	$7,130
Residential	68	$2,341,661	$34,436
Public/Quasi Public	14	$35,948	$2,568
Total	**114**	**$4,293,509**	N/A

Source: Nebraska Department of Revenue, Property Assessment Division

CRITICAL INFRASTRUCTURE/KEY RESOURCES

According to FEMA, "A critical facility is a structure that, if flooded (or damaged), would present an immediate threat to life, public health, and safety." Examples of critical facilities include hospitals, emergency operations centers, schools, city shops, wells, and sanitary sewer lift stations, etc.

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. Critical facilities were identified during the 2009 planning process and updated by the Hordville planning team as a part of the plan update. Figure 80 is a summary of the critical facilities for the jurisdiction.

Figure.80: Location of Hordville Critical Facilities

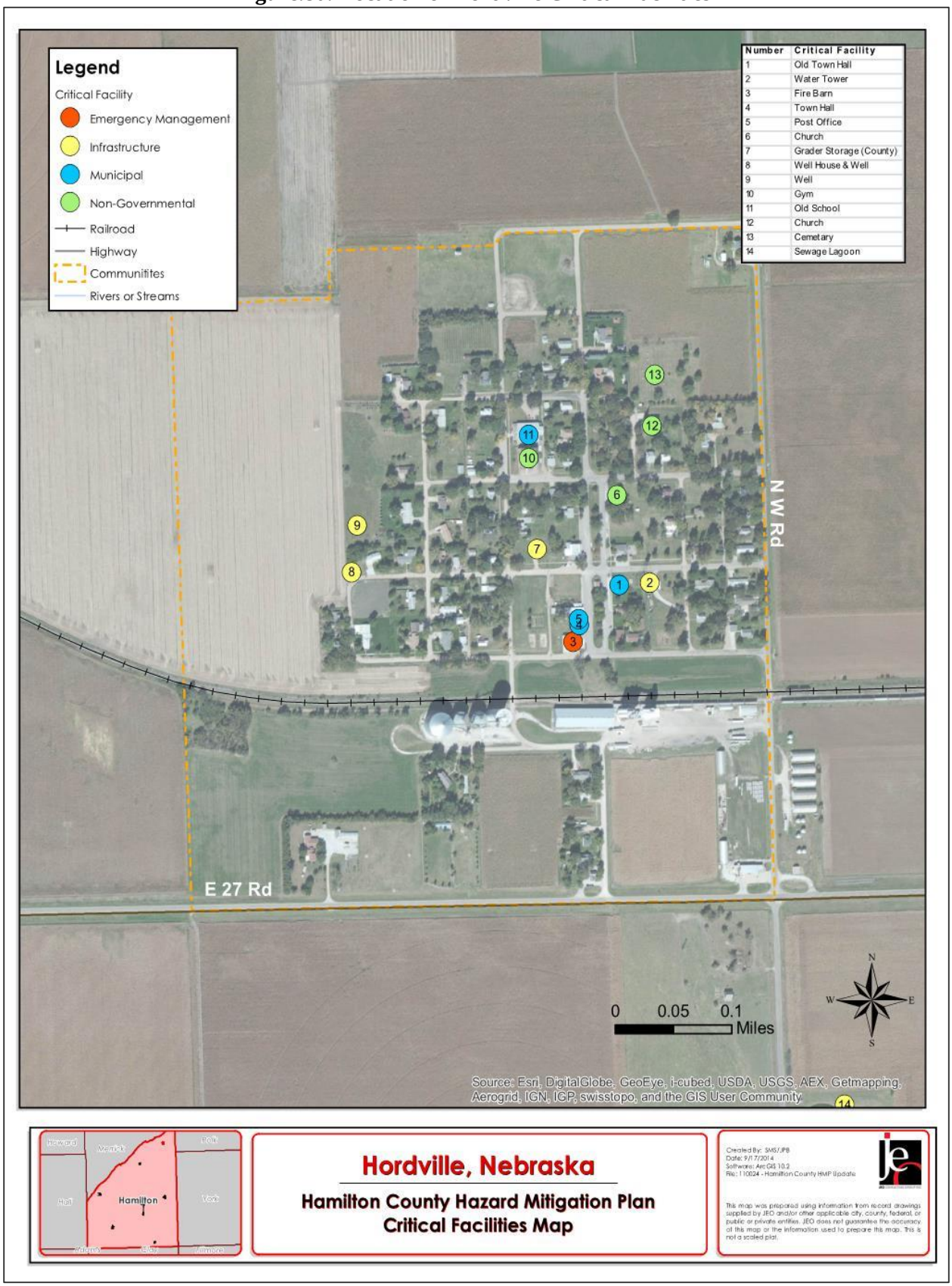
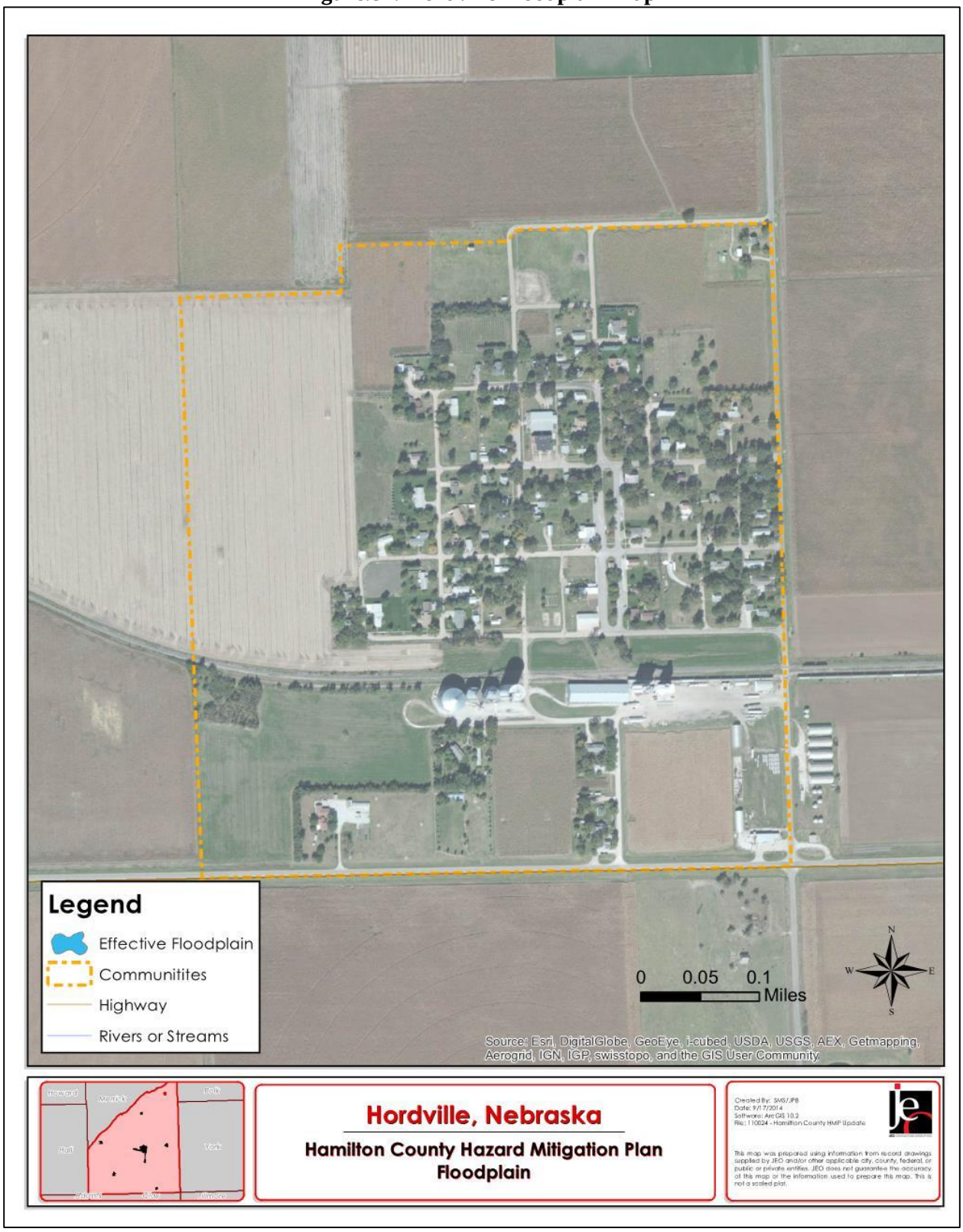


Figure.81: Hordville Floodplain Map



FUTURE DEVELOPMENT TRENDS

The Village of Hordville anticipates that the population will stabilize by the end of the decade. The home vacancy rate, which is at three percent (Table 125), may lead to the necessity of new homes being built in the village. A new village comprehensive plan is currently under development, and the current county comprehensive plan does not identify future areas of growth for Hordville. The planning team identified that existing available land within the corporate limits is available for new structures that may be built in the coming years and does not have plans for future development outside the current boundaries of the village. Additionally, the village is not in a floodplain (Figure 81), so future development will not be at risk to this hazard.

RISK ASSESSMENT

Hazard Identification

Table 127 is a risk assessment of hazards as determined by the jurisdictional representatives. Refer to *Section Four: Risk Assessment* for a detailed explanation as to what this methodology is and why certain hazards did not pose a significant enough threat and were eliminated from detailed discussion due to the calculation.

Table.127: Hordville Risk Assessment

HAZARD TYPE	PREVIOUS OCCURRENCE? Yes/No	Approximate Annual Probability (Regional Risk Assessment)	Specific Concerns Identified
Severe Winter Storm	Yes	100%	16% of population at higher level of vulnerability; potential loss of life and properties
Tornado	Yes	~10%	Potential loss of life and properties
High Winds	Yes	100%	Potential loss of life and properties
Severe Thunderstorm*	Yes	~40%	Potential loss of life and properties; Economic impacts; Secondary hazards such as hail and tornados
Hail*	Yes	~30%	Potential loss of life and properties; Economic impacts
Flooding	Yes	~10%	Potential loss of properties
Extreme Heat	Yes	100%	16% of population at higher level of vulnerability; Ag losses; Secondary hazards such as wildfires
Drought	Yes	~10%	Economic impacts; Land degradation; Secondary hazards such as wildfires
Grass/Wildfire	Yes	<5%	Potential loss of life and properties; Economic impacts
Dam Failure	No	1%	None
Levee Failure	No	0	None
Ag Animal Disease	Yes	100%	None
Ag Plant Disease	Yes	~50%	None
Earthquakes	Yes	<5%	None
Landslides	No	0	None
Urban Fire	No	<5%	None
Radiological	Not present in the planning area	NA	None

HAZARD TYPE	PREVIOUS OCCURRENCE? Yes/No	Approximate Annual Probability (Regional Risk Assessment)	Specific Concerns Identified
Fixed Facilities			
Chemical Transportation	No	<5%	None
Terrorism	0	1%	None
Chemical Fixed Sites	0/23	<5%	None
Radiological Transportation	0	1%	None
Civil Disorder	No	unknown	None

**Identified by the planning team as a top concern for the jurisdiction*

Based on the risk assessment and feedback from the local planning team the hazards of top concern are severe winter storms, high winds, extreme heat, severe thunderstorms and hail. These five hazards that raise the greatest concerns for the community are discussed in detail.

Historical Occurrences

The NCDC reported 12 severe weather events from 1996 to 2014 with property and crop damage. There were no recorded deaths or injuries but did report $125,000 in damages to property and $810,000 in crop damages. Refer to the table below for detailed information of each severe weather event including date, extent, property damage, and crop damage.

Table.128: NCDC Severe Weather Events for Hordville

Date	Hazard	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
5/17/1996	Hail	1.75 in.	0	0	0	10,000
5/10/2005	Hail	1.50 in.	0	0	25,000	0
4/15/2006	Hail	1.00 in.	0	0	0	0
6/4/2008	Hail	1.75 in.	0	0	5,000	250,000
5/13/2009	Hail	1.00 in.	0	0	5,000	0
7/6/2011	Heavy Rain	-	0	0	0	0
10/2/2013	Heavy Rain	-	0	0	0	0
4/23/2014	Heavy Rain	-	0	0	0	0
5/12/2011	Flash Flood	-	0	0	25,000	500,000
8/4/2009	Thunderstorm Wind	61 kts. EG/70 mph	0	0	0	0
8/12/2011	Thunderstorm Wind	61 kts. EG/70 mph	0	0	65,000	0
10/9/2001	Tornado	F1	0	0	0	50,000
		Totals	**0**	**0**	**$125,000**	**$810,000**

Source: NCDC Storm Events 1996-2014

High Winds

The local planning team identified high winds as top concern for the community. throughout the entire planning area. In total there were 18 storms reported that had winds reported between 60 and 75 miles per hour. Winds of this magnitude, according to the Beaufort Wind Force Ranking, can cause trees to uproot, considerable structure damage, and over turning of improperly anchored mobile homes. Based on historic records, high winds have an annual probability of 100 percent.

The village maintains two off-site repositories for securing municipal back-up information in the event that the village records are lost or damaged. The Village of Hordville did not indicate having a community safe room; however, the basement of the old school built in 1906 can be open to the public in the event of an emergency. The village indicated using "Code-Red" Emergency Text Alert System and has a mutual aid agreement with all neighboring communities for fire incidents to support the local volunteer fire department. Back-up power generators for the town hall and fire barn are still needed, but the lift stations do have back-up generators. Additionally, the village would like to provide public awareness programs for the residents about hazards and improve emergency communications.

Severe Winter Storms

The local planning team has identified severe winter storms as a significant concern for the community. The NCDC data reported 67 winter storms for Hamilton County between 1996 and 2014, and seven of those resulted in $540,000 in property damage. Based on historic records severe winter storms have an annual probability of 100 percent.

With the population of 144 people (US Census Bureau, 2010) the community did not indicate having designated snow routes. The planning team indicated that the village contracts out it snow removal. The community lift-stations are equipped with power back-up. The village would like a backup generator at the village hall and fire barn.

Extreme Heat

The local planning team identified extreme heat as a top concern for the community. According to NCDC there were 2 heat advisories or warning issued from 1996 to 2014. NCDC reported no losses from any of the events. Based on data provided by the High Plains Regional Climate Center, Hordville has an average of 40 days a year with temperatures at or above. Extreme heat has an annual probability of 100 percent in the village.

The community does not have hospitals or assisted living facilities, but is aware of the elderly population and its needs in case of an emergency. The community lift-stations are equipped with power back-up. The village would like a backup generator at the city hall or fire barn, which could also serve as a cooling center if needed.

Severe Thunderstorms

The local planning team identified severe thunderstorms as a top concern for the community. According to the NCDC data, between 1996 and 2014, two reported thunderstorms events occurred in the Village of Hordville, both of which were estimated at 61 knots magnitude. Winds of this magnitude are likely to cause trees uprooting and considerable structure damage. Heavy rain and flash flooding can also accompany severe thunderstorms. Three heavy rain or flash flood events occurred, according to the NCDC database since 1996. This hazard can close roads due to flooded streets, which makes it difficult for emergency services to reach residents during an event. Based on historic records, severe thunderstorms have an annual probability of 40 percent.

The village indicated utilizing surge protection at its critical facilities and is considering an installation of weather radios at the community center and gym. The village board will be looking at participation in the National Flood Insurance Program, and developing continuity plans for critical community services.

Hail Events

The local planning team identified hail as a top concern for the community. The NCDC reported two hail events in Hordville between 1996 and 2014, one of the two 1.75 inches in diameter resulting in one million dollars of crop damage. In addition to damage to crops, hail can have significant impacts to critical facilities where roofs, siding and windows can be damaged. Based on historic records, hail has an annual probability of about 10 percent.

The Village of Hordville did not report having weather radios with the exception of the fire department. The village also needs generators at city hall, the city auditorium, and one well (the other currently has a generator).

CAPABILITY ASSESSMENT

Thus far the planning process has identified the significant hazards for the community and described and quantified the vulnerability to these risks by acquiring updated information from FEMA, local jurisdiction, and other sources. The following step shall be assessing what loss prevention or preparedness mechanisms are already in place, which is referred to as capability assessment. Combining the risk assessment with the local capability assessment results in a stronger mechanism in understanding locality's "net vulnerability" and to what extent they could be able to implement the goals, objectives, and actions.

A two-step approach was applied to conduct this assessment for each participant. First, an inventory of common mitigation activities was developed through the Capability Assessment Survey completed by the participants' representatives. There are four major local capabilities considered by this assessment and they are: planning and regulatory capabilities, administrative and technical capability, fiscal capability, and education and outreach capability. Please refer to *Capability Assessment* in *Section Three: Community Profile and Capability Assessment* for the overall picture of the whole county. The purpose of this effort was to identify policies and programs that were either in place, needed improvement, or could be undertaken, if deemed appropriate. Second, local existing policies, regulation, plans, and the programs were reviewed and evaluated to determine their contributions to reducing hazard-related losses or if they inadvertently increased such losses.

Governance

The Village of Hordville is run by a local government consisting of a village board with five members and the following village staff:

- Clerk
- Town Constable
- Hall Cleaning
- Center Maintenance

Table.129: Hordville Capability Assessment

Survey Components/Subcomponents		Comments
Planning	Comprehensive Plan	Village plan under development
	Capital Improvements Plan	Yes
	Hazard Mitigation Plan	Yes
	Economic Development Plan	No
	Emergency Operation Plan	County
	National Resources Protection Plan	No

Survey Components/Subcomponents		Comments
Planning and Regulatory Capability	Open Space Preservation plan	N/A
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	No
	Building Codes	No
	National Flood Insurance Program	No
	Community Rating System	No
	Other (if any)	
Administrative and Technical Capability	Planning Commission	County
	Hazard Mitigation Planning Commission	Yes
	Floodplain Administration	N/A
	Emergency Manager	Yes
	GIS Coordinator	County
	Chief Building Official	County
	Civil Engineering	N/A
	Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	N/A
	Other (if any)	Yes: Volunteer Fire Department and mutual aid agreement with surrounding communities
Fiscal Capability	Capital Improvement Project Funding	Yes
	Community Development Block Grant	No
	Authority to Levy Taxes for Specific Purposes	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
Education and Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, 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	No
	Firewise Communities Certification	No
	Public-private partnership initiatives addressing disaster-related issues	No
	Other (if any)	

Plan Integration

Hordville participates in planning and zoning with the county. This allows Hordville to have codes and plans that might otherwise be cost prohibitive to develop. The comprehensive plan representing Stockham has not been updated since the 2009 hazard mitigation plan was developed so there are no changes related

to how hazard mitigation has been incorporated into that document. At this time there is no planned update for the comprehensive plan. When the plan is updated the community and the planning team will review the goals and objectives of the hazard mitigation plan for inclusion in the comprehensive plan.

