

Lancaster County Appendix

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COMMUNITY PROFILE

LANCASTER COUNTY

Lower Platte South Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

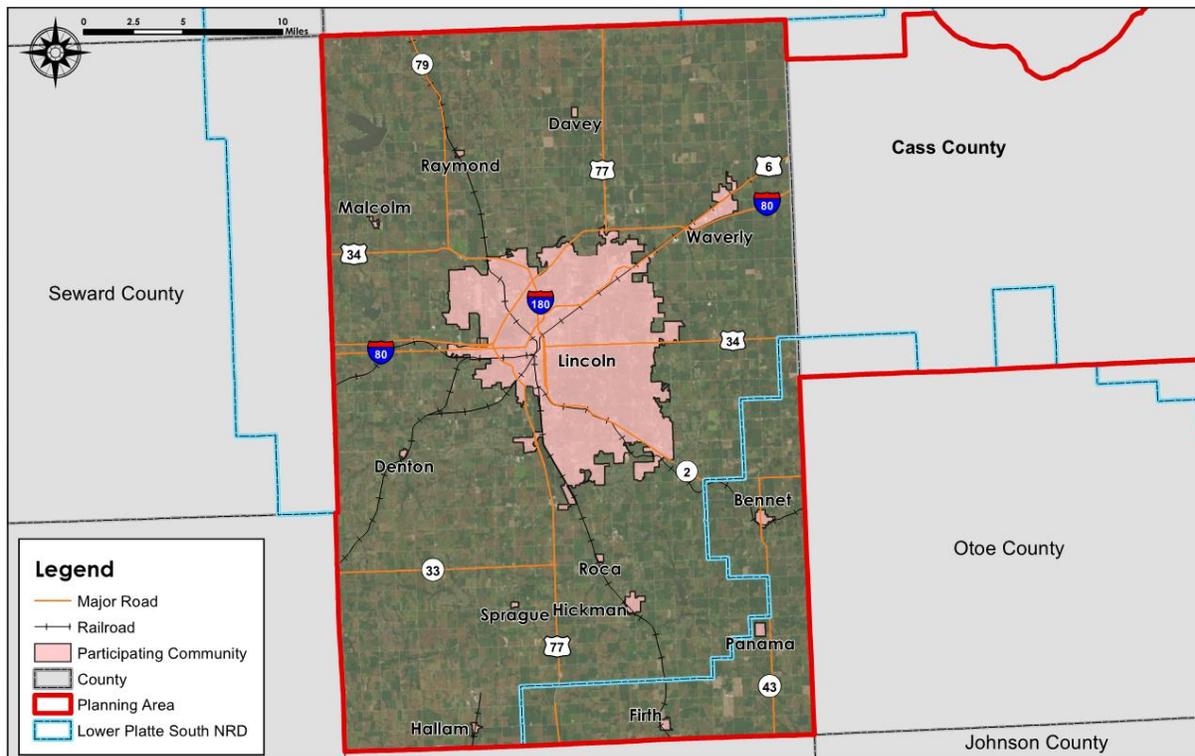
Table LCC.1: Lancaster County Local Planning Team

| Name | Title | Jurisdiction |
|----------------|---------------------------------|--------------------------|
| Pam Dingman | County Engineer | Lancaster County |
| Larry Legg | Design Engineer | Lancaster County |
| Ron Bohaty | Road Maintenance Superintendent | Lancaster County |
| Jim Davidsaver | Director, Emergency Management | Lincoln-Lancaster County |
| Mark Hosking | Deputy Emergency Manager | Lincoln-Lancaster County |

Location and Geography

Lancaster County is in southeastern Nebraska and is bordered by Saunders, Cass, Otoe, Gage, Saline, Seward, and Butler Counties. The total area of Lancaster County is 846 square miles. Major waterways within the county include Salt Creek, Deadman’s Run, Witstruck Creek, Oak Creek, Branched Oak Lake, and Antelope Creek, among others. The County is home to Salt Valley Lake System, which consists of 25 lakes used for both flood control and recreation. Most of Lancaster County lies in the rolling hills topographic region¹, with most of the county’s land characterized by agricultural fields.

Figure LCC.1: Lancaster County



Legend

- Major Road
- Railroad
- Participating Community
- County
- Planning Area
- Lower Platte South NRD

Created By: EH
 Date: 2/22/2019
 Revised: 2/22/2019
 Software: ArcGIS 10.4.1
 File Name: LancasterCounty_PlanningArea.mxd

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**Lancaster County
 Planning Area**
 2020 Hazard Mitigation Plan
 Lower Platte South NRD



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

Transportation

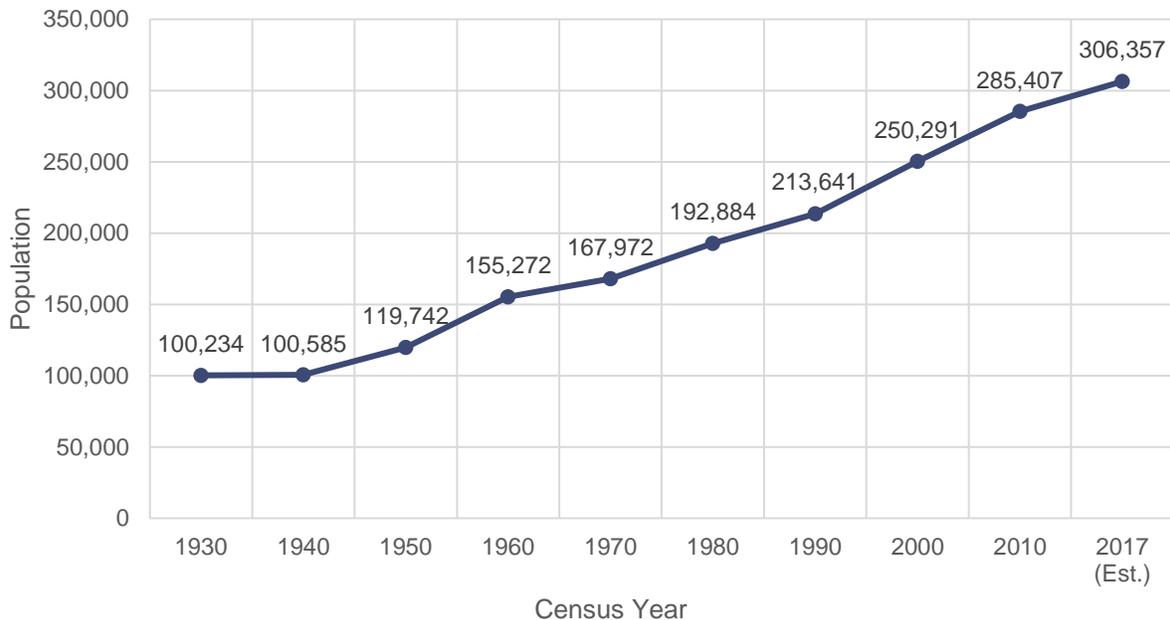
Lancaster County’s major transportation corridors include Interstate 80 (I-80); US Highways 6, 34, and 77; and Nebraska Highways 2, 33, and 55-series. There are rail lines and a rail yard in the County with Union Pacific (UP), Burlington-Northern-Santa Fe (BNSF), and Omaha Public Power District (OPPD) railroads represented. The County also has fourteen air landing strips of various sizes and uses dispersed throughout. The most significant being the Lincoln Municipal Airport, which shares a runway with the Nebraska Air National Guard. This information is important to hazard mitigation plans as it suggests possible evacuation corridors in the County, as well as areas more at risk to transportation incidents.

The transportation routes of most concern are US Highway 77, Nebraska Highway 2, and the UP and BNSF thoroughfares. All these routes regularly transport a wide variety of hazardous materials capable of impacting residents. These range from agricultural products like fertilizer, to industrial products for heavy manufacturing, and energy products like petroleum products and coal. Although transportation events are uncommon, they are probable given the increasing populations across the County. There are critical facilities located near major transportation routes. The Lancaster County Engineer Office and the Lancaster County Main Office are located near major interstates and highways.

Demographics

The following figure displays the historical population trend from 1930 to 2017. This figure indicates that the population of Lancaster County has been increasing since 1930. Growing populations are notable for hazard mitigation as it can lead to greater areas of hazard vulnerability or require additional mitigation actions to reduce overall risk.

Figure LCC.2: Lancaster County Population 1930 – 2017



Source: U.S. Census Bureau²

² United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov>.

Section Seven: Lancaster County Community Profile

The following table indicates the State of Nebraska and Lancaster County have similar demographics, with different totals all within about one percent of each other. However, the County has a younger median age compared to the State. This is relevant to hazard mitigation as very young and elderly populations may be at greater risk from certain hazards than others. For a more elaborate discussion of this vulnerability, please see *Section Four: Risk Assessment*.

Table LCC.2: Population by Age

| Age | Lancaster County | State of Nebraska |
|---------------|------------------|-------------------|
| <5 | 6.6% | 7.2% |
| 5-64 | 80.7% | 79.2% |
| >64 | 12.7% | 13.6% |
| Median | 33.2 | 36.2 |

Source: U.S. Census Bureau³

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

Table LCC.3: Housing and Income

| | Lancaster County | State of Nebraska |
|--------------------------------|------------------|-------------------|
| Median Household Income | \$55,747 | \$52,997 |
| Per Capita Income | \$29,901 | \$27,882 |
| Median Home Value | \$162,900 | \$133,200 |
| Median Rent | \$787 | \$726 |

Source: U.S. Census Bureau^{4,5}

The following figure indicates that most of housing in Lancaster County was built prior to 1979 (50.6%). According to 2011-2017 ACS 5-year estimates, the County has 127,626 housing units with 95% of those units occupied. There are approximately 2,424 mobile homes in the County. The current Flood Insurance Rate Map (FIRM) was developed between February 2011 and April 2013. Housing age can serve as an indicator of risk as structures built prior to state building codes may be at greater risk. Finally, residents that live in mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms. In Lancaster County, several mobile homes clusters located throughout the City of Lincoln.

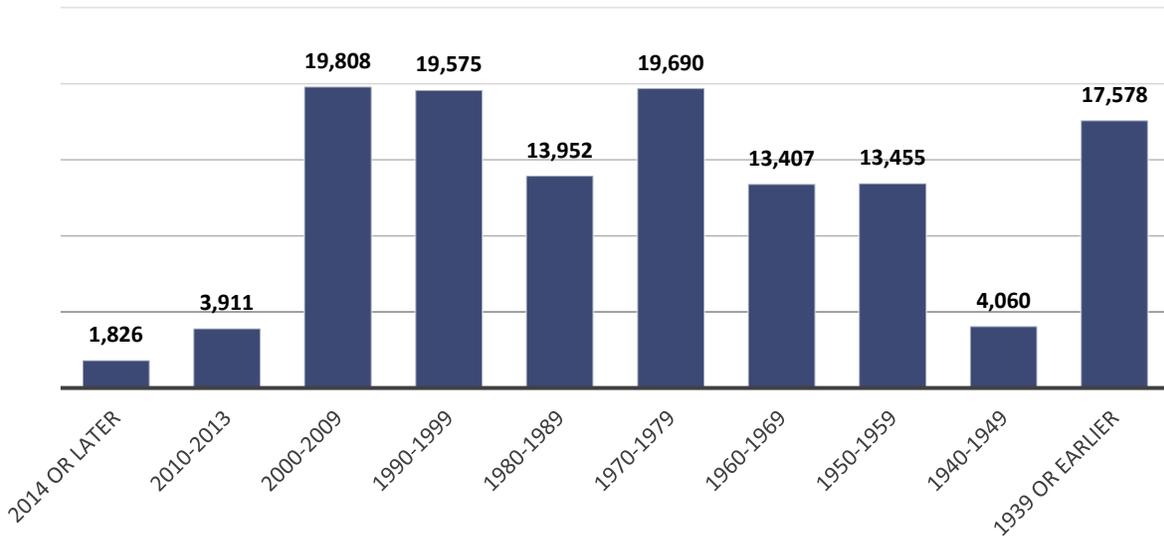
There are approximately 12 trailer mobile home parks located in unincorporated areas of the community. These include parks northwest of Emerald, 112th and Old Cheney Road, and SW 82nd and Saltillo Road.

³ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov>.

⁴ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

⁵ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov>.

Figure LCC.3: Housing Units by Year Built



Source: U.S. Census Bureau⁶

Table LCC.4: Housing Units

| Jurisdiction | Total Housing Units | | | | Occupied Housing Units | | | |
|------------------|---------------------|---------|--------|---------|------------------------|---------|---------|---------|
| | Occupied | | Vacant | | Owner | | Renter | |
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| Lancaster County | 120,962 | 95% | 6,300 | 5% | 72,645 | 60.1% | 48,317 | 39.9% |
| Nebraska | 736,613 | 91.0% | 73,198 | 9.0% | 487,948 | 66.2% | 248,665 | 33.8% |

Source: U.S. Census Bureau⁷

Major Employers

The following table presents the number of establishments, paid employees, and the annual pay role in thousands of dollars. This information is relevant to hazard mitigation as it indicates the diversification of industry. Communities which have a diverse economic makeup may be more resilient following a hazardous event, especially if certain industries are more impacted than others.

Table LCC.5: Business in Lancaster County

| Total Businesses | Number of Paid Employees | Annual Payroll (in thousands) |
|------------------|--------------------------|-------------------------------|
| 8,472 | 136,325 | 5,595,223 |

Source: U.S. Census Bureau⁸

Agriculture is also important to the economic fabric of Lancaster County, and the State of Nebraska as a whole. 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.

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

⁷ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

⁸ United States Census Bureau. "American Fact Finder: Geography Area Series County Business Patterns 2015 Business Patterns." [database file]. <https://factfinder.census.gov>.

Section Seven: Lancaster County Community Profile

Table LCC.6: Lancaster County Agricultural Inventory

| Lancaster County Agricultural Inventory | |
|---|---------|
| Number of Farms | 1,836 |
| Land in Farms | 489,023 |

Source: USDA 2012 Census of Agriculture⁹

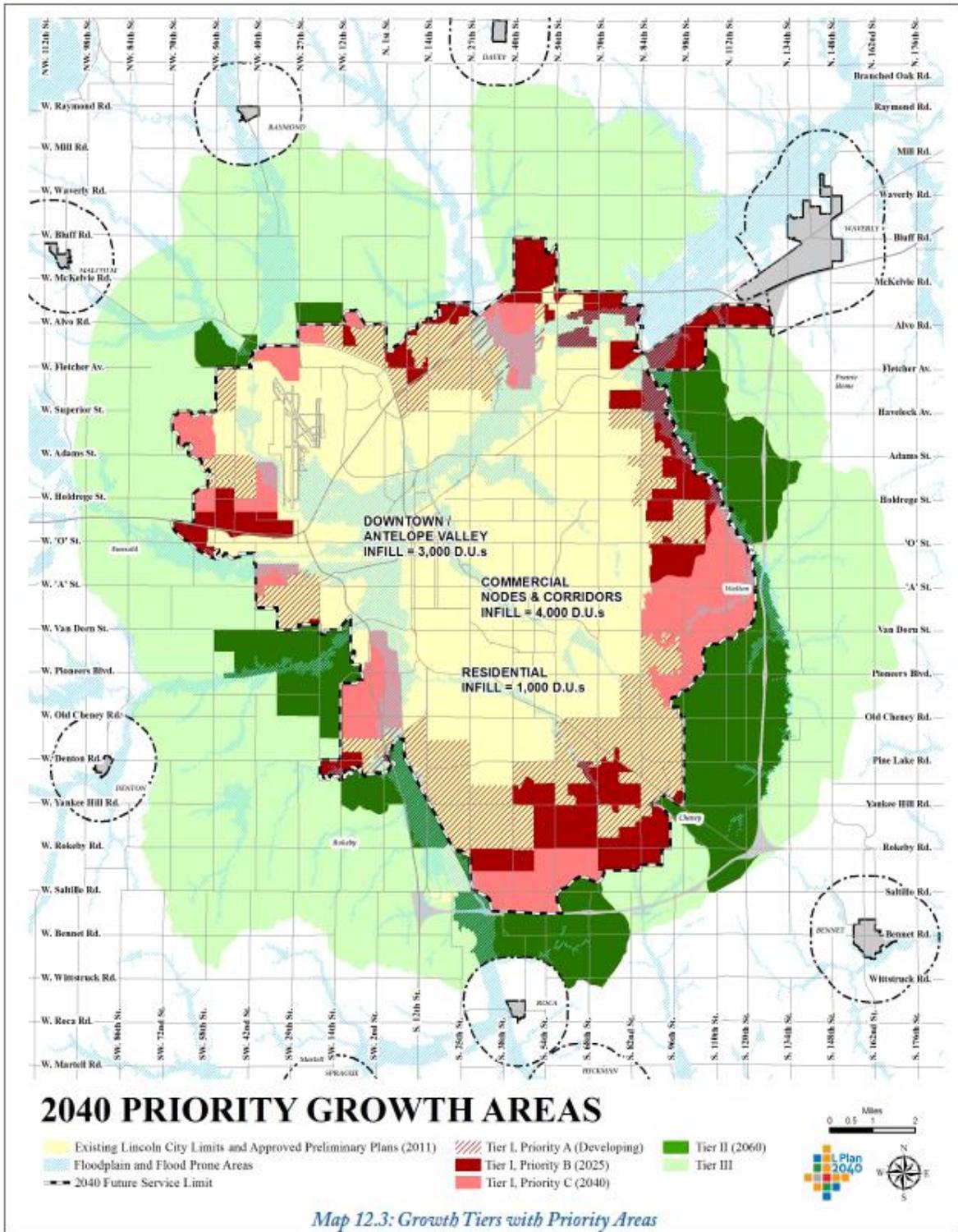
Future Development Trends

Lancaster County, by nature, cannot and will not change its borders and will not experience any future development outside of its established borders. Any future development will take place within the County as communities grow. In the past five years the Lincoln/Lancaster County Emergency Management entered a new facility. Additional space for storage is still a need, however there are no plans to expand at this time. Several county facilities are currently undergoing upgrades and several more need repair and upgrades. Additionally, a new Monolith manufacturing plant has opened near Hallam and a new chicken plant located in southwest Lancaster County has been approved for construction while one near Raymond has not yet.

The vast majority of the county's population is located within the capital city of Lincoln, with 91.3 percent of Lancaster County's dwelling units in Lincoln in 2000. The local planning team indicated approximately 100 to 200 homes are scattered throughout rural Lancaster County and fall under the purview of the County. From the 2016 Lincoln/Lancaster County Comprehensive Plan, it is assumed by 2040 an additional 52,100 dwelling units will be added within the County, with around 16 percent of these built within Lincoln. According to the county comprehensive plan, the growth areas within the county are divided into tiers for their prioritization of future growth. The growth areas are broken up into four general regions: Redevelopment and infill in the existing city; Tier I; Tier II; and Tier III growth areas. Although all three Tiers include some land in the 1% annual floodplain, the plan does state that: "The natural topography and features of the land should be preserved by new development to maintain the natural drainage ways and minimize land disturbance." By using a timed future growth pattern, the County works to reduce development in unincorporated areas or areas lacking proper infrastructure or facilities and exposing residents to unnecessary risks. The following maps illustrate the 2040 Priority Growth Areas for the county and the 2040 Lancaster County Future Land Use Plan. For more detailed information regarding future growth within the county, see the County Comprehensive Plan.

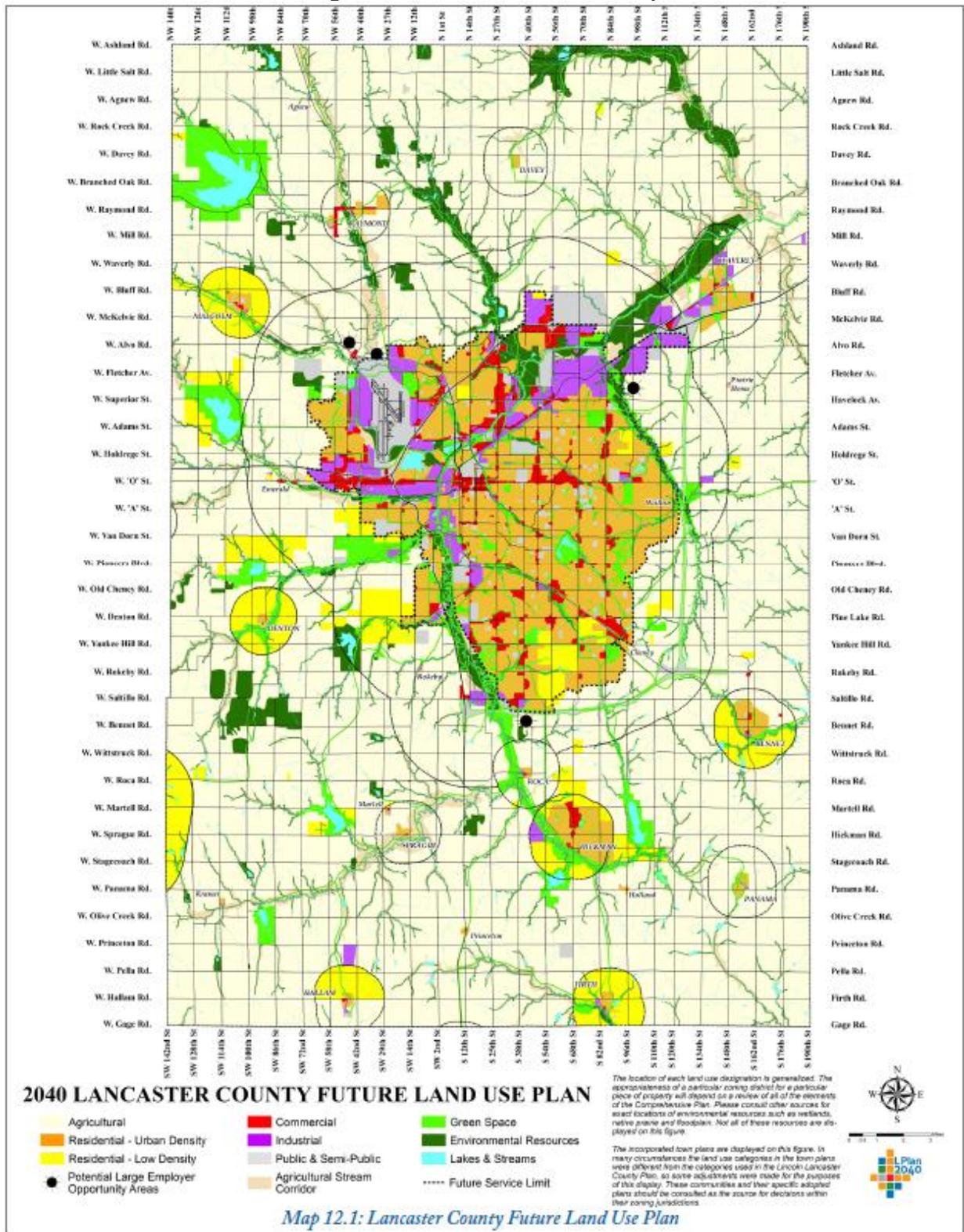
⁹ United States Department of Agriculture, National Agricultural Statistics Server. 2012. "2012 Census of Agriculture – County Data." <https://www.agcensus.usda.gov/Publications/2012/>

Figure LCC.4: 2040 Priority Growth Areas



Section Seven: Lancaster County Community Profile

Figure LCC.5: Future Land Use Map



Structural Inventory and Valuation

GIS parcel data was requested from GIS Workshop, which the county hires to manage the County Assessor data. This data was analyzed for the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table LCC.7: Structural Inventory/Parcel Improvements

| Number of Improvements | Total Improvement Value | Mean Value of Improvements per Parcel | Number of Improvements in Floodplain | Value of Improvements in Floodplain |
|------------------------|-------------------------|---------------------------------------|--------------------------------------|-------------------------------------|
| 100,602 | \$22,322,950,200 | \$211,894 | 12,576 | \$2,414,501,800 |

Source: GIS Workshop/Lancaster County Assessor¹⁰

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy (NDEE), there are a total of 180 chemical storage sites in Lancaster County. For a description and map of the other chemical sites located in incorporated areas, please see the jurisdiction's participant section. At this time concentrated animal feeding operations, including dairy and poultry facilities, are not classified as chemical storage fixed sites but are a concern for the county. All facilities are permitted and monitored by the NDEE.

Table LCC.8: Chemical Storage Fixed Sites

| FACILITY NAME | ADDRESS | CITY | IN FLOODPLAIN (Y/N) |
|-------------------------------|--------------------------------|-----------|---------------------|
| EPOLP Greenwood Terminal | 18805 Highway 6 | Greenwood | N |
| Yankee Hill Brick & Tile | 3705 S Coddington Ave | Lincoln | N |
| Farmers' Cooperative | 8800 W Haven Rd | Emerald | N |
| Phillips 66 Pipeline LLC | 1345 Saltillo Rd | Roca | N |
| Novartis Consumer Health Inc | 10401 Hwy 6 | Lincoln | N |
| Midwest Farmers Cooperative | 1621 S 118th St | Walton | N |
| Magellan Pipeline Company LP | 11200 S 14th St | Roca | N |
| NPPD Sheldon Station | 4500 W Pella Rd | Hallam | N |
| Bosch Security Systems Inc | 8601 Cornhusker Hwy | Lincoln | N |
| Farmers' Cooperative | 22775 SW 113th St | Kramer | Y |
| Farmers' Cooperative | SW 114th St & W Olive Creek Rd | Kramer | N |
| AT&T Microwave Tower 5040 | 11300 NW 126th St | Raymond | N |
| AT&T Microwave Tower 5030 | Davey Rd | Waverly | N |
| Otte Oil & Propane | 21100 N 14th St | Ceresco | Y |
| Koch Fertilizer LLC | 18805 Highway 6 | Greenwood | N |
| Rosen's Inc Lincoln Warehouse | 1220B Saltillo Rd | Roca | N |
| AT&T | 13101 N 70th St | Lincoln | N |
| Hallam Fertilizer Warehouse | 820 W Hallam Rd | Martell | N |
| Hawkins Water Treatment Group | 1066 Saltillo Rd | Roca | N |

¹⁰ Lancaster County Assessors. Personal correspondence, September 12, 2017.

Section Seven: Lancaster County Community Profile

| FACILITY NAME | ADDRESS | CITY | IN FLOODPLAIN (Y/N) |
|----------------------------|------------------|---------|---------------------|
| Farmers' Cooperative North | 15912 NW 56th St | Raymond | Y |

Source: Nebraska Department of Environmental Quality, 2017¹¹

Critical Facilities

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

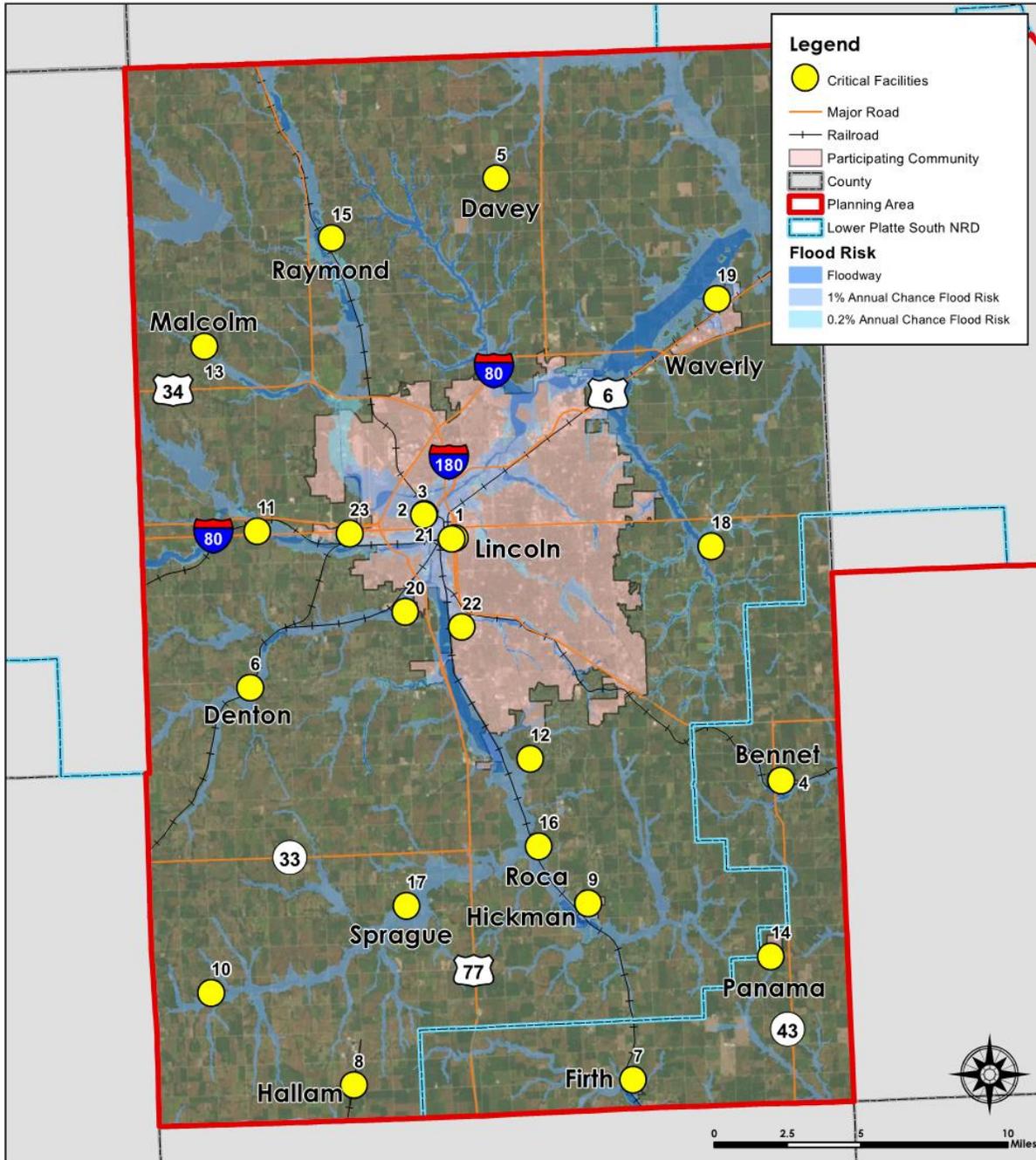
The County has a range of facilities which store in total seven backup generators which can be dispersed during hazard events to supply power to critical facilities. One generator is kept at the County Office to run fuel pumps for the Lancaster Sheriff's Department. A stationary generator is also kept at the Sheriff's Office which supplies power just to the communications center. However, due to the placement of this generator on the lowest level, it is vulnerable to flooding.

Table LCC.9: Critical Facilities

| CF Number | Name | Red Cross Shelter (Y/N) | Generator (Y/N) | Located in Floodplain (Y/N) |
|-----------|--|-------------------------|-----------------|-----------------------------|
| 1 | County Courthouse & Sheriff's Office | N | Y | N |
| 2 | County Engineering Office | N | Y – portable | Y (0.2%) |
| 3 | County Engineering Shop | N | N | Y (0.2%) |
| 4 | County Roads Shop – Bennet | N | N | N |
| 5 | County Roads Shop – Davey | N | N | N |
| 6 | County Roads Shop – Denton | N | N | N |
| 7 | County Roads Shop – Firth | N | N | N |
| 8 | County Roads Shop – Hallam | N | N | N |
| 9 | County Roads Shop – Hickman | N | N | Y (1%) |
| 10 | County Roads Shop – Kramer | N | N | N |
| 11 | County Roads Shop – Lincoln | N | N | N |
| 12 | County Roads Shop – Lincoln | N | N | N |
| 13 | County Roads Shop – Malcolm | N | N | N |
| 14 | County Roads Shop – Panama | N | N | N |
| 15 | County Roads Shop – Raymond | N | N | N |
| 16 | County Roads Shop – Roca | N | N | Y (1%) |
| 17 | County Roads Shop – Sprague | N | N | N |
| 18 | County Roads Shop – Walton | N | N | N |
| 19 | County Roads Shop – Waverly | N | N | N |
| 20 | County Roads Shop – Yankee Hill | N | N | N |
| 21 | Crisis Center | N | Y | N |
| 22 | Emergency Operation Center/Youth Services Center | N | Y | N |
| 23 | Jail | N | Y | N |

¹¹ Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed August 2017. <https://deq-iis.ne.gov/tier2/search.faces>.

Figure LCC.6: Critical Facilities





Created By: EH
Date: 2/22/2019
Revised: 11/13/2019
Software: ArcGIS 10.4.1
File Name: LancasterCounty_PlanningArea2.mxd

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Lancaster County Critical Facilities

2020 Hazard Mitigation Plan
Lower Platte South NRD



Section Seven: Lancaster County Community Profile

Historical Occurrences

The following table provides a statistical summary for hazards that have occurred in the County. The property damages from the NCEI Storm Events Database (January 1996 – December 2018) should be considered only as broad estimates. Sources include but are not limited to: emergency management; local law enforcement; Skywarn spotters; NWS damage surveys; newspaper clipping services; insurance industry; and the general public. Crop damages are from the USDA Risk Management Agency (RMA) between 2000 and 2018.

Table LCC.10: Severe Weather Events

| Hazard Type | | Count | Property Damage | Crop Damage ² |
|---|-------------------------|-----------------|----------------------|--------------------------|
| Agricultural Animal Disease ¹¹ | | 26 | 249 | NA |
| Agricultural Plant Disease ² | | 18 | NA | \$191,849 |
| Chemical Fixed Sites ⁴ <i>3 injuries</i> | | 132 | \$750,000 | NA |
| Chemical Transportation ⁶ <i>1 injury</i> | | 398 | \$1,282,866 | NA |
| Dam Failure ⁵ | | 0 | NA | NA |
| Drought ¹ | | 412 months | NA | \$45,117,873 |
| Earthquake ⁷ | | 0 | NA | NA |
| Extreme Heat ^{1, 8} | | Avg 4 days/year | NA | \$2,046,772 |
| Flooding ¹ | Flash Flood | 35 | \$500,500 | \$64,672 |
| | Flood | 9 | \$100,154,000 | |
| Grass/Wildfires ³ <i>1 injury, 2 fatality</i> | | 870 | 11,420 acres | \$62,050 |
| Hail ¹ | | 315 | \$2,000,000 | \$2,580,449 |
| High Winds ¹ <i>1 injury, 1 fatality</i> | | 27 | \$28,000 | \$226,945 |
| Severe Thunderstorms ¹ <i>3 injuries</i> | Thunderstorm Wind | 121 | \$1,505,000 | NA |
| | Heavy Rain | 2 | \$0 | \$4,621,647 |
| | Lightning | 11 | \$936,400 | NA |
| Severe Winter Storms ¹ <i>6 injuries</i> | Blizzard | 8 | NA | \$505,123 |
| | Extreme Cold/Wind Chill | 4 | NA | |
| | Heavy Snow | 5 | \$16,000,000 | |
| | Ice Storm | 3 | \$0 | |
| | Winter Storm | 45 | \$0 | |
| | Winter Weather | 16 | \$75,000 | |
| Tornadoes ¹ <i>1 fatality, 30 injuries</i> | | 23 | \$100,300,000 | \$79,324 |
| Total Loss in Dollars | | | \$228,036,266 | \$55,496,704 |

N/A: Data not available

1 indicates data are from NCEI (January 1996 to December 2018)

2 indicates data are from USDA RMA (2000-2017)

3 indicates data are from NFS (2000 to 2017)

4 indicates data are from U.S. Coast Guard NRC (1990-Dec 2018)

5 indicates data are from Stanford NPDP (1911-2017)

6 indicates data are from PHMSA (1980-2017)

7 indicates data are from USGS (1872-2017)

8 indicates data are from HPRCC (1893-2011)

9 indicates data are from United States Drought Monitor (1895-2018)

10 indicates data are from the Midwest Regional Climate Center (MRCC) (1893-2018)

11 indicates data are from the Nebraska Reportable Livestock Disease Database (2014-2018)

in. = inches; EG = Estimated Gust

County Hazard Prioritization

For more information regarding these area wide hazards, please see *Section Four: Risk Assessment*. The following discussion provides county-specific information, reported in Lancaster County Risk Assessment Summary, relevant to each hazard. Only hazards identified either as a concern to the County by the local planning team or based on the occurrence and risk of the hazard to the county are discussed in detail below.

Dam Failure

The local planning team identified dam failure as a hazard of top concern for the county due to the large number of dams located within the county. Lancaster County has a total of 142 dams within its jurisdictional boundary. Of these, three are minimal hazard, 100 are low hazard, 16 are significant hazard, and the remaining 23 are high hazard dams. Dams classified as high hazard require the creation of an Emergency Action Plan (EAP). The EAP defines responsibilities and provides procedures designed to identify unusual and unlikely conditions which may endanger the structural integrity of the dam within sufficient time to take mitigating actions and to notify the appropriate emergency management officials of possible, impending, or actual failure of the dam.

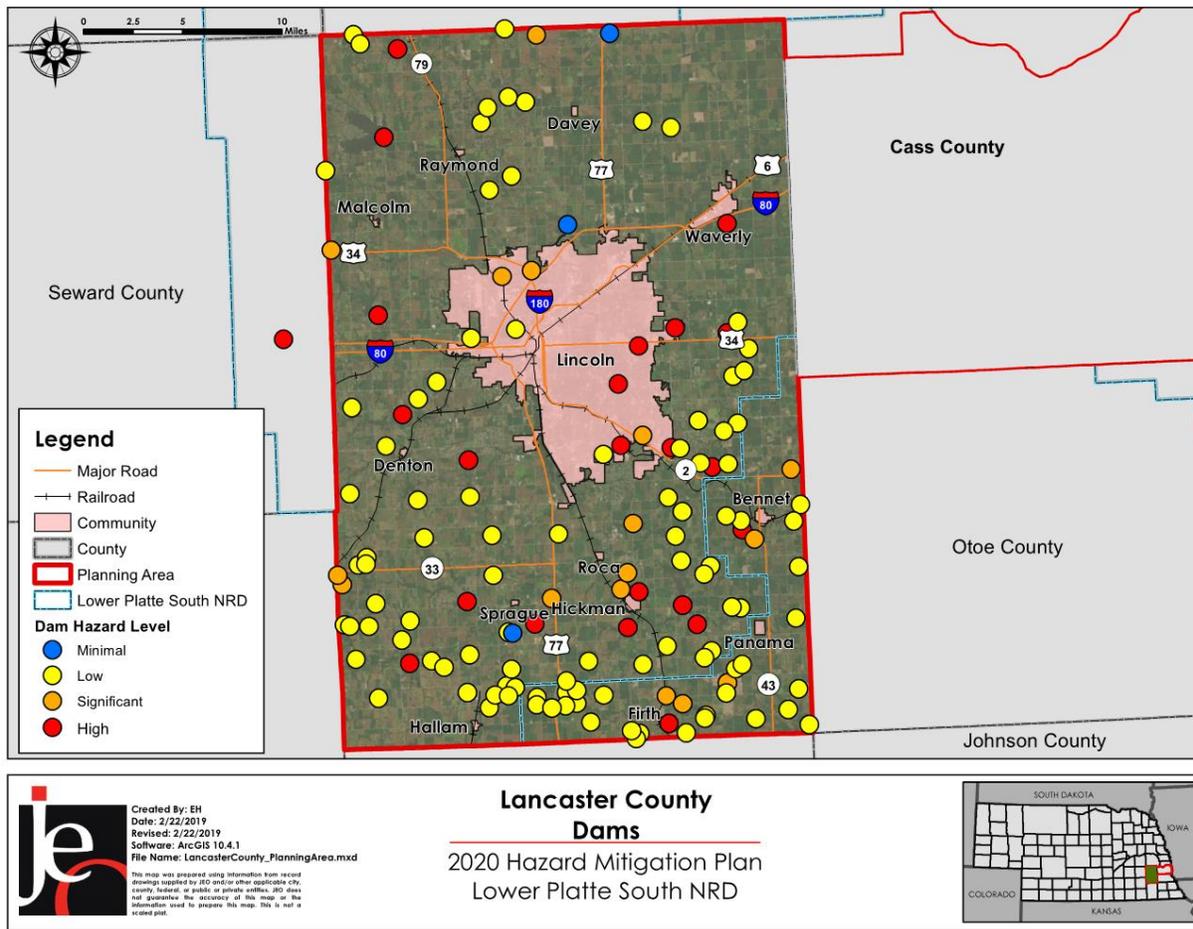
The local planning team indicated concerns if the Branched Oak Lake/Salt Creek Site 18 Dam were to fail. During the March 2019 flood event, the dam spillway ran consistently for several weeks post flood. If the dam were to fail, it would likely impact the Village of Raymond; many roads and highways including Highways 34 and 79; and northwestern portions of Lincoln such as the Lincoln Airport, Kawasaki plant, and new housing developments in the area.