Hordville also collaborates with the county for building codes and zoning ordinances. Building codes are sufficient for the hazards that occur with regularity. When building codes are revisited in the future the community may consider encouraging the use of building materials that will help reduce structural damages as well as some non-structural impacts resulting from natural hazards. Option include but are not limited to: hail resistant siding and roofing, increase strapping materials, low flow fixtures, xeriscaping, and requiring safe rooms in newly built critical facilities.

Summary

The strength of Hordville is the sense of community and the social networks that exist within the community. The village will continue to benefit from strong partnerships, such as with the county, and will need to explore outside funding assistance for project implementation. Through this update process, the planning team reviewed previously identified mitigation projects and removed projects that were deemed unrealistic or no longer necessary.

MITIGATION ACTIONS

Completed Mitigation Projects

Description	Warning Systems
Analysis	Improve city cable TV interrupt warning system and implement telephone interrupt system such as Reverse 911, emergency text messaging warning system, etc.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Lead Agency	County
Action since 2009 plan	Hamilton County put in a new TV cable tower, and there is emergency texting for the village.

Description	Alert Sirens
Analysis	Perform an evaluation of existing alert sirens in order to determine sires which should be replaced or upgraded. Install new sirens where needed.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Lead Agency	Village
Action since 2009 plan	Installed a new siren in 2011

Ongoing/New Mitigation Projects

Description	Backup Power Generators
Analysis	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other critical facilities and shelters.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$15,000-$30,000 per generator
Benefits	Back-up power for critical facilities. A measure that would reduce or prevent damage to property or prevent loss of life or serious injury.
Potential Funding	HMGP
Timeline	Ongoing
Priority	High
Lead Agency	Village Board
Action since 2009 plan	Backup generators are installed at lift stations. Town hall and fire barn still need generators.

Description	Public Awareness
Analysis	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. In addition, educate citizens on erosion control and water conservation methods. Educate residents on response and rescue plans for all hazard types.
Goal/Objective	Goal 3/Objective 3.1, Goal1/Objective 1.1
Hazard(s) Addressed	All hazards
Estimated Cost	$500+
Benefits	Increase knowledge to new comers to the area as well as elderly in how to react when an event is going to occur or is occurring. Education to reduce or prevent damage to property or prevent loss of life or serious injury.
Potential Funding	HMGP, PDM
Timeline	5 years
Priority	Medium
Lead Agency	Village Board, Emergency Management Agency
Action since 2009 plan	None

Description	Enroll in the National Flood Insurance Program (NFIP)
Analysis	Participate in the National Flood Insurance Program (NFIP).
Goal/Objective	Goal 2/Objective 2.3
Hazard(s) Addressed	Flooding
Estimated Cost	N/A
Benefits	Enable property owners to purchase insurance protection against flood losses. Good standing enables participants to apply for PDM and HMGP cost-share.
Potential Funding	N/A
Timeline	5 years
Priority	Low
Lead Agency	Village Board
Action since 2009 plan	None

Description	Emergency Communications
Analysis	Establish an action plan to improve communication between agencies to better assist residents and businesses during and following emergencies. Establish inner-operable communications. Provide equipment such as satellite telephones and radios.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$10,000+
Benefits	More efficient and effective communication between different departments
Potential Funding	Homeland Security
Timeline	1 year
Priority	Medium-High
Lead Agency	All Departments
Action since 2009 plan	New project.

Description	Weather Radios
Analysis	Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed.
Goal/Objective	Goal 4/Objective 4.3 and Goal 1/Objective 1.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$50 / radio
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Potential Funding	HMGP, PDM
Timeline	Ongoing
Priority	Medium – Low
Lead Agency	Village Board, Emergency Management Agency
Action since 2009 plan	There are weather radios at the office and home. City Hall and the community center still need them.

Description	Formal Evacuation Plan
Analysis	Establish a plan to effectively evacuate residents during storm events and major flooding.
Goal/Objective	Goal 4/Objective 4.2
Hazard(s) Addressed	Severe thunderstorms, tornados and high winds, severe winter storms, flooding
Estimated Cost	$2,000+
Benefits	Save lives by being prepared before or during a disaster
Potential Funding	Homeland Security
Timeline	1-2 years
Priority	Medium
Lead Agency	Village Board
Action since 2009 plan	New Project

Description	Irrigation/Groundwater Management Plan
Analysis	Establish a plan to reduce total consumption of groundwater resources by irrigators of agricultural land across the district
Goal/Objective	Goal 2/Objective 2.2
Hazard(s) Addressed	Drought
Estimated Cost	$10,000+
Benefits	Best management practices will reduce the total consumption of groundwater resources and to ensure a better water supply during drought periods.
Potential Funding	UBB NRD
Timeline	Ongoing
Priority	Low-Medium
Lead Agency	Village Board
Action since 2009 plan	New project and city is currently monitoring the wells with no known issues at this time.

Description	Rural Water District and Water System Upgrades
Analysis	Upgrade rural water district infrastructure to decrease likelihood of damages and improve water system for emergency uses.
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	Drought
Estimated Cost	$20,000+
Benefits	Reduces consumption of groundwater resources
Potential Funding	SRF, CDBG
Timeline	Ongoing
Priority	Low
Lead Agency	Village Board, Natural Resource District
Action since 2009 plan	Two new wells have been installed.

Description	Training for Response to Train Derailment
Analysis	Provide training for first responders in the event of a train derailment and related hazmat incident.
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	Chemical spills (transport)
Estimated Cost	$1,000+
Benefits	Through adequate training, Emergency Management will reduce losses and lessen the threat to public health and safety
Potential Funding	Homeland Security, Emergency Management, Village, and Railroad Company
Timeline	5 years
Priority	Low
Lead Agency	Village Board, Emergency Management Agency
Action since 2009 plan	New project

Description	Develop Continuity Plans
Analysis	Develop continuity plans for critical community services
Goal/Objective	Goal 2/Objective 2.2
Hazard(s) Addressed	All hazards
Estimated Cost	N/A
Benefits	Helps establish continuity of operations procedures for critical facilities
Potential Funding	N/A

Description	Develop Continuity Plans
Timeline	5 years
Priority	Low
Lead Agency	Village Board, Emergency Management Agency
Action since 2009 plan	New project

Description	Education about Continuity Plans
Analysis	Educate local businesses on the value of continuity planning.
Goal/Objective	Goal 2/Objective 2.2
Hazard(s) Addressed	All hazards
Estimated Cost	$500+
Benefits	Education would help businesses to implement a continuity plan.
Potential Funding	HMGP
Timeline	2 years
Priority	Low
Lead Agency	Village Board, Emergency Management Agency
Action since 2009 plan	New project

Removed Mitigation Projects

Description	Stormwater System and Drainage Improvements
Analysis	Undersized systems can contribute to localized flooding. Stormwater system improvements, such as pipe upsizing and additional inlets, installation of retention and detention facilities can be implemented to decrease runoff rates while also decrease the need for other stormwater system improvements.
Hazard(s) Addressed	Flooding
Reason for Removal	No storm water drains and no creek in the community.

Description	Storm Shelter / Safe Rooms
Analysis	Design and construct fully supplied storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, school, and other areas.
Hazard(s) Addressed	Severe Weather
Reason for Removal	The community does not want to build community safe rooms since there is no school in the village.

Description	Tree City USA – Tree Maintenance Programs
Analysis	Work to become a Tree City USA through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a hazardous tree identification and removal program in order to limit potential tree damage and damages caused by trees in a community when a storm event occurs. The four main requirements include: 1) Establish a tree board; 2) Enact a tree care ordinance; 3) Establish a forestry care program; 4) Enact an Arbor Day observance and proclamation.
Hazard(s) Addressed	Severe thunderstorms, tornados and high winds, severe winter storms
Reason for Removal	The community is not interested in this program.

VILLAGE OF MARQUETTE

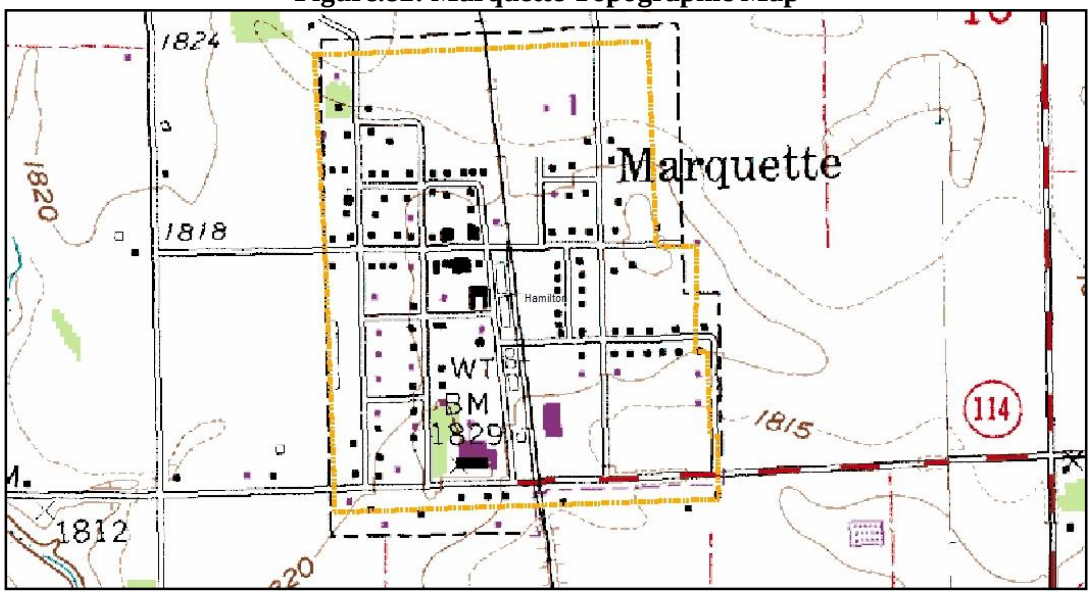
Hamilton County
Multi-Jurisdictional Hazard Mitigation Plan

March 2015

HISTORY

Settlement began in the community of Marquette in the spring of 1879 when the Burlington and Missouri River Railroad started grade work to extend a line between Aurora and Central City. At the time, there was already a post office on the section line at Avon. In 1882 the Lincoln Land Company purchased 100 acres from J.W. Marquis and platted a town. The new town was named "Marquette" in honor of Thomas Marquette, the general attorney of the CB&Q Railroad. The main street "Marquis Avenue" was named for the original land owner. The post office at Avon was officially moved and renamed on December 2, 1882, and the Village of Marquette was incorporated in March 1889. In 1906 and 1910 fires destroyed a number of the buildings on Main Street, along with many of the town records, making the complete record of the town impossible to verify. The population of Marquette has fluctuated through the years, especially during the depression and war years. Marquette celebrated its centennial in 1982.

Figure.82: Marquette Topographic Map



LOCATION

Marquette is a village located in the north central portion of Hamilton County. The Village of Marquette covers an area of 134 acres and has an elevation of 1,820 feet above sea level. Marquette is 92.7 miles North West of Lincoln.

CLIMATE

The warmest month in Marquette is July with an average high temperature of 87 degrees and the coolest month is January with an average low temperature of 14 degrees. The highest and lowest temperatures recorded are 116 degrees in 1936 and 28 degrees below zero in 1963. The month of May has the highest precipitation average of 4.47 inches per year.

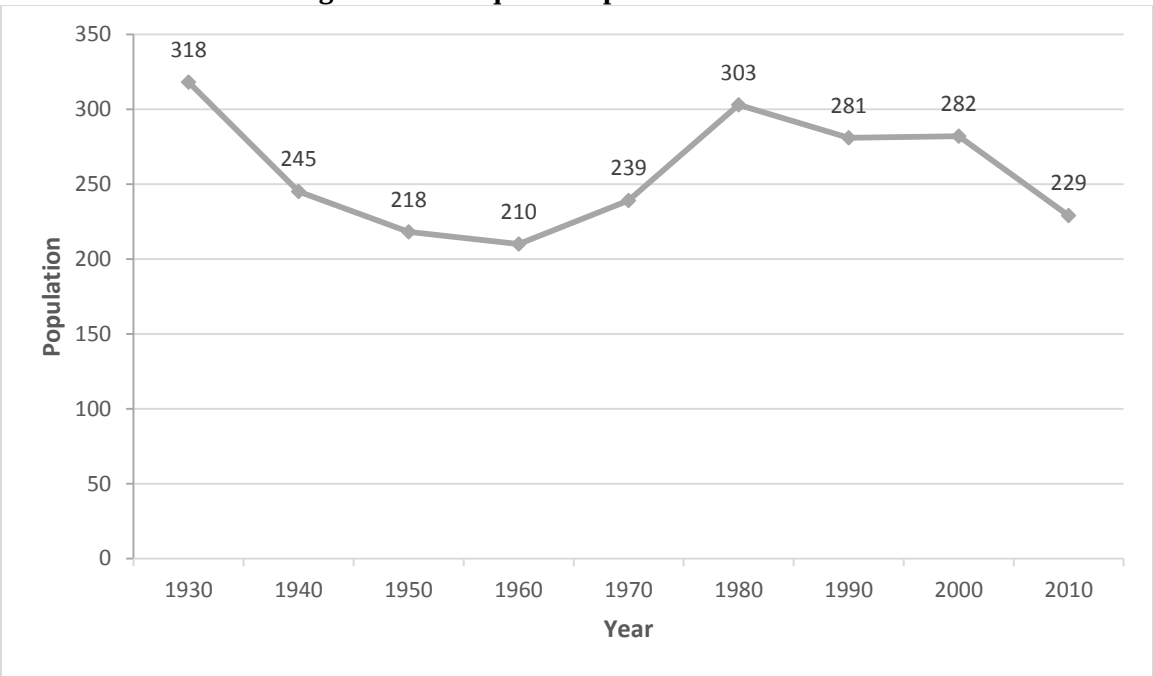
GEOGRAPHY

The community of Marquette lies in an area of plains. The land use surrounding the community is mainly agricultural crops with some ranching. Flat lying land above the valley with materials of sandstone or stream deposited silt, clay, sand and gravel overlain by wind deposited silt is prevalent. The community lies approximately eight miles north of the Big Blue River. The watershed flows generally from the northwest to the southeast. River flooding is not of significant concern.

DEMOGRAPHICS

Below, Figure 85 displays the historical population trend in the Village of Marquette from 1930 to 2010. The population of Marquette declined initially until 1960, but that was followed by a period of growth until 1980. After a brief decline during the 1980s, the population stabilized during the 1990s, but most recently has returned to a period of decline through 2010. Population growth during the 1960s and 1970s was likely due to new industries and businesses that came to the area. With the village's proximity to Grand Island, Aurora, and York, residents are able to find employment in a variety of locations. The economy has taken a downturn during the 2000s, which likely contributed to the decline in population in 2010.

Figure.83: Marquette Population 1930 – 2010



Source: US Census

Table 130 illustrates the age distribution and median age for Hamilton County in comparison to the Village of Marquette.

Table.130: Marquette Population by Age

Age	Hamilton County	Marquette
<5	5.8%	4.8%
5-64	77.8%	82.1%
>64	16.4%	13.1%
Median	42.3	41.3

Source: U.S. Census Bureau, 2010

The median age of 41.3 in Marquette is similar to the median age in the county, but there is a lower percentage of residents above the age of 64 as compared to the county.

HOUSING AND ECONOMICS

Median household income, per capita income, home value, and rent for the county as a whole are compared with the Village of Marquette in Table 131. Median home values are significantly lower than Hamilton County by over $50,000, but the margin of error according to the U.S. Census is more than +/-$26,000. It should be noted, though, that over 90 percent of the homes are valued at under $100,000 which is less than

the county's median home value. Median household income and per capita income are also lower than the county values.

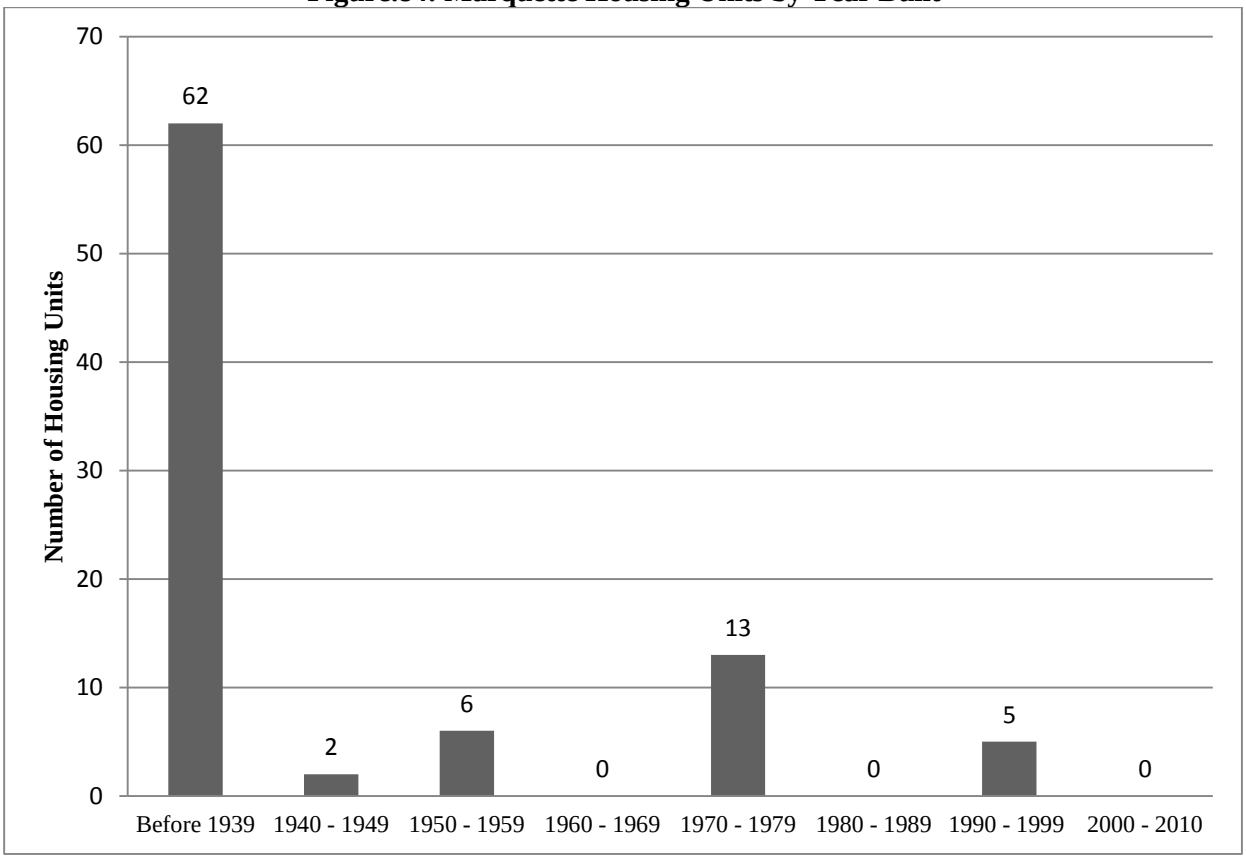
Table.131: Marquette Housing and Income

	Hamilton County	Marquette
Median Household Income	$56,809	$41,563
Per Capita Income	$26,785	$17,500
Median Home Value	$112,000	$59,300
Median Rent	$581	$331 - $1,007*

Source: U.S. Census Bureau, 2010 American Community Surveys 5-year Estimates
**Range based on margin of error*

According to 2010 Census data (Table 132), the village has 88 housing units; with 94.3 percent of those units occupied. 9.1 percent of the village's housing is classified as mobile homes and 79.6 percent of the village's housing was built before 1960 (Figure 84). These types of structures will be vulnerable to high winds, severe thunderstorms, and tornados.

Figure.84: Marquette Housing Units by Year Built



Source: US Census 2006 - 2010 American Community Survey 5 Year Estimates

Table.132: Marquette Housing Unit Occupancy

Jurisdiction	Total Housing Units					Occupied Housing Units			
	Occupied		Vacant			Owner		Renter	
	Number	Percent	Number	Percent		Number	Percent	Number	Percent
Hamilton County	3,464	87.7%	484	12.3%		2,667	77.0%	797	23.0%
Marquette	83	94.3%	5	5.7%		67	80.7%	16	19.3%

Source: US Census 2006 - 2010 American Community Survey 5 Year Estimates

STRUCTURAL INVENTORY AND VALUATION

A structural inventory was completed for the corporate limits of Marquette through a window survey using GIS for the 2009 hazard mitigation plan. The values of these structure types were updated utilizing the 2013 Property Type Values as provided by the Nebraska Department of Revenue Property Assessment Division.

Results from the structural inventory completed by the Village of Marquette are found in Table 133 below.

Table.133: Marquette Structural Inventory

Total Structures		Structure Valuation	
Structure Type	**Number of Structures**	**Total Value**	**Value per Structure**
Commercial/Industrial	22	$1,674,021	$76,092
Agriculture	63	$449,190	$7,130
Residential	110	$4,643,079	$42,210
Public/Quasi Public	8	$142,761	$17,845
Total	**203**	**$6,909,051**	NA

**Values are rounded to the nearest dollar.*

The following table shows the properties in Hampton that are identified on the National Register of Historic Places.

Table.134: Marquette Historic Places

Name	Type	Year Listed
St. Johannes Danske Lutherske Kirke	Building	1992

CRITICAL INFRASTRUCTURE/KEY RESOURCES

According to FEMA, "A critical facility is a structure that, if flooded (or damaged), would present an immediate threat to life, public health, and safety." Examples of critical facilities include hospitals, emergency operations centers, schools, city shops, wells, and sanitary sewer lift stations, etc.

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. Critical facilities were identified during the 2009 planning process and updated by the Marquette planning team as a part of the plan update. Figure 87 is a summary of the type and location of critical facilities for the jurisdiction.

Figure.85: Location of Marquette Critical Facilities

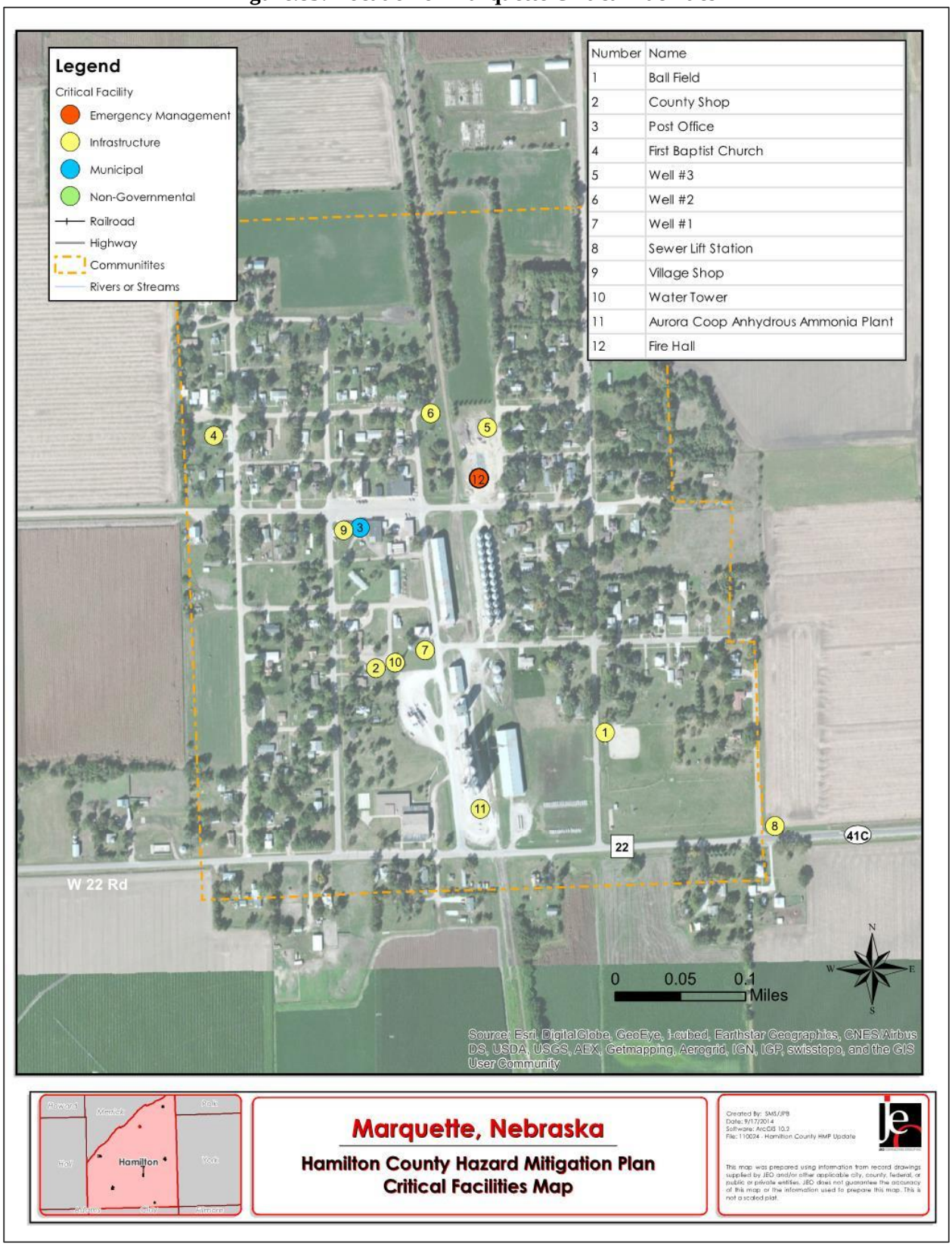
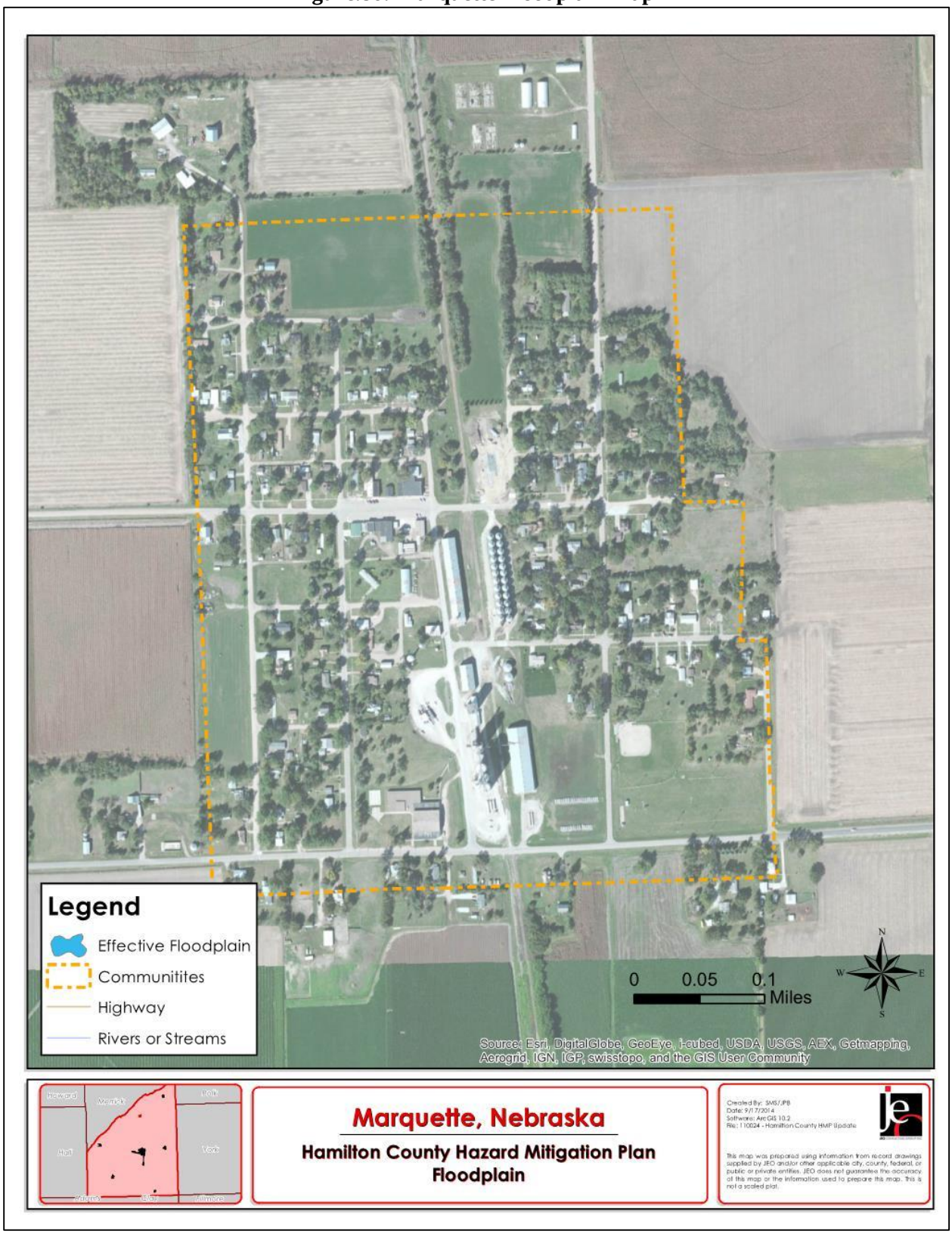


Figure.86: Marquette Floodplain Map



FUTURE DEVELOPMENT TRENDS

In the last few years, the village has completed a new combined facility in the central part of the village, which houses the fire department, community center, and community storm shelter. A recent housing development also includes two new single family dwellings on the northern and western sides of town. The village is not in a floodplain (Figure 86), so any new construction will not be in a flood hazard area. Additionally, there are not any major transportation routes or railways that go through the village that could cause transportation hazard. At this time, the village does not anticipate any further development for the municipality, but it is possible that new housing units could be built in the next five years within the corporate limits of the village.

RISK ASSESSMENT

Hazard Identification

Table 135 is a risk assessment of hazards identified specifically in the community. Refer to *Section Four: Risk Assessment* for a detailed explanation as to what this methodology is and why certain hazards did not pose a significant enough threat and were eliminated from detailed discussion due to the calculation.

Table.135: Marquette Assessment

HAZARD TYPE	PREVIOUS OCCURRENCE? Yes/No	Approximate Annual Probability (Regional Risk Assessment)	Specific Concerns Identified
Severe Winter Storm	Yes	100%	18% of population at higher level of vulnerability; potential loss of life and properties
Tornado	Yes	~20%	Potential loss of life and properties
High Winds	Yes	100%	Potential loss of life and properties
Severe Thunderstorm*	Yes	~20%	Potential loss of life and properties; Economic impacts; Secondary hazards such as hail and tornados
Hail*	Yes	~60%	Potential loss of life and properties; Economic impacts
Flooding	Yes	~10%	Potential loss of properties
Extreme Heat	Yes	100%	18% of population at higher level of vulnerability; Ag losses; Secondary hazards such as wildfires
Drought	Yes	~10%	Economic impacts; Land degradation; Secondary hazards such as wildfires
Grass/Wildfire	Yes	100%	Potential loss of life and properties; Economic impacts
Dam Failure	No	1%	None
Levee Failure	No	0	None
Ag Animal Disease	Yes	100%	None
Ag Plant Disease	Yes	~50%	None
Earthquakes	Yes	<5%	None
Landslides	No	0	None
Urban Fire	No	<5%	None
Radiological Fixed Facilities	Not present in the planning area	NA	None

HAZARD TYPE	PREVIOUS OCCURRENCE? Yes/No	Approximate Annual Probability (Regional Risk Assessment)	Specific Concerns Identified
Chemical Transportation	No	<5%	None
Terrorism	0	1%	None
Chemical Fixed Sites	0/23	<5%	None
Radiological Transportation	0	1%	None
Civil Disorder	No	unknown	None

Based on the risk assessment and feedback from the local planning team the hazards of top concern are severe winter storms, high winds, extreme heat, grass/wildfire, and hail. These five hazards that raise the greatest concerns for the community are discussed in detail.

Historical Occurrences

The NCDC reported 22 severe weather events from 1996 to 2014 with no reported damage. There were no recorded deaths or injuries, but a total of $2,135,000 in damages to property and $22,175,000 in crop damages were reported. Refer to the table below for detailed information of each severe weather event including date, extent, property damage, and crop damage.

Table.136: NCDC Severe Weather Events for Marquette

Date	Hazard	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1/10/2011	Flood	-	0	0	0	0
9/3/2000	Hail	1.00 in.	0	0	10,000	250,000
9/3/2000	Hail	1.00 in.	0	0	10,000	250,000
10/9/2001	Hail	0.75 in.	0	0	0	0
5/4/2003	Hail	1.75 in.	0	0	50,000	0
8/28/2005	Hail	1.00 in.	0	0	0	0
9/15/2006	Hail	1.00 in.	0	0	10,000	50,000
6/19/2009	Hail	1.00 in.	0	0	0	0
8/6/2011	Hail	2.00 in.	0	0	25,000	1,000,000
8/6/2011	Hail	1.00 in.	0	0	0	0
4/9/2013	Hail	0.75 in.	0	0	0	0
6/3/2014	Hail	1.00 in.	0	0	500,000	10,000,000
7/7/2014	Hail	1.00 in.	0	0	0	0
6/27/1999	Thunderstorm Wind	52 kts./60 mph	0	0	0	0
7/22/2001	Thunderstorm Wind	69 kts. E/79 mph	0	0	40,000	250,000
5/10/2005	Thunderstorm Wind	61 kts. EG/70 mph	0	0	50,000	0
8/10/2005	Thunderstorm Wind	52 kts. EG/60 mph	0	0	0	0

Date	Hazard	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
6/3/2014	Thunderstorm Wind	61 kts. EG/70 mph	0	0	1,000,000	10,000,000
10/9/2001	Tornado	F1	0	0	25,000	25,000
10/9/2001	Tornado	F0	0	0	15,000	0
10/9/2001	Tornado	F1	0	0	400,000	250,000
6/22/2003	Tornado	F0	0	0	0	100,000
		Totals	**0**	**0**	**$2,135,000**	**$22,175,000**

Source: NCDC Storm Events 1996-2014

Severe Winter Storms

The local planning team has identified severe winter storms as a top concern for the community.
The NCDC data reported 67 winter storms for Hamilton County between 1996 and 2014, and seven of those resulted in $540,000 in property damage. Based on historic records severe winter storms have an annual probability of 100 percent.

With the population of 229 people (US Census Bureau, 2010) the community did not indicate having designated snow routes. The planning team indicated that the village contracts out it snow removal. The community lift-stations are equipped with power back-up. The village would like a backup generator at the village hall and fire hall.

High Winds

The local planning team identified high winds as a top concern for the community. .In total there were 18 storms reported that had winds reported between 60 and 75 miles per hour. Winds of this magnitude, according to the Beaufort Wind Force Ranking, can cause trees to uproot, considerable structure damage, and over turning of improperly anchored mobile homes. Based on historic records, high winds have an annual probability of 100 percent.

The Village of Marquette did not indicate having a community safe room; however, the fire hall will open to the public in the event of an emergency. The village has a mutual aid agreement with all neighboring communities for fire incidents to support the local volunteer fire department. Back-up power generators for the city hall and fire hall are still needed. Additionally, the village would like to provide public awareness programs for the residents about hazards and improve emergency communications.