There are ten dams located in Lancaster County which are included in the 2014 Nebraska State HMP's list of "Top 30 Ranked High Hazard Dams Based on Population at Risk." Lancaster County's dams are shown in the next figure.

Drought

Drought is a periodic occurrence across the state and planning area. Agriculture is a strong economic driver in the County and long-lasting droughts would greatly impact this industry. Regional drought events in 2006 and 2012 significantly impacted the region with losses for local producers. According to the NCEI, drought conditions have caused over \$45 million in crop damages between 2000 and 2017 for the County.

Figure LCC.7: County Dams



Flooding

Flooding is a major concern for Lancaster County and the communities within its jurisdictional boundaries. The local planning team reports that various creeks, streams, and urban areas flood annually and identified bridges and culverts as a major vulnerability for flooding throughout the County due to aging infrastructure and changes in stream flow and direction. The County would like to improve or harden aging infrastructure to withstand continued flooding events. The County Engineering office maintains an inventory of culverts that need replacement and/or upsizing due to age, significant rusting, or scour issues. According to the County Engineer, Lancaster County has a total of 306 bridges. The County also includes in the 1- and 6-Year plan bridges that need repairs and bank stabilization.

During March 2019, significant flooding caused streambank erosion, washed out gravel roads, and scoured around culverts. Flood debris, such as large trees, hit bridge piers and clogged streams during the event which County Engineers indicate greatly reduces the overall expected lifespan of bridges and culverts. To compound flood repair issues, the cost of rock and gravel has gone up substantially as demand has soared across the region. As extreme weather events are likely to continue and increase in frequency, such as heavy rainfall or rain falling on frozen ground leading to flash melting of snowpack and flash flooding, the cost to repair infrastructure and the frequency with which infrastructure will need to be replaced will likely increase.

Section Seven: Lancaster County Community Profile

Another priority for the County is transportation corridor access for emergency services. Major transportation routes can be blocked or inaccessible during flood events. This has been a particular concern for school buses being unable to access school facilities or dropping students off near flooded streets. The Lincoln/Lancaster County Comprehensive Plan (2040) states that approximately 13.8% of the County is floodplain, but the overall policy for floodplains is a “No Adverse Impact” policy which seeks to ensure the actions of one property owner do not impact others in any adverse way.

According to the NCEI, nine flood and 35 flash flood events have occurred in the county since 1996 and caused \$105,159,000 in property damages. These totals do not include damage estimates from the March 2019 Presidentially Declared Disaster flood event which impacted several communities throughout the County.

The County participates in the NFIP with 17 policies in-force totaling \$3.2 million as of September 2018. There are no repetitive loss properties in unincorporated areas of Lancaster County as of November 2019.

Levee Failure

There are seven USACE federally constructed levees and one non-USACE, locally constructed levee in Lancaster County, all of which are located within the City of Lincoln. According to the USACE National Levee Database these structures provide protection to 5,192 people at risk, 1,130 structures, and property valued at \$928.2 million. For more information, see Lincoln's Community Profile.

Severe Thunderstorm

Severe thunderstorms are a common occurrence in the region and the state. Severe thunderstorms can cause damage to property, infrastructures, trees, and crops or livestock from heavy rains, high winds, lightning strikes, or hail associated with storms. Concerns exist from downed trees blocking major transportation routes for emergency services or downing power lines. Severe thunderstorms in the county have caused nearly \$2.5 million in property damages, primarily from high winds. The local planning team indicated primary concerns exist for ensuring staff safety during hazardous conditions, especially in rural portions of the county.

While Lancaster County does not have an all-inclusive warning or alert system in place for public notification, sirens are located throughout the county. Many communities throughout the County have sirens powered by AC single source power, except for the City of Lincoln who is connected to the electrical system and will remain operational during power outages. Lancaster County Emergency Management is currently working on an updated emergency alert system.

Severe Winter Storms

The County local planning team identified severe winter storms as a significant concern for the community. According to the NCEI, a total of 81 severe winter storm events have occurred in the County, which have caused over \$16 million in property damages. The winter of 2018-2019 was particularly brutal with several rounds of winter storms and blizzards that dumped upwards of a foot of snow, high winds, whiteout conditions, and bitterly cold temperatures. This led to several road closures including Interstate 80. The County noted that they have limited road clearing capabilities with one road crew available to clear roads of snow. They are looking to hire additional staff to allow for two road crew shifts.

Section Seven: Lancaster County Community Profile

The local planning team also noted that at the end of the 2018-2019 winter season, there was a significant rise in the number of frost boils reported throughout the County. Frost boils are created when frost in the gravel roadway melts in spring but can't drain away because of frozen ground below. The soggy roadbed eventually heaves, softens, and fails. Vehicles can easily become stuck in the liquified mud and leads to stretches of roadway closures until the ground thaws and the top layer dries.

Tornadoes

Lancaster County has experienced several significant tornado events and reported that there are annual tornadic events throughout the entire county and in particular during the months of April, May, and June. Tornadoes are of particular concern due to the risk for catastrophic damage they can produce. According to the NCEI, Lancaster County has recorded 23 tornadoes between 1996 and 2018 ranging from EF0 to EF4 category events. The local planning team is concerned for the safety of employees, especially those working in remote or hard to access parts of the county. The main County Office has a damaged roof which would be major hazard during a tornado event.

Governance

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

- Emergency Manager
- County Engineer
- County Sheriff
- County Clerk
- Planning Commission
- Building and Safety
- County Assessor
- County Court and Attorney
- Human Services
- Mental Health Crisis Center
- Property Management and Public Building Commission

Capability Assessment

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

Table LCC.11: Capability Assessment

| Survey Components/Subcomponents | | Yes/No |
|---|-----------------------------|--------|
| <i>Planning & Regulatory Capability</i> | Comprehensive Plan | Yes |
| | Capital Improvements Plan | Yes |
| | Economic Development Plan | Yes |
| | Emergency Operational Plan | Yes |
| | Floodplain Management Plan | Yes |
| | Storm Water Management Plan | Yes |

Section Seven: Lancaster County Community Profile

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

Section Seven: Lancaster County Community Profile

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

Plan Integration

Lancaster County's Comprehensive Plan was last updated in 2016. This plan does include natural hazard layers including the floodplain. As such, the plan directs development away from the floodplain and chemical storage facilities. It also encourages infill development, development clustering, structure elevation in the floodplain, and the preservation of open space in hazard-prone areas such as parks. The plan will begin the update process in 2020 with an anticipated adoption at the end of 2021. During the 2020 plan update process, planners involved with this hazard mitigation plan update will be available at public open houses to address questions regarding mitigation and the integration of mitigation goals into the comprehensive plan.

The County's zoning and floodplain regulations were last updated in November 2018. Regulations currently discourages development in the floodplain, requires elevation of structures to one foot or more above base flood elevation, contains natural hazard layers, and limits development in the extra-territorial jurisdictional area. Development in the floodways are also limited.

The Lancaster County LEOP, last updated in 2017, incorporates mitigation by identifying: hazards of greatest concern; specific responsibilities of individual communities; scenarios that would require evacuation; routes vulnerable to flooding; and sheltering locations. The plan clearly assigns responsibility during an emergency.

The County has a 1- and 6-year plan that's updated annually. The plan identifies roads to be improved for pavement, grading, or engineering. Bridges are also included for new construction, box culverts, scour repairs, and channel repairs.

Mitigation Strategy

Completed Mitigation Actions

| Mitigation Action | Implement Water Conservation Awareness Programs, such as pamphlets |
|---------------------|--|
| Description | Implement the water conservation awareness program through the development of educational pamphlets and other materials. |
| Hazard(s) Addressed | Drought |
| Status | Educational materials available through Lancaster County Emergency Management. |

Section Seven: Lancaster County Community Profile

| Mitigation Action | Mass Notification System |
|---------------------|--|
| Analysis | Setup or purchase a mass notification system of residents and businesses for quick alerts sent in the event of an emergency. |
| Hazard(s) Addressed | All hazards |
| Status | AlertSense has been installed and is used at the County/City levels to alert residents of hazard events. Alerts are available via cell phones, landlines, or TV. |

Ongoing and New Mitigation Actions

| Mitigation Action | Alert Sirens |
|---------------------|---|
| Description | Install additional warning sirens as communities grow. Upgrade current warning siren system. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$30,000 each |
| Potential Funding | HMGP, PDM, Lancaster County Funds |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Lancaster County Emergency Management and local jurisdictions |
| Status | Ongoing – EMA has identified locations where additional sirens are needed. Currently have 85-90% siren coverage of the population of Lincoln. As City continues to grow, additional sirens are a priority. Limited to adding one siren per year with current funding availability. Current siren stock needs upgraded to improve signal and reception (in total over 100 sirens). |

| Mitigation Action | Backup Generators |
|---------------------|--|
| Analysis | Provide backup power systems to provide redundant power supply |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies by need |
| Potential Funding | HMGP, PDM, Lancaster County Funds |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Lancaster County Emergency Management |
| Status | Additional generators are needed at the: Lancaster County Engineering Office, Lancaster County Shop; LSO Emergency Management Storage; and each of the Waverly, Raymond, Sprague, and Roca fueling station sites. Lancaster County Sheriff's Department may need additional generators at their sites. |

Section Seven: Lancaster County Community Profile

| Mitigation Action | Continuity Planning |
|---------------------|--|
| Analysis | Develop continuity plans for critical community services and educate local businesses about the value of continuity planning. Continuity planning helps to ensure that services can be maintained during and after a disaster. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$150,000 |
| Potential Funding | Lancaster County, Local Jurisdictions |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | County Engineering |
| Status | Planning is currently underway. |

| Mitigation Action | Emergency Operations Center |
|---------------------|---|
| Description | Update the Emergency Operations Center to maintain pace with technology requirements. Identify and establish additional EOC facility as appropriate to meet the needs of the growing City/County. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies |
| Potential Funding | Homeland Security grants, Lancaster County Funds, PDM, HMGP |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Lancaster County Emergency Management |
| Status | Emergency Management recently moved to a new EOC in which technology needs are consistently reviewed and updated as appropriate. The City/County has identified that current growth trends will require a larger future EOC facility. |

| Mitigation Action | Hail Resistant Roofing |
|---------------------|---|
| Analysis | Encourage the use of hail resistant roofing. Educate the public and business owners regarding hail resistant roofing. |
| Hazard(s) Addressed | Severe Thunderstorms |
| Estimated Cost | \$0 |
| Potential Funding | Lancaster County Funds |
| Timeline | Ongoing |
| Priority | High |
| Lead Agency | Lancaster County Building Code Officials |
| Status | This project has not yet been started. |

Section Seven: Lancaster County Community Profile

| Mitigation Action | Install Weather Station |
|---------------------|--|
| Description | Install weather station to collect a variety of weather data in real time to determine emergency response requirements. Integrate various systems to produce cohesive reports and data access. |
| Hazard(s) Addressed | Severe Thunderstorms, High Winds, Severe Winter Storms, Tornadoes |
| Estimated Cost | \$1,000 per station |
| Potential Funding | TBD |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Emergency Management, Lancaster County Engineer |
| Status | Additional weather stations could be installed throughout the County to assist in emergency response. |

| Mitigation Action | Preserve the Floodplain |
|---------------------|--|
| Description | Preserve natural and beneficial functions of floodplain land through measures such as retaining natural vegetation, restoring streambeds, and preserving open space in the floodplain. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | N/A |
| Potential Funding | FMA, PDM, Lancaster County Funds |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Floodplain Administrator, LPSNRD |
| Status | The County encourages development away from the floodplain. |

| Mitigation Action | Public Education |
|---------------------|--|
| Analysis | Increase public awareness of vulnerability and risk reduction measures through hazard education. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$0 - \$1,000 |
| Potential Funding | PDM, HMGP, LPSNRD, Lancaster County |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | NEMA, LPSNRD, Lancaster County Emergency Management |
| Status | The Lancaster County EMA consistently shares education materials with to schools, businesses, and residents such as what hazards they may be vulnerable to, what actions to take in emergencies, shelter locations, and where to find additional information. Social media is an active and ongoing effort. Additional efforts are being taken to reach out to surrounding school districts. |

Section Seven: Lancaster County Community Profile

| Mitigation Action | Rural Drainage Study |
|---------------------|---|
| Analysis | Conduct a Rural Drainage Study to analyze the impact on heavy rainfall and flooding on County owned corridors. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$75,000 |
| Potential Funding | PDM, HMGP, CDBG, LPSNRD, Lancaster County |
| Timeline | 3-5 years |
| Priority | High |
| Lead Agency | Lancaster County Engineer and Emergency Management |
| Status | A rural drainage study is needed to evaluate stormwater drainage and identify areas of poor drainage for flood risk reduction projects. |

| Mitigation Action | Shelter-In-Place Training |
|---------------------|---|
| Analysis | Ensure that all CFs, businesses, and residents located near major transportation corridors are aware of how to safely shelter in place in the event of a chemical incident. |
| Hazard(s) Addressed | Chemical Transportation and Transportation |
| Estimated Cost | \$1,000+ |
| Potential Funding | Lancaster County Funds |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Lancaster County Emergency Management |
| Status | Lancaster County EMA has done past training with schools, businesses, and UNL Extension. EMA is consistently pursuing ongoing training across the County. They utilize statewide results from the state Tornado Drills to gauge education and interest. |

| Mitigation Action | Storm Shelters |
|---------------------|---|
| Analysis | Identify, design, and develop storm shelters to protect community and critical facilities. |
| Hazard(s) Addressed | Tornadoes and High Winds, Severe Thunderstorms |
| Estimated Cost | \$200-\$300/sf stand alone; \$150-200/sf addition/retrofit |
| Potential Funding | PDM, HMGP, LPSNRD, Lancaster County |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | LPSNRD, NEMA, & Lancaster County Emergency Management |
| Status | There is a severe lack of shelter locations across the county. The County Engineering Office needs a shelter location as the facility is well populated and slab on grade foundation. |

Section Seven: Lancaster County Community Profile

| Mitigation Action | Stormwater System and Drainage Improvements |
|---------------------|--|
| Analysis | Improve drainage patterns throughout the County through upsizing of culverts and grade control structures for streambeds. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$100,000+ |
| Potential Funding | PDM, HMGP, CDBG, LPSNRD, Lancaster County |
| Timeline | 3-5 years |
| Priority | High |
| Lead Agency | Lancaster County Engineer and Emergency Management |
| Status | The County is evaluating paved roads, prioritizing surfaced roads, to improve drainage across the county. The County Engineering Department is currently developing guidance documents for establishing standards. |

| Mitigation Action | Stream Stabilization |
|---------------------|---|
| Description | Monitor stream bed degradation occurring along river and creeks throughout the County. Install grade control structures including sheet-pile weirs, rock weirs, culverts, ponds, road dams, etc. to maintain channel beds and reduce flood impacts. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies by Project |
| Potential Funding | Lancaster County Funds, HMGP, PDM |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Lancaster County Engineering |
| Status | Additional stream stabilization projects are needed to protect county infrastructure. Such projects may include culvert repair and upsizing, streambank stabilization, stream drop structures, etc. |

| Mitigation Action | Utilize Low Impact Development and Green Infrastructure |
|---------------------|--|
| Analysis | Utilize low impact development practices and green infrastructure to reduce flood risk. Low impact development practices and green infrastructure can reduce runoff and result in a reduction in stormwater related flooding |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies |
| Potential Funding | Lancaster County Funds |
| Timeline | Ongoing |
| Priority | High |
| Lead Agency | LPSNRD & Lancaster County Public Works, Floodplain Administrator |
| Status | The County monitors all permits to develop in the floodplain and such development is restricted. The County will continue to prioritize maintaining bioengineering standards. |

Section Seven: Lancaster County Community Profile

| Mitigation Action | Vulnerable Population Assistance Database |
|---------------------|--|
| Description | Work with stakeholders to develop a database of vulnerable populations and the organizations which support them |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Unknown |
| Potential Funding | Lancaster County Funds |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Lancaster County Emergency Management, Health Department, and Aging Partners |
| Status | The Lancaster County Emergency Management will be evaluating newest Census data to evaluate hazardous risk areas and vulnerable populations. This data should be mapped for use by Emergency Management. |

Removed Mitigation Actions

| Mitigation Action | Maintain Good Standing with the NFIP |
|---------------------|--|
| Description | Maintain good standing with National Flood Insurance Program (NFIP). |
| Hazard(s) Addressed | Flooding |
| Reason for Removal | While the County will continue to participate in the NFIP, continued enrollment is not considered a mitigation action. |

| Mitigation Action | Protection of Vulnerable Populations |
|---------------------|--|
| Description | Ensure that facilities which will house vulnerable populations are placed in the least vulnerable areas of the community |
| Hazard(s) Addressed | All hazards |
| Reason for Removal | Responsibility of communities and not the County. |

| Mitigation Action | High-Risk Properties |
|---------------------|---|
| Description | Improve or acquire property that is high-risk to flooding. |
| Hazard(s) Addressed | Flooding |
| Reason for Removal | There are no repetitive loss properties located in unincorporated Lancaster County. |

| Mitigation Action | Vehicular Barriers |
|---------------------|---|
| Description | Install vehicular barriers to protect critical facilities and key infrastructure where possible |
| Hazard(s) Addressed | Terrorism, Chemical Spills (Transportation) |
| Reason for Removal | County critical facilities are protected. |

| Mitigation Action | Community Rating System |
|---------------------|--|
| Description | Become a Community Rating System (CRS) county to reduce flood insurance premiums |
| Hazard(s) Addressed | Flooding |
| Reason for Removal | The County does not intend to pursue CRS at this time. |

Section Seven: Lancaster County Community Profile

| Mitigation Action | Tree City USA |
|---------------------|---|
| Analysis | Assist jurisdictions working 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 tree maintenance program in order to maintain trees in a community to limited potential damages 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 | Tree City USA participation is the responsibility of the communities. County may assist communities as requested but they are not responsible for maintenance or meeting the requirements on behalf of the community. |

| Mitigation Action | Green Mitigation |
|---------------------|--|
| Analysis | Educate the public and business owners regarding rain gardens, green roofs, and other minor mitigation measures. |
| Hazard(s) Addressed | All Hazards |
| Reason for Removal | This action is best utilized by Cities and Communities and does not fall under the responsibility of the County. |

Section Seven: Lancaster County Community Profile

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COMMUNITY PROFILE

VILLAGE OF BENNET

Lower Platte South Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

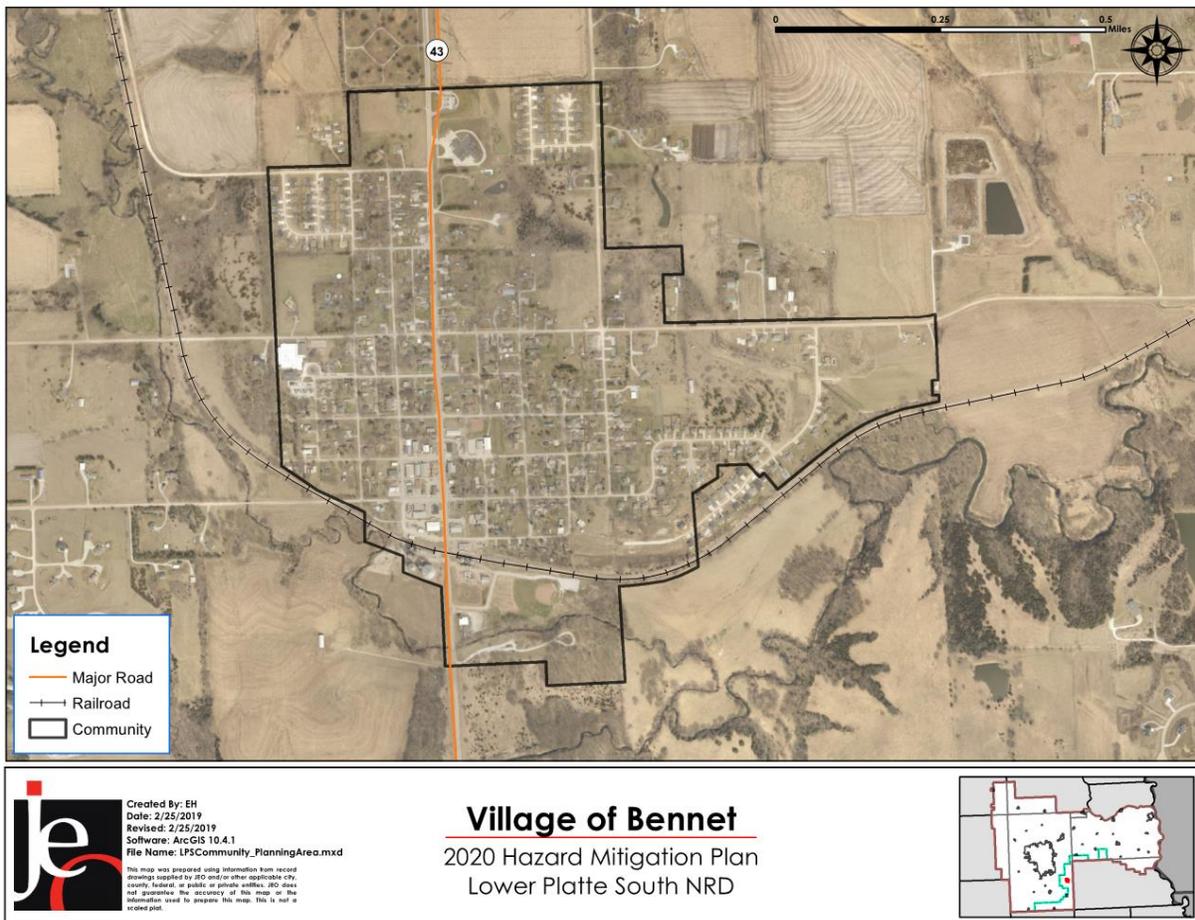
Table BNT.1: Bennet Local Planning Team

| Name | Title | Jurisdiction |
|---------------|---------------------|-------------------|
| Don Murray | Village Board | Village of Bennet |
| Josh Buck | Planning Commission | Village of Bennet |
| Patricia Rule | Clerk | Village of Bennet |

Location and Geography

The Village of Bennet is in the southeast corner of Lancaster County, approximately two miles west of the County line and five miles northeast of the Wagon Train State Recreation Area. The Village covers an area of 0.52 square miles. There is one major waterway near the town, the Little Nemaha River, which flows west-to-east on the south end of town.

Figure BNT.1: Village of Bennet



Transportation

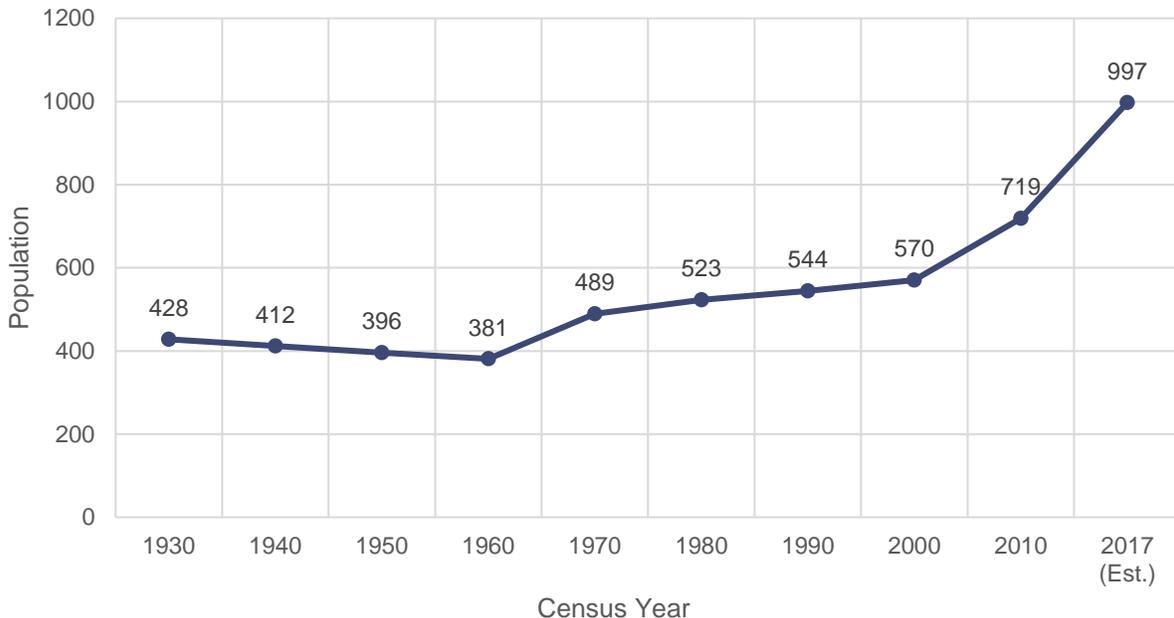
The Village of Bennet has two major transportation corridors. The first is Nebraska Highway 43, which runs north-and-south through the center of town. This corridor averages 2,450 vehicles per day. The second is Nebraska Highway 2, which runs east-and-west about a mile north of town. This corridor averages 11,200 vehicles per day.¹² There is one rail line running through the town owned by the Omaha Public Power District. The tracks run generally west-east and the line mainly hauls energy commodities.¹³ The privately-owned Stewart Airfield is located approximately four miles west of Bennet.¹⁴ ^{xvi} Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

There are two major routes of concern to local emergency planners. Nebraska Highways 43 and 2 regularly transport hazardous materials in and around the Village. These materials generally reflect the agricultural nature of the area with additional industrial concerns. Specific hazardous materials include anhydrous ammonia for crops and petroleum products, including diesel, gasoline, and ethanol. There are also concerns for the transportation of bulk gases (especially argon) and radioactive waste. To date there have not been any specific chemical transportation spills, but the potential severity is too critical to ignore.

Demographics

Bennet's population grew from about 570 people in 2000 to 997 people in 2017, an increase of 427 people and total gain of 75%. This is important because a growing population is associated with increased hazard mitigation and emergency planning requirements. Bennet's population accounted for 0.32% of Lancaster County's population of 306,357 in 2017.¹⁵

Figure BNT.2: Population 1930 - 2017



Source: U.S. Census Bureau

¹² Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.
¹³ Nebraska Department of Roads. "Nebraska Railroads." Accessed December 2018. <http://opportunity.nebraska.gov/files/businessdevelopment/winery/NebraskaRailMap.pdf>.
¹⁴ tollfreeairlines.com. "Lancaster County Public and Private Airports, Nebraska." Accessed January 2019. <http://www.tollfreeairline.com/nebraska/lancaster.htm>.
¹⁵ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

Section Seven: Village of Bennet Community Profile

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

- **Younger.** The median age of Bennet was 32 years old in 2017, compared with the County average of 33.2 years. Bennet's population grew younger since 2010, when the median age was 35.6 years old. Bennet had a larger proportion of people under 20 years old (28%) than Lancaster County (26.8%).¹⁶
- **Less ethnically diverse.** Since 2010, Bennet grew less ethnically diverse. In 2010, Bennet's population was 3.5% Hispanic or Latino. By 2017, Bennet's population was 0.3% Hispanic or Latino. During that time, the Hispanic or Latino population in Lancaster County grew from 5.5% in 2010 to 6.7% in 2017.¹⁷
- **Less likely to be below the federal poverty line.** The poverty rate in Bennet (0% of families living below the federal poverty line) was lower than Lancaster County's poverty rate (8.7%) in 2017.¹⁸

Employment and Economics

The major economic base of Lancaster County is a mixture of education/healthcare/social services (26.8%), retail (11.1%), professional/scientific/management/administrative/waste management services (9.9%), and two employment sectors of 9.1%: manufacturing and arts/entertainment/recreation/accommodation/food services. In comparison to the County, The Village of Bennet economy had:

- **Diverse mix of industries.** Bennet's major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (24%), retail (15.2%) and finance/insurance/real estate/rental/leasing (9.2%).¹⁹
- **Higher household income.** Bennet's median household income in 2017 (\$74,922) was \$19,245 higher than the County (\$55,747).²⁰
- **More long-distance commuters.** A total of 9.9% percent of workers in Bennet commuted for fewer than 15 minutes, compared with 36% of workers in Lancaster County. An additional 46.9% of workers in Bennet commute 30 minutes or more to work, compared to 15.7% of County workers.²¹

Major Employers

Major employers within Bennet include Nebraska Bulk Transportation Inc., School District OR-1, and Zermatt Tool Manufacturing. A large percentage of residents commute to Omaha and Lincoln for employment.

Housing

In comparison to Lancaster County, Bennet's housing stock was:

- **Less renter occupied.** Of occupied housing units in Bennet, 11.6% are renter-occupied compared with 39.9% of renter housing in Lancaster County.²²
- **Newer.** Bennet had a smaller share of housing built prior to 1970 than Lancaster County (29% compared to 38.1%).²³

¹⁶ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

¹⁷ United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

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

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

²⁰ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

²¹ United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

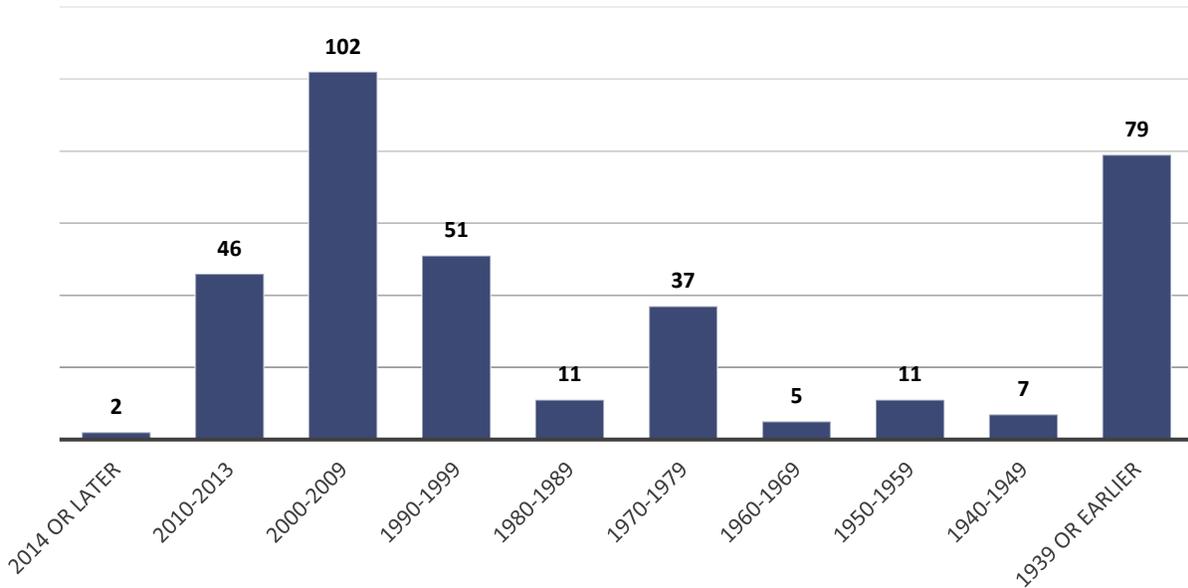
²² United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

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

- No multifamily dwellings.** The predominant housing type in Bennet is single family detached (89.7%), which is more than Lancaster County (60.8%). Bennet contains no multifamily housing with five or more units per structure. Bennet has a larger share of mobile housing (5.4%) compared to the County (1.9%).²⁴ Mobile homes are located along the north edge of the Village.

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

Figure BNT.3: Housing Units by Year Built



Source: U.S. Census Bureau²⁵

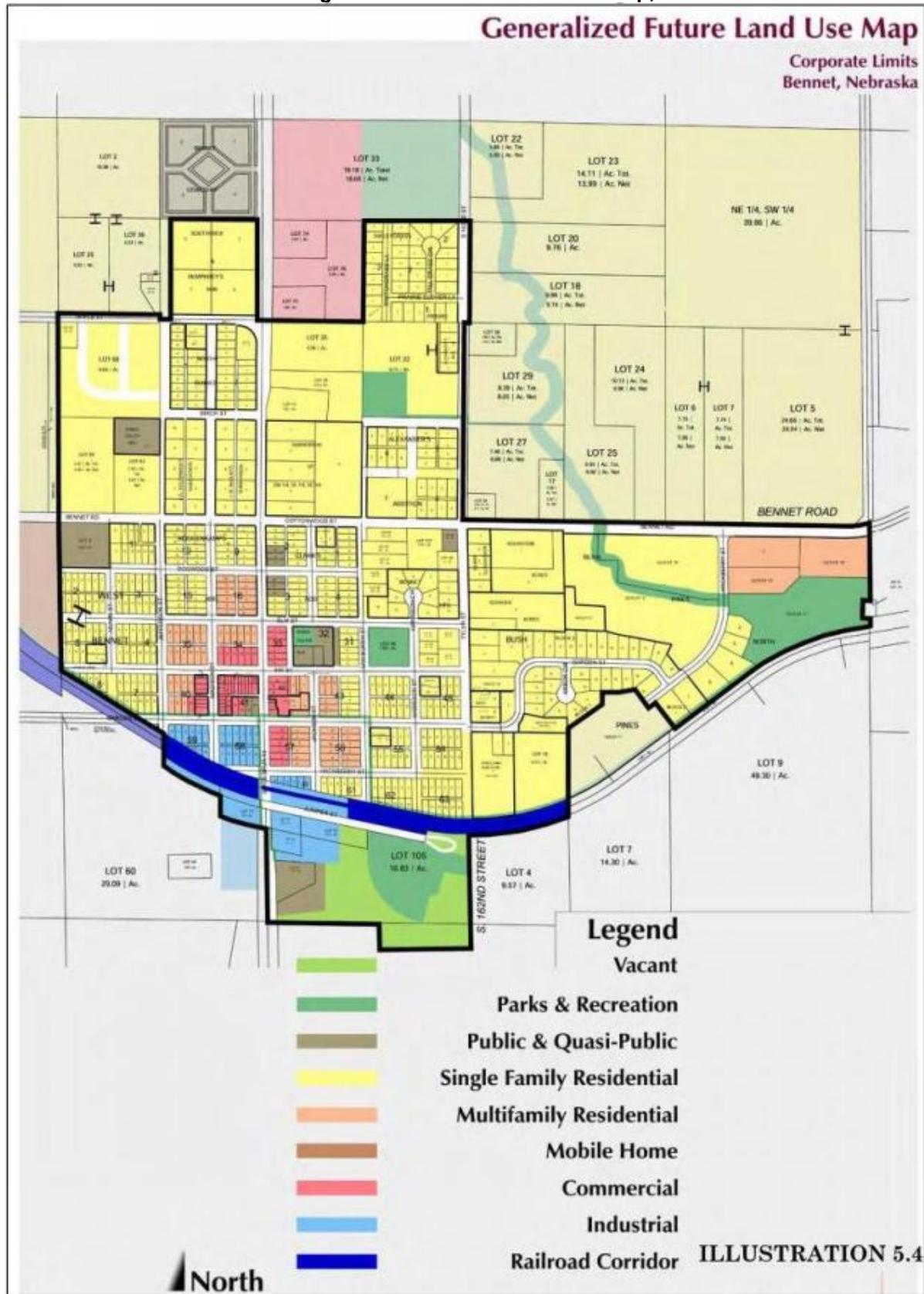
Future Development Trends

Over the past five years there have been several significant changes noted. There has been a new housing development and a loss of business. The overall population of Bennet is increasing, which is attributed to the proximity to Lincoln as well as the recently constructed housing development. There is an additional housing development planned on the northeast corner of the Village. There are no new businesses or industries planned in the future.

²⁴ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

²⁵ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

Figure BNT.4: Future Land Use Map, 2015



Structural Inventory and Valuation

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

Table BNT.2: Structural Inventory/Parcel Improvements

| Number of Improvements | Total Improvement Value | Mean Value of Improvements per Parcel | Number of Improvements in Floodplain | Value of Improvements in Floodplain |
|------------------------|-------------------------|---------------------------------------|--------------------------------------|-------------------------------------|
| 402 | \$48,431,100 | \$120,475 | 6 | \$1,710,000 |

Source: Nebraska Department of Revenue, Property Assessment Division²⁶

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there is one chemical storage site in Bennet.

Table BNT.3: Chemical Storage Fixed Sites

| Facility Name | Address | In Floodplain (Y/N) |
|-----------------------------|------------------|---------------------|
| Midwest Farmers Cooperative | 355 Hackberry St | N |

Source: Nebraska Department of Environment and Energy, 2017²⁷

Critical Facilities

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

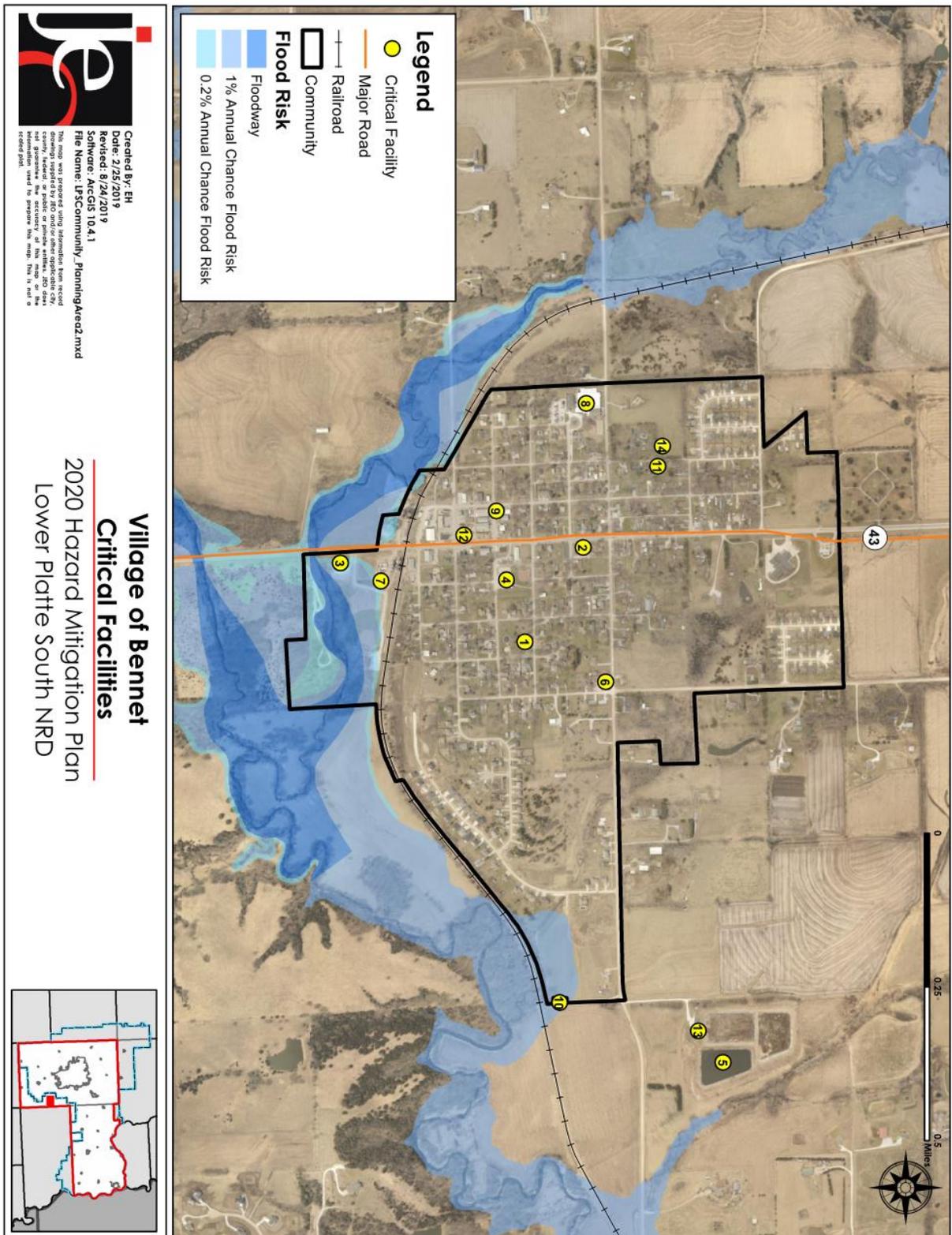
Table BNT.4: Critical Facilities

| CF Number | Name | Red Cross Shelter (Y/N) | Generator (Y/N) | Located in Floodplain (Y/N) |
|-----------|--|-------------------------|-----------------|-----------------------------|
| 1 | Bennet City Park Shelter | N | N | N |
| 2 | Bennet Community Church | N | N | N |
| 3 | Bennet Legion Post #280 | N | N | Y |
| 4 | Bennet Rural Fire Protection | N | N | N |
| 5 | Lagoon | N | Y | N |
| 6 | Lancaster County Equipment Storage & Siren | N | N | N |
| 7 | Maintenance Street Shop | N | Y | N |
| 8 | Palmyra school District OR-1 | N | N | N |
| 9 | Rural Water District #1 | N | N | N |
| 10 | Sewer Lift Station | N | N | Y |
| 11 | Siren/Pump House & Storage Shed | N | N | N |
| 12 | Village Office | N | N | N |
| 13 | Wastewater Treatment Plant | N | N | N |
| 14 | Water Tower | N | N | N |

²⁶ County Assessor. Personal correspondence, [DATE].

²⁷ Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search/faces>.

Figure BNT.5: Critical Facilities



Historical Occurrences

See the Lancaster County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Chemical Spills (Fixed Site)

Chemical fixed site spills are a concern for the Village of Bennet from the potential impact on resident health. The local planning team indicated that some small anhydrous leaks have occurred locally. The local Co-Op has a large propane fill station and there are other facilities in town which may store potentially hazardous chemicals, such as the Nebraska Bulk Transportation facility. There are no education programs in place to warn or educate residents about safety measures in the case of a chemical spill. If a chemical spill does occur, the local fire department are the primary responders.

Chemical Spills (Transportation)

Chemical transportation of a top concern for the Village of Bennet due to the high volume of hazardous chemicals transported through the village via highway. Major transportation routes through the Village include Highways 43 and 2. A rail line owned by the Omaha Public Power District run west-east by the Village and commonly transports energy sector materials. Local concerns for chemical spills relate to resident's health and safety. There are critical facilities located along major routes and most of the village lies within a half-mile buffer of these major routes.

Dam Failure

According to the Lancaster County Local Emergency Operations Plan (LEOP), the Big Nemaha Dam (11-A) would inundate 100% of the Village of Bennet in the case of a dam failure event. This dam is classified as a high hazard dam and is required to have an Emergency Action Plan (EAP). Thus far, no dam failure events have occurred locally.

Drought

Drought is a pervasive hazard which can severely harm the surrounding agricultural economy. Water for the Village is provided by the rural water district. Concerns exist for overall water quantity. The Village has water use restrictions outlined in the case of water shortages but does not have a water conservation program. There are several wells in town that have been abandoned due to high nitrate levels. In cases of drought, additional wells may experience high nitrate concentrations and pose concerns for water quality.

Flooding

Flooding concerns in the Village have been caused by heavy rainfall from thunderstorms and poor stormwater drainage throughout the Village. Heavy rain events commonly cause localized flooding. Additionally, a tributary of the Little Nemaha River is located directly south of the Village. Flooding events in 2004 closed several local parks. The Village of Bennet participates in the National Flood Insurance Program.

Section Seven: Village of Bennet Community Profile

Hail

The local planning team identified hail as a hazard of top concern as the Village experiences damaging events regularly and subsequent damage can cause a significant financial burden on community resources and residents. No facilities or homes in the Village have hail resistant roofing and a severe hail event in 2016 caused damage to roofs throughout the Village. Village buildings are insured for hail related damages. Damages from hail are common to homes, vehicles, utilities, and trees.

High Winds

High winds are common across the planning area and can cause damage to homes and infrastructure. The local planning team is particularly concerned with damages to power lines and cell towers which cause prolonged power outages and disrupt communications. There is no text alert system in Lancaster County to warn residents of potentially hazardous conditions.

Tornadoes

Tornadoes have the potential to cause catastrophic damage to property. The Village experienced an EF0 tornado in 2008, an EF1 tornado in 2009, and an EF2 tornado in 2014, none of which caused injuries, fatalities, or significant property damage. Local municipal records are backed up on the cloud and some critical facilities have sustained minor wind damage in the past. Lancaster County manages the warning and alert sirens in the Village, but there are no tornado safe rooms located within the Village. Additionally, the Village has mutual aid agreements in place with Palmyra and Douglas to provide assistance in the case of a severe weather event.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Bennet has some staff that may be involved in implementing hazard mitigation initiatives. Bennet has five village board members and the following offices that may help implement mitigation actions.

- Board Chair
- Clerk
- Utility Superintendent
- Sewage Plant Operator
- Planning Commissioner
- Engineer
- Volunteer Fire Department
- Refuse Site Attendants

Capability Assessment

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

Table BNT.5: Capability Assessment

| Survey Components/Subcomponents | | Yes/No |
|---------------------------------|---------------------------|--------|
| Planning & | Comprehensive Plan | Yes |
| | Capital Improvements Plan | Yes |

Section Seven: Village of Bennet Community Profile

| <i>Survey Components/Subcomponents</i> | | <i>Yes/No</i> |
|--|--|---------------------------------|
| <i>Regulatory Capability</i> | Economic Development Plan | No |
| | Emergency Operational Plan | Yes |
| | Floodplain Management Plan | No |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | Yes |
| | Floodplain Ordinance | Yes |
| | Building Codes | Yes |
| | National Flood Insurance Program | Yes |
| | Community Rating System | No |
| | Other (if any) | |
| <i>Administrative & Technical Capability</i> | Planning Commission | Yes |
| | Floodplain Administration | Yes |
| | GIS Capabilities | Yes |
| | Chief Building Official | Yes |
| | Civil Engineering | Yes |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | Yes |
| | Grant Manager | Yes |
| | Mutual Aid Agreement | Yes |
| | Other (if any) | |
| <i>Fiscal Capability</i> | Capital Improvement Plan/ 1 & 6 Year plan | Yes |
| | Applied for grants in the past | Yes |
| | Awarded a grant in the past | Yes |
| | Authority to Levy Taxes for Specific Purposes such as Mitigation Projects | Yes |
| | Gas/Electric Service Fees | No |
| | Storm Water Service Fees | No |
| | Water/Sewer Service Fees | Yes |
| | Development Impact Fees | No |
| | General Obligation Revenue or Special Tax Bonds | Yes |
| Other (if any) | | |
| <i>Education & Outreach Capability</i> | Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc. | Local Volunteer Fire Department |
| | 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 |
| | Tree City USA | No |

Section Seven: Village of Bennet Community Profile

| Survey Components/Subcomponents | | Yes/No |
|---------------------------------|----------------|--------|
| | Other (if any) | |

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

Plan Integration

The Village of Bennet's Comprehensive Plan was last update in 2019. Natural hazards are not discussed, but it does contain a future land use map aimed at safe growth. The plan also directs development away from dam inundation areas, allows for emergency access to all areas of town, and encourages infill. It also limits density within and near hazardous areas by encouraging the use of open space. In the next update of the Comprehensive Plan, the local planning team would like to direct development away from major transportation routes and chemical storage facilities, encourage clustering development, encourage elevation of structure in the floodplain, and identify emergency shelter locations. The local planning team also indicated that the hazard mitigation plan will be included as an attachment to the next Comprehensive Plan update.

Bennet's Building Code was last updated in 2013 and is based on the 2009 International Building Code. This code has several regulations for structures in the floodplain including: elevation of structures, elevation of mechanical systems, and requiring back flow valves. Other requirements include hurricane clips during construction, fire resistant building materials, and onsite stormwater detention for commercial structures.

The Subdivision Regulations for the village were last updated in 2007 and restrict the subdivision of land within or adjacent to the floodplain. The Zoning Ordinance was last updated in 2011.

The Village's Capital Improvement Plan is updated on an annual basis. The 2019 plan includes stormwater projects, upsizing storm sewer drainage, installing water meters for residential structures, updating electrical distribution, installing emergency generators, constructing a new public works facility, and improving existing community owned structures. The local planning team indicated that Bennet is able to pursue limited new capital projects and continue to maintain current systems. Municipal funds have stayed relatively stable and have not been dedicated to a specific project.

Mitigation Strategy

Ongoing and New Mitigation Actions

| Mitigation Action | Complete Village-wide Flood Project Master Plan |
|---------------------|--|
| Description | Stormwater master plans can be conducted to perform a community-wide stormwater evaluation, identifying multiple problem areas, and potentially multiple drainage improvements for each. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$10,000 + |
| Potential Funding | Bonds |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Engineering |
| Status | This is a village-wide plan that has not been started yet due to a lack of funding. |

| Mitigation Action | Educate Public and Businesses on Flood Mitigation Projects |
|---------------------|--|
| Description | Educate the public and business owners regarding rain gardens, green roofs, and other minor mitigation measures. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies |
| Potential Funding | General tax dollars |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Flood plain administration |
| Status | This action has not yet been started. |

| Mitigation Action | Improve Snow Removal Resources |
|---------------------|---|
| Description | Purchase snowplow / equipment |
| Hazard(s) Addressed | Severe Winter Storms |
| Estimated Cost | Varies |
| Potential Funding | Lancaster County and Village of Bennet Funds |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Village Clerk |
| Status | Although there was an additional purchase of snow removal equipment in 2016 there is a need for additional equipment. |

Section Seven: Village of Bennet Community Profile

| Mitigation Action | Investigate New Sources of Water |
|---------------------|---|
| Description | Study alternate water sources or develop additional storage options in the event that the water system fails. |
| Hazard(s) Addressed | Drought |
| Estimated Cost | \$10,000+ |
| Potential Funding | Water fund reserve |
| Timeline | 1 year |
| Priority | High |
| Lead Agency | Village Engineer |
| Status | This action has not yet been started. |

| Mitigation Action | Preserve Natural and Beneficial Functions |
|---------------------|--|
| Description | Preserve natural and beneficial functions of floodplain land through measures such as: retaining natural vegetation, restoring streambeds, and preserving open space in the floodplain. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$5,000 + |
| Potential Funding | Taxes, Village Funds, Grants |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Park Committee |
| Status | The Master Park Plan identified several locations that can benefit from functional floodplain uses including Whispering Pines and the south ballfield in town. Additional locations may still be identified and converted to greenspace or riparian areas. |

| Mitigation Action | Promote Use of Higher Codes and Standards |
|---------------------|---|
| Description | Promote the use of higher codes and standards such as the Fortifier for Safer Living Standard, in order to provide greater protection for any new construction or building retrofits. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies |
| Potential Funding | PDM, HMGP, CDBG, LPSNRD, Lancaster County & Village of Bennet |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Village Clerk |
| Status | This action has not yet been started. |

| Mitigation Action | Shelter-In-Place Training |
|---------------------|---|
| Description | Ensure that all critical facilities, businesses, and residents located near major transportation corridors are aware of how to safely shelter in place in the event of a chemical incident. |
| Hazard(s) Addressed | Chemical Spills (Transportation) |
| Estimated Cost | \$1,000 + |
| Potential Funding | General tax fund |
| Timeline | 1 year |
| Priority | High |
| Lead Agency | Local volunteers |
| Status | This action has not yet been started. |

| Mitigation Action | Stormwater System and Drainage Improvements |
|---------------------|---|
| Description | Undersized systems can contribute to localized flooding. Stormwater system improvements may include pipe upsizing and additional inlets. These improvements can serve to more effectively convey runoff, preventing interior localized flooding. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$100,000 + |
| Potential Funding | Bonds |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Streets |
| Status | This is a village-wide project which has not been started yet due to a lack of funding. |

| Mitigation Action | Tree Education |
|---------------------|--|
| Description | Educate the public on tree planting and establish an annual tree trimming program to assist those with low income and the elderly. |
| Hazard(s) Addressed | Severe thunderstorms, tornados and high winds, severe winter storms |
| Estimated Cost | \$1,000 |
| Potential Funding | Lancaster County and Village of Bennet Funds |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Village Clerk |
| Status | This is an ongoing action. |

Section Seven: Village of Bennet Community Profile

| Mitigation Action | Water Conservation Awareness |
|---------------------|---|
| Description | Improve and/or develop a program to conserve water use by the citizens during elongated periods of drought. Potential restrictions on water could include limitations on lawn watering, car washing, or water sold to outside sources. Work with DNR on farm irrigation restrictions. |
| Hazard(s) Addressed | Drought |
| Estimated Cost | \$1,000+ |
| Potential Funding | Water Fund Revenue |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Utility Superintendent |
| Status | This action has not yet been started. |

Removed Mitigation Actions

| Mitigation Action | Maintain Good Standing with the NFIP |
|---------------------|---|
| Description | Maintain good standing with National Flood Insurance Program (NFIP). |
| Hazard(s) Addressed | Flooding |
| Reason for Removal | While the Village of Bennet will continue to participate in the NFIP, this is no longer considered a mitigation action. |

| Mitigation Action | Join the CRS |
|---------------------|--|
| Description | Participation in the CRS, part of the NFIP, can provide a movement for the community to undertake a number of projects and activities designed to increase the flooding mitigation efforts. Participation in CRS can help reduce flood insurance premiums. |
| Hazard(s) Addressed | Flooding |
| Reason for Removal | The Village does not have the support to join CRS at this time. |

COMMUNITY PROFILE

VILLAGE OF DAVEY

Lower Platte South Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

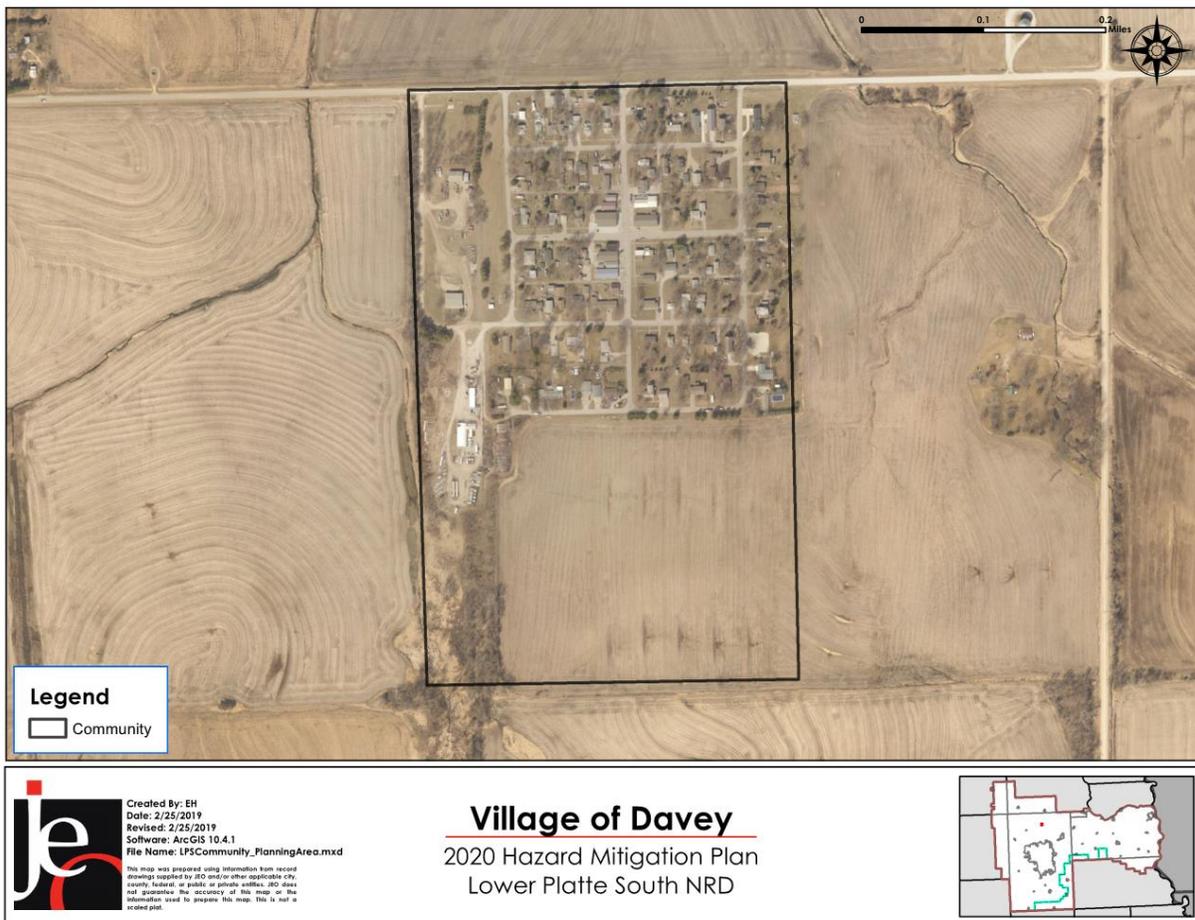
Table DVY.1: Davey Local Planning Team

| NAME | TITLE | JURISDICTION |
|------------------|--------------|------------------|
| MARK FREDRICKSON | Board Member | Village of Davey |
| PAM HUCK | Clerk | Village of Davey |

Location and Geography

The Village of Davey is in the north-central portion of Lancaster County, approximately four miles south of the Saunders County line and 10 miles east of Branched Oak Lake. The Village covers an area of 0.15 square miles. There are no major waterways near the town.

Figure DVY.1: Village of Davey



Transportation

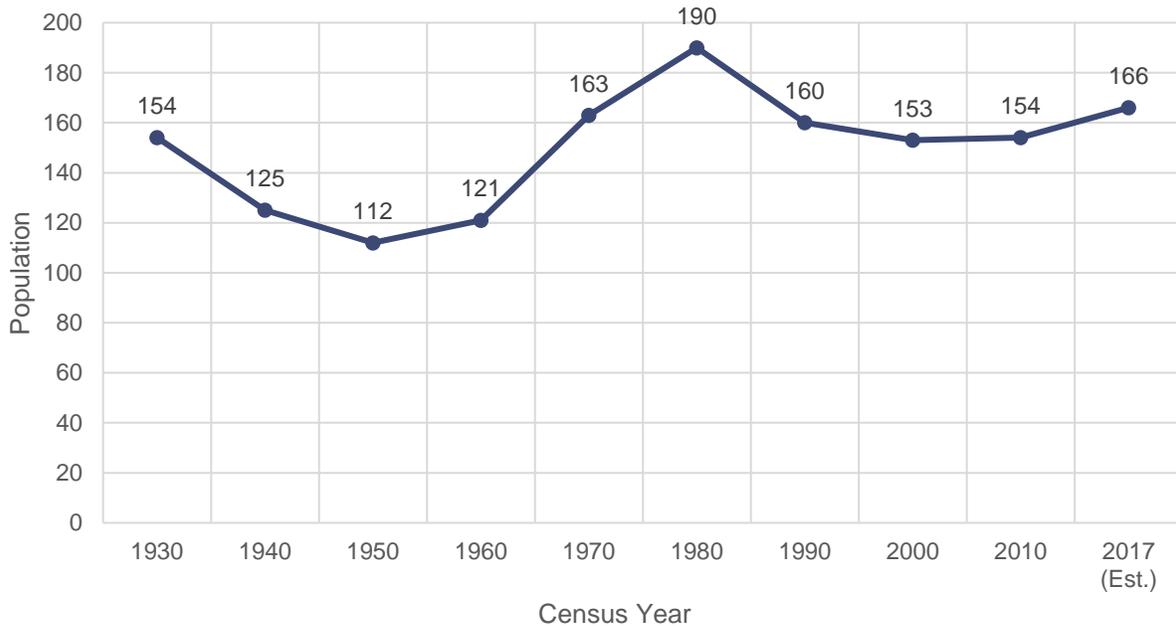
The Village of Davey has two major transportation corridors. The first, and largest, is US Highway 77, which runs north and south about a mile east of town. This corridor averages 8,310 vehicles per day. The second is a spur road, Nebraska Highway 55E, which runs east and west exclusively into the larger highway. This corridor averages 420 vehicles per day.²⁸ The Hall-Feld Airport a privately-owned airstrip located approximately two miles east of Davey.²⁹ Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

There are two routes of concern for local mitigation planners. The first is Nebraska Highway 77, which connects the village to the rest of the county. This corridor regularly transports a variety of chemicals ranging from fertilizers, pesticides, herbicides, petroleum, and industrial chemicals. The other is the spur road, Highway 55E, which is the only route in and out of town. Any impacts to this route could prevent emergency services from accessing citizens. There have been no significant transportation incidents along either of these routes.

Demographics

Davey’s population grew from about 153 people in 2000 to 166 people in 2017, an increase of 13 people and total gain of 8.5%. This is important because a growing population is associated with increased hazard mitigation and emergency planning requirements. Davey’s population accounted for 0.05% of Lancaster County’s population of 306,357 in 2017.³⁰

Figure DVY.2: Population 1930 - 2017



Source: U.S. Census Bureau

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

²⁸ Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018.

²⁹ Airnav.com. "Hall-Feld Airport." Accessed January 2019. <https://www.airnav.com/airport/68NE>.

³⁰ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

Section Seven: Village of Davey Community Profile

- **Younger.** The median age of Davey was 48.7 years old in 2017, compared with the County average of 33.2 years. Davey's population grew older since 2009, when the median age was 42.5 years old. Davey had a smaller proportion of people under 20 years old (20.3%) than Lancaster County (26.8%).³¹
- **More ethnically diverse.** Since 2010, Davey grew more ethnically diverse. In 2010, Davey's population was 0% Hispanic or Latino. By 2017, Davey's population was 1.2% Hispanic or Latino. During that time, the Hispanic or Latino population in Lancaster County grew from 5.5% in 2010 to 6.7% in 2017.³²
- **Less likely to be below the federal poverty line.** The poverty rate in Davey (6.5% of families living below the federal poverty line) was higher than Lancaster County's poverty rate (8.7%) in 2017.³³

Employment and Economics

The major economic base of Lancaster County is a mixture of education/healthcare/social services (26.8%), retail (11.1%), professional/scientific/management/administrative/waste management services (9.9%), and two employment sectors of 9.1%: manufacturing and arts/entertainment/recreation/accommodation/food services. In comparison to the County, The Village of Davey economy had:

- **Diverse mix of industries.** Davey major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (18%), finance/insurance/real estate/rental/leasing (15.7%), transportation/warehousing/utilities (15.7%), and manufacturing 10.1%.³⁴
- **Higher household income.** Davey median household income in 2017 (\$66,875) was \$11,128 higher than the County (\$55,747).³⁵
- **More long-distance commuters.** A total of 12.5% percent of workers in Davey commuted for fewer than 15 minutes, compared with 36% of workers in Lancaster County. An additional 24.6% of workers in Davey commute 30 minutes or more to work, compared to 15.7% of the County workers.³⁶

Major Employers

There are only a few businesses in Davey which employ relatively few people. The majority of residents commute to Lincoln for employment.

Housing

In comparison to Lancaster County, Davey's housing stock was:

- **Less renter occupied.** Of occupied housing units in Davey, 2.7% are renter-occupied compared with 39.9% of renter housing in Lancaster County.³⁷
- **Older.** Davey had a larger share of housing built prior to 1970 than Lancaster County (76.1% compared to 38.1%).³⁸
- **No multifamily dwellings.** The predominant housing type in Davey is single family detached (92%), which is more than Lancaster County (60.8%). Davey contains no multifamily housing with five or more units per structure. Davey has a larger share of

³¹ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

³² United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

³³ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

³⁴ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

³⁵ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

³⁶ United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

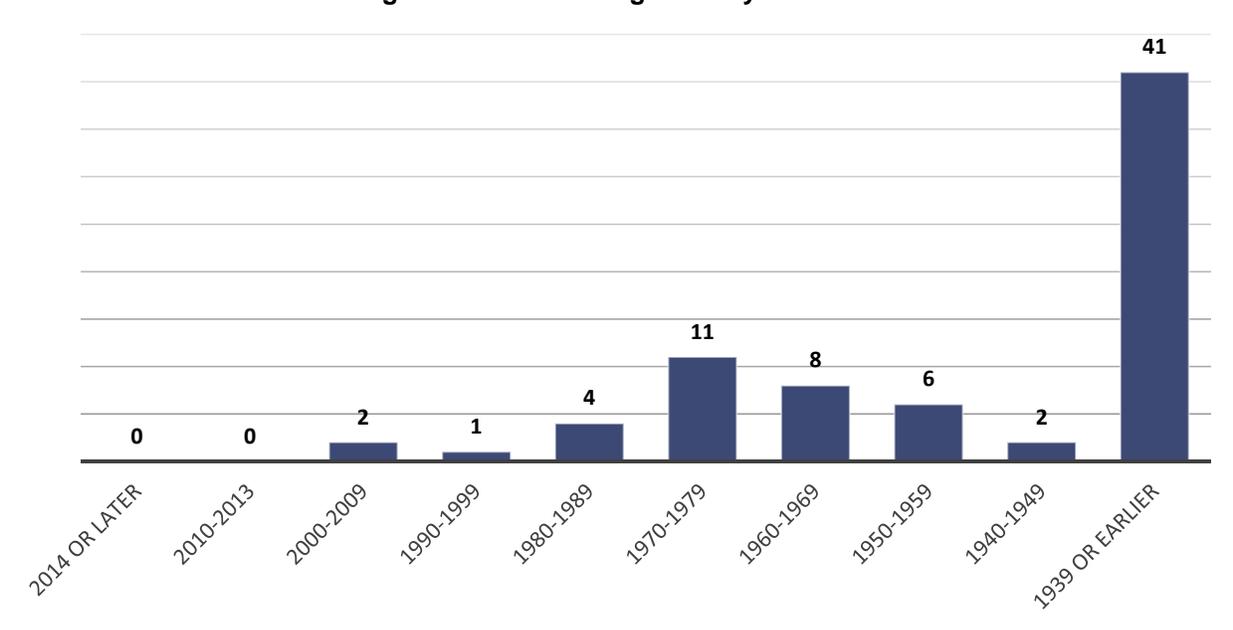
³⁷ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

³⁸ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

mobile housing (5.4%) compared to the County (1.9%).³⁹ Mobile homes are located throughout the Village.

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

Figure DVY.3: Housing Units by Year Built



Source: U.S. Census Bureau⁴⁰

Future Development Trends

Since the previous mitigation plan there has been one new home and one new business. The population of Davey has been increasing over the previous twenty years, which local mitigation planners attribute to the village’s proximity to Lincoln. There are no housing developments planned in the next five years nor any new businesses.

Structural Inventory and Valuation

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

Table DVY.2: Structural Inventory/Parcel Improvements

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | MEAN VALUE OF IMPROVEMENTS PER PARCEL | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|------------------------|-------------------------|---------------------------------------|--------------------------------------|-------------------------------------|
| 97 | \$9,156,400 | \$94,396 | 0 | \$0 |

Source: Nebraska Department of Revenue, Property Assessment Division⁴¹

³⁹ United States Census Bureau. “American Fact Finder: DP04: Selected Housing Characteristics.” [database file]. <https://factfinder.census.gov/>.

⁴⁰ United States Census Bureau. “American Fact Finder: DP04: Selected Housing Characteristics.” [database file]. <https://factfinder.census.gov/>.

⁴¹ County Assessor. Personal correspondence, [DATE].

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environmental Quality, there are no chemical storage sites in Davey.⁴²

Critical Facilities

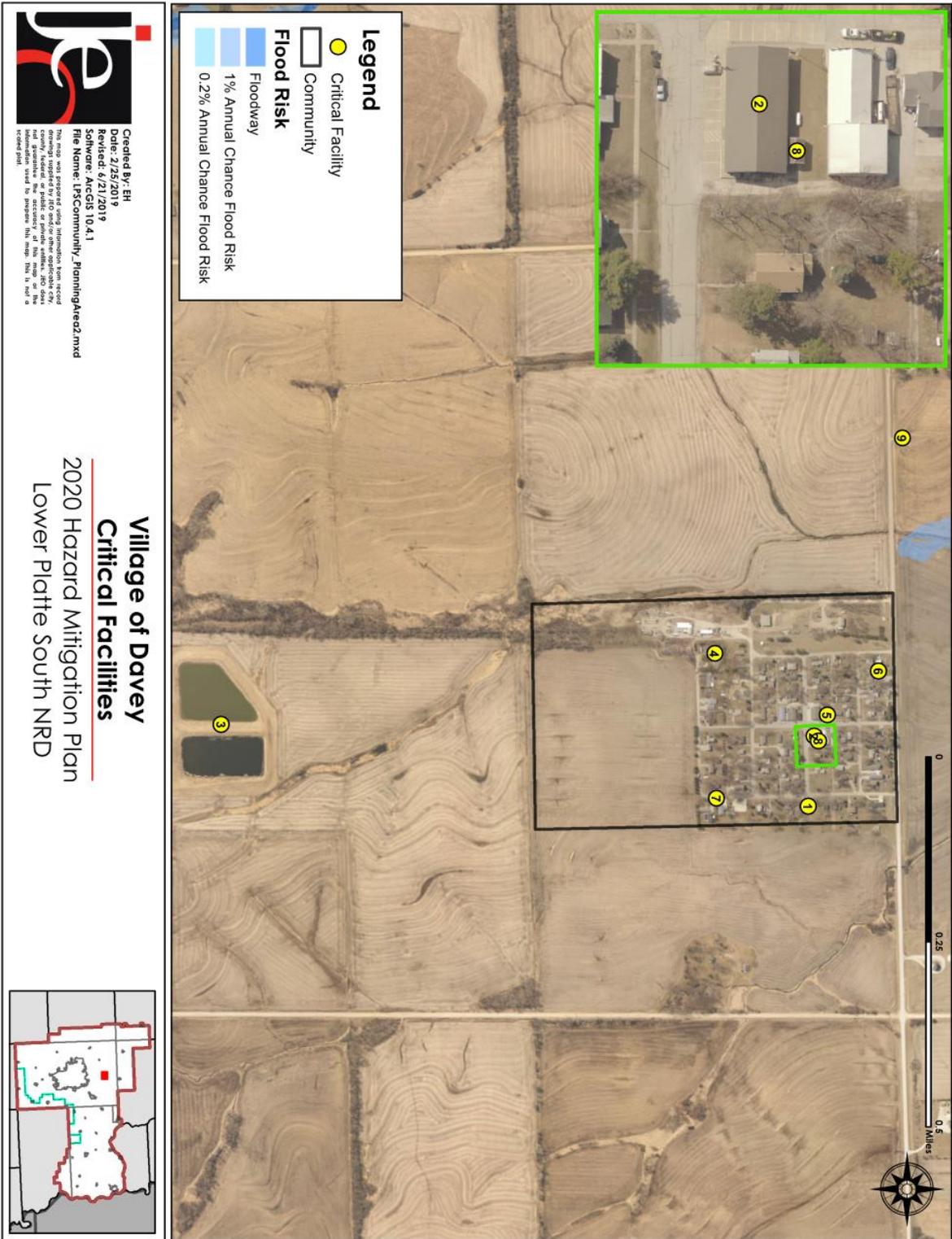
Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction’s functions to normal during and after a disaster. Critical facilities were identified during the original planning process and updated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

Table DVY.3: Critical Facilities

| CF Number | Name | Red Cross Shelter (Y/N) | Generator (Y/N) | Located in Floodplain (Y/N) |
|-----------|------------------------------|-------------------------|-----------------|-----------------------------|
| 1 | Bethlehem Lutheran Church | N | N | N |
| 2 | Community Center | Y | N | N |
| 3 | Lagoon | N | N | N |
| 4 | Lancaster County Shop | N | N | N |
| 5 | Maintenance Shed | N | N | N |
| 6 | Old Sewer Treatment Plant | N | N | N |
| 7 | Saint Mary's Catholic Church | N | N | N |
| 8 | Water Storage Tank | N | N | N |
| 9 | Well House | N | Y | N |

⁴² Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deg-iis.ne.gov/tier2/search.faces>.

Figure DVY.4: Critical Facilities



Historical Occurrences

See the Lancaster County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Hail

Hail is a concern for the local community due to its potential to cause damage to public and private properties, agriculture, communication systems, and transportation routes. The NCEI reports 12 severe weather events which have directly impacted the Village of Davey. Two of these events reported hail up to 1.75 inches. While no damages were reported with these events, it is likely they caused damage to privately owned homes and businesses.

High Winds

The local planning team identified high winds as a significant hazard of concern for the community. The local planning team reported wind damages in June 2008 which damaged numerous trees throughout town. High wind events have the potential to damage power lines, emergency alert equipment, community trees, and residential and business roofs or siding.

Severe Thunderstorms

Severe thunderstorms are common across the planning area and for the Village of Davey. Severe thunderstorms can include impacts from heavy rain, strong winds, and lightning strikes. The local planning team indicated concern for blocked transportation routes, especially for older or more vulnerable residents. Surge protectors are needed for municipal buildings to protect critical records.

Severe Winter Storms

Concerns for severe winter storms primarily stem from the potential for loss of power. Severe winter storms can include blizzards, extreme cold, winter storms, ice accumulation, and general winter weather. Heavy snow fall can block transportation routes and prevent emergency access. The local planning team reported a 1998 snow event which included loss of power for three days. While the well house has a backup generator, no other critical facilities currently have generators.

Tornadoes

The Village of Davey experienced a categorized F0 tornado in 2004. While the tornado did not cause any reported damages, tornadoes have the capability to cause catastrophic damages to critical infrastructure and pose a high risk to residents' safety. There are no safe rooms located in the Village of Davey. The Village has identified a need to update zoning and building ordinances to promote the use of better building standards.

Governance

A community’s governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Davey has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Davey has five village board members and the following offices that may help implement mitigation actions.

- Board Chair
- Clerk
- Sewer Plant Operator
- Street Superintendent
- Water Commissioner

Capability Assessment

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

Table DVY.54 Capability Assessment

| Survey Components/Subcomponents | | Yes/No |
|--|---|-------------|
| <i>Planning & Regulatory Capability</i> | Comprehensive Plan | Yes |
| | Capital Improvements Plan | No |
| | Economic Development Plan | No |
| | Emergency Operational Plan | Yes, County |
| | Floodplain Management Plan | No |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | No |
| | Floodplain Ordinance | No |
| | Building Codes | No |
| | National Flood Insurance Program | No |
| | Community Rating System | No |
| Other (if any) | | |
| <i>Administrative & Technical Capability</i> | Planning Commission | No |
| | Floodplain Administration | No |
| | GIS Capabilities | No |
| | Chief Building Official | No |
| | Civil Engineering | No |
| | Local Staff Who Can Assess Community’s Vulnerability to Hazards | No |
| | Grant Manager | No |
| | Mutual Aid Agreement | No |
| | Other (if any) | |
| <i>Fiscal Capability</i> | Capital Improvement Plan/ 1 & 6 Year plan | No |
| | Applied for grants in the past | No |

Section Seven: Village of Davey Community Profile

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

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|-----------------------|
| Does your community have the financial resources needed to implement mitigation projects? | Limited |
| Does your community have the staff/expertise to implement projects? | Moderate |
| Does your community have the community support to implement projects? | Limited |
| Does your community staff have the time to devote to hazard mitigation? | Limited |

Plan Integration

The Village of Davey's Comprehensive Plan does not discuss natural hazards, but does direct development away from major transportation routes, primarily Davey Road to the north of town. There is currently no update planned for the Comprehensive Plan. Davey has a Water Emergency Plan which was last updated in 2016 and will be undergoing revision in December 2019. This plan outlines water restrictions and assigns specific responsibilities. The Lower Platte South NRD has assisted the Village of Davey with a Wellhead Protection Plan to protect drinking water supplies. There are signs alerting residents of the protected area, well set back requirements in the zoning ordinance, and some outreach programs to inform residents. Davey's Zoning Ordinance was adopted in June 1977. Some parts of the ordinance have been revised over time, however additional updates for zoning and building codes are needed.

Davey has an annex as part of the Lancaster County Local Emergency Operations Plan which was last updated in 2017. The plan assigns specific responsibilities to staff members, provides contact information to appropriate contacts or providers, and identifies sheltering locations.