Extreme Heat

The local planning team identified extreme heat as a top concern for the community. According to NCDC there were 2 heat advisories or warning issued from 1996 to 2014. NCDC reported no losses from any of the events. Based on data provided by the High Plains Regional Climate Center, Marquette has an average of 40 days a year with temperatures at or above. Extreme heat has an annual probability of 100 percent in the village.

Demographic characteristics pertinent to Marquette, such as population age group, may result in population vulnerability in the event of extreme heat. Elderly residents, young children, and low income families within the community are more vulnerable to the impacts of extreme heat events. About 29.3 percent of local residents are age 55 or older. This group has lower tolerance levels for extreme temperature and can feel the effects of extreme temperature quickly. Young children under the age of 5 (4.8 percent of the population) are highly susceptible to the effects of extreme heat. Low-income people (10.7% of the

population) and families (5.3% of the population) may lack resources that mitigate the impacts of extreme heat such as air conditioning. While Marquette does not have a community cooling center, the local planning team did not express any concerns with power supply.

Grass/Wildfire

The local planning team identified grass/wildfire as a top greatest concern for the community. The planning team reported having a volunteer fire department and an enforcement of defensible space around structures from property owners. According to the Nebraska Forest Service, between 2000 and 2012, a total of 22 fires were reported by the Marquette Volunteer Fire Department the fire burned 84 acres of range, a half-acre of forest, and less than an acres of crop land. The fires caused $400 in crop damage and $10,650 in property damages. Based on historic records grass/wildfires have an annual probability of 100 percent.

One major factor which increases the vulnerability for Marquette is the age of structures within the community. Nearly 95 percent of the housing units were constructed prior to 1980 and are primarily wood built structures. If grass/wildfires were to occur and impact Marquette much of the housing stock and structures throughout the town could be lost. The village is surrounded by agricultural lands mostly used for crops, and in a grass/wildfire event, the fire could spread rapidly creating concerns regarding the ability of community members to evacuate with little notice.

The potential need for evacuation present additional vulnerabilities for Marquette; the town is not over populated and residents should have access to roadways allowing them to leave town quickly and efficiently. There is a portion of the population that may have reduced mobility and could be at higher risk of injury or death resulting from grass/wildfire impacts to the community. As previously stated, more than 13 percent of the community is age 65 or older ; this segment of the population may struggle to evacuate the village quickly.

Hail Events

The local planning team identified hail as a top concern for the community. The NCDC reported 10 hail events in Marquette between 1996 and 2014, with hail ranging in size from 0.75 in to 2.00 in. in diameter. The hail event with 2.00 in. diameter hail resulted in $1,000,000 of crop damage and $25,000 in property damage.. In addition to damage to crops, hail can have significant impacts to critical facilities where roofs, siding and windows can be damaged. Based on historic records, hail has an annual probability of about 60 percent.

The Village of Marquette did report having weather radios at critical facilities. The village also needs generators at city hall and the fire department. The village's wells currently have generators.

CAPABILITY ASSESSMENT

Thus far the planning process has identified the major hazards for the communities and described and quantified the vulnerability of the community to these risks by acquiring updated information from FEMA, local jurisdiction, and other sources. The following step shall be assessing what loss prevention or preparedness mechanisms are already in place, which is referred to as capability assessment. Combining the risk assessment with the local capability assessment results in a stronger mechanism in understanding locality's "net vulnerability" and to what extent they could be able to implement the goals, objectives, and actions.

The capability assessment consisted of two main components: 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.

Governance

The village of Marquette is governed by a village board and has the following staff:

- Clerk/Treasurer
- Attorney
- Utility Superintendent
- Fire Chief
- Sewage Plant Operator
- Water Commissioner
- Street Superintendent

Table.137: Marquette Capability Assessment

Survey Components/Subcomponents		Comments
Planning and Regulatory Capability	Comprehensive Plan	County
	Capital Improvements Plan	Under development
	Hazard Mitigation Plan	County
	Economic Development Plan	No
	Emergency Operational Plan	Yes
	National Resources Protection Plan	Yes
	Open Space Preservation plan	N/A
	Floodplain Management Plan	No
	Storm Water Management Plan	Under development
	Zoning Ordinance	County
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	No
	Building Codes	County
	National Flood Insurance Program	No
	Community Rating System	No
	Other (if any)	
Administrative and Technical Capability	Planning Commission	Yes
	Hazard Mitigation Planning Commission	County
	Floodplain Administration	No
	Emergency Manager	County
	GIS Coordinator	County
	Chief Building Official	No
	Civil Engineering	Contractor
	Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Other (if any)	
Fiscal Capability	Capital Improvement Project Funding	No
	Community Development Block Grant	Yes
	Authority to Levy Taxes for Specific Purposes	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
Education and Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes

Survey Components/Subcomponents		Comments
	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	No
	Firewise Communities Certification	No
	Public-private partnership initiatives addressing disaster-related issues	Yes
	Other (if any)	

Plan Integration

Marquette participates in planning and zoning with the county. This allows Marquette to have codes and plans that might otherwise be cost prohibitive to develop. The comprehensive plan representing Marquette has not been updated since the 2009 hazard mitigation plan was developed so there are no changes related to how hazard mitigation has been incorporated into that document. At this time there is no planned update for the comprehensive plan. When the plan is updated the community and the planning team will review the goals and objectives of the hazard mitigation plan for inclusion in the comprehensive plan.

Marquette also collaborates with the county for building codes and zoning ordinances. Building codes are sufficient for the hazards that occur with regularity. When building codes are revisited in the future the community may consider encouraging the use of building materials that will help reduce structural damages as well as some non-structural impacts resulting from natural hazards. Option include but are not limited to: hail resistant siding and roofing, increase strapping materials, low flow fixtures, xeriscaping, and requiring safe rooms in newly built critical facilities.

Summary

Marquette does have the capability to implement some mitigation projects independently, but the village will want to look for opportunities to partner with county emergency management, Hamilton County, and other regional and state agencies on many projects. Through this update process, the planning team reviewed previously identified mitigation projects and added new projects as well.

MITIGATION ACTIONS

Completed Mitigation Projects

Description	Improve and Revise Snow/Ice Removal Program
Analysis	Continue to revise and improve the snow and ice removal program for streets.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Severe Winter storms
Benefits	Improved snow plowing, ice removal, parking, storm debris and ice removal.
Lead Agency	Public Works
Action since 2009 plan	Implemented

Description	Storm Shelter / Safe Rooms
Analysis	Design and construct fully supplied storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, school, and other areas.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Tornados and high winds, severe thunderstorms
Benefits	Useful for many residents that do not have basements or cellars to go for shelter, especially beneficial for the nursing home and other vulnerable populations.
Lead Agency	Emergency Management Agency, City Administration
Action since 2009 plan	Two safe rooms in new fire hall bathrooms.

Description	Alert Sirens
Analysis	Perform an evaluation of existing alert sirens in order to determine sires which should be replaced or upgraded. Install new sirens where needed.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Lead Agency	Village
Action since 2009 plan	Added a radio to activate the siren from dispatch instead of setting it off manually

Description	Weather Radios
Analysis	Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed.
Goal/Objective	Goal 4/Objective 4.3, Goal 1/Objective 1.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Lead Agency	Emergency Management Agency
Action since 2009 plan	Added a radio to activate the siren from dispatch instead of setting it off manually

Description	Comprehensive City Disaster / Emergency Response Plan
Analysis	Update Comprehensive City/Village Disaster and Emergency Response Plan
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	All hazards
Benefits	Identification of vulnerabilities and better response to a disaster/hazard.
Lead Agency	Village and EMA
Action since 2009 plan	Implemented

Description	Emergency Signage
Analysis	Place signs around community and vulnerable areas to warn of potential hazards with an indication of storm shelter locations, evacuation routes or safest places to be during an event.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	All hazards
Benefits	Provides residents and non-residents the information needed to seek shelter or to evacuate during an event.
Lead Agency	Village
Action since 2009 plan	Completed

Ongoing/New Mitigation Projects

Description	Backup Power Generators
Analysis	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other critical facilities and shelters.
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$15,000-$30,000 per generator
Benefits	Back-up power for critical facilities (i.e. nursing home). A measure that would reduce or prevent damage to property or prevent loss of life or serious injury.
Potential Funding	HMGP
Timeline	Ongoing
Priority	High
Lead Agency	Village Board and Fire Department
Action since 2009 plan	Backup generators are on wells but Fire Department and City Hall still need generators.

Description	Stormwater System and Drainage Improvements
Analysis	Undersized systems can contribute to localized flooding. Stormwater system improvements, such as pipe upsizing and additional inlets, installation of retention and detention facilities can be implemented to decrease runoff rates while also decrease the need for other stormwater system improvements.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding

Description	**Stormwater System and Drainage Improvements**
Estimated Cost	$15,000-$30,000 per generator
Benefits	Decreased stormwater runoff, improved retention and detention systems for managing stormwater runoff
Potential Funding	HMGP
Timeline	5 years
Priority	Medium
Lead Agency	Village Maintenance
Action since 2009 plan	None

Description	**Fire Wise Defensible Space**
Analysis	Work with the Nebraska Forest Service and US Forest Service to become a Fire Wise Communities/USA participant. Develop a Community Wildfire Protection Plan. Train land owners about creating defensible space. Enact ordinances and building codes to increase defensible space, improve building materials to reduce structure ignitability, and increase access to structures by responders. Develop and implement brush and fuel thinning projects.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Wildfire
Estimated Cost	$20,000
Benefits	Increase awareness of defensible spaces for homes built in wildfire areas
Potential Funding	HMGP, NFS, USFS, UBB NRD, National Fire Plan
Timeline	5 years
Priority	Medium
Lead Agency	Zoning and Planning
Action since 2009 plan	None

Description	**Source Water Contingency Plan**
Analysis	Evaluate and locate new sources of groundwater.
Goal/Objective	Goal 2/Objective 2.2
Hazard(s) Addressed	Drought, Wildfire
Estimated Cost	$5,000+
Benefits	Planning for additional water sources to keep communities alive and protect from hazards.
Potential Funding	CDBG, SRF, NDEQ
Timeline	10 years
Priority	Medium
Lead Agency	Village Board
Action since 2009 plan	None

Description	**Enroll in the National Flood Insurance Program (NFIP)**
Analysis	Participate in the National Flood Insurance Program (NFIP).
Goal/Objective	Goal 2/Objective 2.3
Hazard(s) Addressed	Flooding
Estimated Cost	N/A
Benefits	Enable property owners to purchase insurance protection against flood losses. Good standing enables participants to apply for PDM and HMGP cost-share.
Potential Funding	N/A
Timeline	5 years
Priority	Low
Lead Agency	Village Board
Action since 2009 plan	None

Description	**Tree City USA – Tree Maintenance Programs**
Analysis	Work to become a Tree City USA through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a hazardous tree identification and removal program in order to limited potential tree damage and damages caused by trees in a community when a storm event occurs. The four main requirements include: 1) Establish a tree board; 2) Enact a tree care ordinance; 3) Establish a forestry care program; 4) Enact an Arbor Day observance and proclamation.
Goal/Objective	Goal 2/Objective 2.3
Hazard(s) Addressed	Severe thunderstorms, tornados and high winds, severe winter storms
Estimated Cost	$1,000+
Benefits	Better maintained trees and hazard tree removal will eliminate damages to power lines and personal property during hazards events. Participation in Tree City USA will support community actions to mitigation damages from trees.
Potential Funding	Arbor Day Foundation, US Forest Service
Timeline	Ongoing
Priority	Medium
Lead Agency	Village Maintenance
Action since 2009 plan	The village continues their own municipal tree care program.

Description	**Public Awareness**
Analysis	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. In addition, educate citizens on erosion control and water conservation methods. Educate residents on response and rescue plans for all hazard types.
Goal/Objective	Goal 3/Objective 3.1, Goal1/Objective 1.1
Hazard(s) Addressed	All hazards
Estimated Cost	Goal 3/Objective 3.1, Goal1/Objective 1.1
Benefits	Increase knowledge to new comers to the area as well as elderly in how to react when an event is going to occur or is occurring. Education to reduce or prevent damage to property or prevent loss of life or serious injury.
Potential Funding	HMGP, PDM
Timeline	Ongoing
Priority	Medium
Lead Agency	Village Board, Village Council, and County EMA
Action since 2009 plan	Continue to provide education handouts and door to door canvassing.

Description	**Civil Service Improvements**
Analysis	Improve emergency rescue and response equipment and facilities by providing additional, or updating existing emergency response equipment. This could include fire trucks, ATV's, water tanks/truck, snow removal equipment, etc. This would also include developing backup systems for emergency vehicles, and identifying and training additional personnel for emergency response.
Goal/Objective	Goal 4/Objective 4.1
Hazard(s) Addressed	All hazards
Estimated Cost	Varies depending on what equipment is needed
Benefits	Increase local capabilities to respond to disasters
Potential Funding	Homeland Security, Emergency Management, NEMA, Governing County and Board of Commissioners, Nebraska Forest Service
Timeline	5 years
Priority	Low
Lead Agency	Fire Department, Village Board, and County EMA
Action since 2009 plan	None

Description	Best Management Practices (BMPs)
Analysis	Implement BMPs to reduce water consumption and use (high water use to low water use) through water conservation practices such as education and use of xeriscaping.
Goal/Objective	Goal 2/Objective 2.3
Hazard(s) Addressed	Drought
Estimated Cost	N/A
Benefits	Continue water supply to municipality during drought conditions.
Potential Funding	UBB NRD, HMGP, NDEQ Source Water Grant
Timeline	5 years
Priority	High
Lead Agency	Natural Resource District, Village Board
Action since 2009 plan	New Project

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VILLAGE OF PHILLIPS

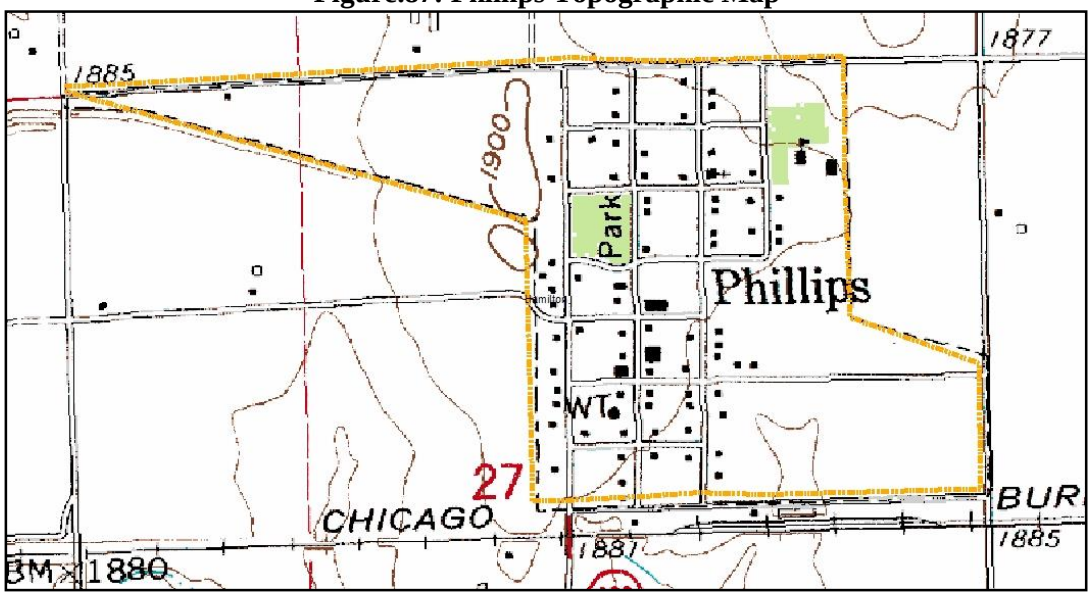
Hamilton County
Multi-Jurisdictional Hazard Mitigation Plan Update

March 2015

HISTORY

Settlement began in the community of Phillips with the railroad. The village is located approximately a mile south of the Platte River in northwest Hamilton County. In 1874 the town site for Phillips was purchased by the Lincoln Land Company from P.M. Cross, and platted in 1884 when the Burlington and Missouri River Railroad extended a line west from Aurora. The town was named for Captain R.O. Phillips, who established town sites for the land company. Phillips soon became an important railroad shipping point for grain and livestock. One of the most significant changes in Phillips happened in 1918 when the railroad moved the tracks, which originally came through downtown, to just north of the business area. The population of Phillips fluctuated greatly through the years. In the 1970s, improved highways and new industries in Grand Island and Aurora brought many new families to the area.

Figure.87: Phillips Topographic Map



LOCATION

Phillips is a village located in the west portion of Hamilton County. The Village of Phillips covers an area of 160 acres and has an elevation of 1,893 feet above sea level. Phillips is 106 miles west of Lincoln.

CLIMATE

The warmest month in Phillips is July with an average high temperature of 87 degrees and the coolest month is January with an average low temperature of 12 degrees. The highest and lowest temperatures recorded are 117 degrees in 1936 and 34 degrees below zero in 1899. The month of May has the highest precipitation average of 4.07 inches per year.