The Village's annual budget is limited to maintaining current facilities and municipal systems. While funds have increased over recent years, they are not identified or earmarked for specific hazard mitigation projects.

Mitigation Strategy

Completed Mitigation Actions

| Mitigation Action | Stormwater Drainage |
|---------------------|---|
| Description | Replace culverts and dig out ditches to improve stormwater drainage |
| Hazard(s) Addressed | Flooding |
| Status | This action was completed in 2018 by using the Road Fund. |

Ongoing and New Mitigation Actions

| Mitigation Action | Backup Generators |
|---------------------|--|
| Description | Add a generator on the lagoon |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$15,000-\$30,000 per generator |
| Potential Funding | PDM, HMGP, LPSNRD, Lancaster County & Village of Davey |
| Timeline | Two to five years |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | This action is in the planning phase to determine specific needs and cost. |

| Mitigation Action | Bury Main Power Lines |
|---------------------|---|
| Description | Bury Power lines |
| Hazard(s) Addressed | High Winds, Severe Thunderstorms, Severe Winter Storms, Tornadoes |
| Estimated Cost | Varies |
| Potential Funding | Norris Public Power District, Lancaster County & Village of Davey |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Norris Public Power District |
| Status | This action has not yet been started. |

| Mitigation Action | Hazardous Tree Removal |
|---------------------|---|
| Description | Identify and remove hazardous limbs and/or trees |
| Hazard(s) Addressed | High Winds, Severe Thunderstorms, Severe Winter Storms, Tornadoes |
| Estimated Cost | \$0, Staff Time |
| Potential Funding | General Fund |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Village Board |
| Status | This is a new mitigation action. |

Section Seven: Village of Davey Community Profile

| Mitigation Action | Promote Use of Higher Codes and Standards |
|---------------------|--|
| Description | Evaluate and improve current building standards/codes/requirements. Promote use of higher codes and standards, such as fortified for Safer Living Standard, in order to provide greater protection for any new construction or building retrofits. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$0, Staff Time |
| Potential Funding | General Fund |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Village Board |
| Status | This is a new mitigation action. |

| Mitigation Action | Public Education |
|---------------------|---|
| Description | Increase public awareness of vulnerability and risk reduction through hazard education. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$0-\$1,000 |
| Potential Funding | Lancaster County & Village of Davey |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Village of Davey Board, Lancaster County Emergency Management |
| Status | This action has not yet been started. |

| Mitigation Action | Surge Protectors |
|---------------------|---|
| Description | Purchase and install surge protectors on sensitive equipment in critical facilities |
| Hazard(s) Addressed | Severe Thunderstorms |
| Estimated Cost | \$25 per unit |
| Potential Funding | General Fund |
| Timeline | 2 – 5 years |
| Priority | Low |
| Lead Agency | Village Board |
| Status | This is a new mitigation action. |

Removed Mitigation Actions

| Mitigation Action | Obtain Tree City USA Designation |
|---------------------|---|
| Description | Become a Tree City USA |
| Hazard(s) Addressed | Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms |
| Reason for Removal | This action was identified as no longer a priority for the community. |

COMMUNITY PROFILE

VILLAGE OF DENTON

Lower Platte South Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

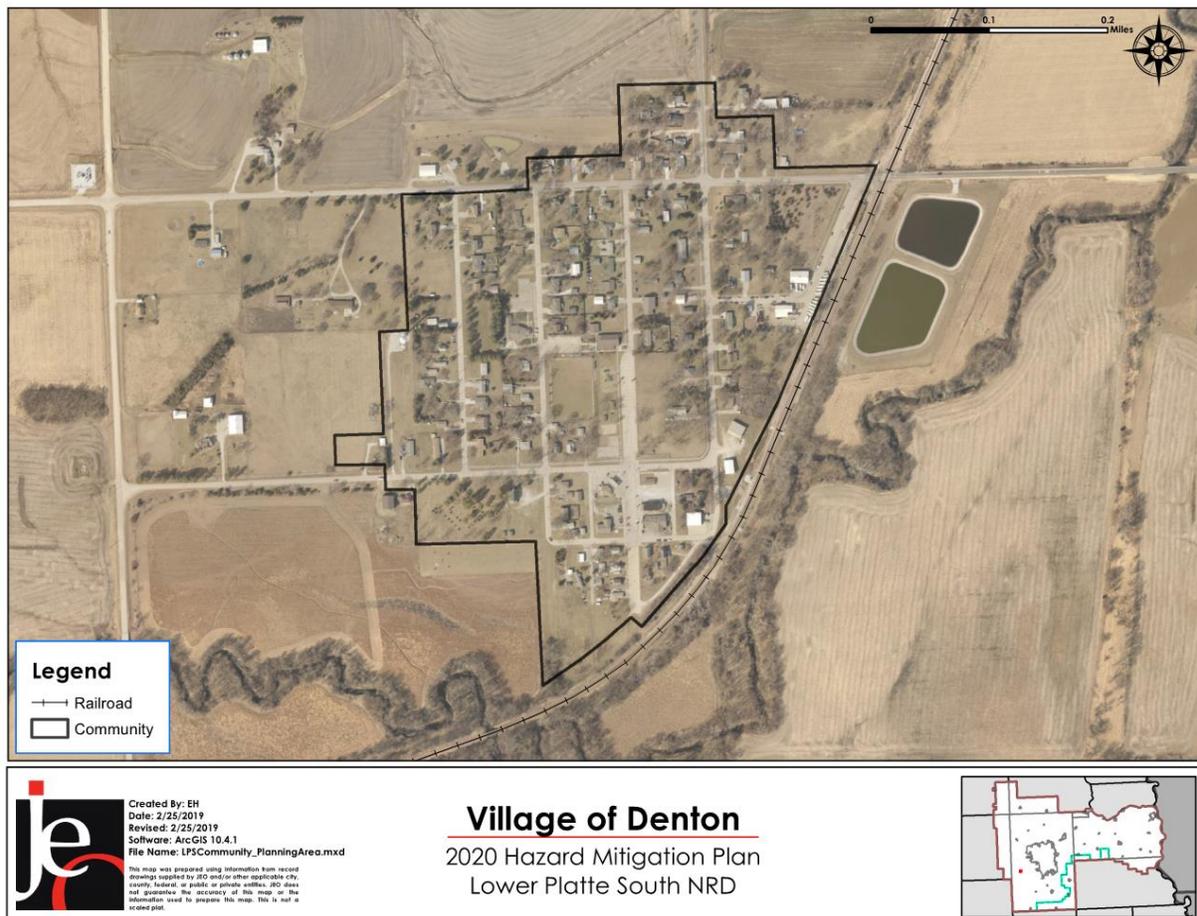
Table DNT.1: Denton Local Planning Team

| NAME | TITLE | JURISDICTION |
|-------------------|---------------|-------------------|
| CHARLOTTE TEBRINK | Village Clerk | Village of Denton |
| BILL EDWARDS | Trustee | Village of Denton |

Location and Geography

The Village of Denton is in the west-central portion of Lancaster County, approximately four miles east of the County line and five miles southwest of downtown Lincoln. The Village covers an area of 0.12 square miles. There are three major waterways near the town which form into one of the major branches of the larger Salt Creek. The largest is the Haines Branch of the Salt Creek. It is the main stem of the tributary Cheese Creek. This main stem continues to flow until converging with the tributary Spring Creek on the southern edge of town. All these creeks flow from south to north.

Figure DNT.1: Village of Denton



Transportation

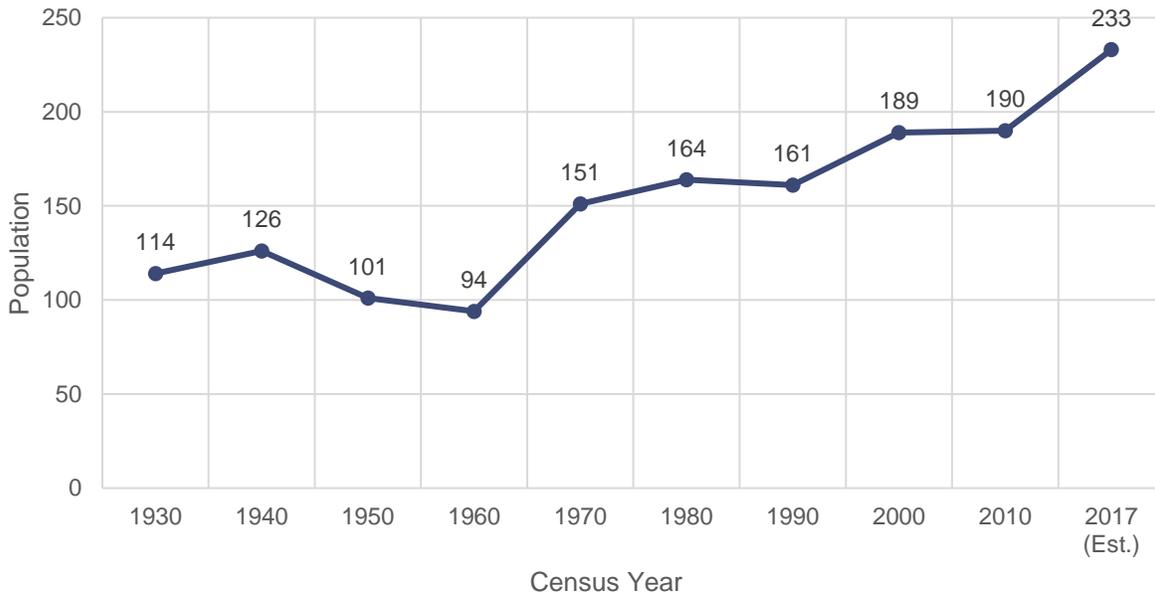
The Village of Denton has one transportation corridor, Nebraska Highway 55A, which runs north-and-south and connects the village to Nebraska Highway 6, five miles north. This corridor is a spur road and averages 1,885 vehicles per day.⁴³ There is one rail line running through the town owned by Burlington-Northern-Santa Fe (BNSF). The tracks run northeast and southwest on the east side of town and the line mainly hauls agricultural and energy products.⁴⁴ The local planning team identified the rail line as commonly transporting hazardous chemicals. Additionally, any significant detours from the highway bring heavy semi-truck traffic through town, many of which may also be transporting hazardous materials. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

Currently there is a bridge south of town which is currently owned by Lancaster County. The County is interested in giving the bridge to the Village, however additional repairs and maintenance on the bridge and access road are concerns for the local planning team.

Demographics

Denton’s population grew from about 189 people in 2000 to 233 people in 2017, an increase of 44 people and total gain of 23.3%. This is important because a growing population is associated with increased hazard mitigation and emergency planning requirements. Denton’s population accounted for 0.08% of Lancaster County’s population of 306,357 in 2017.⁴⁵

Figure DNT.2: Population 1930 - 2017



Source: U.S. Census Bureau

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

- Older.** The median age of Denton was 38.5 years old in 2017, compared with the County average of 33.2 years. Denton’s population grew younger since 2009, when the median

⁴³ Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.
⁴⁴ Nebraska Department of Roads. "Nebraska Railroads." Accessed December 2018. <http://opportunity.nebraska.gov/files/businessdevelopment/winerqv/NebraskaRailMap.pdf>.
⁴⁵ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

Section Seven: Village of Denton Community Profile

age was 44.3 years old. Denton had a similar proportion of people under 20 years old (24%) than Lancaster County (26.8%).⁴⁶

- **More ethnically diverse.** Since 2010, Denton grew more ethnically diverse. In 2010, Denton's population was 1.6% Hispanic or Latino. By 2017, Denton's population was 6.4% Hispanic or Latino. During that time, the Hispanic or Latino population in Lancaster County grew from 5.5% in 2010 to 6.7% in 2017.⁴⁷
- **Less likely to be below the federal poverty line.** The poverty rate in Denton (8.3% of families living below the federal poverty line) was lower but similar to Lancaster County's poverty rate (8.7%) in 2017.⁴⁸

Employment and Economics

The major economic base of Lancaster County is a mixture of education/healthcare/social services (26.8%), retail (11.1%), professional/scientific/management/administrative/waste management services (9.9%), and two employment sectors of 9.1%: manufacturing and arts/entertainment/recreation/accommodation/food services. In comparison to the County, The Village of Denton economy had:

- **Similar mix of industries.** Denton major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (27%), arts/entertainment/recreation/accommodation/food services (14.6%), and construction (11.7%).⁴⁹
- **Higher household income.** Denton median household income in 2017 (\$62,917) was \$7,170 higher than the County (\$55,747).⁵⁰
- **More long-distance commuters.** A total of 20.3% percent of workers in Denton commuted for fewer than 15 minutes, compared with 36% of workers in Lancaster County. An additional 24% of workers in Denton commute 30 minutes or more to work, compared to 15.7% of the County workers.⁵¹

Major Employers

The major employers in the Village of Denton include the Denton Daily Double, Super C Store, and Mid-Con Construction. Many residents commute to Lincoln for employment as well.

Housing

In comparison to Lancaster County, Denton's housing stock was:

- **Less renter occupied.** Of occupied housing units in Denton, 32.1% are renter-occupied compared with 39.9% of renter housing in Lancaster County.⁵²
- **Older.** Denton had a larger share of housing built prior to 1970 than Lancaster County (50% compared to 38.1%).⁵³
- **No multifamily dwellings.** The predominant housing type in Denton is single family detached (92.9%), which is more than Lancaster County (60.8%). Denton contains no multifamily housing with five or more units per structure. Denton has a similar share of mobile housing (2%) compared to the County (1.9%).⁵⁴ Mobile homes are located throughout the Village.

⁴⁶ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

⁴⁷ United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

⁴⁸ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

⁴⁹ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

⁵⁰ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

⁵¹ United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

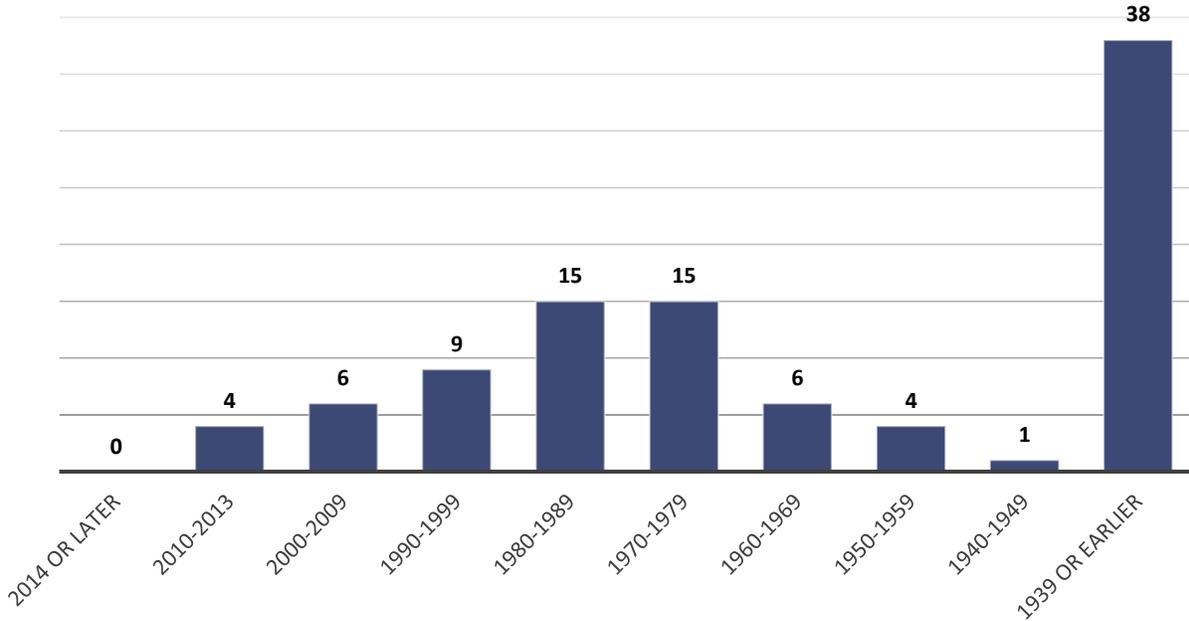
⁵² United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

⁵³ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

⁵⁴ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

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

Figure DNT.3: Housing Units by Year Built



Source: U.S. Census Bureau⁵⁵

Future Development Trends

Over the past twelve months three new homes have been built in town. The population of Denton is increasing, which the local planning team attributed to the close proximity to Lincoln but lower cost of housing. There are currently no new housing or commercial developments planned for the next five years.

Structural Inventory and Valuation

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

Table DNT.2: Structural Inventory/Parcel Improvements

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | MEAN VALUE OF IMPROVEMENTS PER PARCEL | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|------------------------|-------------------------|---------------------------------------|--------------------------------------|-------------------------------------|
| 100 | \$10,219,400 | \$102,194 | 2 | \$63,800 |

Source: Nebraska Department of Revenue, Property Assessment Division⁵⁶

⁵⁵ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

⁵⁶ County Assessor. Personal correspondence, [DATE].

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are no chemical storage sites in Denton.⁵⁷

Critical Facilities

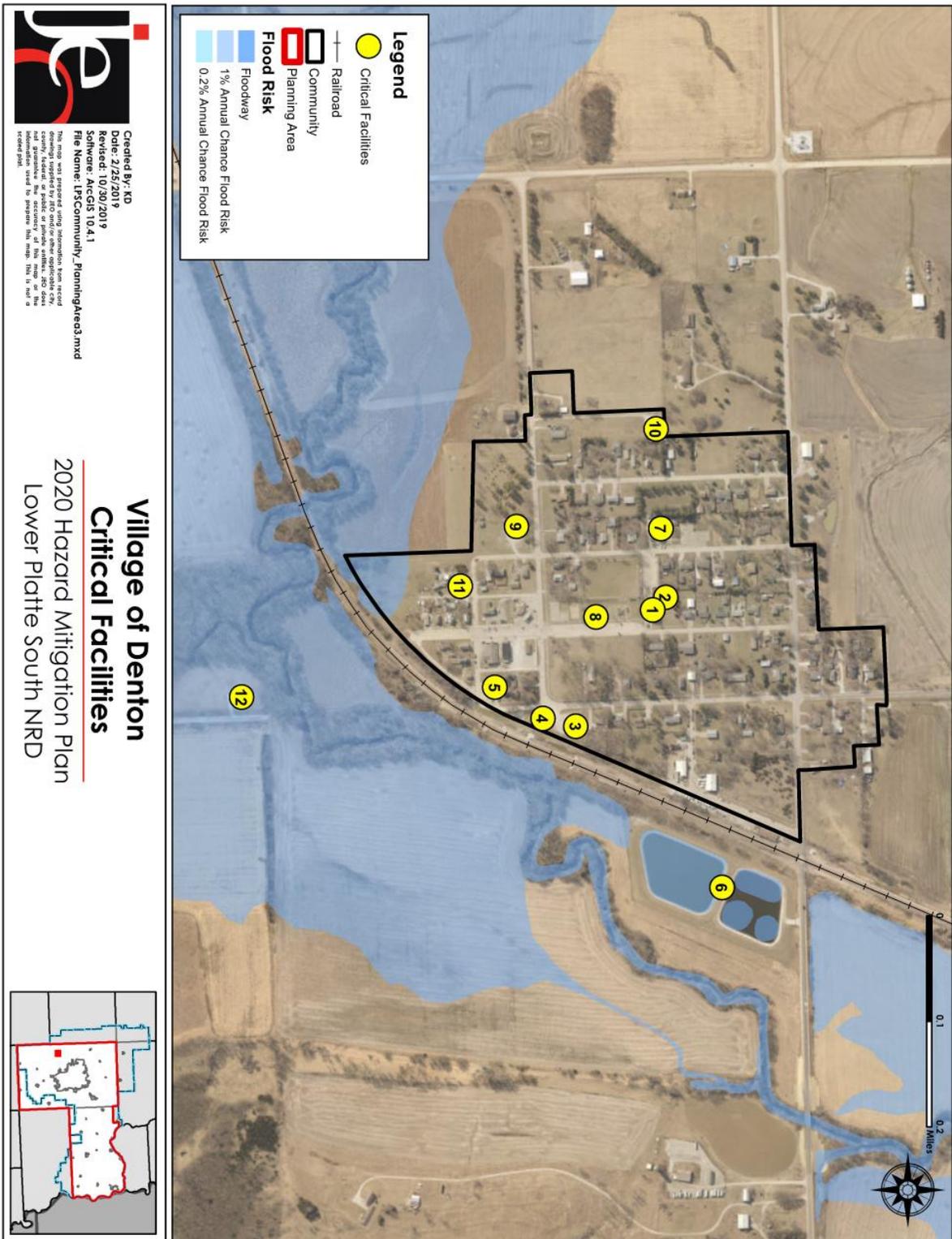
Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction’s functions to normal during and after a disaster. Critical facilities were identified during the original planning process and updated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

Table DNT.3: Critical Facilities

| CF Number | Name | Red Cross Shelter (Y/N) | Generator (Y/N) | Located in Floodplain (Y/N) |
|-----------|---------------------------------|-------------------------|-----------------|-----------------------------|
| 1 | Community Center/Village Office | N | N | N |
| 2 | Community Center Storage | N | N | N |
| 3 | County Maintenance Building | N | N | N |
| 4 | Denton Maintenance Building | N | N | N |
| 5 | Fire Hall | N | N | N |
| 6 | Lagoon | N | N | Y |
| 7 | Saint Mary’s Catholic Church | N | N | N |
| 8 | Siren | N | N | N |
| 9 | United Methodist Church | Y | N | N |
| 10 | Water Tower | N | N | N |
| 11 | Well House #1 | N | N | N |
| 12 | Well House #2 | N | N | Y |

⁵⁷ Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>

Figure DNT.4: Critical Facilities



Historical Occurrences

See the Lancaster County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Chemical Spills (Fixed Site)

While NDEE does not identify any fixed chemical sites in the Village of Denton, the local planning team identified the Farmer's Co-Op and water treatment plant as storing chemicals and as potentially hazardous. The Co-Op stores granular fertilizer and is located right alongside the BNSF railroad. The Village lagoon is also located adjacent to the Co-Op on the other side of the railroad. Potential spills would be addressed by the Volunteer Fire Department which has some hazmat training, however additional resources would be needed.

Chemical Spills (Transportation)

An active railroad line borders the Village along the eastern and southeastern border. One past derailment event produced no damages and was cleared quickly by BNSF; however, the local planning team indicated concerns from a lack of knowledge of what chemicals are transported through the community. Potential derailments could block access to homes or emergency services depending on the location.

Flooding

Primary concerns for the local planning team are flash flood events in Denton. During heavy rain events water pools alongside the lagoons, however the railroad acts as a small flood prevention measure. There is sufficient stormwater drainage within the Village. Haines Brach creek runs along the eastern side of town which then splits into Haines and Spring Creek south of town. The March 2019 flood event did not directly impact the Village.

Hail

Hail is a common occurrence across the planning area and several events have caused damages in the Village of Denton. The planning team's primary concerns regarding hail stem from property damage and potential injuries to residents. The Community Center and numerous homes throughout the Village have sustained roof damage from significant hail events. The maintenance shed and wellhouses have reinforced roofs to reduce potential damages.

Tornadoes

Tornadoes are a hazard of top concern due to their potential to cause catastrophic damage and the threat to lives and safety of residents. While no tornadic events have directly impacted Denton, straight-line winds have damaged trees and roofs in town. Concerns exist for the water treatment plant and water tower sustaining damage which could cause a loss of water availability for the community. There is an alert siren located in the center of town which can be heard by all residents. There are no community shelter or safe rooms located in Denton. The Catholic Church, Community Center, and residential homes with basements are used as shelters.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Denton has a number of offices or departments that

may be involved in implementing hazard mitigation initiatives. Denton has five village board members and the following offices that may help implement mitigation actions.

- Board Chair
- Clerk
- Sewer/Water Commissioner
- Engineer
- Volunteer Fire Department
- Local Emergency Management Coordinator

Capability Assessment

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

Table DNT.4: Capability Assessment

| Survey Components/Subcomponents | | Yes/No |
|--|---|-------------|
| <i>Planning & Regulatory Capability</i> | Comprehensive Plan | Yes |
| | Capital Improvements Plan | Yes |
| | Economic Development Plan | No |
| | Emergency Operational Plan | Yes, County |
| | Floodplain Management Plan | Yes |
| | Storm Water Management Plan | Yes |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | Yes |
| | Floodplain Ordinance | Yes |
| | Building Codes | No |
| | National Flood Insurance Program | Yes |
| | Community Rating System | No |
| Other (if any) | | |
| <i>Administrative & Technical Capability</i> | Planning Commission | Yes |
| | Floodplain Administration | Yes |
| | GIS Capabilities | No |
| | Chief Building Official | No |
| | Civil Engineering | Yes |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | Yes |
| | Grant Manager | No |
| | Mutual Aid Agreement | No |
| Other (if any) | | |
| <i>Fiscal Capability</i> | Capital Improvement Plan/ 1 & 6 Year plan | No |
| | Applied for grants in the past | No |
| | Awarded a grant in the past | No |

Section Seven: Village of Denton Community Profile

| Survey Components/Subcomponents | | Yes/No |
|--|--|--------|
| | Authority to Levy Taxes for Specific Purposes such as Mitigation Projects | No |
| | 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 | No |
| | Other (if any) | |
| <i>Education & Outreach Capability</i> | Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc. | No |
| | Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education) | Yes |
| | Natural Disaster or Safety related school programs | No |
| | StormReady Certification | No |
| | Firewise Communities Certification | No |
| | Tree City USA | No |
| | Other (if any) | |

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|-----------------------|
| Does your community have the financial resources needed to implement mitigation projects? | Moderate |
| Does your community have the staff/expertise to implement projects? | Limited |
| Does your community have the community support to implement projects? | Moderate |
| Does your community staff have the time to devote to hazard mitigation? | Limited |

Plan Integration

The Village's Comprehensive Plan was last updated in 2016. The plan includes future land use maps for the Village and is based on Smart Growth goals and objectives. The comprehensive plan also discusses directing development away from hazardous areas including the floodplain, major transportation routes, and chemical storage facilities.

Denton has an annex as part of the Lancaster County Local Emergency Operations Plan which was last updated in 2017. The plan assigns specific responsibilities to staff members, provides contact information to appropriate contacts or providers, and identifies sheltering locations.

The Village's Zoning Ordinance was last updated in 2007 and its Subdivision Ordinance was last updated in 2018. These ordinances require elevation of structures in the floodplain, limit or prohibit development in the floodplain, and account for current population trends for future development. The Village also has a Floodplain Ordinance that also regulates development in the floodplain.

The Village’s Wellhead Protection Plan was developed in 1995. Currently there are signs to alert residents of the area, the zoning ordinance includes the wellhead protection district, and ordinances include well set back requirements. Additionally, the Village indicated there are decommissioned and/or abandoned wells that should be sealed.

The Village’s overall budget has remained the same over the past decade. The local planning team indicated the budget is sufficient to meet current needs but there are no large-scale projects or purchases that have funding earmarked for them. Currently the annual municipal budget provides some flexibility to pursue new mitigation projects with a community emphasis on sewer expansion. In particular, the lagoon needs to be expanded and protected.

Mitigation Strategy

Completed Mitigation Actions

| Mitigation Action | Weather Radios |
|---------------------|--|
| Description | Conduct an inventory of weather radios at schools and other CFs and provide new radios as needed. |
| Hazard(s) Addressed | All hazards |
| Status | Lancaster County Emergency Management assisted the Village to purchase new weather radios for critical facilities in 2018. |

Ongoing and New Mitigation Actions

| Mitigation Action | Backup Generators |
|---------------------|--|
| Description | Provide backup power systems to provide redundant power supply to critical facilities. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$15,000+ |
| Potential Funding | General Fund |
| Timeline | 2-5 years |
| Priority | Low |
| Lead Agency | Village Administration |
| Status | This project has not yet been started. |

| Mitigation Action | Bury Main Power Lines |
|---------------------|---|
| Description | Bury power lines underground. |
| Hazard(s) Addressed | Severe Winter Storms, Severe Thunderstorms, High Winds, Tornadoes |
| Estimated Cost | Varies by scope |
| Potential Funding | General Fund, HMGP, PDM |
| Timeline | 1 year |
| Priority | Medium |
| Lead Agency | Village Clerk |
| Status | Power lines should be buried along Lancaster Avenue between W Denton and 2 nd St. Currently there has been little interest by the local power utility to bury the lines. |

Section Seven: Village of Denton Community Profile

| Mitigation Action | Lagoon Expansion and Elevation |
|---------------------|---|
| Description | The current lagoon is too small to meet local needs causing frequent discharges for the Village and subsequent flooding has damaged property in surrounding areas. The lagoon needs to be raised and increased in capacity. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Unknown |
| Potential Funding | General Fund |
| Timeline | 1 year |
| Priority | Medium |
| Lead Agency | Village Clerk, Maintenance |
| Status | This is a new mitigation action. An elevation survey is needed in order to determine project needs and potential cost. |

| Mitigation Action | New Bridge Construction |
|---------------------|---|
| Description | Design and construct a bridge to improve access to wellfield. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$400,000-\$1,000,000 |
| Potential Funding | General Fund, NDOT |
| Timeline | 1 year |
| Priority | High |
| Lead Agency | City Administration |
| Status | Two options are currently being discussed to provide an additional transportation route to the Village's wellfield: a bridge over Haines Branch Creek or a bridge over Spring Creek. Current concerns for the Village include the cost to maintain the road access to the bridge. |

| Mitigation Action | Public Education |
|---------------------|---|
| Description | Increase public awareness of vulnerability and risk reduction measures through hazard education |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$0-\$1,000 |
| Potential Funding | General Fund |
| Timeline | 2-5 years |
| Priority | Low |
| Lead Agency | Village Clerk |
| Status | This project has not yet been started. |

| Mitigation Action | Storm Shelter |
|---------------------|---|
| Description | Identify, design, and develop storm shelters to protect vulnerable populations in the community. |
| Hazard(s) Addressed | Severe Thunderstorms, Severe Winter Storms, Tornadoes, High Winds |
| Estimated Cost | \$200-\$250/sf stand alone; \$150-\$200/sf addition/retrofit |
| Potential Funding | General Fund, HMGP, PDM |
| Timeline | 2-5 years |
| Priority | Low |
| Lead Agency | Village Clerk |
| Status | This project has not yet been started. The Community Center is a potential location for a storm shelter to be added to. |

Removed Mitigation Action

| Mitigation Action | Maintain Good Standing with the NFIP |
|---------------------|---|
| Description | Maintain good standing with the National Flood Insurance Program (NFIP) |
| Hazard(s) Addressed | Flooding |
| Reason for Removal | This project is no longer recognized as a mitigation action by FEMA |

| Mitigation Action | Tree City USA |
|---------------------|---|
| Description | Obtain a Tree City USA designation |
| Hazard(s) Addressed | High Winds, Severe Thunderstorms, Severe Winter Storms, Tornadoes |
| Reason for Removal | This project is no longer a priority for the local planning team. |

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COMMUNITY PROFILE

VILLAGE OF FIRTH

Lower Platte South Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

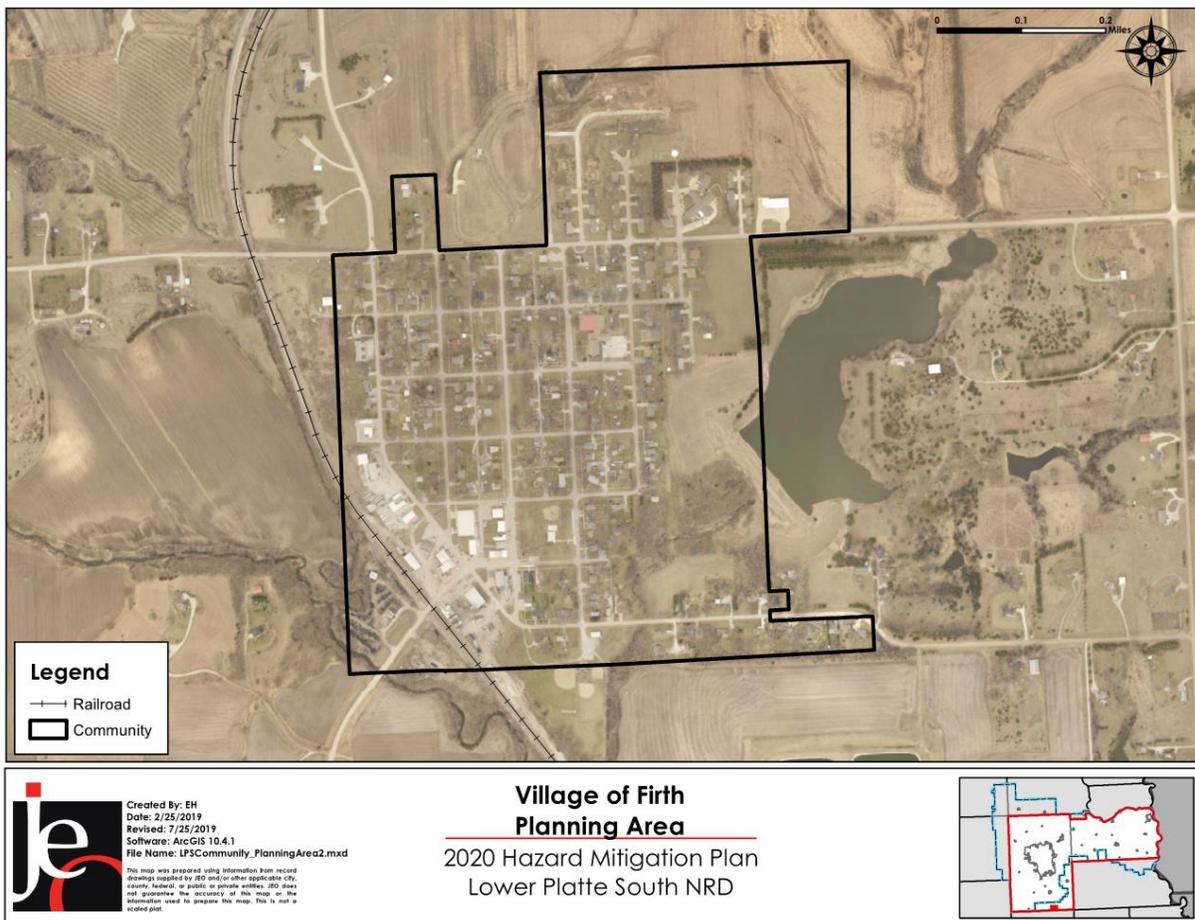
Table FRT.1: Firth Local Planning Team

| NAME | TITLE | JURISDICTION |
|---------------|----------------|------------------|
| JILL HOEFLER | Clerk | Village of Firth |
| DAVE HOBELMAN | Board Chairman | Village of Firth |
| JASON COOPER | Trustee | Village of Firth |

Location and Geography

The Village of Firth is on the southern border of Lancaster County, half a mile north of the Gage County line and directly adjacent to the Big Nemaha River Reservoir 11A. The Village covers an area of 0.28 square miles. There are two major waterways near the town. The largest is the Big Nemaha River Reservoir 11A, on the east side of town. The second is the Middle Branch of the Nemaha River, which flows north-to-south on the southwest side of town.

Figure FRT.1: Village of Firth



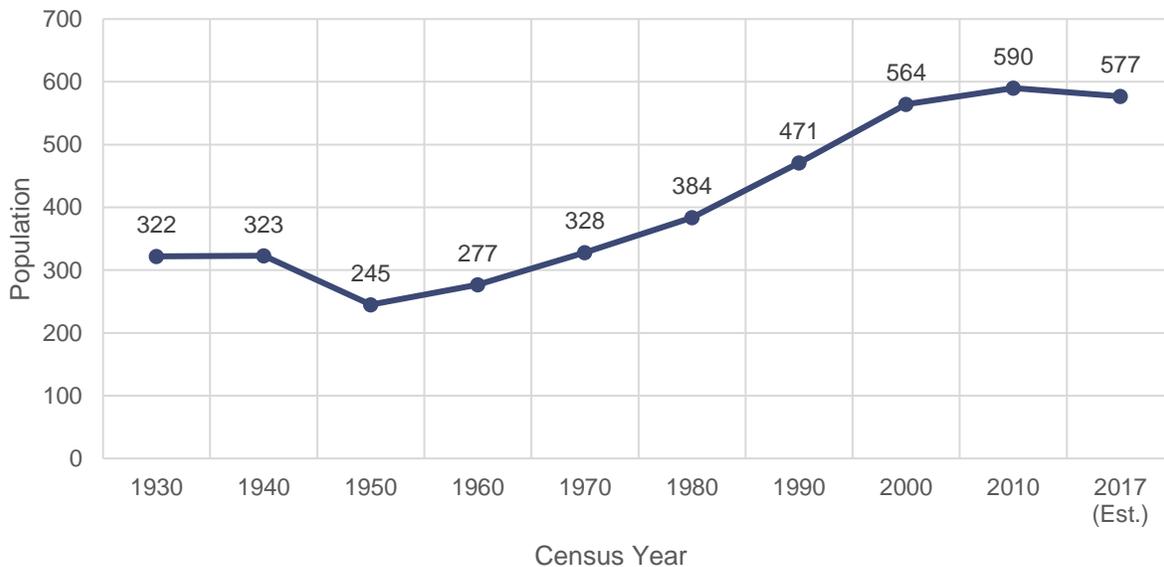
Transportation

The Village of Firth has two main transportation corridors: Nebraska Highway 34B, a spur road, which runs north-and-south and connects the village to Nebraska Highway 41; and Firth Road which bisects the northern edge of the Village and connects Firth to Highway 77 to the east. This corridor averages 910 vehicles per day.⁵⁸ There is one rail line running through the town owned by Burlington-Northern-Santa Fe (BNSF). The tracks run north and south on the western side of town and the line mainly hauls agricultural and energy products.⁵⁹ Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents. The town is most concerned about S 68th St, which runs north to south on the west side of the village. Most vehicular accidents occur on this road, which also serves as a transportation corridor for co-op chemicals and runs along the Norris Schools.

Demographics

Firth's population increased from about 564 people in 2000 to 577 people in 2017, an increase of 13 people and total gain of 2.3%. This is important because shifting internal demographics in a relatively stable population may impact hazard mitigation priorities. Firth's population accounted for 0.18% of Lancaster County's population of 306,357 in 2017.⁶⁰

Figure FRT.2: Population 1930 - 2017



Source: U.S. Census Bureau

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

- Older.** The median age of Firth was 33.6 years old in 2017, compared with the County average of 33.2 years. Firth's population grew younger since 2009, when the median age was 28.7 years old. Firth had a larger proportion of people under 20 years old (32.7%) than Lancaster County (26.8%).⁶¹

⁵⁸ Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>

⁵⁹ Nebraska Department of Roads. "Nebraska Railroads." Accessed December 2018. <http://opportunity.nebraska.gov/files/businessdevelopment/winegry/NebraskaRailMap.pdf>.

⁶⁰ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

⁶¹ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

Section Seven: Village of Firth Community Profile

- **Less ethnically diverse.** Since 2010, Firth grew less ethnically diverse. In 2010, Firth's population was 14.6% Hispanic or Latino. By 2017, Firth's population was 13.2% Hispanic or Latino. During that time, the Hispanic or Latino population in Lancaster County grew from 5.5% in 2010 to 6.7% in 2017.⁶²
- **More likely to be below the federal poverty line.** The poverty rate in Firth (15.4% of families living below the federal poverty line) was higher than Lancaster County's poverty rate (8.7%) in 2017.⁶³

Employment and Economics

The major economic base Lancaster County is a mixture of education/healthcare/social services (26.8%), retail (11.1%), professional/scientific/management/administrative/waste management services (9.9%), and two employment sectors of 9.1%: manufacturing and arts/entertainment/recreation/accommodation/food services. In comparison to the County, The Village of Firth economy had:

- **Diverse mix of industries.** Firth major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (20.7%), construction (15.3%), finance/insurance/real estate/rental/leasing (12.6%), manufacturing (11.3%), and transportation/warehousing/utilities (10.4%).⁶⁴
- **Similar household income.** Firth median household income in 2017 (\$55,341) was \$406 lower the County (\$55,747).⁶⁵
- **Fewer/More/Similar long-distance commuters.** A total of 30.9% percent of workers in Firth commuted for fewer than 15 minutes, compared with 36% of workers in Lancaster County. An additional 44.5% of workers in Firth commute 30 minutes or more to work, compared to 15.7% of the County workers.⁶⁶

Major Employers

The major employers in Firth are the Norris School District, the Farmers Co-op, and Lakeview Assisted Living. A larger percentage of resident commute to the nearby cities of Lincoln and Beatrice for work.

Housing

In comparison to Lancaster County, Firth's housing stock was:

- **Less renter occupied.** Of occupied housing units in Firth, 23.9% are renter-occupied compared with 39.9% of renter housing in Lancaster County.⁶⁷
- **Older.** Firth had a larger share of housing built prior to 1970 than Lancaster County (66.5% compared to 38.1%).⁶⁸
- **Fewer multifamily dwellings.** The predominant housing type in Firth is single family detached (87.7%), which is more than Lancaster County (60.8%). Firth contains fewer multifamily housing with five or more units per structure compared to Lancaster County (3.4% compared to 23.6%). Firth has a similar share of mobile housing (1.7%) compared to the County (1.9%).⁶⁹ However, the local planning team indicated there are no mobile homes currently located within the Village of Firth.

⁶² United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

⁶³ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

⁶⁴ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

⁶⁵ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

⁶⁶ United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

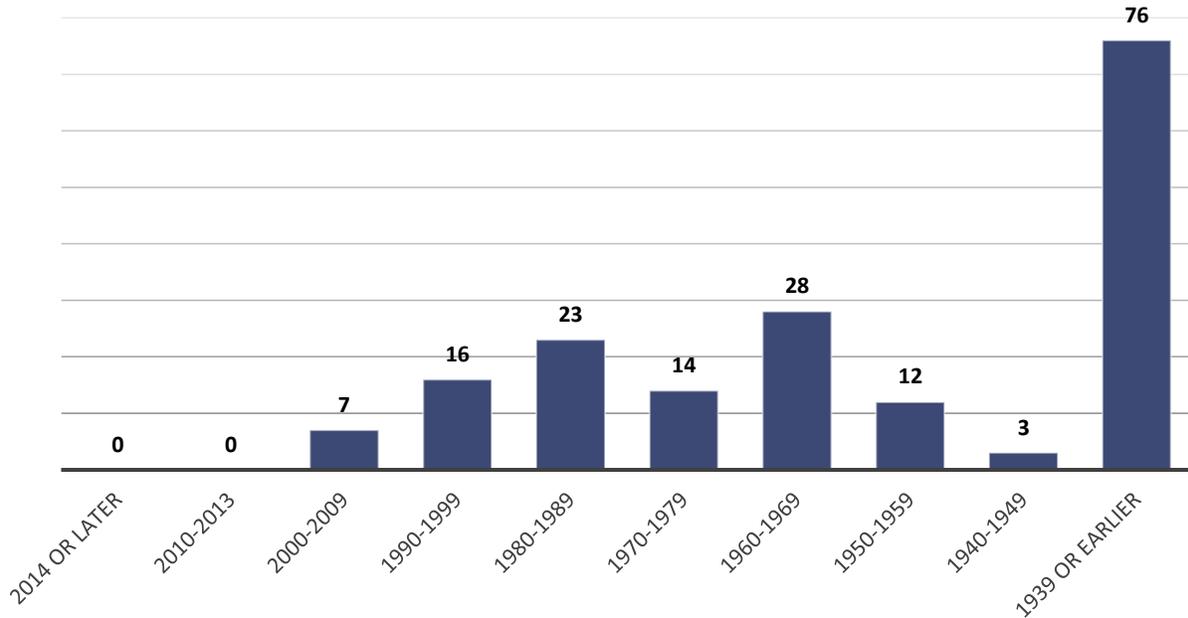
⁶⁷ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

⁶⁸ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

⁶⁹ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

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

Figure FRT.3: Housing Units by Year Built



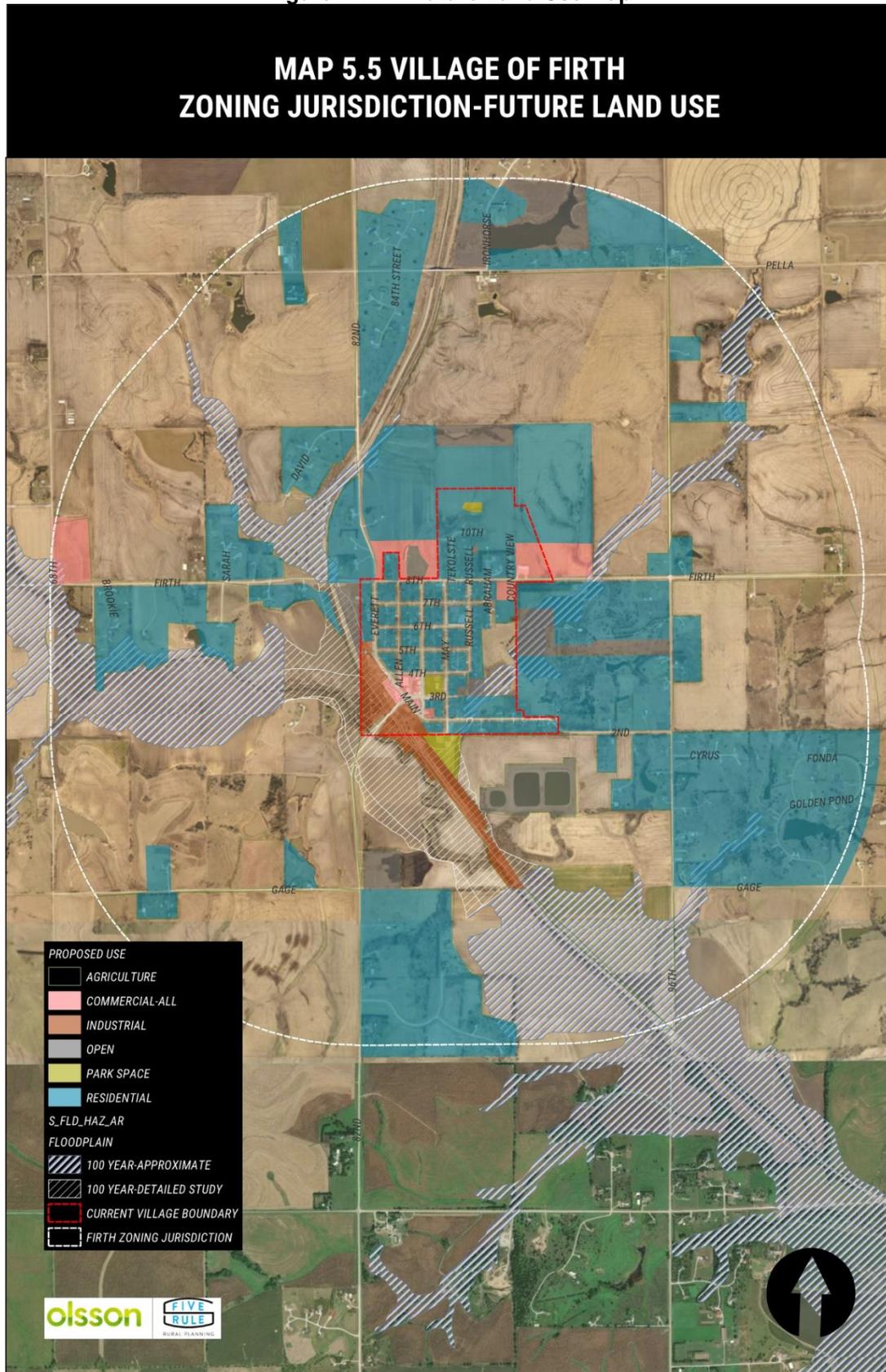
Source: U.S. Census Bureau⁷⁰

Future Development Trends

In the last five years, the North Ridge development was annexed to the village. Phase one of the annexation included 19 residential lots (17 built new); phase two will include 26 residential lots and five commercial lots. The final plot will be approved by the end of 2019. This new housing development has been attracting residents to Firth, allowing the population to be relatively stable. The village expects the new Monolith Materials manufacturing plant in Hallam to bring more new residents to Firth.

⁷⁰ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

Figure FRT.4: Future Land Use Map



Structural Inventory and Valuation

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

Table FRT.2: Structural Inventory/Parcel Improvements

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | MEAN VALUE OF IMPROVEMENTS PER PARCEL | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|------------------------|-------------------------|---------------------------------------|--------------------------------------|-------------------------------------|
| 235 | \$28,018,200 | \$119,226 | 22 | \$3,192,200 |

Source: Nebraska Department of Revenue, Property Assessment Division⁷¹

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there is one chemical storage site in Firth.

Table FRT.3: Chemical Storage Fixed Sites

| FACILITY NAME | ADDRESS | IN FLOODPLAIN (Y/N) |
|---------------------|--------------|---------------------|
| FARMERS COOPERATIVE | 208 W 3rd St | Y |

Source: Nebraska Department of Environment and Energy, 2017⁷²

Critical Facilities

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

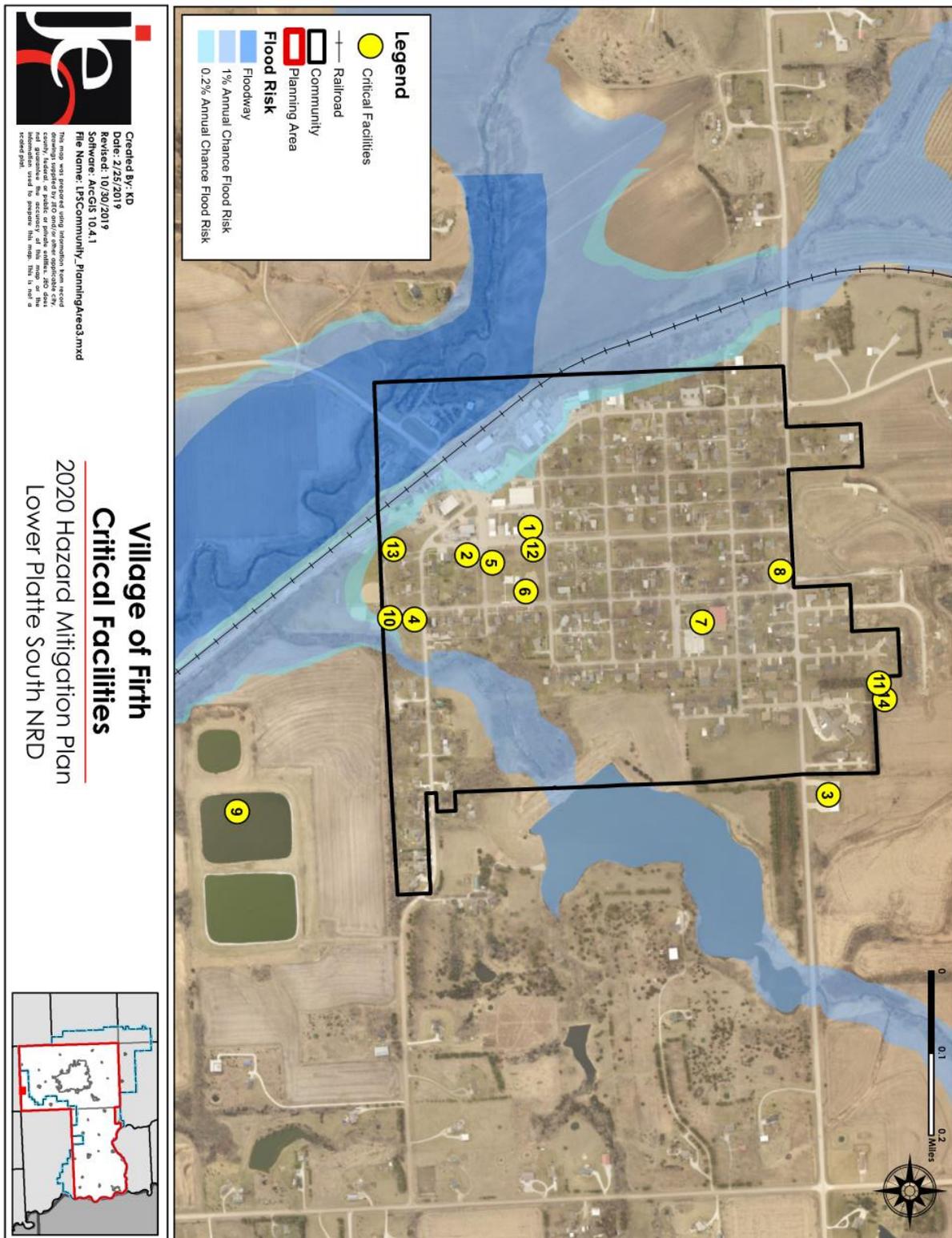
Table FRT.4: Critical Facilities

| CF Number | Name | Red Cross Shelter (Y/N) | Generator (Y/N) | Located in Floodplain (Y/N) |
|-----------|-------------------------------|-------------------------|-----------------|-----------------------------|
| 1 | Firth Community Center | N | N | N |
| 2 | Firth Community Church | N | N | N |
| 3 | Firth Fire Station | N | N | N |
| 4 | Firth Maintenance Building #1 | N | N | N |
| 5 | Firth Maintenance Building #2 | N | N | N |
| 6 | Firth Park Shelter | N | N | N |
| 7 | Firth Reformed Church | N | N | N |
| 8 | Lancaster Co Shop | N | N | N |
| 9 | Sewage Lagoons | N | N | N |
| 10 | Sewage Lift Station | N | Y | N |
| 11 | Village Well #1 | N | Y | N |
| 12 | Village Well #2 | N | N | N |
| 13 | Village Well #3 | N | N | N |
| 14 | Water Tower | N | N | N |

⁷¹ County Assessor. Personal correspondence, [DATE].

⁷² Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Figure FRT.5: Critical Facilities



Historical Occurrences

See the Lancaster County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Chemical Spills (Transportation)

Chemical spills via transportation are of concern due to the high volume of hazardous chemicals transported through the community. Firth Road and the rail line running along the edge of town regularly see large volumes of coal, oil, and agricultural chemicals transported. Primary concerns regarding chemical spills include the proximity of the only chemical fixed site, the Co-Op, being located near the rail line. While no chemical spills have occurred to date at these locations, a combined spill event would be particularly difficult for the Village. The Village is looking into developing an evacuation plan which could be utilized during this event.

Flooding

Flooding has been a primary concern for the village because of its proximity to the middle branch of the Nemaha River. Firth has not seen many flooding events since 2010, when the Nemaha ditch and detention cell project was completed; however, part of the Co-Op facility is still located in the floodplain. The rail line which runs between the river and the Village provides some level of flood protection.

Severe Thunderstorms

Severe thunderstorms are a normal part of the climate for the State of Nebraska and the planning area. Damage from severe thunderstorms typically is associated with high winds, lightning strikes, and heavy rain. Primary concerns for severe thunderstorms include blocked transportation routes and loss of power. The majority of power lines in the Village are above ground. The lift station and one well do have backup generators in case of power outages.

Tornadoes

Tornadoes are a significant hazard of concern due to their potential to cause large-scale damage and injury or death to residents. While local churches and the community building are used as local shelters, there are no FEMA certified storm shelters located in the Village. The Village also has an alert siren in town which is owned and controlled by Lancaster County Emergency Management.

Governance

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

- Board Chair
- Clerk
- Utilities Superintendent
- Sewage Plant Operator
- Sewer/Water Commissioner

Section Seven: Village of Firth Community Profile

- Street Commissioner
- Engineer
- Volunteer Fire Department
- Treasurer
- Board of Trustees
- Village Attorney

Capability Assessment

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

Table FRT.5: Capability Assessment

| Survey Components/Subcomponents | | Yes/No |
|--|---|-------------------|
| <i>Planning & Regulatory Capability</i> | Comprehensive Plan | Yes, updated 2019 |
| | Capital Improvements Plan | No |
| | Economic Development Plan | No |
| | Emergency Operational Plan | Yes, County |
| | Floodplain Management Plan | Yes, updated 2019 |
| | Storm Water Management Plan | No, updated 2019 |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | Yes |
| | Floodplain Ordinance | Yes |
| | Building Codes | Yes |
| | National Flood Insurance Program | Yes |
| | Community Rating System | No |
| Other (if any) | | |
| <i>Administrative & Technical Capability</i> | Planning Commission | Yes |
| | Floodplain Administration | Yes |
| | GIS Capabilities | Yes |
| | Chief Building Official | Yes |
| | Civil Engineering | Yes |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | Yes |
| | Grant Manager | No |
| | Mutual Aid Agreement | Yes |
| Other (if any) | | |
| <i>Fiscal Capability</i> | Capital Improvement Plan/ 1 & 6 Year plan | Yes |
| | Applied for grants in the past | Yes |
| | Awarded a grant in the past | Yes |
| | Authority to Levy Taxes for Specific Purposes such as Mitigation Projects | Yes |
| | Gas/Electric Service Fees | No |

| Survey Components/Subcomponents | | Yes/No |
|--|--|--------|
| | Storm Water Service Fees | No |
| | Water/Sewer Service Fees | Yes |
| | Development Impact Fees | Yes |
| | General Obligation Revenue or Special Tax Bonds | Yes |
| | Other (if any) | |
| <i>Education & Outreach Capability</i> | Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc. | No |
| | Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education) | No |
| | Natural Disaster or Safety related school programs | No |
| | StormReady Certification | No |
| | Firewise Communities Certification | No |
| | Tree City USA | No |
| | Other (if any) | |

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|-----------------------|
| Does your community have the financial resources needed to implement mitigation projects? | Moderate |
| Does your community have the staff/expertise to implement projects? | Moderate |
| Does your community have the community support to implement projects? | Moderate |
| Does your community staff have the time to devote to hazard mitigation? | Moderate |

Plan Integration

Firth’s Comprehensive Plan was last updated in 2019 and discusses natural hazards, especially regarding flooding especially. The plan’s goals are aimed at safe growth, places restrictions on development in the floodplain, and encourages the preservation of open space in hazardous areas. The plan requires elevation of structures in the floodplain in collaboration with the Floodplain Ordinance.

Firth has an annex as part of the Lancaster County Local Emergency Operations Plan which was last updated in 2017. The plan assigns specific responsibilities to staff members, provides contact information to appropriate contacts or providers, and identifies sheltering locations. The local planning team indicated that a more detailed and Village specific emergency plan is needed to assist in evacuation of residents in hazard events.

The Village’s Zoning Ordinance and Subdivision Ordinance are currently being updated with an expected completion date of spring 2020. The updated ordinances will require elevation of structures in the floodplain, limit population density in the floodplain, and account for current population trends for future development. The Village also has a Floodplain Ordinance that also regulates development in the floodplain.

Section Seven: Village of Firth Community Profile

Firth uses the 2009 International Building Code and last updated their building code in 2014. These codes require elevation of structures and utilities in the floodplain, require sewer backflow valves, and encourage the use of fire-resistant building materials. Heavy snow fall and wildfire are also specifically discussed in the building code for roof slope and fire walls, respectively.

The Village's Wellhead Protection Plan was developed in the 1980's. Currently there are signs to alert residents of the area and the Village has a water conservation plan in place.

The Village's overall budget has increased slightly over the past decade. The local planning team indicated the budget is sufficient to meet current needs but there are no large-scale projects or purchases expected in the next decade. Currently the annual municipal budget provides some flexibility to pursue new mitigation projects with a community emphasis on stormwater management.

Mitigation Strategy

Completed Mitigation Actions

| Mitigation Action | Promote the Use of Higher Codes and Standards |
|---------------------|--|
| Description | Promote the use of higher codes and standards, such as the Fortified for Safer Living Standards, in order to provide greater protection for any new construction or building retrofits |
| Hazard(s) Addressed | All Hazards |
| Status | Complete, adopted international building codes |

Ongoing and New Mitigation Actions

| Mitigation Action | Comprehensive Village Disaster/Emergency Response Plan |
|---------------------|--|
| Description | Develop an evacuation plan to be prepared for any disaster that would require evacuation. Develop/update a Comprehensive Village Disaster and Emergency Response Plan. |
| Hazard(s) Addressed | All |
| Estimated Cost | \$5,000+, Staff Time |
| Potential Funding | General Funds |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Village Board |
| Status | This project has not yet been started. |

| Mitigation Action | Stormwater System and Drainage Improvements |
|---------------------|--|
| Description | Firth can utilize stormwater systems comprising of ditches and culverts to convey runoff. Undersized systems can contribute to localized flooding. Drainage improvements may include ditch upsizing, ditch cleanout, and culvert improvements. These improvements can serve to more effectively convey runoff within villages, preventing interior localized flooding. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$10,000 – 50,000 |
| Potential Funding | General Fund, Street Maintenance Funds |
| Timeline | Ongoing |
| Priority | Low |
| Lead Agency | Village Board, Village Maintenance |
| Status | The Village is currently cleaning culverts and road ditches. Some areas are being reworked to improve drainage as needed. This is an ongoing project done on an as-needed basis. |

Removed Mitigation Action

| Mitigation Action | Maintain Good Standing with the NFIP |
|---------------------|---|
| Description | Maintain good standing with National Flood Insurance Program (NFIP) |
| Hazard(s) Addressed | Flooding |
| Reason for Removal | While the Village will continue to participate in the NFIP, this action is no longer considered a mitigation action by FEMA |

| Mitigation Action | Encourage the Use of Hail Resistant Roofing |
|---------------------|---|
| Description | Educate the public and business owners regarding hail resistant roofing |
| Hazard(s) Addressed | Severe thunderstorms, Hail |
| Reason for Removal | This action was deemed no longer a priority for the Village |

Section Seven: Village of Firth Community Profile

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COMMUNITY PROFILE

VILLAGE OF HALLAM

Lower Platte South Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

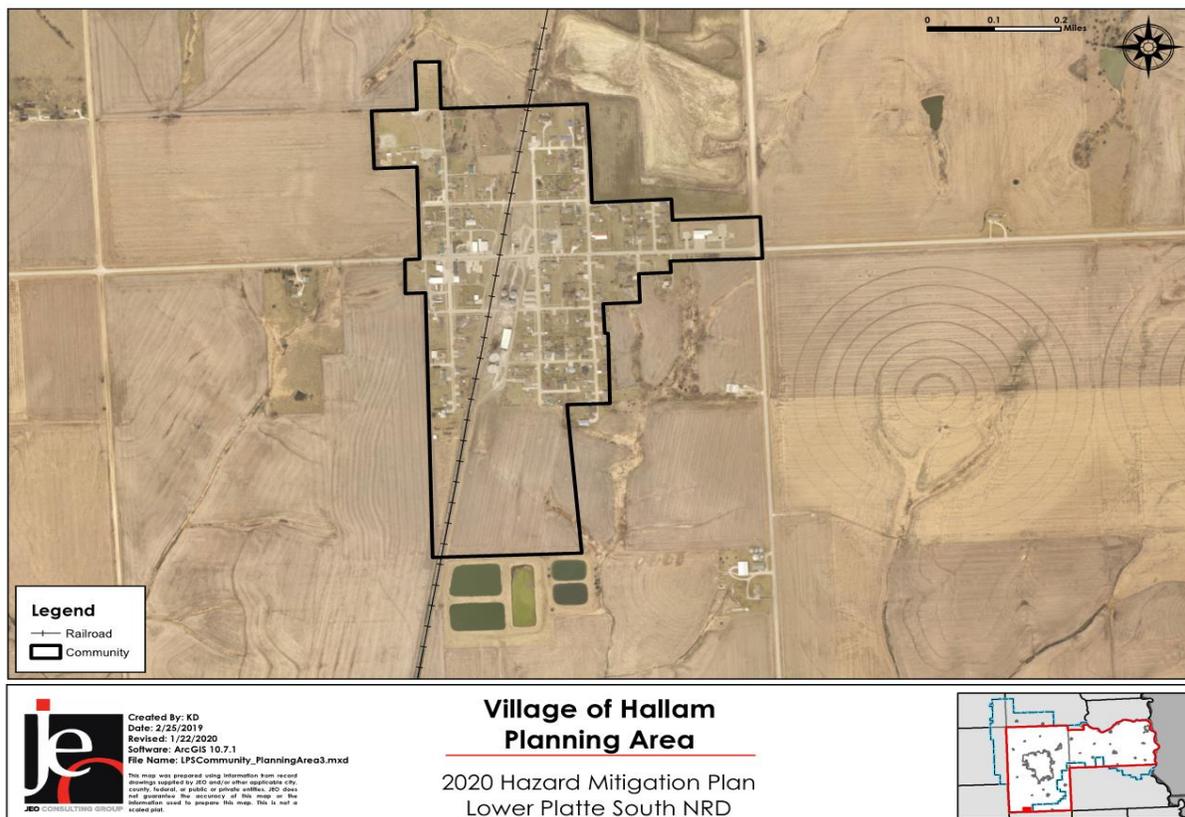
Table HLM.1: Hallam Local Planning Team

| NAME | TITLE | JURISDICTION |
|-----------------|--------------------------|---------------------------|
| ADAM GERMAN | Utility Superintendent | Village of Hallam |
| ANTHONY OBERLEY | Planning Commission | Village of Hallam |
| BOB WINK | Trustee | Village of Hallam |
| BRAD NIEMEYER | Trustee | Village of Hallam |
| CINDY HEIER | Planning Commission | Village of Hallam |
| DAWN STIMPLE | Cemetery Committee | Village of Hallam |
| DUANE AKSAMIT | Fire Chief | Volunteer Fire Department |
| GARY VOCASEK | Board Chairman | Village of Hallam |
| JASON BURIANEK | Trustee | Village of Hallam |
| JEANNE EGGER | Planning Commission | Village of Hallam |
| KIM DILLEY | Planning Commission | Village of Hallam |
| PHIL OZENBAUGH | Park Committee | Village of Hallam |
| SHEILA TAYLOR | Trustee/Hallam Area Fund | Village of Hallam |
| VICKY POLAK | Clerk | Village of Hallam |

Location and Geography

The Village of Hallam is in the southwest corner of Lancaster County, less than a mile north of the Gage County line and about one mile south of the Sheldon Power Plant. The Village covers an area of 0.17 square miles. The nearest waterway is the head of the Claytonia Creek, which flows north-to-south about one mile south of town.

Figure HLM.1: Village of Hallam



Transportation

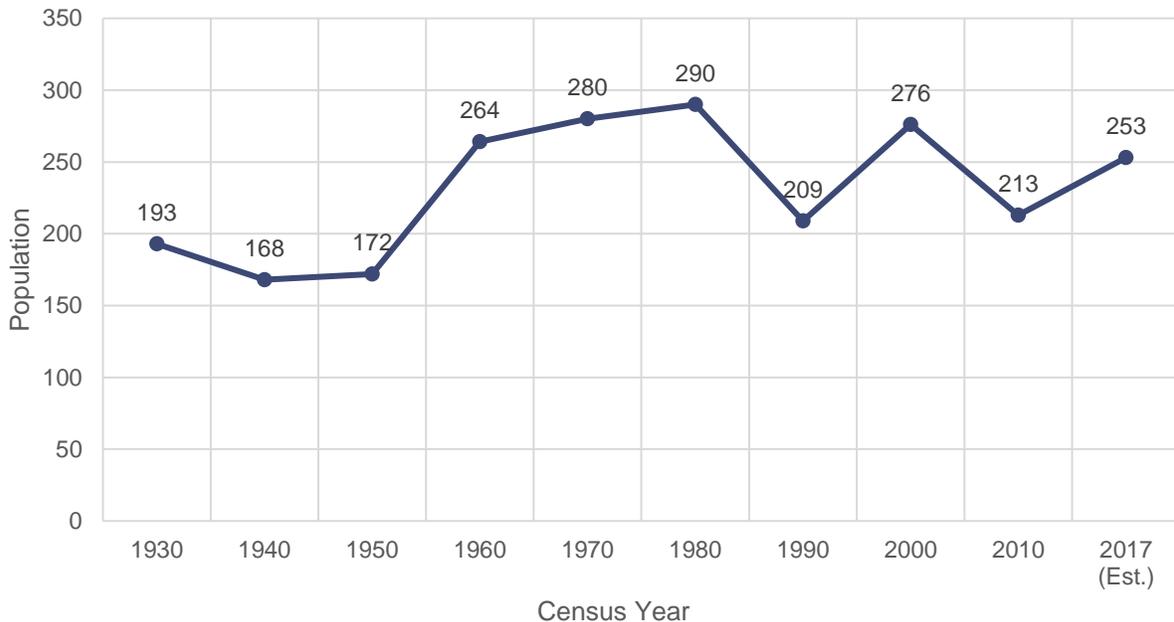
The Village of Hallam has one major transportation corridor, US Highway 77, which runs north four miles east of the town and connect by a spur road, Nebraska Highway 55H. This corridor averages 8,345 vehicles per day and the spur road averages 635 vehicles per day.⁷³ There is one rail lines running through the town owned by Union Pacific (UP). The tracks run north and south and the line mainly hauls coal.⁷⁴ The local planning team indicated Route 55H, SW 42nd St, and Route 77 as the top transportation routes of concern. Hazardous chemicals, particularly agricultural chemicals, are commonly transported along these routes. There is a Monolith Power Plant currently being built north of the Village which, when complete, will likely increase the volume and type of chemical transportation occurring in the area. There is already a Sheldon Power Station located north of town as well.

Concerns also exist for the safety of residents in town to transportation accidents including student bus stop locations, accidents occurring at the intersection of Hallam Road and Route 77, and train derailments. The local planning team identified evacuation concern as Hallam Road is the only way directly into and out of the Village. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

Demographics

Hallam’s population declined from about 276 people in 2000 to 253 people in 2017, a decrease of 23 people and total loss/gain of 8.3%. This is important because a declining population is associated with a higher level of unoccupied housing and decreasing tax revenue. Hallam’s population accounted for less than 1% of Lancaster County’s population (306,357) in 2017.⁷⁵

Figure HLM.2: Population 1930 - 2017



Source: U.S. Census Bureau

⁷³ Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.
⁷⁴ Nebraska Department of Roads. "Nebraska Railroads." Accessed December 2018. <http://opportunity.nebraska.gov/files/businessdevelopment/wineryw/NebraskaRailMap.pdf>.
⁷⁵ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

Section Seven: Village of Hallam Community Profile

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

- **Older.** The median age of Hallam was 37.9 years old in 2017, compared with the County average of 33.2 years. Hallam's population grew younger since 2009, when the median age was 47.5 years old. Hallam had a larger proportion of people under 20 years old (29.3%) than Lancaster County (26.8%).⁷⁶
- **Not ethnically diverse.** Since 2010, Hallam's population was 0% Hispanic or Latino and remained so in 2017. During that time, the Hispanic or Latino population in Lancaster County grew from 5.5% in 2010 to 6.7% in 2017.⁷⁷
- **Less likely to be below the federal poverty line.** The poverty rate in Hallam (2.8% of families living below the federal poverty line) was lower than Lancaster County's poverty rate (8.7%) in 2017.⁷⁸

Employment and Economics

The major economic base of Lancaster County is a mixture of education/healthcare/social services (26.8%), retail (11.1%), professional/scientific/management/administrative/waste management services (9.9%), and two employment sectors of 9.1%: manufacturing and arts/entertainment/recreation/accommodation/food services. In comparison to the County, The Village of Hallam economy had:

- **Similar mix of industries.** Hallam major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (22%), retail (18.4%) and manufacturing (16.4%).⁷⁹
- **Higher household income.** Hallam median household income in 2017 (\$74,653) was \$18,906 higher than the County (\$55,747).⁸⁰
- **More long-distance commuters.** A total of 10.1% percent of workers in Hallam commuted for fewer than 15 minutes, compared with 36% of workers in Lancaster County. An additional 49.2% of workers in Hallam commute 30 minutes or more to work, compared to 15.7% of the County workers.⁸¹

Major Employers

Major employers in the Village of Hallam include Sheldon Power Station, Hallam Steakhouse, Hallam Station, and Farmer's Co-Op. Once the Monolith Power Plant completes construction it is also expected to be a major employer for the area. Additionally, a large amount of residents commute to Lincoln for employment with a smaller portion commuting to Crete or Beatrice.

Housing

In comparison to Lancaster County, Hallam's housing stock was:

- **Less renter occupied.** Of occupied housing units in Hallam, 18.2% are renter-occupied compared with 39.9% of renter housing in Lancaster County.⁸²
- **Newer.** Hallam had a smaller share of housing built prior to 1970 than Lancaster County (15.9% compared to 38.1%).⁸³

⁷⁶ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

⁷⁷ United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

⁷⁸ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

⁷⁹ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

⁸⁰ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

⁸¹ United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

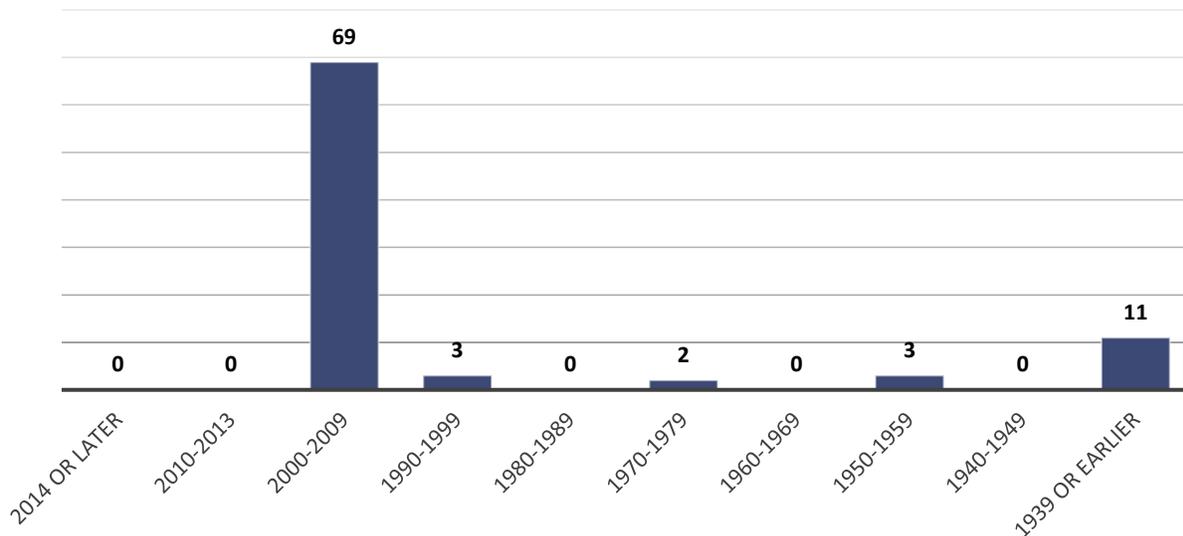
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⁸³ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

- Fewer multifamily dwellings.** The predominant housing type in Hallam is single family detached (89.8%), which is more than Lancaster County (60.8%). The local planning team indicated several multifamily housing units are fully occupied in the Village with two units still available for rent. In town there are three homes available for sale. Hallam currently has no mobile housing.⁸⁴

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

Figure HLM.3: Housing Units by Year Built



Source: U.S. Census Bureau⁸⁵

Future Development Trends

In the last five years Hallam has annexed land to the southern part of the village in order to add a new housing subdivision of approximately 55 homes, Louis Carl Estates. Housing has been augmented with an eight-unit apartment building and several private residential homes have been built in town. The annexation also included adding the village cemetery into town. Improvements have been made to the Village public park. There were also several new businesses in town including Hallam Station and an automotive parts business which replaced the previous dairy business shop. Monolith Power Station has begun construction on a plant north of town.

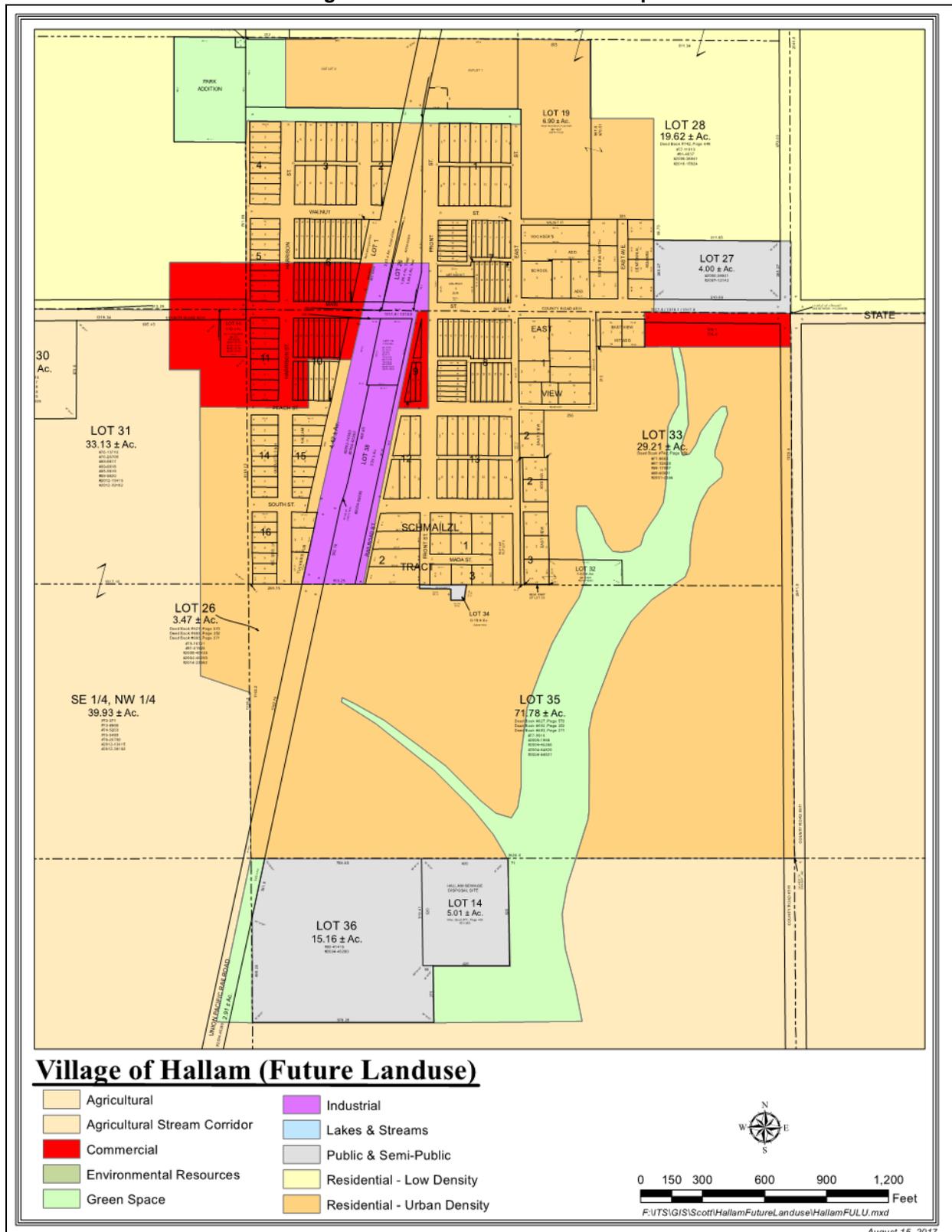
Hallam’s population is relatively stable with no major changes which the local planning team attributed to residents enjoying the smaller, close-knit, and quieter town life. Additional housing and businesses currently under construction will allow Hallam’s population to continue growing.