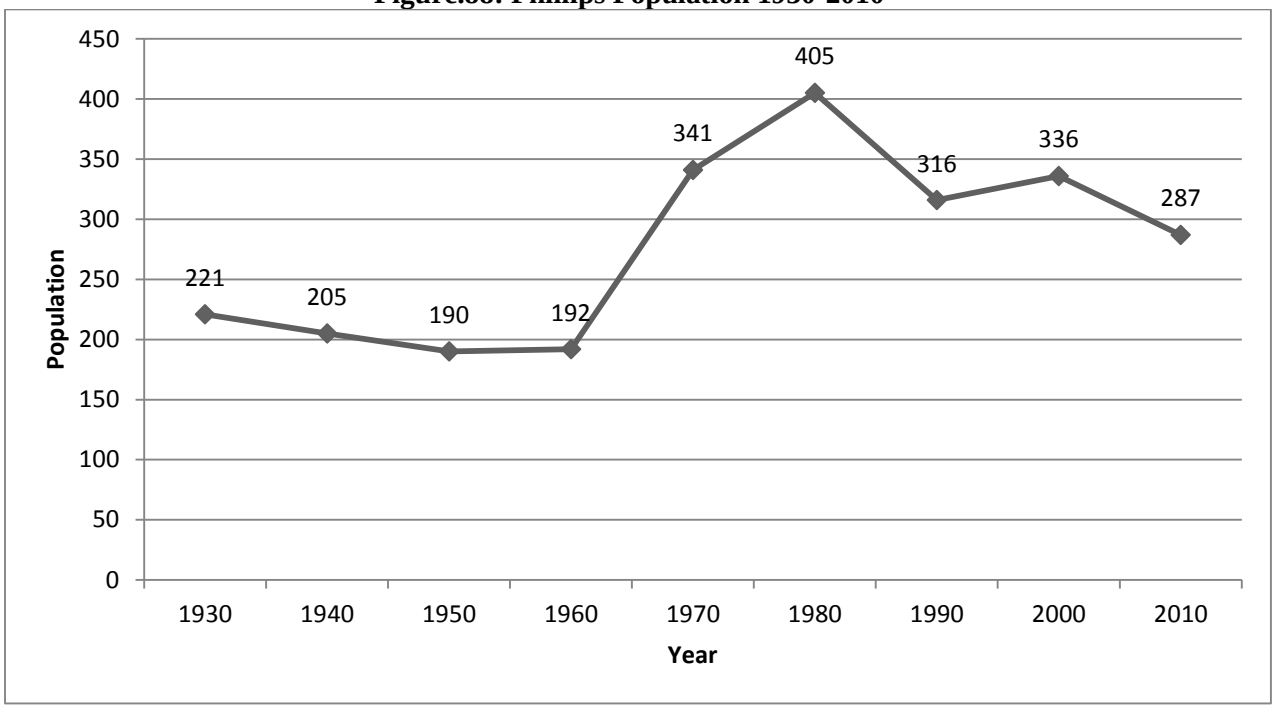
GEOGRAPHY

The community of Phillips lies in an area of plains. The land use surrounding the community is mainly agricultural crops with some ranching. Flat lying land above the valley with materials of sandstone or stream deposited silt, clay, sand and gravel overlain by wind deposited silt is prevalent. The community lies approximately three miles west of the Platte River and five miles north of Lincoln Creek. The watershed flows generally from the northwest to the southeast. River flooding is not of significant concern.

DEMOGRAPHICS

Below, Figure 88 displays the historical population trend from 1930 to 2010. The population of Phillips declined slightly from 1930 to 1950 but experienced a significant population growth until 1980 due to the new industries brought to the region in the 1970s. Most recently, the population has been declining.

Figure.88: Phillips Population 1930-2010



Source: US Census

Table 138 illustrates the age distribution and median age for Hamilton County in comparison to the Village of Phillips. The median age of 41.3 is just one year younger than the county's median, but there is a higher percentage of residents between the ages of 5 and 64 in Phillips with over 84 percent of the population in this age group.

Table.138: Phillips Population by Age

Age	Hamilton County	Phillips
<5	5.7%	4.9%
5-64	77.4%	84.3%
>64	16.3%	10.8%
Median	42.30	41.30

Source: U.S. Census Bureau, 2010

HOUSING AND ECONOMICS

Median household income, per capita income, home value, and rent for the county as a whole are compared with the village in Table 139. Income and median home value are significantly lower in Phillips as compared to the county.

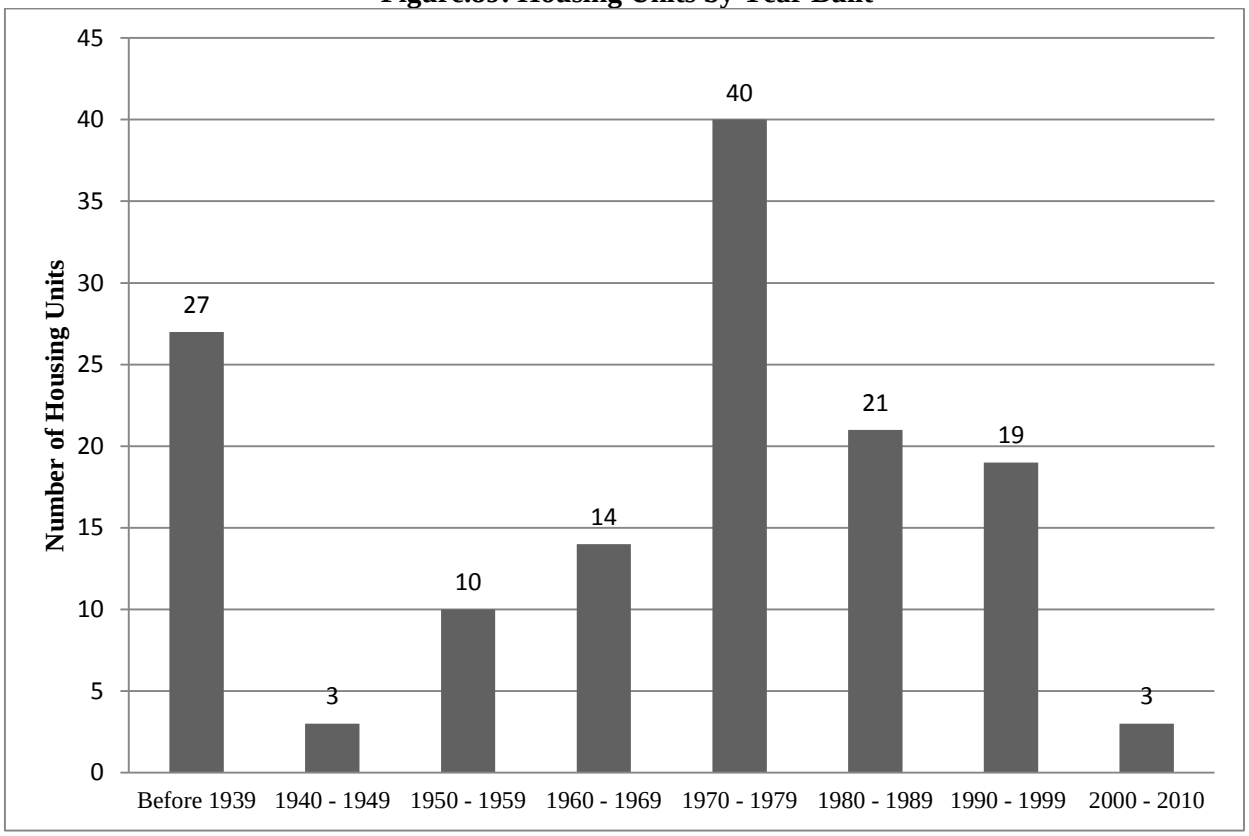
Table.139: Phillips Housing and Income

	Hamilton County	Phillips
Median Household Income	$56,809	$43,929
Per Capita Income	$26,785	$19,252
Median Home Value	$112,000	$67,300
Median Rent	$581	$570

Source: U.S. Census Bureau, 2010 American Community Surveys 5-year Estimates

According to 2010 Census data (Figure 89), the village has 137 housing units with 78.8 percent of those units occupied (Table 140). About 33.6 percent of the village's housing is classified as mobile homes and 29.2 percent of the village's housing was built before 1960. These older structures and mobile homes will be more susceptible to high winds, tornado, and severe thunderstorms.

Figure.89: Housing Units by Year Built



Source: US Census 2006 - 2010 American Community Survey 5 Year Estimates

Table.140: Phillips Housing Unit Occupancy

Jurisdiction	Total Housing Units					Occupied Housing Units			
	Occupied		Vacant			Owner		Renter	
	Number	Percent	Number	Percent		Number	Percent	Number	Percent
Hamilton County	3,464	87.7%	484	12.3%		2,667	77.0%	797	23.0%
Phillips	108	78.8%	29	21.2%		100	92.6%	8	7.4%

Source: US Census 2006 - 2010 American Community Survey 5 Year Estimates

STRUCTURAL INVENTORY AND VALUATION

A structural inventory was completed for the corporate limits of Phillips through a window survey using GIS for the 2009 hazard mitigation plan. The values of these structure types were updated utilizing the 2013 Property Type Values as provided by the Nebraska Department of Revenue Property Assessment Division.

Results from the structural inventory completed by the Village of Phillips are found in Table 141 below.

Table.141: Phillips Structural Inventory

Total Structures		Structure Valuation	
Structure Type	**Number of Structures**	**Total Value**	**Value per Structure**
Commercial/Industrial	4	$930,139	$232,535
Agriculture	16	$114,080	$7,130
Residential	149	$7,555,282	$50,707
Public/Quasi Public	7	$124,867	$17,838
Total	**176**	**$8,724,368**	N/A

Source: Nebraska Department of Revenue, Property Assessment Division

CRITICAL INFRASTRUCTURE/KEY RESOURCES

According to FEMA, "A critical facility is a structure that, if flooded (or damaged), would present an immediate threat to life, public health, and safety." Examples of critical facilities include hospitals, emergency operations centers, schools, city shops, wells, and sanitary sewer lift stations, etc.

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. Critical facilities were identified during the 2009 planning process and updated by the Phillips planning team as a part of the plan update. Figure 90 is a summary of the critical facilities for the jurisdiction.

Figure.90: Location of Phillips Critical Facilities

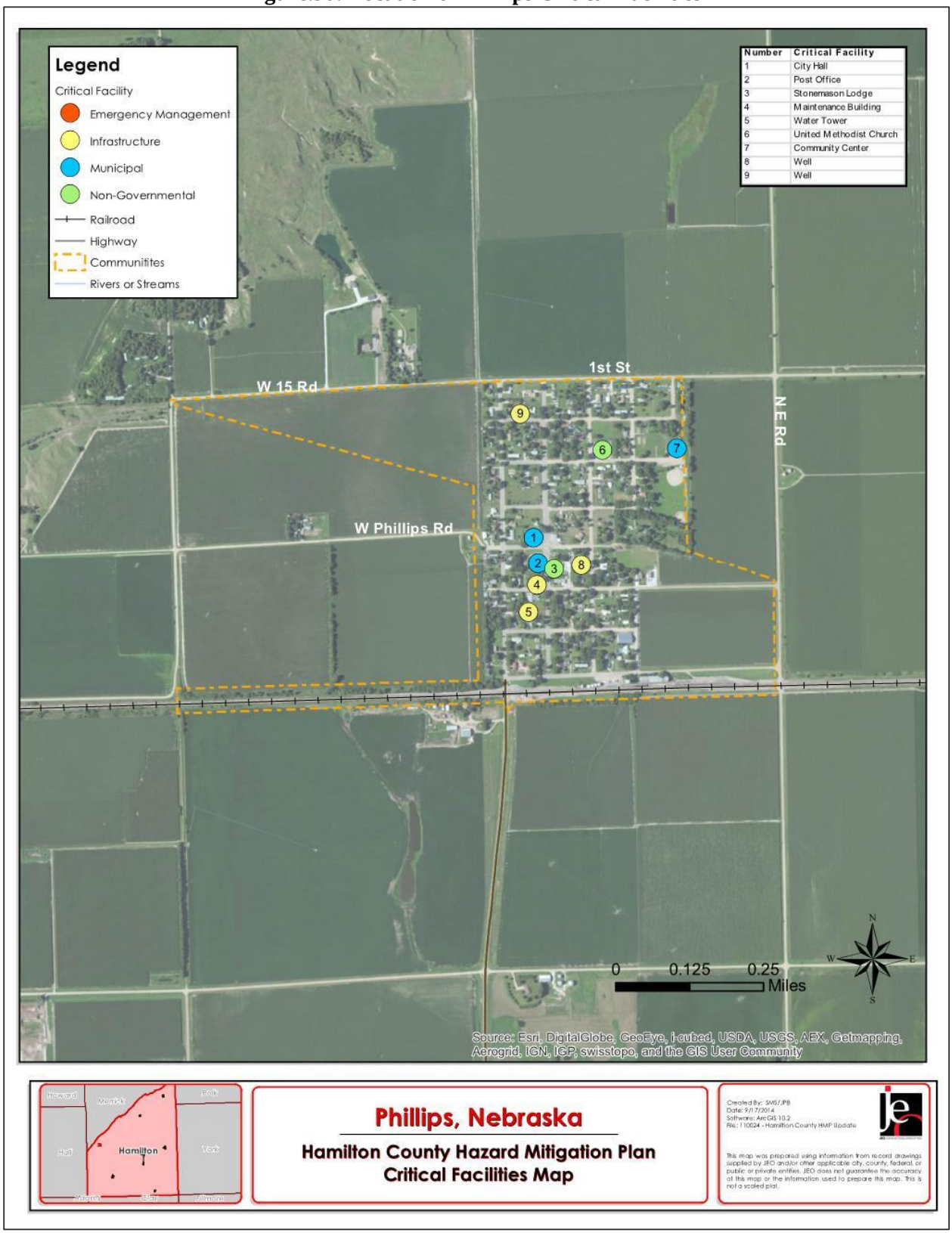
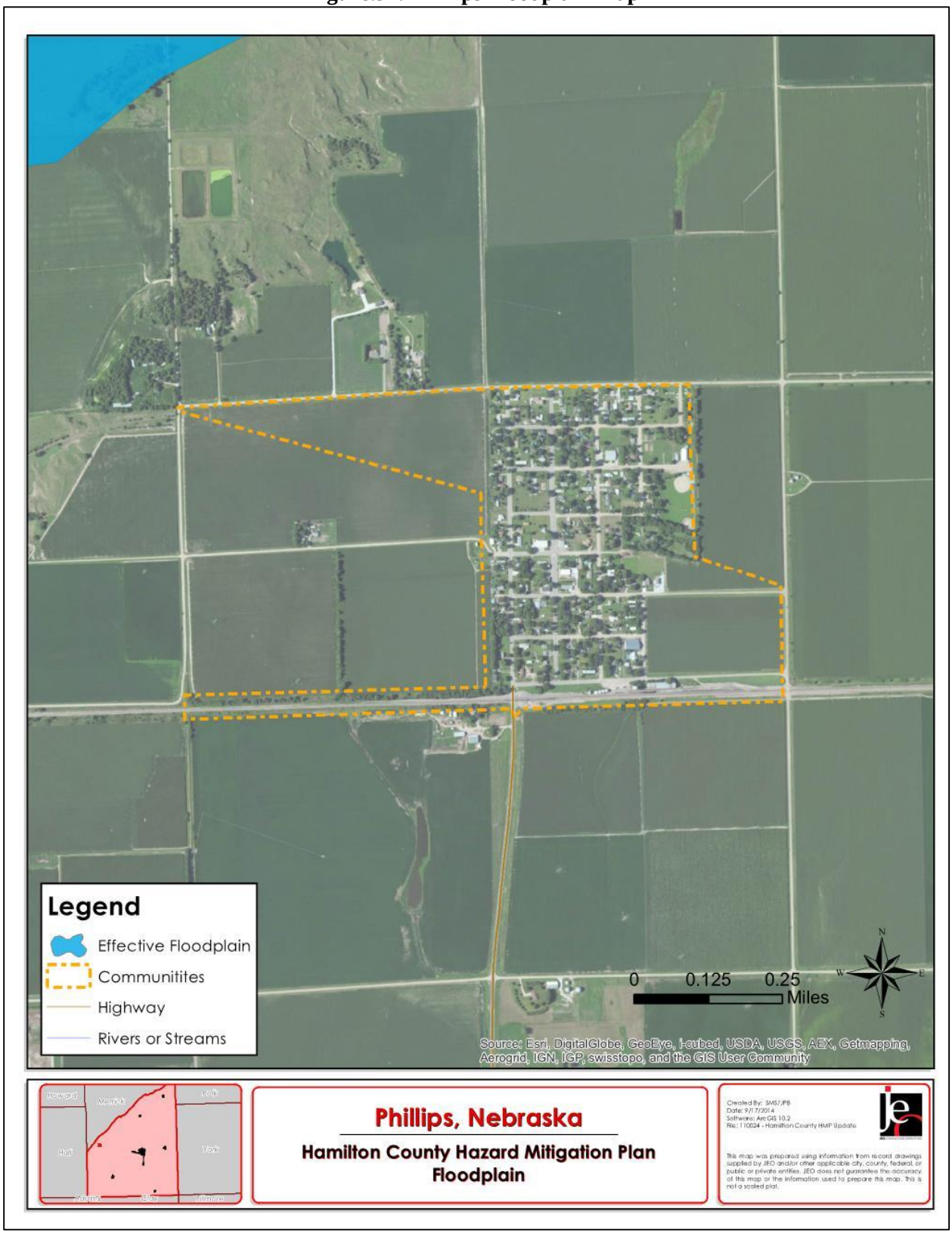


Figure.91: Phillips Floodplain Map



FUTURE DEVELOPMENT TRENDS

The planning team for the Village of Phillips indicated that currently some housing development was occurring within the corporate limits of the village, but there are not any plans for commercial development at this time. They anticipate that growth will be slowly growing over the next 5 years, and that new housing structures will continue to be built within the boundaries of the community. Additionally, the village is not located in or near a floodplain; so building in a flood prone area will not be a concern.

RISK ASSESSMENT

Hazard Identification

Table 142 is a risk assessment of hazards identified specifically in the community. Refer to *Section Four: Risk Assessment* for a detailed explanation as to what this methodology is and why certain hazards did not pose a significant enough threat and were eliminated from detailed discussion due to the calculation.