⁸⁴ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

⁸⁵ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

Section Seven: Village of Hallam Community Profile

Figure HLM.4: Future Land Use Map



Structural Inventory and Valuation

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

Table HLM.2: Structural Inventory/Parcel Improvements

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | MEAN VALUE OF IMPROVEMENTS PER PARCEL | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|------------------------|-------------------------|---------------------------------------|--------------------------------------|-------------------------------------|
| 114 | \$19,688,000 | \$172,702 | 0 | \$0 |

Source: Nebraska Department of Revenue, Property Assessment Division⁸⁶

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there is one chemical storage sites in Hallam.

Table HLM.3: Chemical Storage Fixed Sites

| FACILITY NAME | ADDRESS | IN FLOODPLAIN (Y/N) |
|---------------------|-------------|---------------------|
| FARMERS COOPERATIVE | 400 Main St | N |

Source: Nebraska Department of Environment and Energy, 2017⁸⁷

Critical Facilities

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

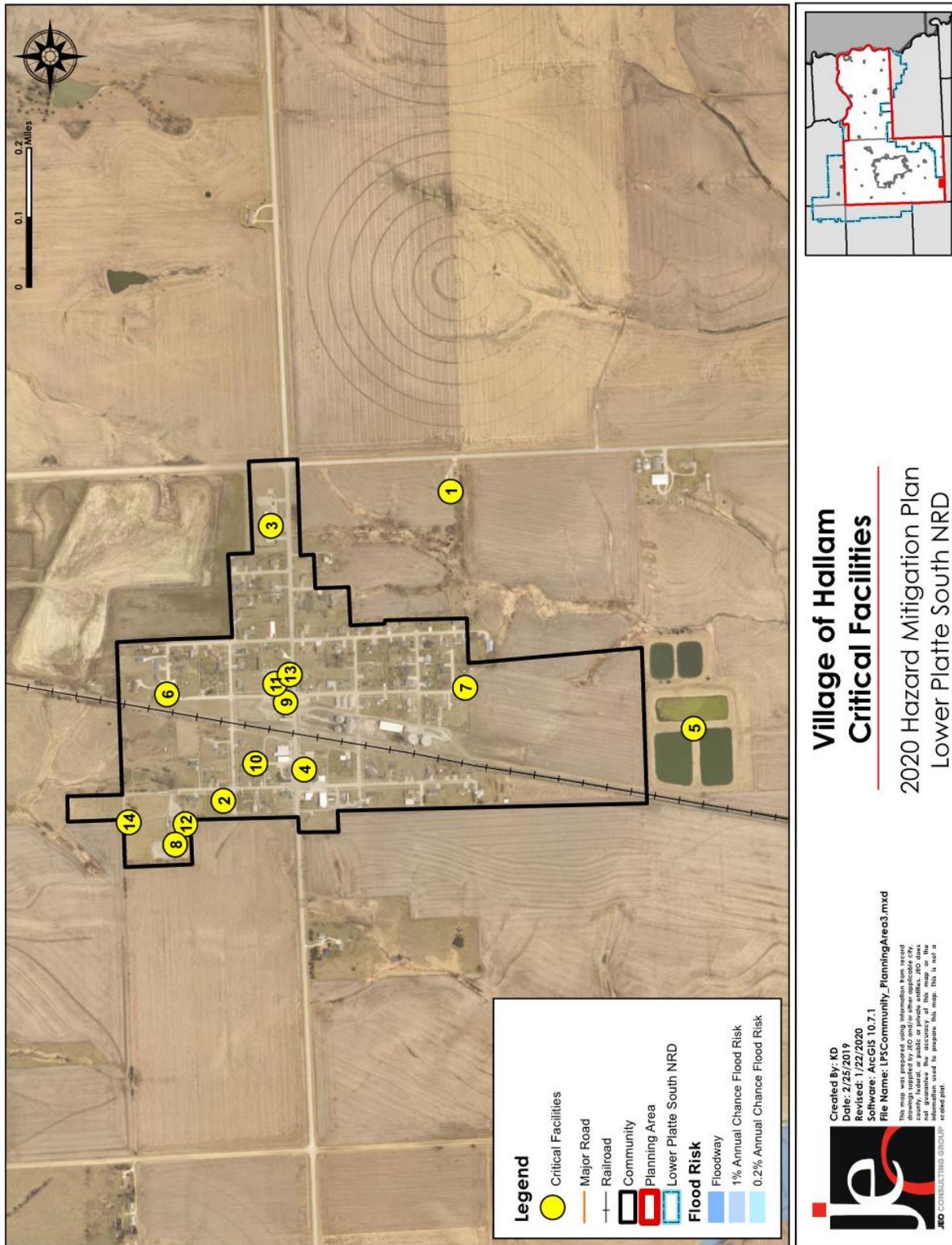
Table HLM.4: Critical Facilities

| CF Number | Name | Red Cross Shelter (Y/N) | Generator (Y/N) | Located in Floodplain (Y/N) |
|-----------|--|-------------------------|-----------------|-----------------------------|
| 1 | Communications Tower | N | N | N |
| 2 | Congregational United Church of Christ | N | N | N |
| 3 | Fire Station | N | Y | N |
| 4 | Hallam Auditorium/Village Hall | Y | Y | N |
| 5 | Lagoons | N | N | N |
| 6 | Lancaster County Shop | N | N | N |
| 7 | Lift Station | N | N | N |
| 8 | Proposed Storm Shelters | N | N | N |
| 9 | Siren and Pressure Tank | N | Battery | N |
| 10 | Telephone Substation | N | N | N |
| 11 | United Methodist Church | N | N | N |
| 12 | Water Tower | N | N | N |
| 13 | Well (East) | N | N | N |
| 14 | Well (North) | N | N | N |

⁸⁶ County Assessor. Personal correspondence, [DATE].

⁸⁷ Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Figure HLM.5: Critical Facilities



Historical Occurrences

See the Lancaster County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Agricultural Animal and Plant Disease

The Village of Hallam and its residents are heavily reliant on agriculture for employment and business. If a large animal or crop disease outbreak were to occur, the local economy could be negatively impacted. No specific outbreaks were noted, however in Lancaster County, 26 animal disease outbreaks occurred in the last four years and 18 plant disease outbreaks occurred since 2000.

Chemical Spills (Fixed Site)

Data from the NRC shows that Hallam has experienced seven fixed site chemical spills since 1990. In 1998 a boiler tank explosion released asbestos into the surrounding area. The co-op is currently the only Tier II listed facility in the village; however, it is located in the center of the community. A new Monolith manufacturing plant opened in 2019 which commonly houses hazardous chemicals. The co-op has moved several types of farm chemicals to agronomy. There is a continual risk of spillage during loading and unloading or due to equipment error. If a large spill were to occur, main transportation routes could be blocked, or nearby residents and businesses could be forced to evacuate. The Hallam fire department would likely be the first to respond to a major spill.

Chemical Spills (Transportation)

With the co-op located in the middle of the village, farm chemicals are regularly transported through the community. The Sheldon Power Plant is also located near the village which increases the amount of chemicals being transported near the community. Two minor spills have been reported near the village. Neither spill resulted in major damages and were cleaned up on the spot. The Union Pacific rail line also runs directly through the community and is located near several critical facilities. If a railroad spill were to occur, it would likely affect transportation and surrounding structures.

Grass/Wildfire

According to the Nebraska Fire Service there were 119 reported fires by the Hallam Fire Department from 2000 to 2018. The housing stock in Hallam is primarily wood built structures which could be significantly impacted by a wildfire event. Hallam is surrounded by agricultural lands mostly used for crops and some livestock operations. In a grass/wildfire event, the fire could spread rapidly creating concerns regarding the ability of community members to evacuate with little notice.

Tornadoes

NCEI data shows that Hallam has experienced three tornado events since 1996. According to the previous hazard mitigation plans, there was a reported tornado in 1912 referred to as "The Hallam Cyclone". Although the village was not directly hit, there was one death and damage to homes, barns, and machinery. On May 22nd, 2004, an F4 tornado directly struck the community destroying or severely damaging 95% of buildings. There was one fatality and 30 injuries from the event.

Section Seven: Village of Hallam Community Profile

Estimated property damage from the tornado was \$100,000,000. The village also lost critical information stored in the Village Hall that was needed for rebuilding. At the time of the tornado the building and zoning codes had not been updated since 1979, therefore reconstructing buildings and bringing them up to code was a major challenge for the community. During the rebuilding process, Hallam adopted Lancaster County’s building code and updated their comprehensive plan. These steps were significant in rebuilding the village after the disaster and have increased the capabilities of Hallam.

Governance

A community’s governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Hallam has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Hallam has five Village board members and the following offices that may help implement mitigation actions.

- Board Chair
- Trustees
- Clerk
- Utility Superintendent
- Planning Commission
- Sewer/Water Operator
- Street Commissioner
- Engineer
- Volunteer Fire Department
- Hallam Area Fund Director
- Park Committee
- Cemetery Committee

Capability Assessment

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

Table HLM.5: Capability Assessment

| Survey Components/Subcomponents | | Yes/No |
|---|----------------------------------|-------------|
| <i>Planning & Regulatory Capability</i> | Comprehensive Plan | Yes |
| | Capital Improvements Plan | Yes |
| | Economic Development Plan | No |
| | Emergency Operational Plan | Yes, County |
| | 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 | No | |

Section Seven: Village of Hallam Community Profile

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

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|-----------------------|
| Does your community have the financial resources needed to implement mitigation projects? | Limited |
| Does your community have the staff/expertise to implement projects? | Limited |
| Does your community have the community support to implement projects? | Limited |
| Does your community staff have the time to devote to hazard mitigation? | Limited |

Plan Integration

The Village of Hallam’s Comprehensive Plan was last updated in 2011 and discusses several hazards consistent with the Hazard Mitigation Plan including flooding, unstable geological areas, and environmentally sensitive areas. The plan also contains goals aimed at safe growth development, limits or prohibits development in the floodplain, encourages infill development and clustering of development, encourages retrofits for historic structures, and encourages elevation of structures in the floodplain. The plan is expected to be reviewed and updated in 2020.

Hallam has an annex to the Lancaster County Emergency Operations Plan which was last updated in 2017. The LEOP outlines hazards of top concern, assigns specific responsibilities to communities, identifies shelter locations, and identifies evacuation protocols. Fire and Rescue, Civil Defense Director, Village Board Chair, Village Clerk, and the Utilities Superintendent are all familiar with the LEOP.

The Village’s zoning ordinance was last updated in 2013. The Village anticipates updating the zoning ordinance in 2020. Currently it discourages development in the floodplain, prohibits filling wetlands, discourages development near chemical storage sites and in the ETJ, and accounts for current population trends. The future update will also consider the wildfire and wildland urban interface. The Village also adopted the 2012 International Building Codes in 2017. These codes require elevation of structures in the floodplain, outline proper sump pump installation, allow raingardens, require hurricane clips during construction, and encourage and/or require the use of fire-resistant building materials for new construction.

The Village’s Capital Improvement Program was last updated in 2014 and will be reviewed and updated again in 2020. The Plan identifies a range of actions consistent with hazard mitigation goals including: stormwater projects, regular maintenance for drainage structures, stormwater system improvements, widening roadways for increased evacuation access, improving the water treatment facility, wind breaks, and trail and park improvements.

Additional plans the Village has in place include a Blight Study which was completed in 2017, a General Redevelopment Plan (2017), and a Wellhead Protection Plan (2007).

The Village of Hallam has seen a decrease in the annual municipal budget over the past several years and current funds are limited to maintain facilities or are tied to current well improvement projects.

Mitigation Strategy

Ongoing and New Mitigation Actions

| Mitigation Action | Evacuation Planning |
|---------------------|--|
| Description | Develop an evacuation plan to be prepared for any disaster that would require evacuation |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$500-\$3,000 |
| Potential Funding | General Funds, HMGP, PDM |
| Timeline | 1 year |
| Priority | High |
| Lead Agency | Village of Hallam, Lancaster County Emergency Management |
| Status | Evacuation planning is currently in progress with the Village and Lancaster County EMA. |

Section Seven: Village of Hallam Community Profile

| Mitigation Action | Public Awareness |
|---------------------|--|
| Description | Through activities such as outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. |
| Hazard(s) Addressed | All Hazards |
| Estimated Cost | \$0-\$5,500 |
| Potential Funding | General Funds, HMGP, PDM |
| Timeline | Ongoing |
| Priority | High |
| Lead Agency | Village of Hallam |
| Status | This is an ongoing action for the Village. |

| Mitigation Action | Obtain Tree City USA Designation |
|---------------------|---|
| Description | Work to become a Tree City USA through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a tree maintenance program in order to maintain trees in a community to limited potential damages when a storm event occurs. |
| Hazard(s) Addressed | Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms |
| Estimated Cost | \$1,500 |
| Potential Funding | General Funds, Arbor Day Foundation, US Forest Service |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Village of Hallam |
| Status | This project has not yet been started. |

| Mitigation Action | Stormwater System and Drainage Improvements |
|---------------------|--|
| Description | Hallam may utilize stormwater systems comprising of ditches and culverts to convey runoff. Undersized systems can contribute to localized flooding. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. These improvements can serve to more effectively convey runoff within villages, preventing interior localized flooding. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$10,000-\$75,000 |
| Potential Funding | General Funds, PDM, HMGP, CDBG |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Village of Hallam |
| Status | Stormwater system maintenance is an ongoing process for the Village. |

| Mitigation Action | Conservation Plan |
|---------------------|---|
| Description | Develop a conservation plan which includes knowledge of regional needs. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$5,500+ |
| Potential Funding | General Funds, PDM, HMGP |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Village of Hallam, Lancaster County Planning |
| Status | This project has not yet been started. |

Section Seven: Village of Hallam Community Profile

| Mitigation Action | Preserve Natural and Beneficial Functions |
|---------------------|---|
| Description | Preserve natural and beneficial functions of floodplain land through measures such as retaining natural vegetation, restoring streambeds, and preserving open space in the floodplain |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$5,500+ |
| Potential Funding | General Funds, HMGP, PDM |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Village of Hallam, Lancaster County Emergency Management, Floodplain Manager |
| Status | This project has not yet been started. |

| Mitigation Action | Storm Shelter |
|---------------------|--|
| Description | Identify, design, and develop storm shelters to protect community and CFs. |
| Hazard(s) Addressed | Tornadoes, High Winds, Severe Thunderstorms |
| Estimated Cost | \$200-\$350/sf stand alone; \$150-\$250/sf addition/retrofit |
| Potential Funding | General Funds, HMGP, PDM |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Village of Hallam, Lancaster County Emergency Management |
| Status | This project has not yet been started. |

COMMUNITY PROFILE

CITY OF HICKMAN

Lower Platte South Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

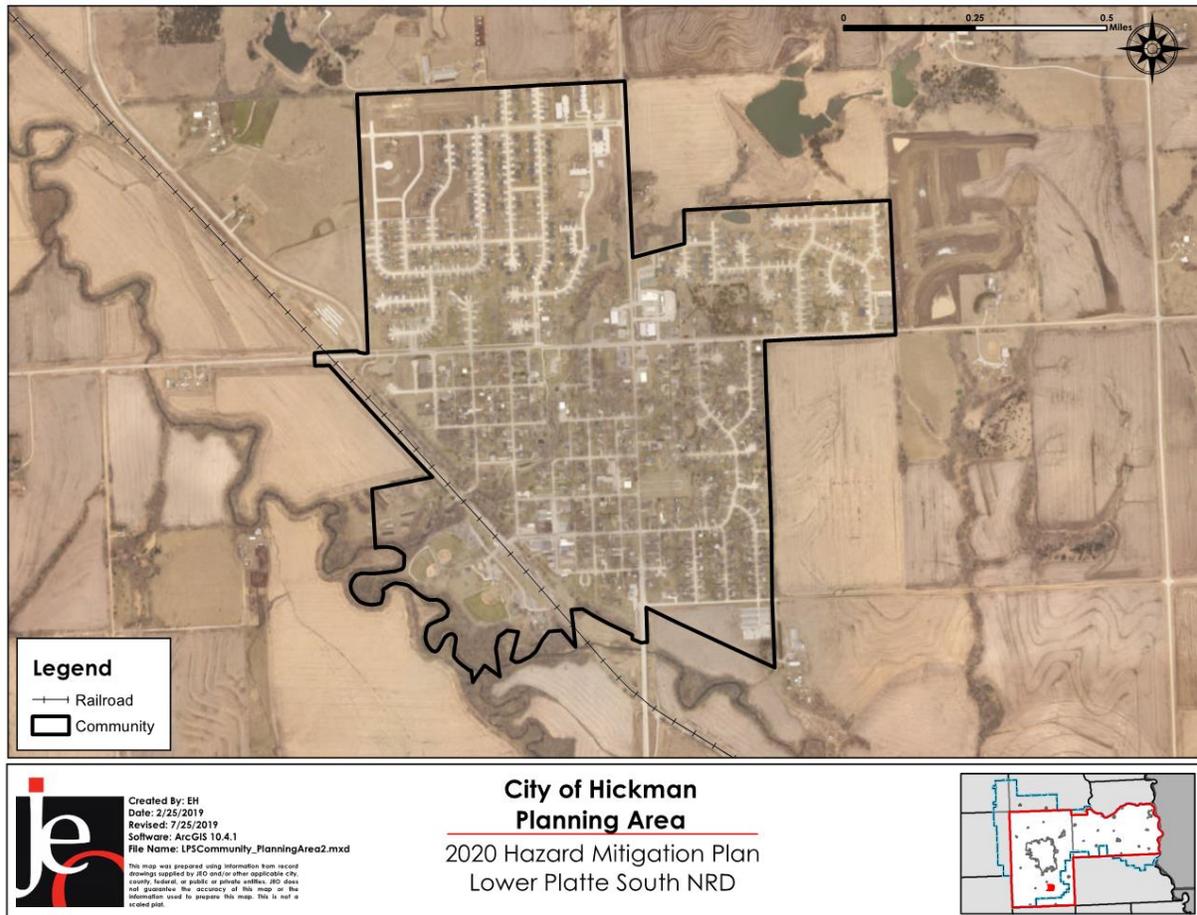
Table HCK.1: Hickman Local Planning Team

| NAME | TITLE | JURISDICTION |
|---------------|--|-----------------|
| HEIDI HOGLUND | Director of Permits, Codes, and Zoning | City of Hickman |
| SILAS CLARKE | City Administrator | City of Hickman |

Location and Geography

The City of Hickman is in the southern, central portion/corner of Lancaster County, approximately two miles northeast of the Stagecoach Lake State Recreation Area and 2.5 miles west of the Wagon Train Lake State Recreation Area. The City covers an area of 0.78 square miles. There are three major bodies of water near the town. The largest is the Wagon Train Lake, a 315-acre lake east of town. The second is the Stagecoach Lake, a 195-acre lake south of town. And third is the Hickman Branch of the Salt Creek, which flows southeast-to-northwest on the southwest side of town.

Figure HCK.1: City of Hickman



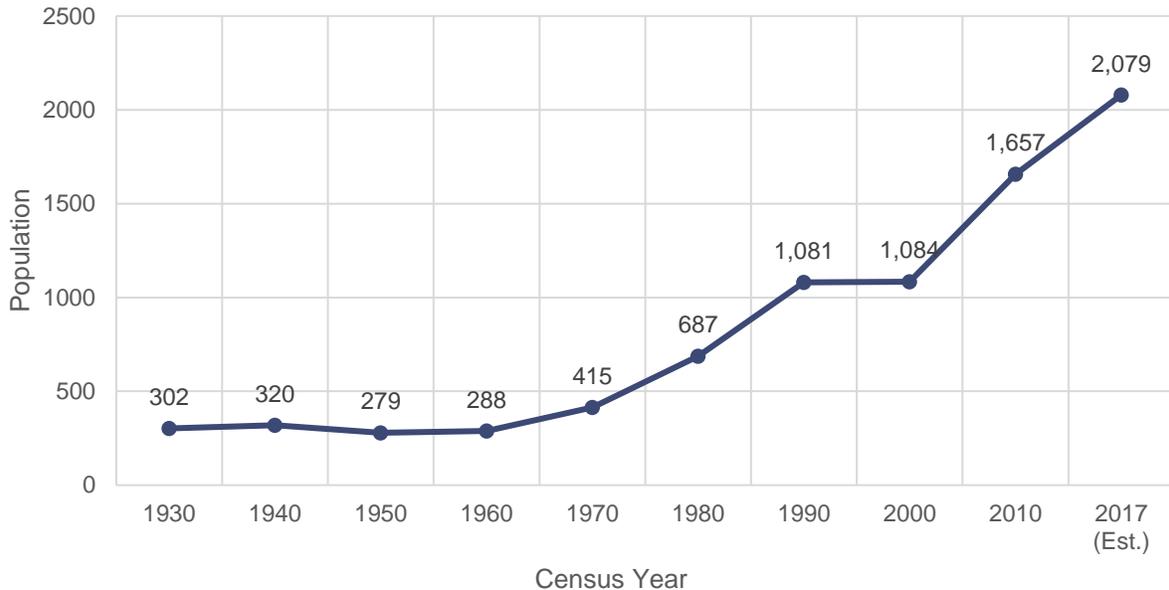
Transportation

The City of Hickman has one major transportation corridor and a spur road for access. The main corridor is US Highway 77, which runs north-and-south four miles to the west. The town uses the east-and-west bound Nebraska Highway 55G for access. This main corridor averages 10,730 vehicles per day and the spur road averages 1,430 vehicles per day.⁸⁸ There is one rail line running near the town owned by Burlington-Northern-Santa Fe (BNSF). The tracks run north-and-south and the line mainly hauls agricultural products.⁸⁹ The local planning team identified routes 55G, Hickman Road, 54th Street, and 66th Street as major transportation routes of concern. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

Demographics

Hickman's population grew from about 1,084 people in 2000 to 2,079 people in 2017, an increase of 995 people and total gain of 91.8%. This is important because a growing population is associated with increased hazard mitigation and emergency planning requirements. Hickman's population accounted for 0.68% of Lancaster County's population of 306,357 in 2017.⁹⁰

Figure HCK.2: Population 1930 - 2017



Source: U.S. Census Bureau

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

- **Younger.** The median age of Hickman was 32.4 years old in 2017, compared with the County average of 33.2 years. Hickman's population grew older since 2009, when the median age was 29.7 years old. Hickman had a larger proportion of people under 20 years old (36%) than Lancaster County (26.8%).⁹¹
- **Less ethnically diverse.** Since 2010, Hickman grew less ethnically diverse. In 2010, Hickman's population was 3% Hispanic or Latino. By 2017, Hickman's population was 1%

⁸⁸ Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.

⁸⁹ Nebraska Department of Roads. "Nebraska Railroads." Accessed December 2018. <http://opportunity.nebraska.gov/files/businessdevelopment/winery/NebraskaRailMap.pdf>.

⁹⁰ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

⁹¹ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

Section Seven: City of Hickman Community Profile

Hispanic or Latino. During that time, the Hispanic or Latino population in Lancaster County grew from 5.5% in 2010 to 6.7% in 2017.⁹²

- **Less likely to be below the federal poverty line.** The poverty rate in Hickman (1.4% of families living below the federal poverty line) was lower than Lancaster County's poverty rate (8.7%) in 2017.⁹³

Employment and Economics

The major economic base of Lancaster County is a mixture of education/healthcare/social services (26.8%), retail (11.1%), professional/scientific/management/administrative/waste management services (9.9%), and two employment sectors of 9.1%: manufacturing and arts/entertainment/recreation/accommodation/food services. In comparison to the County, The City of Hickman economy had:

- **Diverse mix of industries.** Hickman major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (29.5%), finance/insurance/real estate/rental/leasing (11%), and public administration (9.5%).⁹⁴
- **Higher household income.** Hickman median household income in 2017 (\$96,563) was \$40,816 higher than the County (\$55,747).⁹⁵
- **More long-distance commuters.** A total of 14.4% percent of workers in Hickman commuted for fewer than 15 minutes, compared with 36% of workers in Lancaster County. An additional 33.6% of workers in Hickman commute 30 minutes or more to work, compared to 15.7% of the County workers.⁹⁶

Major Employers

Major employers in Hickman include the City government, local gas stations, and retail stores. A large percentage of residents commute to Lincoln for employment.

Housing

In comparison to Lancaster County, Hickman's housing stock was:

- **Less renter occupied.** Of occupied housing units in Hickman, 20.8% are renter-occupied compared with 39.9% of renter housing in Lancaster County.⁹⁷
- **Newer.** Hickman had a smaller share of housing built prior to 1970 than Lancaster County (7.3% compared to 38.1%).⁹⁸
- **Fewer multifamily dwellings.** The predominant housing type in Hickman is single family detached (88.4%), which is more than Lancaster County (60.8%). Hickman contains less multifamily housing with five or more units per structure compared to Lancaster County (8.4% compared to 23.6%). Hickman has no mobile housing.⁹⁹

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

⁹² United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

⁹³ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

⁹⁴ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

⁹⁵ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

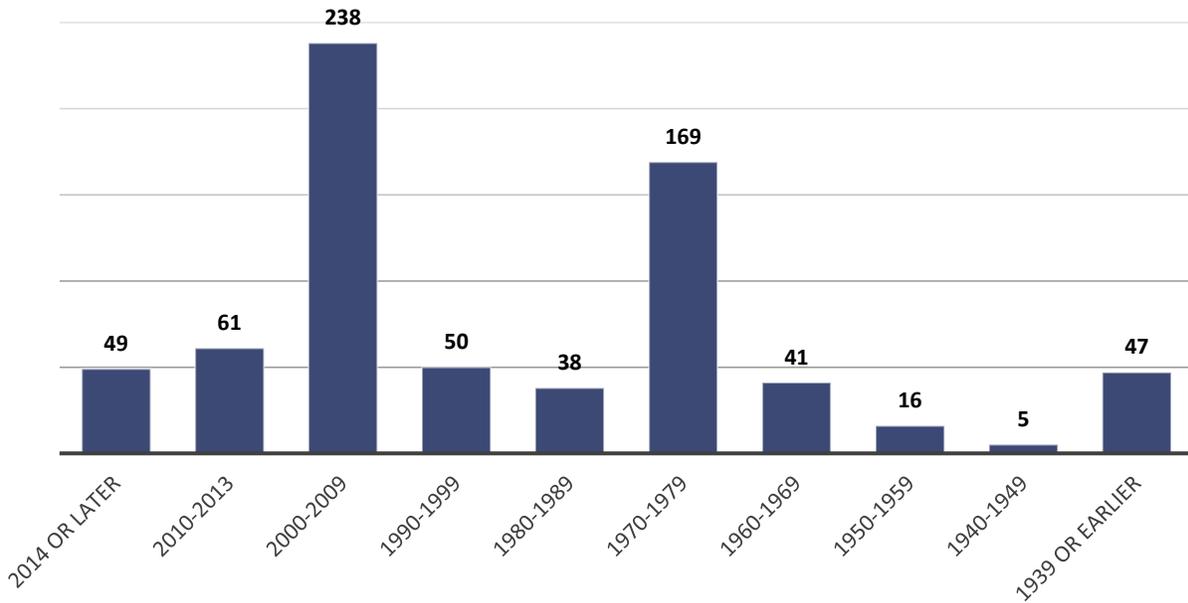
⁹⁶ United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

⁹⁷ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

⁹⁸ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

⁹⁹ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

Figure HCK.3: Housing Units by Year Built



Source: U.S. Census Bureau¹⁰⁰

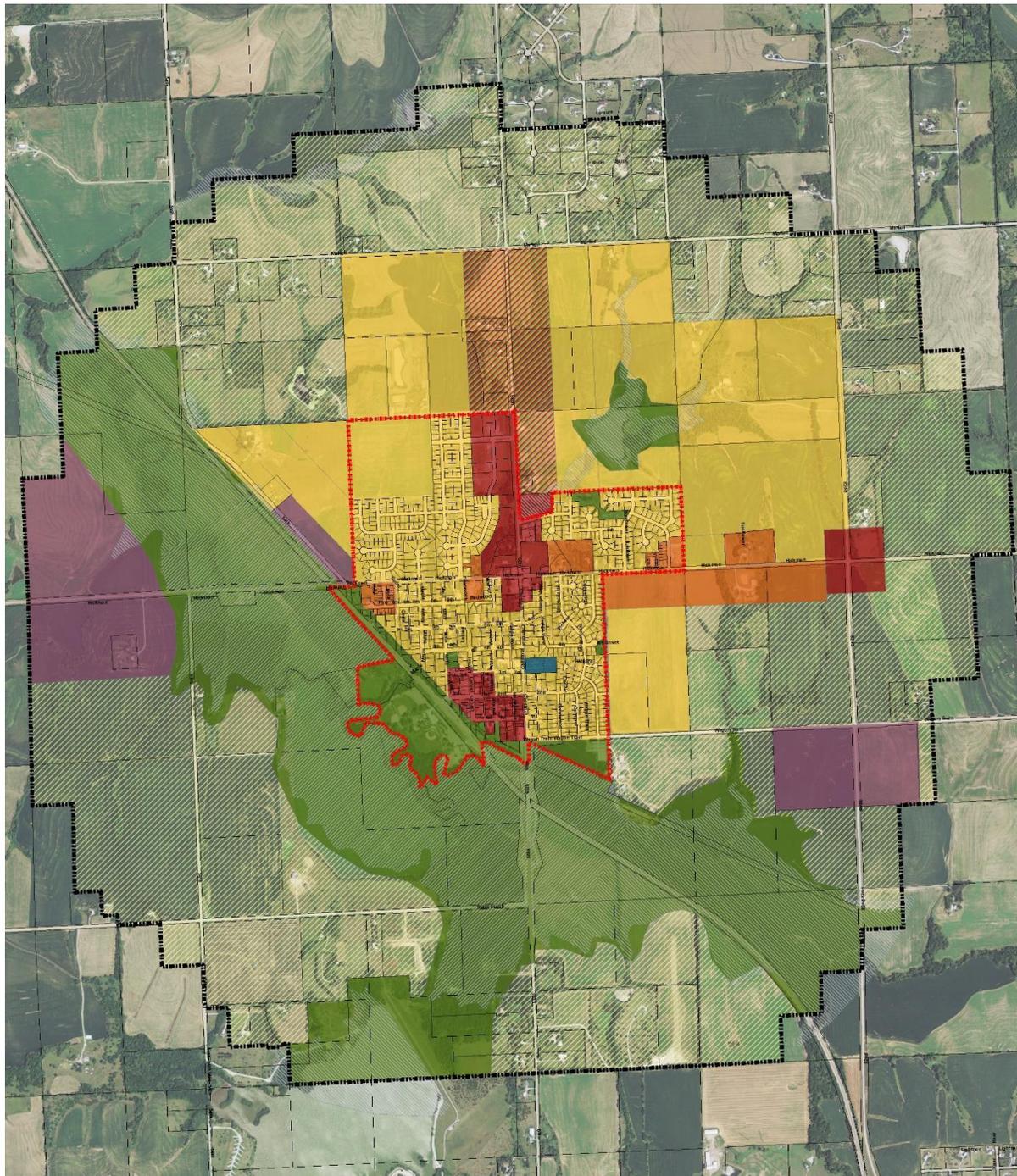
Future Development Trends

In the last five years the City has continued to grow for residential homes. The City has also demolished the old grocery store, city hall, and two single family homes. According to the U.S. Census Bureau, Hickman’s population is growing which the local planning team attributes to residents preference to live in a smaller community, but within reasonable distance to larger metropolitan areas. In the next five years the City is anticipating new housing developments in the basin to the north and northeast of town.

¹⁰⁰ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

Section Seven: City of Hickman Community Profile

Figure HCK.4: Future Land Use Map



| | | | |
|-------------------------------|--|----------------------|--|
| Legend | | | |
| Corporate Limits | | Mixed Use | |
| Extraterritorial Jurisdiction | | Light Industrial | |
| Floodplain | | Parks and Recreation | |
| A | | Public/Quasi-Public | |
| AE | | | |

| | | |
|----------------------------|--|--|
| Future Land Use | | |
| Low Density Residential | | |
| Medium Density Residential | | |
| High Density Residential | | |
| Commercial | | |

| | | |
|---|--|--|
| Hickman Future Land Use | | |
| Hickman, Nebraska | | |
| | | |
| <small>Created by: TC Date: November 2019 Revised: October 2018 Software: ArcGIS 10.2 File: 111719.aprx</small> | | |

Structural Inventory and Valuation

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

Table HCK.2: Structural Inventory/Parcel Improvements

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | MEAN VALUE OF IMPROVEMENTS PER PARCEL | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|------------------------|-------------------------|---------------------------------------|--------------------------------------|-------------------------------------|
| 804 | \$138,244,900 | \$171,946 | 111 | \$14,732,900 |

Source: Nebraska Department of Revenue, Property Assessment Division¹⁰¹

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environmental Quality, there are no chemical storage sites in Hickman.¹⁰²

Critical Facilities

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

Table HCK.3: Critical Facilities

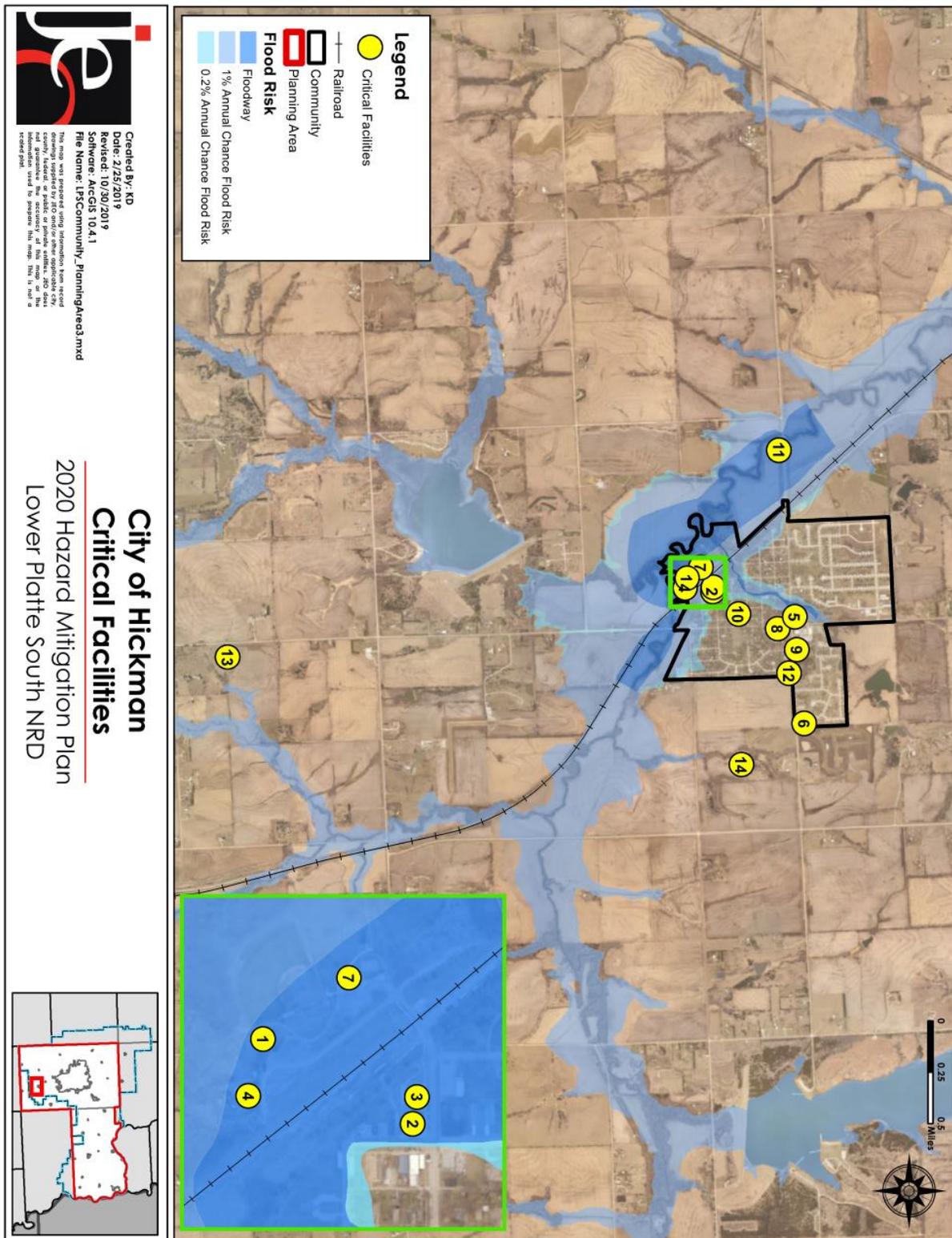
| CF Number | Name | Red Cross Shelter (Y/N) | Generator (Y/N) | Located in Floodplain (Y/N) |
|-----------|----------------------------|-------------------------|-----------------|-----------------------------|
| 1 | American Legion | N | N | Y |
| 2 | City Hall | N | N | Y* |
| 3 | City Maintenance Building | N | N | Y |
| 4 | City Maintenance Building | N | N | Y |
| 5 | City Maintenance Building | N | N | N |
| 6 | Haven Manor | N | N | N |
| 7 | Park Shelter | N | N | Y* |
| 8 | Rural Fire Department | N | N | N |
| 9 | Power Sub-station | N | N | N |
| 10 | United Presbyterian Church | N | N | N |
| 11 | Wastewater Treatment Plant | N | Y | Y* |
| 12 | Water Tower | N | N | N |
| 13 | Water Treatment Plant | N | Y | N |
| 14 | Well #4 | N | Y | N |

*indicates structures in the floodplain which have been elevated to above base flood elevation

¹⁰¹ County Assessor. Personal correspondence, [DATE].