Table.142: Phillips Risk Assessment

HAZARD TYPE	PREVIOUS OCCURRENCE? Yes/No	Approximate Annual Probability (Regional Risk Assessment)	Specific Concerns Identified
Severe Winter Storm	Yes	100%	18% of population at higher level of vulnerability; potential loss of life and properties
Tornado	Yes	~10%	Potential loss of life and properties
High Winds	Yes	100%	Potential loss of life and properties
Severe Thunderstorm*	Yes	~20%	Potential loss of life and properties; Economic impacts; Secondary hazards such as hail and tornados
Hail*	Yes	~50%	Potential loss of life and properties; Economic impacts
Flooding	Yes	~20%	Potential loss of properties
Extreme Heat	Yes	100%	18% of population at higher level of vulnerability; Ag losses; Secondary hazards such as wildfires
Drought	Yes	~10%	Economic impacts; Land degradation; Secondary hazards such as wildfires
Grass/Wildfire	Yes	100%	Potential loss of life and properties; Economic impacts
Dam Failure	No	1%	None
Levee Failure	No	0	None
Ag Animal Disease	Yes	100%	None
Ag Plant Disease	Yes	~50%	None
Earthquakes	Yes	<5%	None
Landslides	No	0	None
Urban Fire	No	<5%	None
Radiological Fixed Facilities	Not present in the planning area	NA	None
Chemical Transportation	No	<5%	None
Terrorism	0	1%	None
Chemical Fixed Sites	0/23	<5%	None

Radiological Transportation	0	1%	None
Civil Disorder	No	unknown	None

Based on the risk assessment and feedback from the local planning team the hazards of top concern are severe winter storms, high winds, extreme heat, grass/wildfire, and hail. These five hazards that raise the greatest concerns for the community are discussed in detail.

Historical Occurrences

The NCDC reported 18 severe weather events from 1996 to 2014 in the Village of Phillips. There were no recorded deaths or injuries but reported $560,000 in damages to property and $2,010,000 in crop damages. Refer to the table below for detailed information of each severe weather event including date, extent, property damage, and crop damage.

Table.143: NCDC Severe Weather Events for Phillips

Date	Hazard	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
4/10/2001	Hail	1.00 in.	0	0	0	0
5/5/2002	Hail	1.75 in.	0	0	50,000	100,000
4/21/2005	Hail	1.75 in.	0	0	100,000	0
6/17/2009	Hail	1.75 in.	0	0	150,000	0
6/19/2009	Hail	1.75 in.	0	0	10,000	150,000
7/24/2009	Hail	1.75 in.	0	0	0	150,000
5/19/2012	Hail	1.50 in.	0	0	25,000	500,000
4/9/2013	Hail	1.75 in.	0	0	25,000	0
4/30/2013	Hail	0.75 in.	0	0	0	0
4/23/2014	Hail	1.00 in.	0	0	0	0
6/20/1997	Thunderstorm Wind	70 kts./81 mph	0	0	100,000	300,000
8/17/1999	Thunderstorm Wind	51 kts./59 mph	0	0	0	0
5/29/2004	Thunderstorm Wind	56 kts. EG/64 mph	0	0	0	0
7/5/2004	Thunderstorm Wind	52 kts. EG/60 mph	0	0	0	0
5/30/2011	Thunderstorm Wind	52 kts. EG/60 mph	0	0	0	0
5/29/2008	Flash Flood		0	0	50,000	750,000
6/4/2008	Flash Flood		0	0	50,000	60,000
6/17/2009	Tornado	EF0	0	0	0	0

		Totals	**0**	**0**	**$560,000**	**$2,010,000**

Source: NCDC Storm Events 1996-2014

Severe Winter Storms

The local planning team has identified severe winter storms as a top concern for the community. The NCDC data reported 67 winter storms for Hamilton County between 1996 and 2014, and seven of those resulted in $540,000 in property damage. Based on historic records severe winter storms have an annual probability of 100 percent.

With the population of 287 people (US Census Bureau, 2010) the community did not indicate having designated snow routes. The planning team indicated that the village contracts out it snow removal. The community lift-stations are equipped with power back-up. The village has a backup generator at the fire hall.

High Winds

The local planning team identified high winds as a top concern for the community. In total there were 18 storms reported that had winds reported between 60 and 75 miles per hour. Winds of this magnitude, according to the Beaufort Wind Force Ranking, can cause trees to uproot, considerable structure damage, and over turning of improperly anchored mobile homes. Due to high winds being a zonal hazard by nature they are profiled fully in as part of the county's section.

The Village of Phillips did not indicate having a community safe room; however, the city building and fire hall will open to the public in the event of an emergency. The village has a mutual aid agreement with all neighboring communities for fire incidents to support the local volunteer fire department. Back-up power generators are in place in the fire hall. Additionally, the village would like to provide public awareness programs for the residents about hazards and improve emergency communications.

Extreme Heat

The local planning team identified extreme heat as a top concern for the community. According to NCDC there were 2 heat advisories or warning issued from 1996 to 2014. NCDC reported no losses from any of the events. Based on data provided by the High Plains Regional Climate Center, Phillips has an average of 40 days a year with temperatures at or above. Extreme heat has an annual probability of 100 percent in the village.

Demographic characteristics pertinent to Marquette, such as population age group, may result in population vulnerability in the event of extreme heat. Elderly residents, young children, and low income families within the community are more vulnerable to the impacts of extreme heat events. About 26.8 percent of local residents are age 55 or older. This group has lower tolerance levels for extreme temperature and can feel the effects of extreme temperature quickly. Young children under the age of 5 (4.9% of the population) are highly susceptible to the effects of extreme heat. Low-income people (18.8% of the population) and families (10.0% of the population) may lack resources that mitigate the impacts of extreme heat such as air conditioning. While Marquette does not have a community cooling center, the local planning team did not express any concerns with power supply.

Grass/Wildfires

The local planning team identified grass/wildfire as a top concern for the community. The planning team reported having a volunteer fire department and an enforcement of defensible space around structures from property owners. According to the Nebraska Forest Service, between 2000 and 2012, a total of 48 fires were reported by the Phillips Volunteer Fire Department the fires burned 399 acre of rangeland, 14 acres

of forest land, and 127 acres of cropland. The fires caused $400 in crop damage and $6,000 in property damage. Based on historic records, wildfires have an annual probability of 100 percent.

One major factor, which increases the vulnerability for Phillips, is the age of structures within the community. More than two-thirds of the housing units were constructed prior to 1980 and are primarily wood built structures. If grass/wildfires were to occur and impact Phillips, much of the housing stock and structures throughout the town could be lost. The village is surrounded by agricultural lands, which are mostly used for crops. In a grass or wildfire event, the fire could spread rapidly creating concerns regarding the ability of community members to evacuate with little notice.

The potential need for evacuation present additional vulnerabilities for Phillips; the village is not over populated and residents should have access to roadways allowing them to leave town quickly and efficiently. There is a portion of the population that may have reduced mobility and could be at higher risk of injury or death resulting from grass/wildfire impacts to the community. More than 10 percent of the community is age 65 or older, so this segment of the population may struggle to evacuate the village quickly.

Hail Events

The local planning team identified hail as a top concern for the community. The NCDC reported 10 hail events in Phillips between 1996 and 2014, with hail ranging in size from 0.75 in to 1.75 in. in diameter. One event caused $25,000 in property damage and $500,000 in crop damage. In addition to damage to crops, hail can have significant impacts to critical facilities where roofs, siding and windows can be damaged. Based on historic records, hail has an annual probability of about 50 percent.

The Village of Phillips did report having weather radios at critical facilities. The village has a generator a the fire hall. The village has a tree board as well.

CAPABILITY ASSESSMENT

Thus far the planning process has identified the major hazards for the communities and described and quantified the vulnerability of the community to these risks by acquiring updated information from FEMA, local jurisdiction, and other sources. The following step shall be assessing what loss prevention or preparedness mechanisms are already in place, which is referred to as capability assessment. Combining the risk assessment with the local capability assessment results in a stronger mechanism in understanding locality's "net vulnerability" and to what extent they could be able to implement the goals, objectives, and actions.

The capability assessment consisted of two main components: 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.

Governance

The Village of Phillips is governed by a five member village board and has the following staff:

- Clerk/Treasurer
- Attorney
- Fire Chief
- Maintenance/Water Operator
- Animal Control Officer
- Park and Recreation
- Planning Commissioner
- Engineer

Table.144: Phillips Capability Assessment

Survey Components/Subcomponents		Comments
Planning and Regulatory Capability	Comprehensive Plan	County
	Capital Improvements Plan	Ongoing capital improvement projects
	Hazard Mitigation Plan	County
	Economic Development Plan	No
	Emergency Operational Plan	Yes
	National Resources Protection Plan	No
	Open Space Preservation plan	N/A
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	County
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	No
	Building Codes	County
	National Flood Insurance Program	No
	Community Rating System	No
	Other (if any)	
Administrative and Technical Capability	Planning Commission	No
	Hazard Mitigation Planning Commission	Yes
	Floodplain Administration	No
	Emergency Manager	County
	GIS Coordinator	No
	Chief Building Official	County
	Civil Engineering	No
	Staff Who Can Assess Community's Vulnerability to Hazards	County
	Grant Manager	No
	Other (if any)	
Fiscal Capability	Capital Improvement Project Funding	Yes
	Community Development Block Grant	Yes
	Authority to Levy Taxes for Specific Purposes	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
Education and Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, 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	N/A
	StormReady Certification	No
	Firewise Communities Certification	No
	Public-private partnership initiatives addressing disaster-related issues	Yes
	Other (if any)	

Plan Integration

Phillips participates in planning and zoning with the county. This allows Phillips to have codes and plans that might otherwise be cost prohibitive to develop. The comprehensive plan representing Phillips has not been updated since the 2009 hazard mitigation plan was developed so there are no changes related to how hazard mitigation has been incorporated into that document. At this time there is no planned update for the comprehensive plan. When the plan is updated the community and the planning team will review the goals and objectives of the hazard mitigation plan for inclusion in the comprehensive plan.

Phillips also collaborates with the county for building codes and zoning ordinances. Building codes are sufficient for the hazards that occur with regularity. When building codes are revisited in the future the community may consider encouraging the use of building materials that will help reduce structural damages as well as some non-structural impacts resulting from natural hazards. Option include but are not limited to: hail resistant siding and roofing, increase strapping materials, low flow fixtures, xeriscaping, and requiring safe rooms in newly built critical facilities.

Summary

Phillips will be able to implement some mitigation projects independently, and they have been able to complete three projects since the last update. Going forward, the village will continue to look for opportunities to partner with county emergency management, Hamilton County, and other regional and state agencies on many projects. Through this update process, the planning team reviewed previously identified mitigation projects and added new projects as well.

MITIGATION ACTIONS

Completed Mitigation Projects

Description	**Backup Power Generators**
Analysis	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other critical facilities and shelters.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Benefits	Back-up power for critical facilities. A measure that would reduce or prevent damage to property or prevent loss of life or serious injury.
Timeline	Completed
Lead Agency	Fire Department
Action since 2009 plan	Implemented.

Description	**Warning Systems**
Analysis	Improve/ implement city cable TV interruption warning system and telephone interrupt system such as Reverse 911.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Timeline	Completed
Lead Agency	Emergency Management Agency
Action since 2009 plan	Implemented.

Description	**Weather Radios**
Analysis	Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed.
Goal/Objective	Goal 4/Objective 4.3 and Goal 1/Objective 1.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Timeline	Completed
Lead Agency	Village Board
Action since 2009 plan	Weather radios are in place at critical facilities.

Ongoing/New Mitigation Projects

Description	Static Detectors
Analysis	Deploying a static detector at outdoor events can warn of approaching, fast moving storms and associated lightening, thus helping officials to respond appropriately.
Goal/Objective	Goal1/Objective 1.1
Hazard(s) Addressed	Severe thunderstorms
Estimated Cost	$1000
Benefits	Better response to a storm event, protection of critical facilities
Potential Funding	N/A
Timeline	5 years
Priority	Low
Lead Agency	Public Works
Action since 2009 plan	None

Description	Stormwater System and Drainage Improvements
Analysis	Undersized systems can contribute to localized flooding. Stormwater system improvements, such as pipe upsizing and additional inlets, installation of retention and detention facilities can be implemented to decrease runoff rates while also decrease the need for other stormwater system improvements.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding
Estimated Cost	$100,000+
Benefits	Decreased stormwater runoff, improved retention and detention systems for managing stormwater runoff
Potential Funding	HMGP, PDM, Community Development Block Grant (CDBG)
Timeline	5 years
Priority	Medium
Lead Agency	Public Works
Action since 2009 plan	Currently working on street improvement plans with Miller and Associates.

Description	Storm Shelter / Safe Rooms
Analysis	Design and construct fully supplied storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, school, and other areas.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Severe Weather
Estimated Cost	$200-$300/sf stand alone; $150-$200/sf addition/retrofit
Benefits	Useful for many residents that do not have basements or cellars to go for shelter, especially beneficial for the nursing home and other vulnerable populations.
Potential Funding	PDM, HMGP
Timeline	5 years
Priority	Medium
Lead Agency	Emergency Management Agency, Village Board
Action since 2009 plan	None

Description	Participation in the National Flood Insurance Program (NFIP)
Analysis	Maintain good standing with National Flood Insurance Program (NFIP).
Goal/Objective	Goal 2/Objective 2.3
Hazard(s) Addressed	Flooding
Estimated Cost	N/A
Benefits	Enable property owners to purchase insurance protection against flood losses. Good standing enables participants to apply for PDM and HMGP cost-share.
Potential Funding	N/A
Timeline	5 years
Priority	Low
Lead Agency	Village Board
Action since 2009 plan	None

Description	**Tree City USA – Tree Maintenance Programs**
Analysis	Work to become a Tree City USA through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a hazardous tree identification and removal program in order to limited potential tree damage and damages caused by trees in a community when a storm event occurs. The four main requirements include: 1) Establish a tree board; 2) Enact a tree care ordinance; 3) Establish a forestry care program; 4) Enact an Arbor Day observance and proclamation.
Goal/Objective	Goal 2/Objective 2.3
Hazard(s) Addressed	Severe thunderstorms, tornados and high winds, severe winter storms
Estimated Cost	$1,000+
Benefits	Better maintained trees and hazard tree removal will eliminate damages to power lines and personal property during hazards events. Participation in Tree City USA will support community actions to mitigation damages from trees.
Potential Funding	Arbor Day Foundation, US Forest Service
Timeline	Ongoing
Priority	Medium
Lead Agency	Village Board
Action since 2009 plan	Ongoing, working to become a tree city

Description	**Public Awareness / Education**
Analysis	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. In addition, educate citizens on erosion control and water conservation methods. Educate residents on response and rescue plans for all hazard types.
Goal/Objective	Goal 3/Objective 3.1, Goal1/Objective 1.1
Hazard(s) Addressed	All hazards
Estimated Cost	$500+
Benefits	Increase knowledge to new comers to the area as well as elderly in how to react when an event is going to occur or is occurring. Education to reduce or prevent damage to property or prevent loss of life or serious injury.
Potential Funding	HMGP, PDM
Timeline	Ongoing
Priority	Medium
Lead Agency	Village and Emergency Management Agency
Action since 2009 plan	Ongoing Provide continuous education throughout the year

Description	**Alert Sirens**
Analysis	Perform an evaluation of existing alert sirens in order to determine sires which should be replaced or upgraded. Install new sirens where needed.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$15,000+
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Potential Funding	HMGP
Timeline	3-5 years
Priority	High
Lead Agency	Sheriff's Office, Emergency Management Agency
Action since 2009 plan	None

Description	**New Municipal Well**
Analysis	Provide a safe backup water supply for the community; replace existing wells affected by drought, increase of demand in water, and additional water for fire protection.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Drought
Estimated Cost	$350,000 to $450,000
Benefits	Sufficient water supply
Potential Funding	CDBG, State Revolving Fund (SRF)
Timeline	2 years
Priority	Medium

Description	**New Municipal Well**
Lead Agency	Public Works
Action since 2009 plan	Currently in progress with Miller and Associates.

Description	**Public disposal for trees and refuse**
Analysis	Locate and enclose a public burn pile for safe tree/refuse disposal area for village residents
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Wildfire
Estimated Cost	NA
Benefits	Reduces available fuel for potential wildfires and provides safe location for disposal
Potential Funding	NA
Timeline	1 year
Priority	High
Lead Agency	Public Works
Action since 2009 plan	New project

VILLAGE OF STOCKHAM

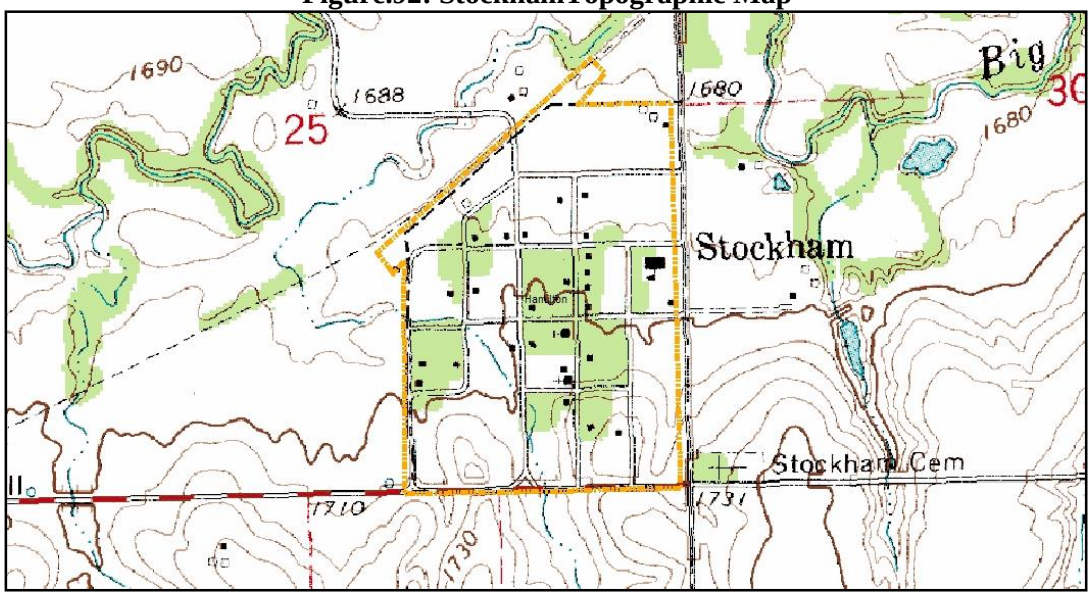
Hamilton County
Multi-Jurisdictional Hazard Mitigation Plan

March 2015

HISTORY

Settlement began in the community of Stockham with the first homestead in Hamilton County along the Blue River near the southern edge of the county. The first meeting to officially organize the county, first school district, and first religious services took place at the homestead. A new town sprang up around the Stone, Starkey and Company Mill on the river. In 1876 a post office was established in the home of Mr. Joseph Stockham. In 1887, the Fremont, Elkhorn and Missouri Valley Railroad extended a line from Fremont to Hastings through the Stockham area. The "New Stockham" was platted a half mile to the south of the original town site on August 1, 1887. Many of "Old Stockham's" businesses and homes moved to the new location. The new town grew rapidly with the railroad. The town and people of Stockham did well until the Depression of the 1930s. The town banks and many businesses were forced to close. In 1941, the railroad pulled out and the rails were torn up. Then in 1968, the Stockham post office became a rural station of Aurora, and eventually closed altogether in 1976. Stockham celebrated its centennial in August 1987.