¹⁰² Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Figure HCK.5: Critical Facilities



Historical Occurrences

See the Lancaster County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Chemical Spills (Transportation)

Chemical transportation spills are a concern for the local planning team due to the potential contamination of land and surface water. While no significant events have occurred locally, the City experiences heavy traffic flows through town on highways and rail lines which can be carrying hazardous materials. Transportation routes of top concern include the BNSF rail line, 68th St, and Hickman Road. Critical facilities including City Hall by the rail line and the Fire Department on Hickman Road are vulnerable to chemical transportation spill incidents.

Dam Failure

The City of Hickman has three high hazard dams surrounding the community. One, Upper Salt Creek 35-A, is located directly northeast of city boundaries. The dam is owned and managed by the Lower Platte South NRD. Salt Creek 8 – Wagon Train dam is located east of Hickman, and Salt Creek 9 – Stagecoach Dam is located southwest of Hickman. Evacuation mapping is needed for Stagecoach and Wagon Train dam failures.

High hazard dams are required to have Emergency Action Plans in the case of a dam failure. While no dam failure events have occurred on record, dam failure is a hazard of concern due to the high potential for property damage and loss of life.

Drought

Drought is a pervasive hazard which can severely harm the surrounding agricultural economy. Local concerns about drought mainly revolve around impacts to the municipal water supply. The 2011-2012 drought event across Nebraska impacted the wells with decreased levels in Hickman. Drought is defined in three stages in the municipal code and Drought Emergency Plan. The three triggers for drought are described from the Municipal Code (Chapter 7, Article 2) below:

- **STAGE ONE: WATER WATCH** This stage is triggered by any one of the following conditions: A. Ground water levels have fallen five feet below normal seasonal levels. B. System pressure falls below 35 pounds per square inch. C. Demand for one day is in excess of 500,000 gallons per day.
- **STAGE TWO: WATER WARNING** This stage is triggered by any one of the following conditions: A. Ground water levels have fallen ten feet below normal seasonal levels. B. System pressure falls below 35 pounds per square inch. C. Plant operations are at 80% capacity for more than three consecutive days. D. Demand for one day is in excess of 500,000 gallons per day.
- **STAGE THREE: WATER EMERGENCY** This stage is triggered by any one of the following conditions: A. Ground water levels have fallen 15 feet below normal seasonal levels. B. System pressure falls below 35 pounds per square inch. C. Any pumping lowers water levels to within five feet of the top of the well screens. D. Plant operations are at 90% capacity for more than three consecutive days. E. Demand for one day is in excess of 500,000 gallons per day

The City's water system includes four metered wells which are monitored monthly for water level. The County has a drought monitoring board, but the City has its own drought response plan that has been used in previous dry years for water restrictions. The City has had problems with high

Section Seven: City of Hickman Community Profile

nitrites in some wells which can be exacerbated by drought conditions. During past drought periods the local water supply has been sufficient. However, the local planning team indicated with the population growth Hickman has experienced, additional water supplies are currently being investigated for any future events.

Flooding

The local planning team identified flooding as a significant concern for the community. The local planning team estimated that future flood events could impact more than 40 percent of the city's population and would interrupt critical facility operations. Approximately ten percent of the structures located within the city are within the one percent annual flood risk area. There are several facilities located in the floodplain including: City Maintenance Shop, Recycling Center, American Legions Hall, and the Concession Stand for the city park.

City officials reported a flooding event in June 2013 lasted for several days and caused significant flooding issues for residential homes and the City's main park. According to previous plans previous plan, there was one reported event in July 1992 that flood waters reached the city park areas on the south and west sections of the city and caused some damages. Hickman's FIS reported \$98,000 of damages due to Hickman Branch floodwaters in 1963 and other major floods on July 10, 1950, and July 5, 1908. The local planning team noted that areas in the southeast quadrant and areas within the floodplain are most prone to flooding. The City of Hickman participates in the National Flood Insurance Program. The City's concession stand and previous city hall were rebuilt outside of the floodplain after sustaining flood damage. There are numerous private properties still within the floodplain.

Hail

Hail is often associated with severe thunderstorms and can cause significant damages to property and agricultural land. The local planning team indicated hail events pose a major threat for the health and safety of residents and the potential for property damage is high. Hail events in May 2015 and October 2013 significantly damaged residential homes and infrastructure. No buildings in town are fitted with hail resistant building materials. Damage to roofs, trees, siding, and gutters are common with hail.

Tornadoes

A tornado in October 2013 damaged nine residential homes with significant hail and damaged the local schools. Municipal records are backed up locally to the cloud. Hickman has one warning sirens located on Chestnut Street which is activated by Lancaster County Emergency Management. There are no FEMA certified safe rooms in Hickman. The City has mutual aid agreements and additional resources identified in the Lancaster County Local Emergency Operations Plan.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Hickman has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Hickman has a mayor and six city council members and the following offices that may help implement mitigation actions.

- Council President
- Clerk
- Administrator
- Public Works Director

- Volunteer Fire Department
- Engineer
- Zoning Administrator
- Parks Committee
- City Attorney

Capability Assessment

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

Table HCK.4: Capability Assessment

| Survey Components/Subcomponents | | Yes/No |
|--|---|--------|
| <i>Planning & Regulatory Capability</i> | Comprehensive Plan | Yes |
| | Capital Improvements Plan | Yes |
| | Economic Development Plan | No |
| | Emergency Operational Plan | Yes |
| | Floodplain Management Plan | Yes |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | Yes |
| | Floodplain Ordinance | Yes |
| | Building Codes | Yes |
| | National Flood Insurance Program | Yes |
| | Community Rating System | No |
| Other (if any) | | |
| <i>Administrative & Technical Capability</i> | Planning Commission | Yes |
| | Floodplain Administration | Yes |
| | GIS Capabilities | Yes |
| | Chief Building Official | Yes |
| | Civil Engineering | Yes |
| | Local Staff Who Can Assess Community’s Vulnerability to Hazards | Yes |
| | Grant Manager | Yes |
| | Mutual Aid Agreement | Yes |
| Other (if any) | | |
| <i>Fiscal Capability</i> | Capital Improvement Plan/ 1 & 6 Year plan | Yes |
| | Applied for grants in the past | Yes |
| | Awarded a grant in the past | Yes |
| | Authority to Levy Taxes for Specific Purposes such as Mitigation Projects | Yes |
| | Gas/Electric Service Fees | Yes |
| | Storm Water Service Fees | No |

Section Seven: City of Hickman Community Profile

| Survey Components/Subcomponents | | Yes/No |
|--|--|--------|
| | Water/Sewer Service Fees | Yes |
| | Development Impact Fees | Yes |
| | General Obligation Revenue or Special Tax Bonds | Yes |
| | Other (if any) | |
| <i>Education & Outreach Capability</i> | Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc. | Yes |
| | Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education) | Yes |
| | Natural Disaster or Safety related school programs | No |
| | StormReady Certification | Yes |
| | Firewise Communities Certification | Yes |
| | Tree City USA | Yes |
| | Other (if any) | |

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|-----------------------|
| Does your community have the financial resources needed to implement mitigation projects? | Moderate |
| Does your community have the staff/expertise to implement projects? | Limited |
| Does your community have the community support to implement projects? | Moderate |
| Does your community staff have the time to devote to hazard mitigation? | Limited |

Plan Integration

Hickman has several plans to help guide and facilitate the implementation of mitigation actions. The City last updated their Comprehensive Plan in 2016 which does discuss natural hazards including flooding and hazardous materials. The plan specifically directs development away from the floodplain, encourages infill development and clustering in sensitive areas, encourages elevation of structures in the floodplain, and allows for emergency access to all areas of town. The plan will be reviewed and updated again in 2020 and will incorporate the information from the HMP into the plan update.

Hickman has an annex to the Lancaster County Emergency Operations Plan which was last updated in 2017. The LEOP outlines hazards of top concern, assigns specific responsibilities to communities, identifies shelter locations, and identifies evacuation protocols. Copies of the plan are held with the City, the rural fire district, county sheriff, and county emergency management.

The City's Zoning Ordinance was last updated in 2007; however, the City plans to fully review and update the ordinance in 2020. The current ordinance discourages developing in the floodplain, prohibits development in the floodway, limits development in the ETJ, and accounts for current population trends. In 2016 Hickman updated its building code to follow the IBC/IRC 2012 codes. These codes also reinforce floodplain regulations including limiting development,

requiring structure or utility elevations, and outlining stormwater detentions. The codes also encourage fire resistant building materials and proper sump pump installations.

The City’s Capital Improvement Program was last updated in 2017 and is updated every five years. Current projects identified in the CIP which align with hazard mitigation goals include: storm water management projects, upsizing culverts and drainage structures, improve transportation routes, widening roadways, installing new municipal wells, updating and/or burying powerlines and electrical system, installing emergency generators at critical facilities; constructing a new water tower, and upgrading the wastewater treatment plant.

The City’s annual municipal budget is sufficient to meet current systems and needs but is limited in pursuing large-scale new projects. The local planning team indicated that the budget funds have increased greatly over the past decade, partly due to the growing population of Hickman. However, a large portion of municipal funds are already dedicated to projects including water line replacements, electrical system upgrades, and intersection improvements at 68th and Hickman Road. Some funds have been allocated for actions identified in the HMP including stormwater and water improvements and backup generators.

The City has also pursued numerous other plans that can be consulted when reviewing and pursuing mitigation actions. These plans include a Trail master Plan (2017), Stormwater master Plan (2011), Drinking Water Study (2017), Sanitary Sewer Extension Study (2017), Blight and Substandard Study (2015), Strategic Plan (2018), 68th St Widening Study (2016), and Parks Master Plan (2010).

Mitigation Strategy

Ongoing and New Mitigation Actions

| Mitigation Action | 3-D Dam Failure Modeling |
|---------------------|--|
| Description | Create 3-D dam failure modeling with the assistance of the U.S. Army Corps of Engineers. |
| Hazard(s) Addressed | Dam Failure, Flooding |
| Estimated Cost | \$2,000/dam |
| Potential Funding | General Fund |
| Timeline | 2-5 Years |
| Priority | High |
| Lead Agency | City Administration, U.S Army Corps of Engineers |
| Status | This is a new action that has not been started. The city would like to use it for public outreach and education. |

Section Seven: City of Hickman Community Profile

| Mitigation Action | Backup Generators |
|---------------------|---|
| Description | Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and CFs. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$15,000-\$30,000 per generator |
| Potential Funding | Water Funds, General Funds, NHHS Security Grant |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Public Works Department |
| Status | The City currently owns a generator that will be installed on Municipal Well #4. The electrical connection infrastructure to place the generator was installed in 2016. |

| Mitigation Action | Bank Stabilization |
|---------------------|--|
| Description | Stabilize banks along streams and rivers. This may include, but is not limited to: reducing bank slope, addition of riprap, installation of erosion control materials/fabrics. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$10,000+ |
| Potential Funding | Parks Fund |
| Timeline | 2-5 Years |
| Priority | High |
| Lead Agency | Parks Department |
| Status | This is a new action and has not been started. The bank stabilization will occur in the main park. |

| Mitigation Action | Elevate Infrastructure |
|---------------------|---|
| Description | Elevate pad transformers and switch gear above base flood elevation to eliminate damages from flooding. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies by number needed to elevate |
| Potential Funding | Electrical Funds |
| Timeline | 2-5 Years |
| Priority | High |
| Lead Agency | Public Works |
| Status | This is a new action that has not been started. |

| Mitigation Action | Floodplain Management |
|---------------------|--|
| Description | Continue to enforce local floodplain regulations for structures located in the 1% annual floodplain. Strict enforcement of the type of development and elevations of structures should be considered through issuance of building permits by any community or County |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$4,000+ |
| Potential Funding | General Funds |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Zoning, Codes, and Floodplain Management |
| Status | The City has floodplain regulations with the zoning department and will continue to enforce them accordingly within city limits and the ETJ. |

| Mitigation Action | Public Education |
|---------------------|---|
| Description | Through activities such as outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$5,000+ |
| Potential Funding | General Funds |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Utility Department |
| Status | The City has continued efforts to share outreach information within newsletters and utility bills. |

| Mitigation Action | Source Water Contingency Plan |
|---------------------|---|
| Description | Evaluate and locate new sources of groundwater to ensure adequate supplies to support the existing community and any additional growth which may occur. |
| Hazard(s) Addressed | Drought |
| Estimated Cost | \$25,000 |
| Potential Funding | Water Fund |
| Timeline | 1 Year |
| Priority | High |
| Lead Agency | Public Works, City Administration |
| Status | This is a new action and has not been started. The city will begin identifying potential new wells near the water treatment facility with test drilling and capacities. |

Section Seven: City of Hickman Community Profile

| Mitigation Action | Storm Shelters |
|---------------------|--|
| Description | Design and construct storm shelters and safe rooms in high vulnerability areas such as mobile home parks, campgrounds, schools, and other areas. |
| Hazard(s) Addressed | Tornadoes, High Winds, Severe Thunderstorms |
| Estimated Cost | \$200-\$300/sf stand alone; \$150-\$200/sf addition/retrofit |
| Potential Funding | General Funds, HMGP, PDM |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Public Works Department |
| Status | The City has identified the community center as a preferred location for a storm shelter, however currently the project is not financially feasible. |

| Mitigation Action | Tree City USA |
|---------------------|--|
| Description | Work to maintain Tree City USA status through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a tree maintenance program in order to maintain trees in a community to limited potential damages when a storm event occurs. |
| Hazard(s) Addressed | Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms |
| Estimated Cost | \$0-\$1,000 |
| Potential Funding | General Fund, Parks Budget |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Parks and Recreation Department |
| Status | The City has continued to meet membership requirements and membership. |

Removed Mitigation Actions

| Mitigation Action | National Flood Insurance Program |
|---------------------|--|
| Description | Maintain good standing with National Flood Insurance Program (NFIP). |
| Hazard(s) Addressed | Flooding |
| Reason for Removal | While the City will continue to participate in the NFIP, continued enrollment is no longer considered a mitigation action. |

COMMUNITY PROFILE

CITY OF LINCOLN

Lower Platte South Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

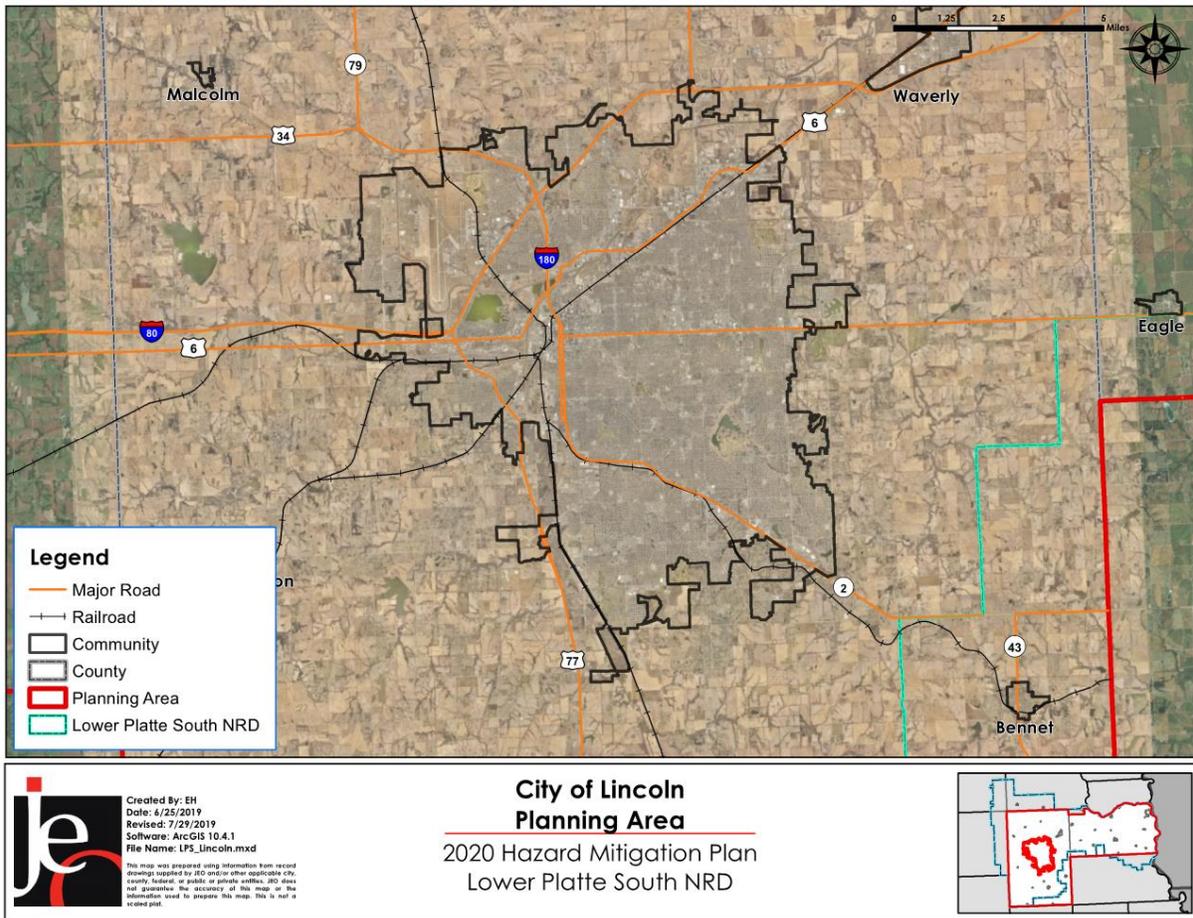
Table LNK.1: Lincoln Local Planning Team

| NAME | TITLE | JURISDICTION |
|-----------------|--|--|
| BEN HIGGINS | Superintendent of Stormwater | City of Lincoln |
| CHIN LIM | Sanitary Engineer | City of Lincoln |
| DAVE BEYERSDORF | Superintendent of Water Distribution | City of Lincoln |
| DAVE THURBER | Utilities Security Manger | City of Lincoln |
| DAVID POTTER | Assistant General Manager | Lower Platte South NRD |
| JIM DAVIDSAVER | Director Emergency Management | Lincoln-Lancaster County Emergency Management |
| JJ YOST | Parks and Recreation Facilities Manager | City of Lincoln |
| MARK HOSKING | Emergency Manager | Lincoln-Lancaster County Emergency Management |
| PAM DINGMAN | County Engineer | Lancaster County |
| PAT BORER | Assistant Fire Chief | City of Lincoln |
| RACHEL JONES | Planner | Lincoln-Lancaster County |
| RANDY HOSKINS | City Engineer | City of Lincoln |
| ROBERT FARBER | Police Captain | City of Lincoln |
| STEVE OWENS | Superintendent of Water Production | City of Lincoln |
| TERRY KATHE | Building and Safety Manager | City of Lincoln |
| TIM BYRNE | Transportation and Utilities Maintenance Operations Manager | City of Lincoln |
| TRACY ZAYAC | Stormwater/Watershed Specialist | Lower Platte South NRD |

Location and Geography

The City of Lincoln is the county seat of Lancaster County, occupying most of the center of the county. The City covers an area of 94.3 square miles. There are several major waterways in and around the City. The largest is the Salt Creek, which flows south to north on the west side of City. It is the main stem of several other waterways in the City. The second is the Antelope Creek, which flows east to west on the south side of City. Finally, Deadman's Run flows east to west on the north side of the City.

Figure LNK.1: City of Lincoln



Transportation

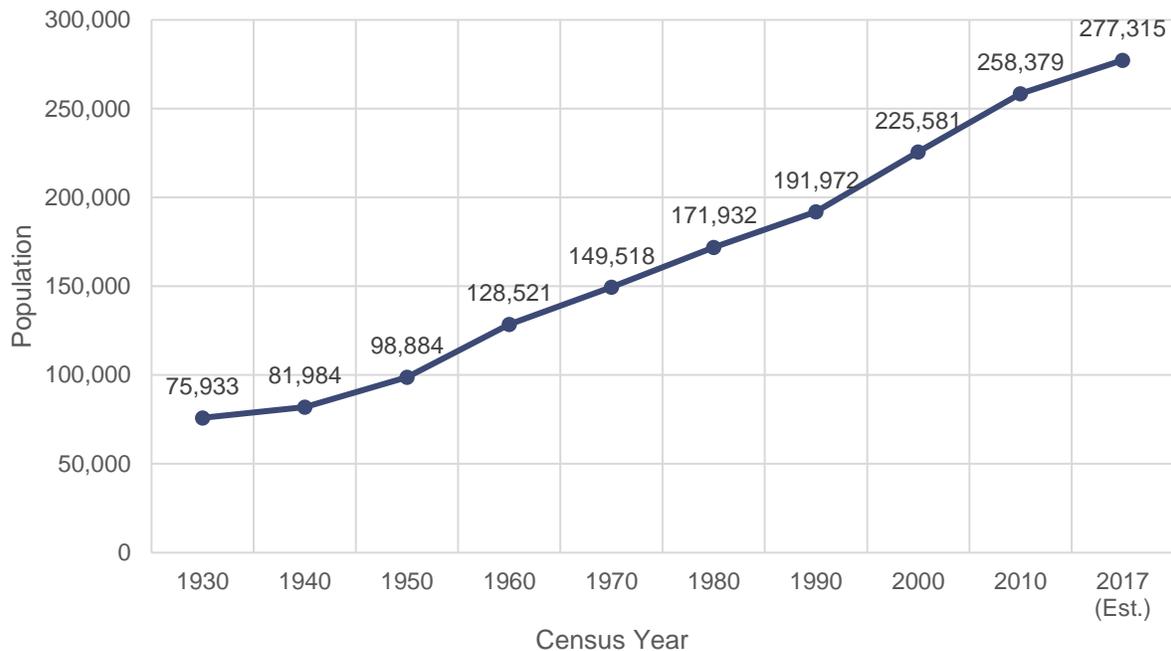
The City of Lincoln has several major transportation corridors, including Interstates 80 and 180; US Highways 77, 6, and 34; and Nebraska Highway 2. Interstates 80 and 180 run east and west and north and south, respectively. The I-80 corridor averages 43,000 vehicles per day and I-180 averages 30,831 vehicles per day. The US Highways (77, 6, and 34) run north and south, east and west, and north-and-south, respectively. US Highway 77 averages 8,065 vehicles per day, 6 averages 29,195 vehicles per day, and 34 averages 39,040 vehicles per day.¹⁰³ There are three rail lines, which converge in the City and are owned by Burlington-Northern-Santa Fe (BNSF), Union Pacific (UP), and Omaha Public Power District (OPPD). The tracks run into the center of the City at a railyard and the lines haul agricultural and energy products.¹⁰⁴ The Lincoln Airport is located in the northwestern part of the City. It averages 163 flight operations per day.^{105xv} Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

¹⁰³ Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.
¹⁰⁴ Nebraska Department of Roads. "Nebraska Railroads." Accessed December 2018. <http://opportunity.nebraska.gov/files/businessdevelopment/winery/NebraskaRailMap.pdf>.
¹⁰⁵ Airnav.com. "Lincoln Airport." Accessed January 2019. <https://www.airnav.com/airport/KLNK>.

Demographics

Lincoln's population grew from about 225,581 people in 2000 to 277,315 people in 2017, an increase of 51,734 people and total gain of 23%. This is important because a growing population is associated with increased hazard mitigation and emergency planning requirements. Lincoln's population accounted for 90% of Lancaster County's population of 306,357 in 2017.¹⁰⁶

Figure LNK.2: Population 1930 - 2017



Source: U.S. Census Bureau

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

- **Similarly aged.** The median age of Lincoln was 32.4 years old in 2017, compared with the County average of 33.2 years. Lincoln's population grew older since 2009, when the median age was 30.6 years old. Lincoln had a similar proportion of people under 20 years old (26.6%) than Lancaster County (26.8%).¹⁰⁷
- **More ethnically diverse.** Since 2010, Lincoln grew more ethnically diverse. In 2010, Lincoln's population was 5.8% Hispanic or Latino. By 2017, Lincoln's population was 7.3% Hispanic or Latino. During that time, the Hispanic or Latino population in Lancaster County grew from 5.5% in 2010 to 6.7% in 2017.¹⁰⁸
- **More likely to be below the federal poverty line.** The poverty rate in Lincoln (9.6% of families living below the federal poverty line) was higher than Lancaster County's poverty rate (8.7%) in 2017.¹⁰⁹

¹⁰⁶ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

¹⁰⁷ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

¹⁰⁸ United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

¹⁰⁹ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

Employment and Economics

The major economic base of Lancaster County is a mixture of education/healthcare/social services (26.8%), retail (11.1%), professional/scientific/management/administrative/waste management services (9.9%), and two employment sectors of 9.1%: manufacturing and arts/entertainment/recreation/accommodation/food services. In comparison to the County, the City of Lincoln economy had:

- **Similar mix of industries.** Lincoln major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (26.9%), retail (11.3%) and professional/scientific/management/administrative/waste management services (10%).¹¹⁰
- **Similar household income.** Lincoln median household income in 2017 (\$53,089) was \$2,685 lower than the County (\$55,747).¹¹¹
- **Similar long-distance commuters.** A total of 38.2% percent of workers in Lincoln commuted for fewer than 15 minutes, compared with 36% of workers in Lancaster County. An additional 13.9% of workers in Lincoln commute 30 minutes or more to work, compared to 15.7% of the County workers.¹¹²

Major Employers

The City of Lincoln is the second largest urban area in the state and is home to a large array of commercial and industrial businesses. Several of the major employers within Lincoln include the State of Nebraska, the University of Nebraska – Lincoln, Nelnet, Olsson, Spreetail, and HUDL. While many residents live and work within the City, some may commute to town from surrounding communities and others may commute to Omaha for employment.

Housing

In comparison to Lancaster County, Lincoln's housing stock was:

- **More renter occupied.** Of occupied housing units in Lincoln, 42.7% are renter-occupied compared with 39.9% of renter housing in Lancaster County.¹¹³
- **Older.** Lincoln had a larger share of housing built prior to 1970 than Lancaster County (39.3% compared to 38.1%).¹¹⁴
- **Similar multifamily dwellings.** The predominant housing type in Lincoln is single family detached (57.8%), which is less than Lancaster County (60.8%). Lincoln contains a similar amount of multifamily housing with five or more units per structure compared to Lancaster County (25.7% compared to 23.6%). Lincoln has a similar share of mobile housing (1.9%) compared to the County (1.9%).¹¹⁵ Mobile homes are located throughout the City.

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

¹¹⁰ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

¹¹¹ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

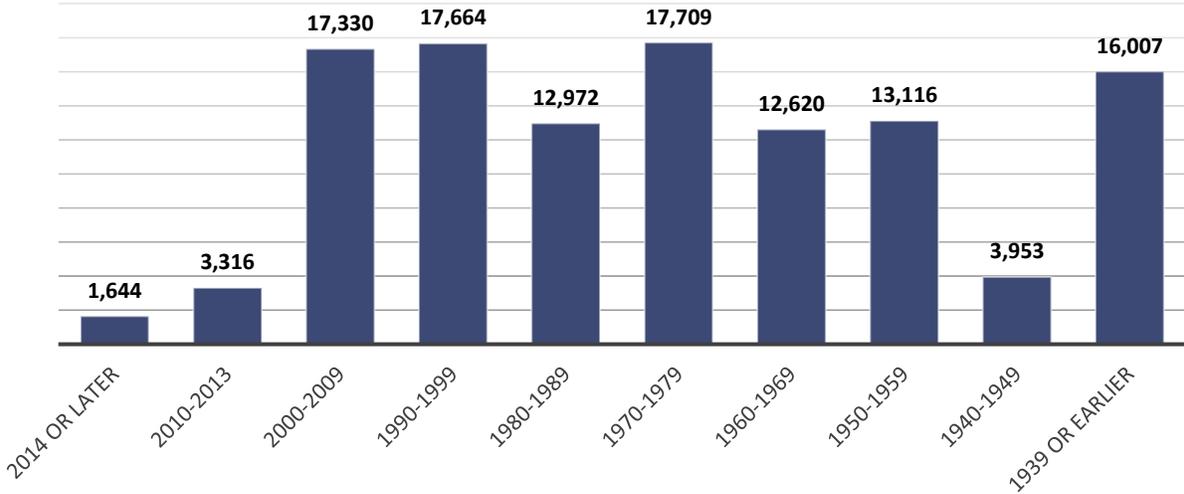
¹¹² United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

¹¹³ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

¹¹⁴ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

¹¹⁵ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

Figure LNK.3: Housing Units by Year Built



Source: U.S. Census Bureau¹¹⁶

Future Development Trends

Recently a new sanitary sewer trunk line was constructed along Stevens Creek and several new student housing projects have been built in and around the downtown area. Additionally, commercial development has continued to develop in the City, especially in the South and West Haymarket areas for shops and restaurants. A new data center was recently approved northwest of Highway 77 and I-80 which will contribute to Lincoln’s employment if fully developed. Other emerging industries in the past several years have primarily developed in the adjacent surrounding areas, including wind farms, solar farms, confined animal feeding operations, and event centers. Major roadway improvements include the current planning process for the South Beltway, improvements to NW 48th St, Yankee Hill Road from 70th to Hwy 2, Pine Lake Road from 58th to Hwy 2, and Havelock Ave from 73rd to 84th Streets.

The City of Lincoln’s population is growing, which the local planning team attributed to the continual effect of the University of Nebraska-Lincoln and Innovation Campus’ have on the City overall. Other influencing factors include startup companies and large employers located in town including the University, HUDL, Olsson, Spreetail, and Nelnet. The local planning team also indicated the refugee and international population is growing in Lincoln.

New housing developments are planned throughout the City, with the highest levels concentrated in south, east, and southeast Lincoln. Between 2014 and 2019, 8,426 new dwelling unit permits were issued. Based on the Stevens Creek trunk line, additional space east of Lincoln has also been opened for future development. Future development will be focused within the Growth Tier I, Priority A and B areas (Figure LNK.4) which is primarily undeveloped land which has already been approved for development. The Lincoln Police and Fire Departments are also expected to expand in the coming years to accommodate for Lincoln’s expanding boundaries. New maintenance facilities are expected at 14th and Salt Valley, N 65th and McCormick Ave, and S 84th and Rokeby Rd as well. Two additional high school facilities are expected to be constructed in the coming years; however, their location, capacity, and design have not yet been determined. The City of Lincoln has identified several projects in their Capital Improvements Plan that will be pursued in the coming years including, but not limited to a new downtown library, expansion at

¹¹⁶ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

the Ashland West Water Treatment Plant, replacing a current community center, and potentially developing or improving water treatment facilities for the City.

As indicated in the Future Land Use Map (Figure LNK.5), green space and environmental resource areas are identified, and development will be guided away from the floodplain and chemical storage facilities.

Figure LNK.4: 2040 Priority Growth Areas

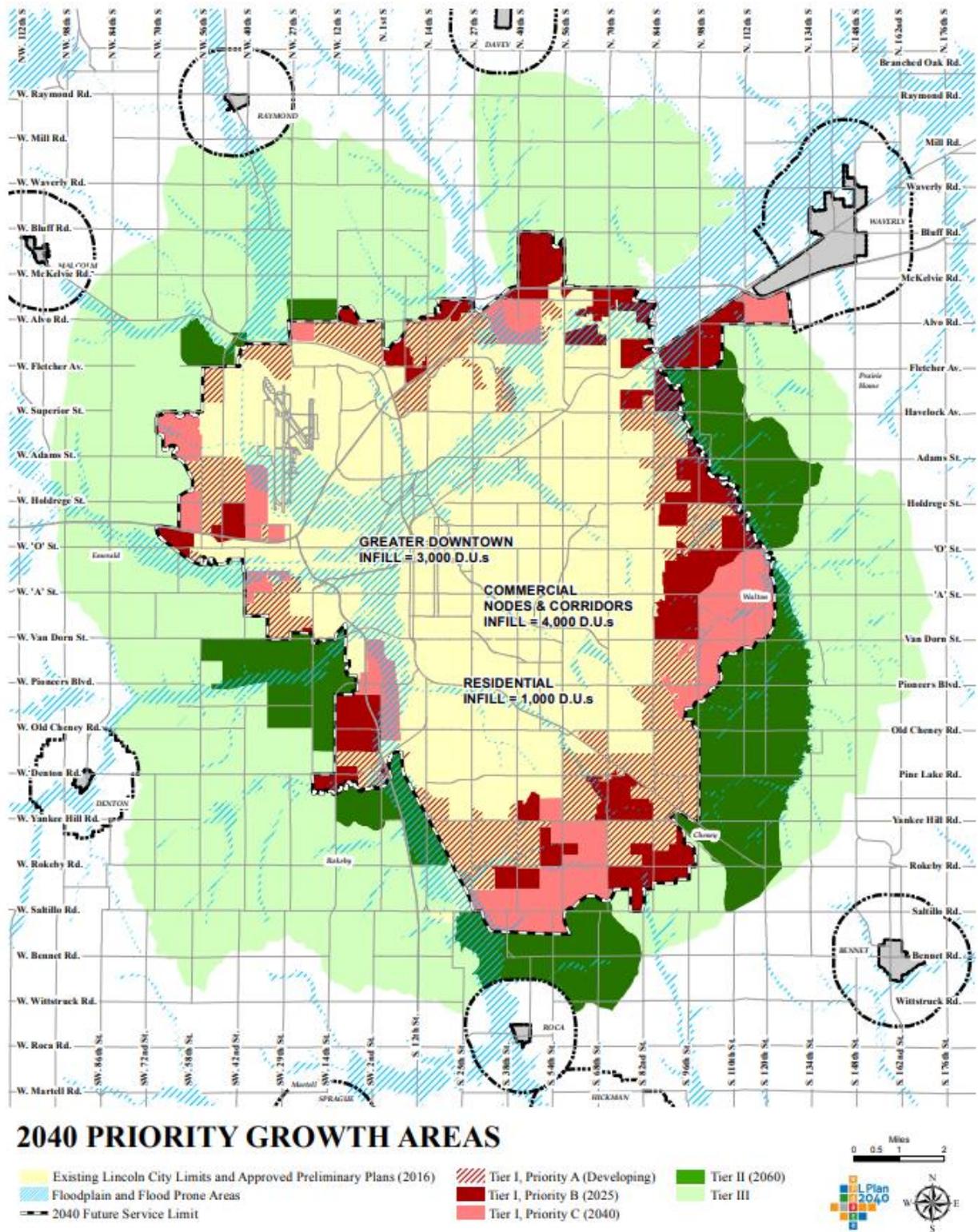
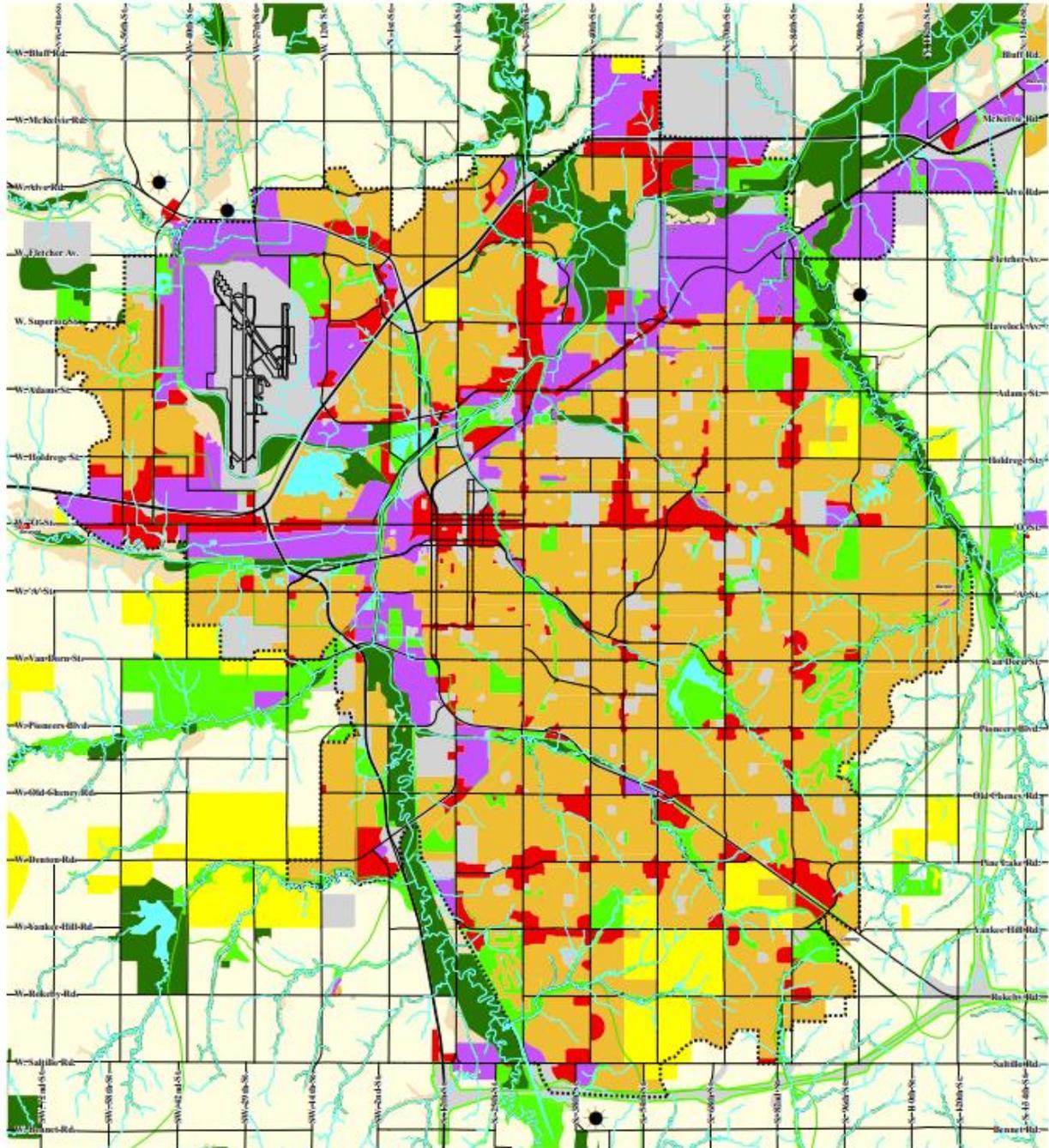


Figure LNK.5: Future Land Use Map



2040 LINCOLN AREA FUTURE LAND USE PLAN

- | | | |
|--|------------------------------|-------------------------|
| Agricultural | Commercial | Green Space |
| Residential - Urban Density | Industrial | Environmental Resources |
| Residential - Low Density | Public & Semi-Public | Lakes & Streams |
| Potential Large Employer Opportunity Areas | Agricultural Stream Corridor | Future Service Limit |

The location of each land use designation is generalized. The appropriateness of a particular zoning district for a particular piece of property will depend on a review of all of the elements of the Comprehensive Plan. Please consult other sources for exact locations of environmental resources such as wetlands, native prairie and floodplain. Not all of these resources are displayed on this figure.