Figure.92: StockhamTopographic Map



LOCATION

Stockham is a village located in the south east portion of Hamilton County. The Village of Stockham covers an area of 109 acres and has an elevation of 1,700 feet above sea level. Stockham is 87 miles west of Lincoln.

CLIMATE

The climate statistics were not available for Stockham at the time of the plan. The City of Henderson in York County, located eight miles northeast of Stockham, was the closest incorporated community with available climate data, so Henderson's statistics were referenced. The warmest month in Henderson is July with an average high temperature of 87 degrees and the coolest month is January with an average low temperature of 11 degrees. The highest and lowest temperatures recorded are 108 degrees in 1983 and 28 degrees below zero in 1989. The month of May has the highest precipitation average of 4.68 inches per year.

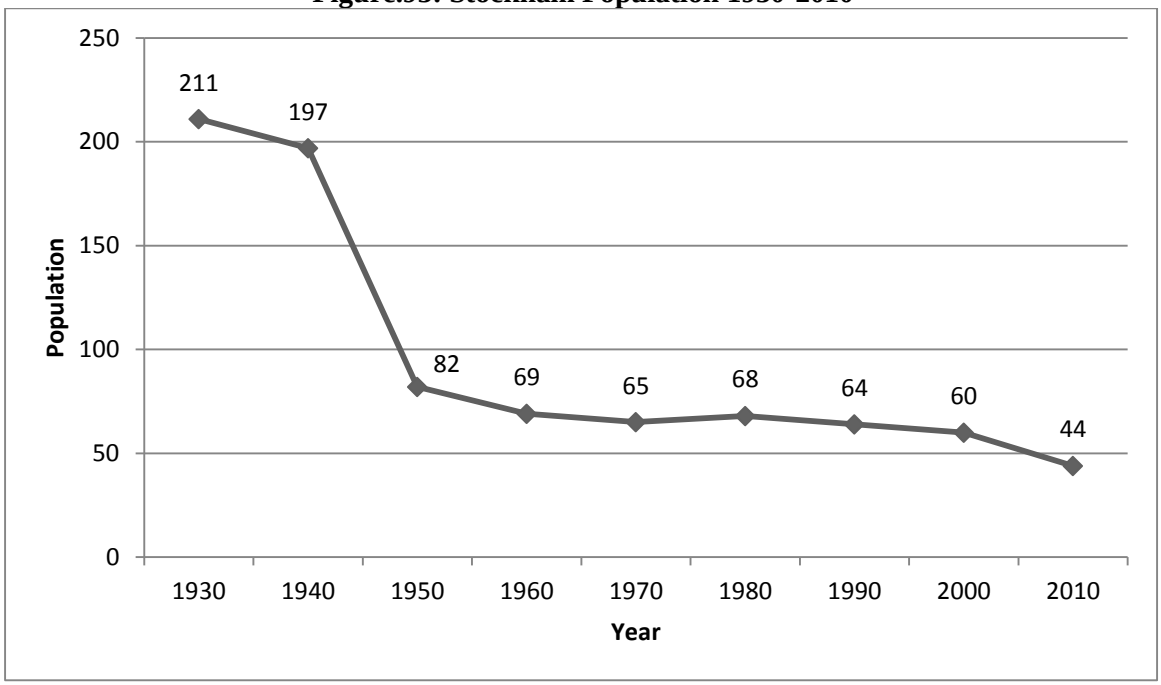
GEOGRAPHY

The community of Stockham lies in an area of plains. The land use surrounding the community is mainly agricultural crops with some ranching. Flat lying land above the valley with materials of sandstone or stream deposited silt, clay, sand and gravel overlain by wind deposited silt is prevalent. The community lies immediately south of the West Fork of the Big Blue River. The watershed flows generally from the northwest to the southeast. A current floodplain has been delineated for Stockham but river flooding is not of significant concern.

DEMOGRAPHICS

The historical population trends for the Village of Stockham from 1930-2010 is shown in Figure 93. The population declined until 1960, and then experienced a stable period through the year 2000. And most recently, the population has declined.

Figure.93: Stockham Population 1930-2010



Source: US Census

Table illustrates the age distribution and median age for Hamilton County in comparison to the Village of Stockham. The median age in Stockham is 10 years older than the county median, which is likely due to the higher percentage of residents in Stockham that are between the ages of 50 and 59. About 16 percent of the population in the county is in their 50s but in the village, it is over 36 percent of the population.

Table.145: Stockham Population by Age

Age	Hamilton County	Stockham
<5	5.8%	6.8%
5-64	77.8%	77.2%
>64	16.4%	15.8%
Median	42.3	52

Source: U.S. Census Bureau, 2010

HOUSING AND ECONOMICS

Median household income, per capita income, home value, and rent for the county as a whole are compared with the village in Table 146. The median household income is higher than the county's, and the median home value is nearly 30 percent lower as compared to the county. This combination helps residents to be able to purchase more affordable housing than those in the rest of the county.

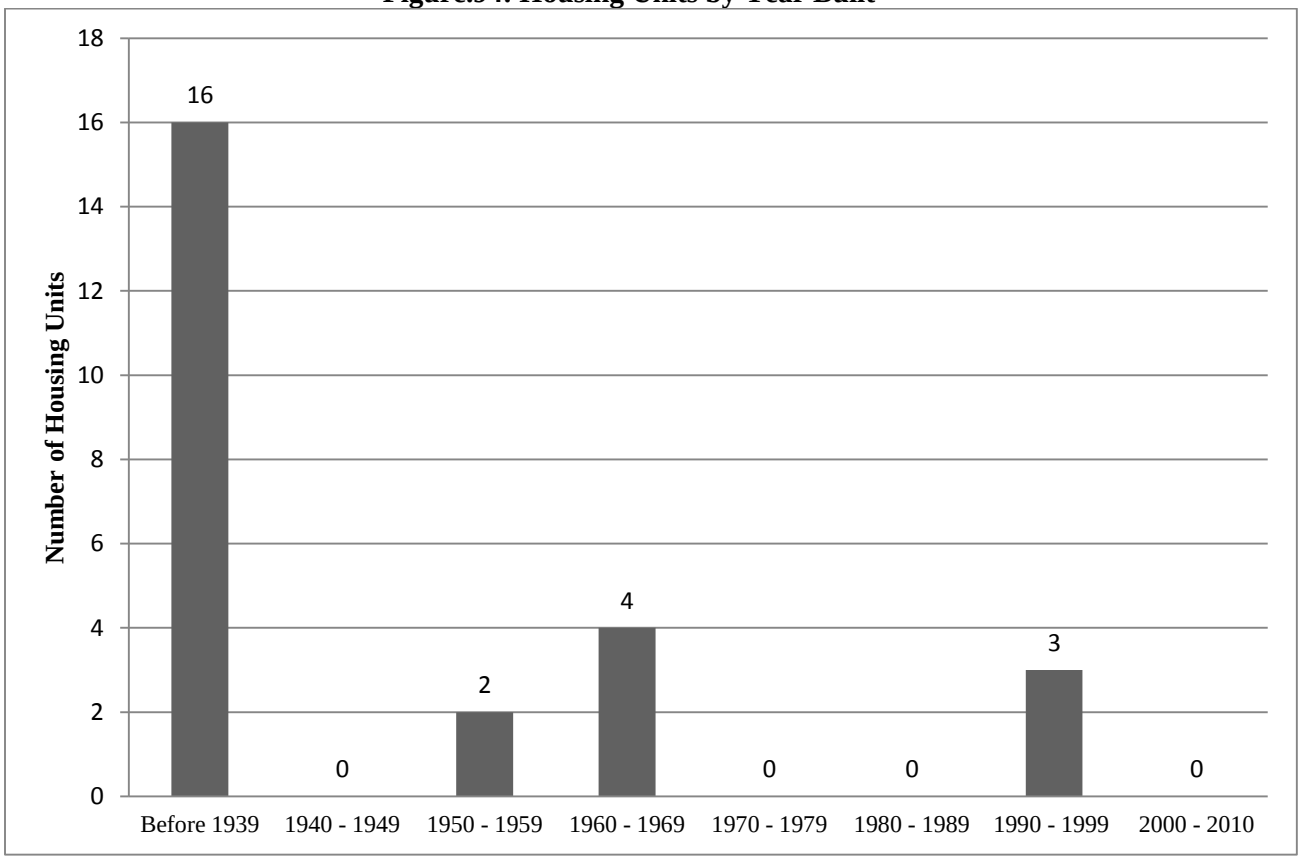
Table.146: Stockham Housing and Income

	Hamilton County	Stockham
Median Household Income	$56,809	$65,000
Per Capita Income	$26,785	$19,902
Median Home Value	$112,000	$80,000
Median Rent	$581	N/A*

Source: U.S. Census Bureau, 2010 American Community Surveys 5-year Estimates
**Not listed due to zero renters in the village*

According to the 2010 Census housing data (Figure 94), the village has 25 housing units with 72 percent of those units occupied (Table 147). There are no mobile homes in the village but 88 percent of the village's housing was built before 1970. Older structures and vacant buildings may be more susceptible to high winds, tornados, and severe thunderstorms.

Figure.94: Housing Units by Year Built



Source: US Census 2006 - 2010 American Community Survey 5 Year Estimates

Table.147: Stockham Housing Unit Occupancy

Jurisdiction	Total Housing Units					Occupied Housing Units			
	Occupied		Vacant			Owner		Renter	
	Number	Percent	Number	Percent		Number	Percent	Number	Percent
Hamilton County	3,464	87.7%	484	12.3%		2,667	77.0%	797	23.0%
Stockham	18	72.0%	7	28.0%		18	100%	0	0.0%

Source: US Census 2006 - 2010 American Community Survey 5 Year Estimates

STRUCTURAL INVENTORY AND VALUATION

A structural inventory was completed for the corporate limits of Stockham through a window survey using GIS for the 2009 hazard mitigation plan. The values of these structure types were updated utilizing the 2013 Property Type Values as provided by the Nebraska Department of Revenue Property Assessment Division.

Results from the structural inventory completed for the Village of Stockham are found in Table 148 below.

Table.148: Stockham Structural Inventory

Total Structures		Structure Valuation	
Structure Type	**Number of Structures**	**Total Value**	**Value per Structure**
Commercial/Industrial	2	$289,634	$144,817
Agriculture	15	$106,950	$7,130
Residential	20	$362,867	$18,143
Public/Quasi Public	3	$34,348	$11,449
Total	**40**	**$793,800**	N/A

Source: Nebraska Department of Revenue, Property Assessment Division

There are no historic structures in located in the village of Stockham.

CRITICAL INFRASTRUCTURE/KEY RESOURCES

According to FEMA, "A critical facility is a structure that, if flooded (or damaged), would present an immediate threat to life, public health, and safety." Examples of critical facilities include hospitals, emergency operations centers, schools, city shops, wells, and sanitary sewer lift stations, etc.

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. Critical facilities were identified during the 2009 planning process and updated by the Stockham planning team as a part of the plan update. Figure 95 is a summary of the critical facilities for the jurisdiction.

There are no critical facilities located in the 1% annual floodplain.

Figure.95: Location of Stockham Critical Facilities

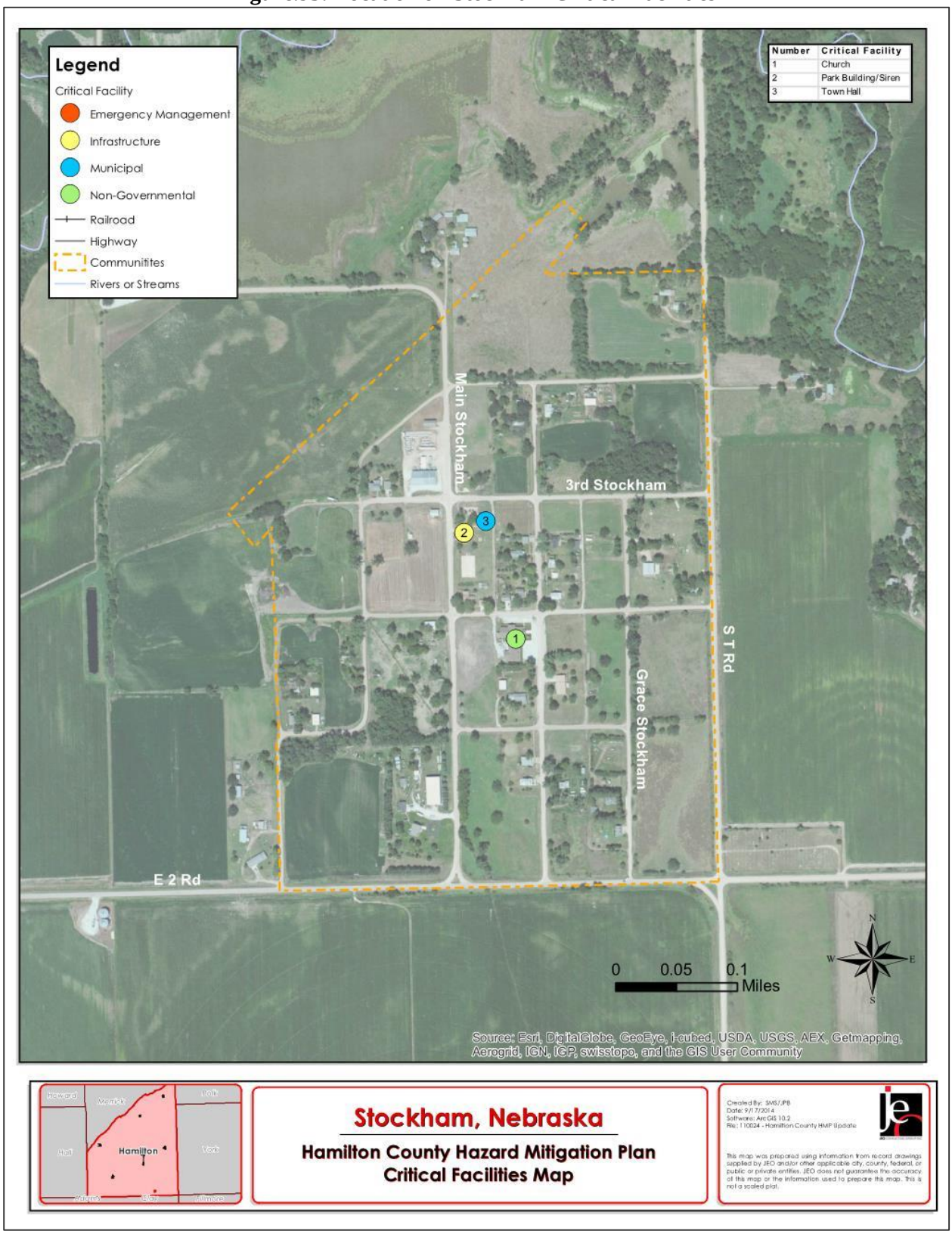
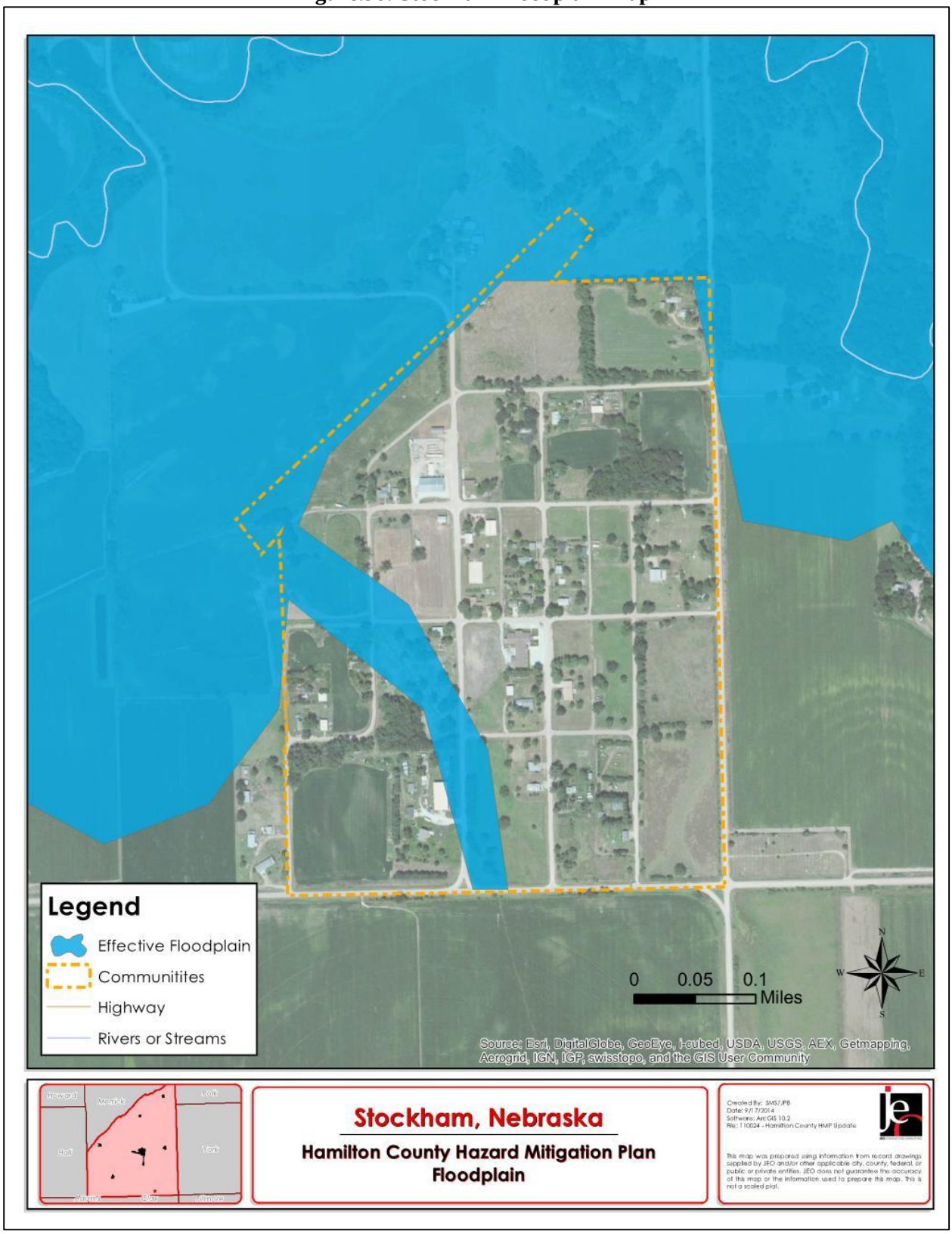


Figure.96: Stockham Floodplain Map



FUTURE DEVELOPMENT TRENDS

The Village of Stockham's planning team does not anticipate any growth over the next five years, and there are no current plans for future development outside of the current boundaries of the village. The population of Stockham has recently experienced a decline, and given the percentage of vacant buildings at 28 percent (Table 147), it is unlikely that any new housing developments will be built within the corporate limits of Stockham. However, if new structures are built, it will be important that Stockham not allow development into the 1 percent annual floodplain as shown in Figure 96.

RISK ASSESSMENT

Hazard Identification

Table 149 is a risk assessment of hazards as determined by the jurisdictional representatives. Refer to *Section Four: Risk Assessment* for a detailed explanation as to what this methodology is and why certain hazards did not pose a significant enough threat and were eliminated from detailed discussion due to the calculation.

Table.149: Stockham Risk Assessment

HAZARD TYPE	PREVIOUS OCCURRENCE? Yes/No	Approximate Annual Probability (Regional Risk Assessment)	Specific Concerns Identified
Severe Winter Storm	Yes	100%	18% of population at higher level of vulnerability; potential loss of life and properties
Tornado	Yes	~10%	Potential loss of life and properties
High Winds	Yes	100%	Potential loss of life and properties
Severe Thunderstorm*	Yes	~10%	Potential loss of life and properties; Economic impacts; Secondary hazards such as hail and tornados
Hail*	Yes	~60%	Potential loss of life and properties; Economic impacts
Flooding	No	<5%	Potential loss of properties
Extreme Heat	Yes	100%	18% of population at higher level of vulnerability; Ag losses; Secondary hazards such as wildfires
Drought	Yes	~10%	Economic impacts; Land degradation; Secondary hazards such as wildfires
Grass/Wildfire	No	<5	Potential loss of life and properties; Economic impacts
Dam Failure	No	1%	None
Levee Failure	No	0	None
Ag Animal Disease	Yes	100%	None
Ag Plant Disease	Yes	~50%	None
Earthquakes	Yes	<5%	None
Landslides	No	0	None
Urban Fire	No	<5%	None
Radiological Fixed Facilities	Not present in the planning area	NA	None

Chemical Transportation	No	<5%	None
Terrorism	0	1%	None
Chemical Fixed Sites	0/23	<5%	None
Radiological Transportation	0	1%	None
Civil Disorder	No	unknown	None

Based on the risk assessment and feedback from the local planning team the hazards of top concern are severe winter storms, high winds, extreme heat, hail and severe thunderstorms. These five hazards that raise the greatest concerns for the community are discussed in detail.

Historical Occurrences

The NCDC reported seven severe weather events in Stockham from 1996 to 2014 and no deaths or injuries were reported with these events. However, a total of $247,000 in damages to property and $920,000 in crop damages were reported. Refer to the table below for detailed information of each severe weather event including date, extent, property damage, and crop damage.

Table.150: NCDC Severe Weather Events for Stockham

Date	Hazard	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
6/11/1997	Hail	1.50 in.	0	0	$125,000	$300,000
5/11/1998	Hail	0.75 in.	0	0	$20,000	$25,000
5/20/1998	Hail	0.75 in.	0	0	$10,000	$25,000
5/23/1998	Hail	0.75 in.	0	0	$10,000	$100,000
5/15/1998	Thunderstorm Wind	65 kts./75 mph	0	0	$50,000	$0
6/10/2002	Tornado	F0	0	0	$0	$0
		Totals	**0**	**0**	**$247,000**	**$920,000**

Source: NCDC Storm Events 1996-2014

Severe Winter Storms

The local planning team has identified severe winter storms as a top concern for the community. The NCDC data reported 67 winter storms for Hamilton County between 1996 and 2014, and seven of those resulted in $540,000 in property damage. Based on historic records severe winter storms have an annual probability of 100 percent.

Stockham indicated having sufficient snow removal equipment as there is an inter-local agreement with Hamilton County to provide snow removal services during winter storm events, but the village does not have designated snow routes at this time. The planning team also indicated not having back-up power for community facilities like the town hall.

High Winds

The local planning team identified high winds as a top concern for the community. In total there were 18 storms reported that had winds reported between 60 and 75 miles per hour. Winds of this magnitude,

according to the Beaufort Wind Force Ranking, can cause trees to uproot, considerable structure damage, and over turning of improperly anchored mobile homes. Due to high winds being a zonal hazard by nature they are profiled fully in as part of the county's section.

The Village of Stockham did not indicate having a community safe room; however, the church will open to the public in the event of an emergency. The village has a mutual aid agreement with all neighboring communities for fire incidents to support the local volunteer fire department. Additionally, the village would like to provide public awareness programs for the residents about hazards and improve emergency communications.

Extreme Heat

The local planning team identified extreme heat as a top concern for the community. According to NCDC there were 2 heat advisories or warning issued from 1996 to 2014. NCDC reported no losses from any of the events. Based on data provided by the High Plains Regional Climate Center, Stockham has an average of 40 days a year with temperatures at or above. Extreme heat has an annual probability of 100 percent in the village.

Demographic characteristics pertinent to Stockham, such as population age group, may result in population vulnerability in the event of extreme heat. Elderly residents, young children, and low income families within the community are more vulnerable to the impacts of extreme heat events. About 38.6 percent of local residents are age 55 or older. This group has lower tolerance levels for extreme temperature and can feel the effects of extreme temperature quickly. Young children under the age of 5 (6.8% of the population) are highly susceptible to the effects of extreme heat. While Stockham does not have a community cooling center, the local planning team did not express any concerns with power supply.

Hail

The local planning team identified hailstorms as a significant concern for the community. NCDC data recorded four hail events, which ranged in size from 0.75-1.75 inches in diameter that resulted in a total of $172,000 in property damages and $770,000 in monetary losses recorded to crops (Table 150). As noted earlier and as indicated by previous damage caused by hail, this hazard can cause significant damage to critical facilities, businesses, residential properties, and crops. Based on historic records hail has an annual probability of about 60 percent.

The Village of Stockham did not report having weather radios at critical facilities, but are considering buying one for the church. The village does not have a backup generator but are considering them for the church and town hall.

Severe Thunderstorms

The local planning team has identified severe thunderstorms as of the third greatest concern for the community. The NCDC reported one severe thunderstorm event that occurred in Stockham in 1998 that was of 65 kts magnitude and resulted in $50,000 dollars of property damage. Based on historic records, severe thunderstorms have an annual probability of about 10 percent.

Blocked roadways, as an effect of downed trees, may present life safety concerns to those needing immediate medical attention. Damages to roofs and siding can result in significant losses for homeowners as well as business owners. Critical facilities can also be damaged by hail events.

The village does not have surge protection at its critical facilities and is considering an installation of weather radios at the church. The village board will be looking at participation in the National Flood Insurance Program, and developing continuity plans for critical community services.

CAPABILITY ASSESSMENT

Thus far the planning process has identified the major hazards for the communities and described and quantified the vulnerability of the community to these risks by acquiring updated information from FEMA, local jurisdiction, and other sources. The following step shall be assessing what loss prevention or preparedness mechanisms are already in place, which is referred to as capability assessment. Combining the risk assessment with the local capability assessment results in a stronger mechanism in understanding locality's "net vulnerability" and to what extent they could be able to implement the goals, objectives, and actions.

The capability assessment consisted of two main components: 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.

Governance

A village board consisting of five members governs the Village of Stockham.

Table.151: Stockham Capability Assessment

Survey Components/Subcomponents		Comments
Planning and Regulatory Capability	Comprehensive Plan	County
	Capital Improvements Plan	No
	Hazard Mitigation Plan	Yes
	Economic Development Plan	No
	Emergency Operation Plan	County
	National Resources Protection Plan	No
	Open Space Preservation plan	No
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	County
	Subdivision Regulation/Ordinance	County
	Floodplain Ordinance	Yes
	Building Codes	County
	National Flood Insurance Program	No
	Community Rating System	No
	Other (if any)	
Administrative and Technical Capability	Planning Commission	No
	Hazard Mitigation Planning Commission	Yes
	Floodplain Administration	County
	Emergency Manager	County
	GIS Coordinator	No
	Chief Building Official	No
	Civil Engineering	County
	Staff Who Can Assess Community's Vulnerability to Hazards	County Emergency Manager
	Grant Manager	No
	Other (if any)	
Fiscal Capability	Capital Improvement Project Funding	No
	Community Development Block Grant	No
	Authority to Levy Taxes for Specific Purposes	Yes

Survey Components/Subcomponents		Comments
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	No
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	
Education and Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, 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
	Public-private partnership initiatives addressing disaster-related issues	Yes
	Other (if any)	

PLAN INTEGRATION

Stockham participates in planning and zoning with the county. This allows Stockham to have codes and plans that might otherwise be cost prohibitive to develop. The comprehensive plan representing Stockham has not been updated since the 2009 hazard mitigation plan was developed so there are no changes related to how hazard mitigation has been incorporated into that document. At this time there is no planned update for the comprehensive plan. When the plan is updated the community and the planning team will review the goals and objectives of the hazard mitigation plan for inclusion in the comprehensive plan.

Stockham also collaborates with the county for building codes and zoning ordinances. Building codes are sufficient for the hazards that occur with regularity. When building codes are revisited in the future the community may consider encouraging the use of building materials that will help reduce structural damages as well as some non-structural impacts resulting from natural hazards. Option include but are not limited to: hail resistant siding and roofing, increase strapping materials, low flow fixtures, xeriscaping, and requiring safe rooms in newly built critical facilities.

Zoning codes for the village currently prevent constructing new buildings in the floodway, but do allow for construction in floodplain areas. Codes are in compliance with the state of Nebraska minimum standards for construction within the floodplain. Any new buildings must have a minimum of one foot freeboard under the lowest floor of the structure. When zoning codes are revised in the future Stockham's village board should consider requiring or at minimum encouraging the use of green infrastructure in floodprone areas. Current zoning regulations do allow for Planned Unit Development (PUD). PUDs allow for flexibility in designing subdivisions and other urban developments. PUDs enable communities to shift development away from vulnerable of hazard prone areas without sacrificing the density that developers are trying to achieve. Current zoning regulations do require any and all mobile homes to be anchored to foundations to somewhat reduce the vulnerability of these structures. Addition changes or revisions for zoning and building codes might include (but are not limited to): bioretention areas, permeable parking areas, green infrastructure, and conservation of agricultural lands.

Summary

Stockham has limited ability and resources to implement mitigation projects independently. The village will need to look for opportunities to partner with county emergency management, Hamilton County, and other regional and state agencies on many projects. Through this update process, the planning team reviewed previously identified mitigation projects and added new projects as well.

MITIGATION ACTIONS

Completed Mitigation Projects

None

Ongoing/New Mitigation Projects

Description	Backup Power Generators
Analysis	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other critical facilities and shelters.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$15,000-$30,000 per generator
Benefits	Back-up power for critical facilities. A measure that would reduce or prevent damage to property or prevent loss of life or serious injury.
Potential Funding	HMGP
Timeline	2-4 years
Priority	Medium
Lead Agency	Emergency Management Agency and Village Board
Action since 2009 plan	None but considering backup power generator for the shelter room at the church. Town hall also needs a generator.

Description	Stormwater System and Drainage Improvements
Analysis	Improve stormwater pipes and inlets by replacing undersized systems with larger pipes and additional inlets. Retention and detention facilities may also be implemented.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Flooding
Estimated Cost	$100,000+
Benefits	Reduces the risk to localized flooding and decreases runoff rates during heavy rain events.
Potential Funding	HMGP, PDM, Community Development Block Grant (CDBG)
Timeline	4-5 years
Priority	Low
Lead Agency	Civil Engineering
Action since 2009 plan	Ditches are cleaned up regularly. There is a local agreement with Hamilton County. No major problems with stormwater runoff, streets would flood occasionally.

Description	Storm Shelter / Safe Rooms
Analysis	Design and construct fully supplied storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, school, and other areas.
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Addressed	Severe Weather
Estimated Cost	$200-$300/sf stand alone; $150-$200/sf addition/retrofit
Benefits	Useful for many residents that do not have basements or cellars to go for shelter, especially beneficial for the nursing home and other vulnerable populations.
Potential Funding	PDM, HMGP
Timeline	2-4 years
Priority	Medium
Lead Agency	Emergency Management Agency and Village Board
Action since 2009 plan	None but Village is considering adding bathrooms to the city park that would serve a dual purpose of a bathroom and a safe room/storm shelter. The village has no mobile home parks.

Description	Enroll in the National Flood Insurance Program (NFIP)
Analysis	Participate in the National Flood Insurance Program (NFIP).

Description	**Enroll in the National Flood Insurance Program (NFIP)**
Goal/Objective	Goal 2/Objective 2.3
Hazard(s) Addressed	Flooding
Estimated Cost	N/A
Benefits	Enable property owners to purchase insurance protection against flood losses. Good standing enables participants to apply for PDM and HMGP cost-share.
Potential Funding	N/A
Timeline	5 years
Priority	Low
Lead Agency	Village Board
Action since 2009 plan	None

Description	**Tree City USA – Tree Maintenance Programs**
Analysis	Work to become a Tree City USA through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a hazardous tree identification and removal program in order to limited potential tree damage and damages caused by trees in a community when a storm event occurs. The four main requirements include: 1) Establish a tree board; 2) Enact a tree care ordinance; 3) Establish a forestry care program; 4) Enact an Arbor Day observance and proclamation.
Goal/Objective	Goal 2/Objective 2.3
Hazard(s) Addressed	Severe thunderstorms, tornados and high winds, severe winter storms
Estimated Cost	Goal 2/Objective 2.3
Benefits	Better maintained trees and hazard tree removal will eliminate damages to power lines and personal property during hazards events. Participation in Tree City USA will support community actions to mitigation damages from trees.
Potential Funding	Arbor Day Foundation, US Forest Service
Timeline	4-5 years
Priority	Medium
Lead Agency	Village Board
Action since 2009 plan	None

Description	**Public Awareness / Education**
Analysis	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. In addition, educate citizens on erosion control and water conservation methods. Educate residents on response and rescue plans for all hazard types.
Goal/Objective	Goal 3/Objective 3.1, Goal1/Objective 1.1
Hazard(s) Addressed	All hazards
Estimated Cost	$500+
Benefits	Increase knowledge to new comers to the area as well as elderly in how to react when an event is going to occur or is occurring. Education to reduce or prevent damage to property or prevent loss of life or serious injury.
Potential Funding	HMGP, PDM
Timeline	Ongoing
Priority	Low
Lead Agency	Village Board and Emergency Management Agency
Action since 2009 plan	Fire Department and local emergency management are involved in some outreach programs.

Description	**Alert Sirens**
Analysis	Perform an evaluation of existing alert sirens in order to determine sires which should be replaced or upgraded. Install new sirens where needed.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$15,000+
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Potential Funding	HMGP
Timeline	2-4 years
Priority	High
Lead Agency	Village Board and Emergency Management

Description	Alert Sirens
Action since 2009 plan	There is one in place that needs upgrades, and the village has been thinking about purchasing one or two alert sirens.

Description	Weather Radios
Analysis	Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed.
Goal/Objective	Goal 4/Objective 4.3, Goal 1/Objective 1.1
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$50 / radio
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Potential Funding	HMGP, PDM
Timeline	5 years
Priority	High
Lead Agency	Village Board
Action since 2009 plan	None. There are no critical facilities but considering one for the church safe room if it gets built.

Description	Warning Systems
Analysis	Improve city cable TV interrupt warning system and implement telephone interrupt system such as Reverse 911, emergency text messaging warning system, etc.
Goal/Objective	Goal 4/Objective 4.3
Hazard(s) Addressed	Tornados and high winds, severe winter storms, severe thunderstorms
Estimated Cost	$5,000+
Benefits	Increase response time in order to mitigate injuries, deaths, and property damages.
Potential Funding	HMGP, PDM
Timeline	5 years
Priority	Medium
Lead Agency	Emergency Management
Action since 2009 plan	New project

Description	Formal Evacuation Plan
Analysis	Develop an evacuation plan to be prepared for any disaster that would require evacuation.
Goal/Objective	Goal 4/Objective 4.2
Hazard(s) Addressed	All hazards
Estimated Cost	$2,000+
Benefits	Adequate response and evacuation in case of an emergency
Potential Funding	Homeland Security
Timeline	2-4 years
Priority	Medium
Lead Agency	Village Board and Emergency Management Agency
Action since 2009 plan	New project