The incorporated town plans are displayed on this figure. In many circumstances the land use categories in the Lincoln Lancaster County Plan, as some adjustments were made for the purposes of this display. These communities and their specific adopted plans should be consulted as the source for decisions within their zoning jurisdictions.



Structural Inventory and Valuation

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

Table LNK.2: Structural Inventory/Parcel Improvements

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | MEAN VALUE OF IMPROVEMENTS PER PARCEL | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|------------------------|-------------------------|---------------------------------------|--------------------------------------|-------------------------------------|
| 87,831 | \$19,303,072,500 | \$219,775 | 6,483 | \$1,894,522,400 |

Source: Nebraska Department of Revenue, Property Assessment Division¹¹⁷

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are 151 chemical storage sites in Lincoln. Of the 151 chemical storage sites, 45 are located in the floodplain, which are listed below.

Table LNK.3: Chemical Storage Fixed Sites

| FACILITY NAME | ADDRESS | IN FLOODPLAIN (Y/N) |
|--------------------------------|-----------------------|---------------------|
| ADM GRAIN COMPANY | 2400 Fair St | Y |
| ADM MILLING | 540 South St | Y |
| AGILITY FUEL SOLUTIONS | 5117 NW 40th St | Y |
| AGILITY FUEL SOLUTIONS WRHSE | 3721 W Mathis St | Y |
| AGP GRAIN MARKETING LLC | 2800 Leighton Ave | Y |
| ARAMARK UNIFORM & CAREER APRL | 3300 N 41st St | Y |
| ARMY AVIATION SUPPORT FACILITY | 2601 NW 25th St | Y |
| BNSF RAILWAY COMPANY | 801 W O St | Y |
| CAPITAL CONCRETE CO | 431 A St | Y |
| CENTURYLINK | 245 W J St | Y |
| CHARTER COMMUNICATIONS NE769 | 955 Oak St | Y |
| CORNHUSKER INTERNATIONAL | 3131 Cornhusker Hwy | Y |
| EAST CAMPUS READINESS CENTER | 2000 N 33rd St | Y |
| GENERAL FIRE & SAFETY EQUIP CO | 2431 Fairfield St | Y |
| GIT 'N SPLIT OFFICE | 701 Marina Bay Pl | Y |
| HEXAGON LINCOLN INC | 5150 NW 40th St | Y |
| INTOMETAL | 3340 N 33rd St | Y |
| J A WOOLLAM CO INC | 645 M St | Y |
| JIFFY LUBE 1976 | 2402 S 48th St | Y |
| JIFFY LUBE 3409 | 2615 Fairfield St | Y |
| LEE'S PROPANE SERVICE INC | 625 W O St | Y |
| LEVEL 3 COMMUNICATIONS LLC | 1001 W O St | Y |
| LINCOLN INDUSTRIES INC | 600 W E St | Y |
| MAPES PANELS LLC | 2929 Cornhusker Hwy | Y |
| MCI | 319 J St | Y |
| MIDWEST REFUSE SERVICE | 2101 Judson St | Y |
| NEBCO INC FLEET GARAGE | 1241 N 19th St | Y |
| NEBRASKA AIR NATIONAL GUARD | 2420 W Butler Ave | Y |
| NEBRASKA MACHINERY CO | 930 W O St | Y |
| NEBRASKA MACHINERY CO | 1010 S Coddington Ave | Y |
| READY MIXED CONCRETE CO | 1800 Y St | Y |
| SENSORY EFFECTS CEREAL SYSTEMS | 4500 NW 39th St | Y |

¹¹⁷ County Assessor. Personal correspondence, [DATE].

| FACILITY NAME | ADDRESS | IN FLOODPLAIN (Y/N) |
|--------------------------------|---------------------|---------------------|
| SMITHFIELD PACKAGED MEATS CORP | 200 S 2nd St | Y |
| SOURCEONE INC | 1030 SW 6th St | Y |
| SPRINT NEXTEL LINCOLN POP | 1004 N 14th St | Y |
| SUNBELT RENTALS 415 | 5450 Alvo Rd | Y |
| TRAFCON INC | 7845 Fletcher Ave | Y |
| TRAFCON INC | 1937 Dudley St | Y |
| TRI-CON INDUSTRIES LTD | 4000 NW 44th St | Y |
| UNITED PARCEL SERVICE | 3133 N 33rd St | Y |
| UNIVERSAL COLD STORAGE | 1601 Pioneers Blvd | Y |
| VERIZON WIRELESS PROSPECTOR | 615 W Prospector Ct | Y |
| WEST CENTRAL INC | 3401 NW 39th St | Y |
| WHITEHEAD OIL CO | 2537 Randolph St | Y |
| WINDSTREAM COMMUNICATIONS | 4731 W Seward St | Y |

Source: Nebraska Department of the Environment and Energy, 2017¹¹⁸

Critical Facilities

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

There are standing agreements between Lincoln/Lancaster County Emergency Management and the Lincoln Public Schools District to utilize school facilities as sheltering locations and/or distribution centers in the case of a disaster. Two new high schools are also under development, although their location and capacity have yet to be determined. The utilization of some or all of these facilities is dependent upon the type and severity of the hazard being experienced. Additionally, various Lincoln Parks and Recreation facilities across the City can be used as sheltering locations.

The City of Lincoln's four wellfields, treatment facilities, and water transmission lines are primarily located near Ashland and along the Platte River. This infrastructure is critical for City function and resiliency. During the March 2019 flood event, the wellfields were inundated, and the City of Lincoln implemented voluntary and mandatory water restrictions. The City has water storage available in case of water shortage.

Table LNK.4: Critical Facilities

| Number | Critical Facility | Address | Type | Located in Floodplain |
|--------|--|----------------------------|--------------------|-----------------------|
| 1 | Center Team Police Department Sub-Station | 1501 N 27 th St | Emergency Response | N |
| 2 | Emergency Operations/Maintenance/Lancaster County Sherriff | 444 N Cherrycreek Rd | Emergency Response | Y (0.2%) |
| 3 | Fire Station #1 | 1801 Q St. | Emergency Response | N |
| 4 | Fire Station #2 | 1545 N 33 rd St | Emergency Response | N |
| 5 | Fire Station #3* | 2 nd and N St | Emergency Response | Y (1%) |

¹¹⁸ Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed December 2018. <https://deg-iis.ne.gov/tier2/search.faces>.

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| Number | Critical Facility | Address | Type | Located in Floodplain |
|--------|---|----------------------------|--------------------|-----------------------|
| 6 | Fire Station #4 | 5600 S 27 th St | Emergency Response | N |
| 7 | Fire Station #5 | 3640 Touzalin Ave | Emergency Response | N |
| 8 | Fire Station #6 | 5041 S 48 th St | Emergency Response | N |
| 9 | Fire Station #7 | 1345 S Cotner St | Emergency Response | N |
| 10 | Fire Station #8 | 2760 S 17 th St | Emergency Response | N |
| 11 | Fire Station #9 | 901 N Cotner Blvd | Emergency Response | N |
| 12 | Fire Station #10 | 4421 N 24 th St | Emergency Response | N |
| 13 | Fire Station #11 | 4600 W Adams St | Emergency Response | N |
| 14 | Fire Station #12 | 4405 S 84 th St | Emergency Response | N |
| 15 | Fire Station #13 | 1700 S Coddington Ave | Emergency Response | N |
| 16 | Fire Station #14/Northwest Team Police Department Sub-station | 5435 NW 1 st St | Emergency Response | N |
| 17 | Fire Station #15/Southeast Team Police Department | 6601 Pine Lake Rd | Emergency Response | N |
| 18 | Fire Station #16 | 9765 Boathouse | Emergency Response | Y (1%) |
| 19 | Fire Training Facility | South Street | Emergency Response | Y (1%) |
| 20 | Lincoln/Lancaster County Emergency Management | 1200 Radcliff St #200 | Emergency Response | N |
| 21 | Northeast Team | 4843 Huntington Ave | Emergency Response | N |
| 22 | Northwest Team Police Department Sub-station | 3220 N 14 th St | Emergency Response | N |
| 23 | Northwest Team Police Department Sub-station | 700 Penrose Drive | Emergency Response | N |
| 24 | Police Headquarters | 575 S 10 th St | Emergency Response | N |
| 25 | Southeast Team Police Department Sub-station | 3800 S 48 th St | Emergency Response | N |
| 26 | Southwest Team Police Department Sub-station | 1225 F St | Emergency Response | N |
| 27 | Southwest Team Police Department Sub-station | 6701 S 14 th St | Emergency Response | N |
| 28 | Southwest Team Police Department Sub-station | 2300 S 16 th St | Emergency Response | N |
| 29 | Bryan Medical Center – East | 1600 S 48 th St | Medical | N |
| 30 | Bryan Medical Center – West | 2300 S 16 th St | Medical | N |
| 31 | Community Mental Health Center | 2201 S 17 th St | Medical | |
| 32 | Lincoln Surgical Hospital | 1710 S 70 th St | Medical | N |
| 33 | Madonna Rehabilitation Hospital | 5401 South St | Medical | N |
| 34 | Nebraska Heart Hospital | 7500 S 91 st St | Medical | N |

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| Number | Critical Facility | Address | Type | Located in Floodplain |
|--------|--|------------------------------------|----------------|--------------------------------|
| 35 | Saint Elizabeth Regional Medical Center | 555 S 70 th St | Medical | N |
| 36 | City Health Dept/Parks Dept | 3140 N St | Government | N |
| 37 | City of Lincoln Offices | 555 S 10 th St | Government | N |
| 38 | Lincoln Municipal Services Center | 901 and 949 W Bond St | Government | N |
| 39 | Pershing Center | 226 Centennial Mall South | Government | N |
| 40 | StarTran | 710 J St | Government | N |
| 41 | 16 Lift Stations | (not mapped) | Infrastructure | - |
| 42 | Airport | 2400 W Adams | Infrastructure | Y (1%) |
| 43 | Black Hills Natural Gas Transmission Lines | (not mapped – run throughout City) | Infrastructure | - |
| 44 | LES | 1040 O St | Infrastructure | N |
| 45 | LES | 2600 Fairfield St | Infrastructure | Y (1%) |
| 46 | LES Generation Stations (two solar farms, one wind farm) | (not mapped) | Infrastructure | - |
| 47 | NE Treatment Plant | 7000 N 70 th St | Infrastructure | Y (0.2%) |
| 48 | Police Equipment Garage | 105 N 8 th St | Infrastructure | N |
| 49 | Stormwater Pump | 48 th St and Cornhusker | Infrastructure | N |
| 50 | Stormwater Pump | 56 th St and Cornhusker | Infrastructure | N |
| 51 | Street Maintenance Facility | 3200 Baldwin Ave | Infrastructure | Y (0.2%) |
| 52 | Street Maintenance Facility | 3180 South Street | Infrastructure | N |
| 53 | Wastewater Facility | 2400 Theresa St | Infrastructure | Y (1%) |
| 54 | Water Production & Distribution | 2021 N 27 th St | Infrastructure | Y (0.2%) |
| 55 | 58 Additional Elementary and Middle Schools | (Not mapped) | School | - |
| 56 | Lincoln East High School | 1000 S 70 th St | School | N |
| 57 | Lincoln High School & Infant Toddler | 2229 J St | School | Y (0.2%) |
| 58 | Lincoln Northeast High School | 2635 N 63 rd St | School | N |
| 59 | Lincoln Southeast High School | 2930 S 37 th St | School | N |
| 60 | North Star High School, Infant Toddler | 5801 N 33 rd St | School | N |
| 61 | Southwest High School | 7001 S 14 th St | School | Y (1%) – property not building |
| 62 | Potable Water Pump Stations | (not mapped) | Infrastructure | N |
| 63 | Wellfields | (not mapped – near Ashland) | Infrastructure | Y (1%) |
| 64 | Water Storage Reservoirs | (not mapped) | Infrastructure | N |

Figure LNK.6: Critical Facilities (Emergency Response) with Floodplain

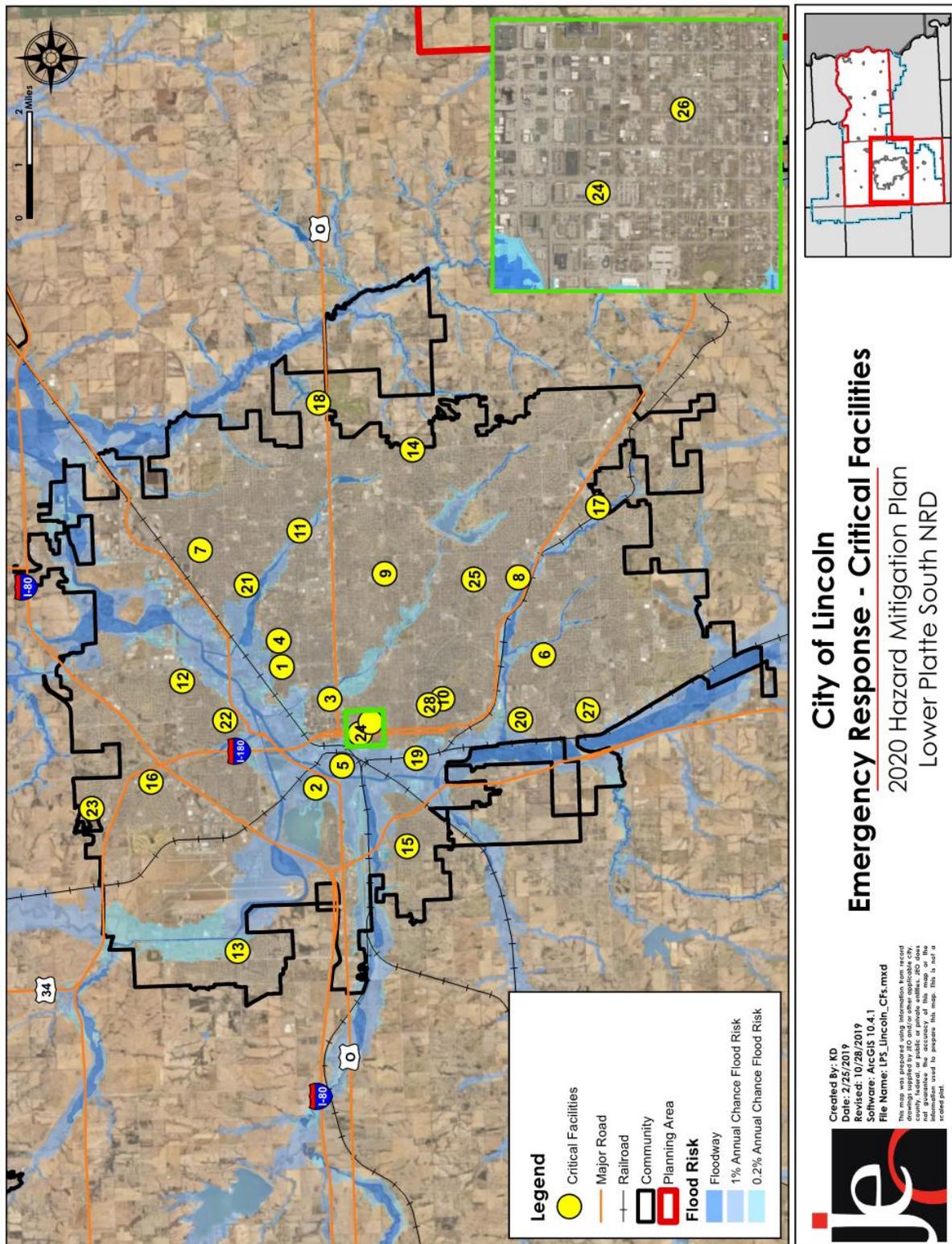
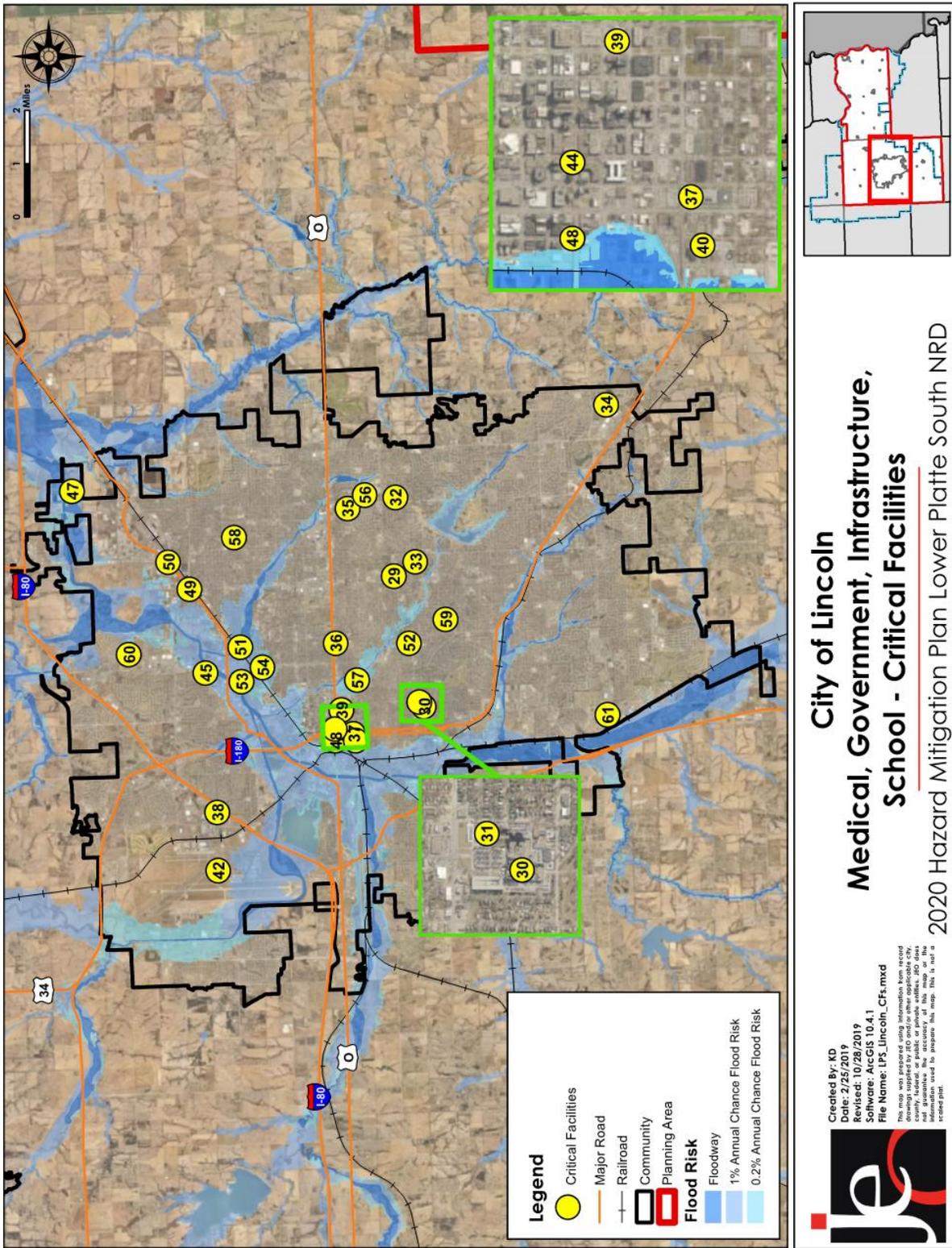


Figure LNK.7: Critical Facilities (Medical, Government, Infrastructure, School) with Floodplain



Historical Occurrences

See the Lancaster County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Agricultural Animal and Plant Disease

The local planning team identified agricultural plant disease as a hazard of top concern due to the presence of the Emerald Ash Borer (EAB) and the damages incurred on ash trees from the insect. The EAB was first found in city limits in April 2019, however city officials have been planning for its arrival for more than a decade. As part of that plan, the city is in the process of removing and replacing the estimated 14,000 ash trees located in the public right of way at a rate of about 1,000 trees a year. Furthermore, there are an estimated 50,000 additional private ash trees located within city limits. The projected overall cost for the Lincoln response and recovery effort over a 15-year period is \$22.8 million, which is for the 14,000 trees only. According to the plan, it's anticipated that a multi-prong approach will be used to fund the Lincoln EAB response and recovery effort including general tax revenues, grants, and private donations. Currently Lincoln Parks and Recreation has allocated some additional funding to assist in dedicated EAB response, but there is no private assistance currently available for residents to remove ash trees.

The infestation of EAB in an ash tree leads to tree mortality after only one to two years for young trees and three to four years for mature trees. Additionally, Dutch Elm Disease impacts elms trees throughout the City and causes tree mortality. An abundance of dead trees within the city limits are more likely to cause damage to property or injury to people during high winds, severe thunderstorms, or severe winter storms. Dead or dying trees can also provide a significant fuel load during wildfires.

Additional concerns exist for the City of Lincoln due to the high volume of semi-trucks carrying livestock through town. The City is a major transportation hub for moving cattle, chickens, pigs, and horses through the county and region. The Lancaster Event Center on the east side of the City hosts rodeos annually. There is an increased risk of animal disease transmission if vehicular accidents were to occur with trucks carrying livestock.

Chemical Spills (Transportation)

As noted above in the Transportation section, there are several major transportation corridors that bisect the community, including highways, interstates, and railways. A variety of hazardous chemicals are transported along these major routes every day, particularly those used for agricultural and industrial purposes. Hundreds of chemical spills have occurred during transportation in the city since 1971 with the majority of them not causing any damages or injuries. According to PHMSA, five hazardous chemical spills have caused the most damages at over \$830,000. There was one injury in 1998 when the driver was sprayed with caustic alkali liquids while filling one of the transportation tanks.

The City Fire Department regularly trains for hazardous material releases and has access to protective gear. The Lancaster County Emergency Operations Plan outlines the direction, control, roles, and responsibilities for a coordinated response to a hazardous material spill.

Dam Failure

While there have been no known dam failure incidents, portions of Lincoln would be inundated with flood waters damaging homes and businesses if a high hazard dam in or near the city was to fail. The following table lists high hazard dams, including upstream dams, that could cause significant property damage and loss of life if one of them was to fail. The dams are inspected and maintained regularly and emergency action plans, as required, are in place. The city collaborates with Emergency Management, the LPSNRD, and other dam owners to conduct dam failure exercises.

Table LNK.5: Lincoln High Hazard Dams

| # | NIDID | DAM NAME | OWNER | LOCATION |
|----|---------|---|----------------------------|------------------|
| 1 | NE00527 | Wedgewood Lake Dam | Wedgewood Manor Lake Assoc | Lincoln |
| 2 | NE01055 | Salt Creek Site 12 – Conestoga Dam | CENWO | Lincoln |
| 3 | NE01058 | Salt Creek Site 10 – Yankee Hill Dam | CENWO | Lincoln |
| 4 | NE01060 | Salt Creek Site 13 – Twin Lakes Dam | CENWO | Lincoln (Seward) |
| 5 | NE01061 | Salt Creek Site 17 – Antelope Creek Dam (Holmes Lake) | CENWO | Lincoln |
| 6 | NE02652 | Korver Dam | Appian Way Lake Assoc Inc | Rural Lincoln |
| 7 | NE02756 | Stevens Creek A2-1 | LPSNRD | Rural Lincoln |
| 8 | NE02757 | Stevens Creek A17-1 | LPSNRD | Rural Lincoln |
| 9 | NE02805 | Village Gardens Dam | Village Gardens LLC | Lincoln |
| 10 | NE02837 | Waterford Estates Dam | Lower Platte South NRD | Lincoln |
| 11 | NE01063 | Salt Creek Site 18 – Branched Oak* | CENWO | Raymond |
| 12 | NE01057 | Salt Creek Site 14 – Pawnee Dam | CENWO | Emerald |
| 13 | NE01062 | Salt Creek Site 2 – Olive Creek | USACE | Sprague |
| 14 | NE01064 | Salt Creek Site 4 – Bluestem | USACE | Sprague |
| 15 | NE01056 | Salt Creek Site 8 – Wagon Train | USACE | Hickman |
| 16 | NE01059 | Salt Creek Site 9 – Stagecoach | USACE | Hickman |

Source: NeDNR, 2019¹¹⁹

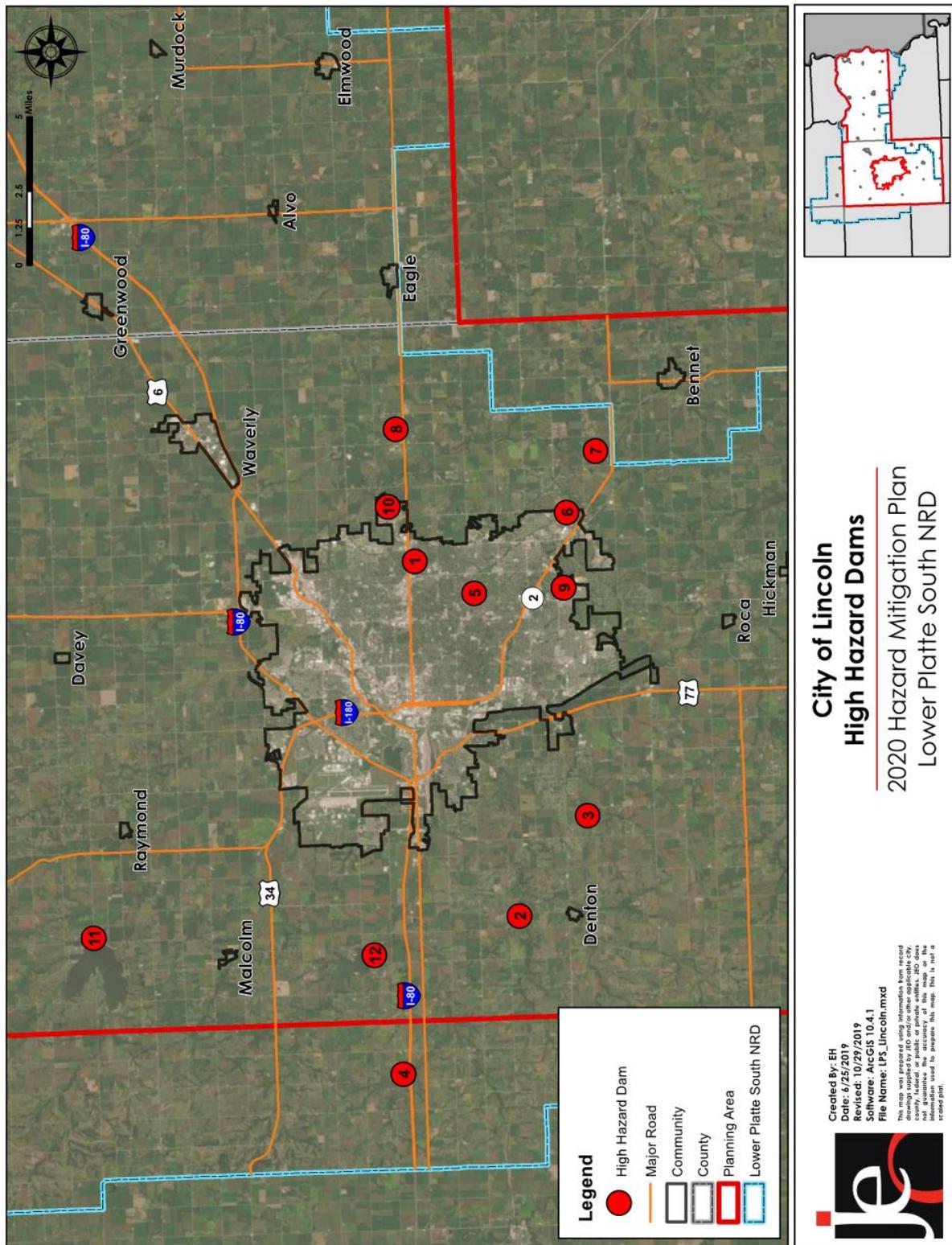
*Dams 13-16 are not mapped in Figure LNK.8

While Branched Oak Lake is located approximately 15 miles northwest of the City of Lincoln, the local planning team indicated concerns exist for the northern portion of the City if the dam were to fail. During the March 2019 flood event, the Branched Oak Dam spillway ran consistently for several weeks post flood. If the dam were to fail it would likely impact the Kawasaki plant north of town; many roads and highways including Highways 34 and 79; and new housing developments in the area.

Extreme weather events like the March 2019 flood event could continue to add undue stress on dams in the future. However, mandated inspections of high hazard dams will mitigate dam failures as issues can be identified early and repaired. During periods of drought, it's important to note that stored water behind dams will lead to greater rates of evaporation, leading to a greater loss of critical water use for agriculture, recreation, and aquifer recharge.

¹¹⁹ Nebraska Department of Natural Resources. 2019. "Nebraska Dam Inventory." <https://dnr.nebraska.gov/dam-safety/nebraska-dam-inventory>.

Figure LNK.8: Dam Locations



Flooding

Riverine and flash flooding have impacted Lincoln as noted by the local planning team. Low-lying areas in the city are subject to periodic flooding from the Salt Creek and its tributaries. The most severe flooding has occurred in late spring and early summer as a result of snowmelt, heavy rainfall, ice jams, or a combination of the three.

As noted by Lincoln Watershed Management, flooding in Lincoln is caused by 11 main sources: Salt Creek, Oak Creek, Middle Creek, Antelope Creek, Beal Slough, Haines Branch, Cardwell Branch, Elk Creek, Lynn Creek, Deadman's Run, and Little Salt Creek. Flooding along Salt Creek and Oak Creek is of long duration with ample warning time prior to the peak. Little Salt Creek, Middle Creek, and Haines Branch have smaller drainage basins with shorter flood duration and less warning time prior to the peak. Flooding along Antelope Creek, Beal Slough, Cardwell Branch, Elk Creek, Lynn Creek, Stevens Creek, and Deadman's Run is of short duration with little warning time prior to the peak.

With the Salt Creek Levee System, the Antelope Valley Project, flood control dams, and reservoirs flood frequency and magnitude have improved. However, these improvements have not completely eliminated the flood problem in the community. As noted in the Lancaster County Flood Insurance Rate Study (revised April 2013), offsetting a part of the protection gained will be the increase in runoff resulting from anticipated additional development in the valleys.

The NCEI reports eight flash flood occurrences:

- **August 14, 1996:** \$60,000 in reported property damage was caused by four inches of rain that produced a flash flood. Local businesses and homes were also damaged.
- **May 15, 1998:** Heavy rain from thunderstorms generated significant street flooding in the southeast part of the City of Lincoln. Water rose to car headlights in low lying areas.
- **August 28, 2002:** A slow moving thunderstorm dumped torrential rain over mostly the northern and eastern parts of Lincoln. Rainfall amounts varied from 1.66 inches to upwards of 4 inches over a short period of time. The water overwhelmed the sewer system in mainly northeast Lincoln and caused Antelope Creek and Dead Man's Run to become bank full. There were numerous reports of cars flooded up to their roofs in various intersections. Water that came up through the sewage system flooded parts of Gateway Mall in northeast Lincoln as water surged several inches deep in several stores.
- **April 14, 2012:** Rainfall of two to three inches caused flash flooding across several streets in Lincoln and along Antelope Creek. Damage was apparently minimal.
- **May 6, 2015:** Rainfall of three to seven inches fell across a large portion of Lancaster County. Numerous reports of flash flooding were received, especially in and around Lincoln. There were a large number of flooded streets as well as a few water rescues that took place. The local planning team indicated that Fire Station #3 required sandbagging during the 2015 flood event; however, water did not enter or damage the property.
- **May 9, 2016:** \$1.5 million in reported property damage due to over 5 inches of rainfall in the region. This along with areas of several inches accumulation of hail led to widespread street flooding in the area. Small streams and creeks in the area also overflowed. Water was flowing over the bridge where Holdridge Street crosses Stevens Creek. Several water rescues were performed for stranded motorists.
- **May 26, 2016:** Several reports of flash flooding were received. This led to several road closures due to high water, including US Highway 77, which had debris filled water flowing across the road. Other roadways impacted were State Highway 2 and Cornhusker Road.

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- **September 4, 2018:** Flash flooding was reported near 73rd and O Street. People were stranded in a flooded vehicle and needed to be rescued.

The following history was listed in the 2015 LPSNRD HMP for Lincoln:

- Salt Creek flooded 136 times between 1900 and 1952. Of these events, 22 were considered major.
- **May 8, 1950:** Salt Creek peaked at a height of 26.05 feet with a flow of 27,800 cfs. This occurred after 5.5 inches of rain fell in six hours and accumulated to 14 inches. 20,000 acres of land was flooded including 600 homes and 80 businesses. The total damage incurred amounted to \$1,643,000 and nine deaths.
- **June 2, 1951:** Antelope Creek flooded. Water was waist deep at 28th and D streets, and one foot deep at 33rd and Normal. Salt Creek peaked at 26.15 feet with a flow of 28,200 cfs.
- **June 14, 1951:** Antelope Creek flooded. Eight inches of rain fell and caused \$2,000,000 worth of damage. 92 businesses, 298 homes and the railroad were all damaged in the area.
- **June 1952:** Another Antelope Creek flood occurred when 2.18 inches fell, causing \$63,000 in damage.
- Between 1962 and 1993, a series of eight floods occurred on Salt Creek. The total amount of federal funds contributed was \$668,800, with the largest lump sum contribution of \$487,185 in 1993.
- **June 13, 1984:** Little Salt Creek flooded when three to four inches of rain caused the creek to peak at 16.20 feet and flow 7,500 cfs. The flood was classified as a 10-year flood.
- **March 1993:** The Lincoln Water System reports an ice jam on the Platte River that caused severe flooding along Salt Creek and Highway 6. The flood waters eroded embankments and exposed a 48-inch and 54-inch water transmission line from one of the Lincoln Water System's well fields. This exposure caused sections of the pipeline to break and float away.
- **July 24, 1993:** Flooding resulted when Lincoln received three times the normal amount of rain for July.
- **July 20, 1996:** Beal Slough flooded when over five inches of rain fell in south Lincoln over an 18-hour period. Flooding occurred on a number of roadways including Highway 2. Residential basements and recreational areas were flooded. Flooding also occurred near 33rd Street and Pioneers Boulevard as well as in many areas along the Tierra Branch in the Tierra, Williamsburg, Seven Oaks, and Cripple Creek Subdivisions. A similar incident occurred in 1989 when heavy rains filled and overtopped the creek. The waters spread to Tierra and Briarhurst Parks, and other nearby open spaces.

The Lincoln Journal Star recounts the following flood events:

- **1892:** Extensive flooding drove 300 people from their homes.
- **1902:** Flooding left 1,000 residents homeless and caused 9 deaths
- **July 23, 1993:** Little Salt Creek peaked at 4 feet over flood stage. Lynn and Stevens Creek tributaries left their banks flooding streets, parking lots, businesses, and homes. The City received \$823,997 from the Federal Emergency Management Agency for partial damage reimbursement. The total damage to public property was \$2.9 million.
- **June 15, 1982:** Stevens Creek peaked at a height of 18.85 feet with a flow of 3,820 cfs. Up to five inches of rain blocked roads, threatened homes, and left cars stranded in high water. There was a police advisory encouraging Lincoln residents not to drive and at one

point during the downpour, the police were instructed to park their cruisers unless they were needed somewhere. Lincoln Electric System reported several power outages, one of which was the result of flooded underground cables.

- **June 13, 1984:** Stevens Creek flooded with a peak of 19.57 feet and a flow of 4,620 cfs. The flood was classified as a 10-year flood and it claimed two lives when a car was swept off Highway 34.
- **July 4, 1984:** Water back log from Beal's Slough caused damage to local area businesses. One business reported damage of \$4,000.
- **September 13, 1989:** Heavy rains caused \$20,000 in damage to Lancaster County rock and gravel roads.
- **July 25, 1990:** Five inches of rain washed out roads, flooded basements, damaged businesses, and flooded parking lots.

The local planning team discussed the March 2019 flood impacts on the community. In general, the community fared well with minimal impacts to streams and roadways. However, the Lincoln wellfields are located along the Platte River, which was inundated with flood waters and ice jams. Flood conditions along the Platte River resulted in some power outages in and around City of Lincoln wellfields and a temporary loss of water production capacity for the City. This triggered water use restrictions to be enacted for Lincoln Water System (LWS) customers to preserve the water supply and water quality during critical repairs. Within three days of mandatory water restrictions, power was restored to the wellfields and water restrictions were elevated to voluntary. By day five, water production was at full capacity and all water restrictions were lifted.

As the science indicates, extreme weather events are anticipated to continue and increase in frequency, such as heavy rainfall or rain falling on frozen ground leading to flash melting of snowpack and flash flooding. Flood debris, such as large trees, hit bridge piers and clogged streams during flooding, which can reduce the overall expected lifespan of bridges and culverts. As seen during the recovery phase of the March 2019 flood, materials such as gravel, rock, and riprap are in high demand, which leads to shortages and price increases. As flood frequencies increase so too will repair costs and the frequency with which infrastructure will need to be replaced.

Participants in 2015 reported localized flooding, which were then reviewed again in 2019. Flooding issues are still present at the following locations:

- 52nd and O St.
- Along Deadmans Run
- Along Salt Creek
- Cornhusker Hwy, particularly near N 14th St.
- West O St
- North and South Bottoms
- 14th to 27th on Saltillo
- 27th St – north of Saltillo
- 84th Street – Havelock to Fletcher Ave
- 48th and 56th Underpasses off Cornhusker (have pumps)
- 49th & Rentworth
- Old Cheney, near 7th Street
- Fletcher, near N 57th St.

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No other historical occurrences in Lincoln were recorded by residents, city officials, or found in any other document.

Lincoln is a participant in the NFIP and Community Rating System (CRS) as a Class 5. There are 1,338 NFIP policies in-force for \$293 million. The city will continue to utilize floodplain and stormwater management to mitigate the effects of flooding. According to FEMA Region VII, there are no severe repetitive loss property (business, non-residence structure) in the City of Lincoln, and seven repetitive loss properties as of January 2020.

Levee Failure

During May 6-7, 2015, severe thunderstorms brought significant heavy rain to the Salt Creek Basin. Heavy rain began on the evening of May 6 and continued into early the next morning after upwards of seven inches had fallen. The stream gauge on the Salt Creek in Lincoln rose from 4.4 feet to 16.6 feet in two hours and continued to rise. By the afternoon of May 7th, Salt Creek crested at 28.87 feet, which is now the record crest at the 27th Street Bridge. It broke the previous record from July 1993 which was 26.52 feet. The levee was nearly overtopped in a few spots and voluntary evacuations were ordered in the North and South Bottoms of Lincoln. These areas saw significant water in the streets and basements because stormwater was unable to drain due to the high water in Salt Creek. Due to the quick response of the LPSNRD and the USACE, any issues identified during the flood were addressed quickly. Boils were ringed along the Salt Creek left bank and Oak Creek left bank levee and another near Haymarket Park.

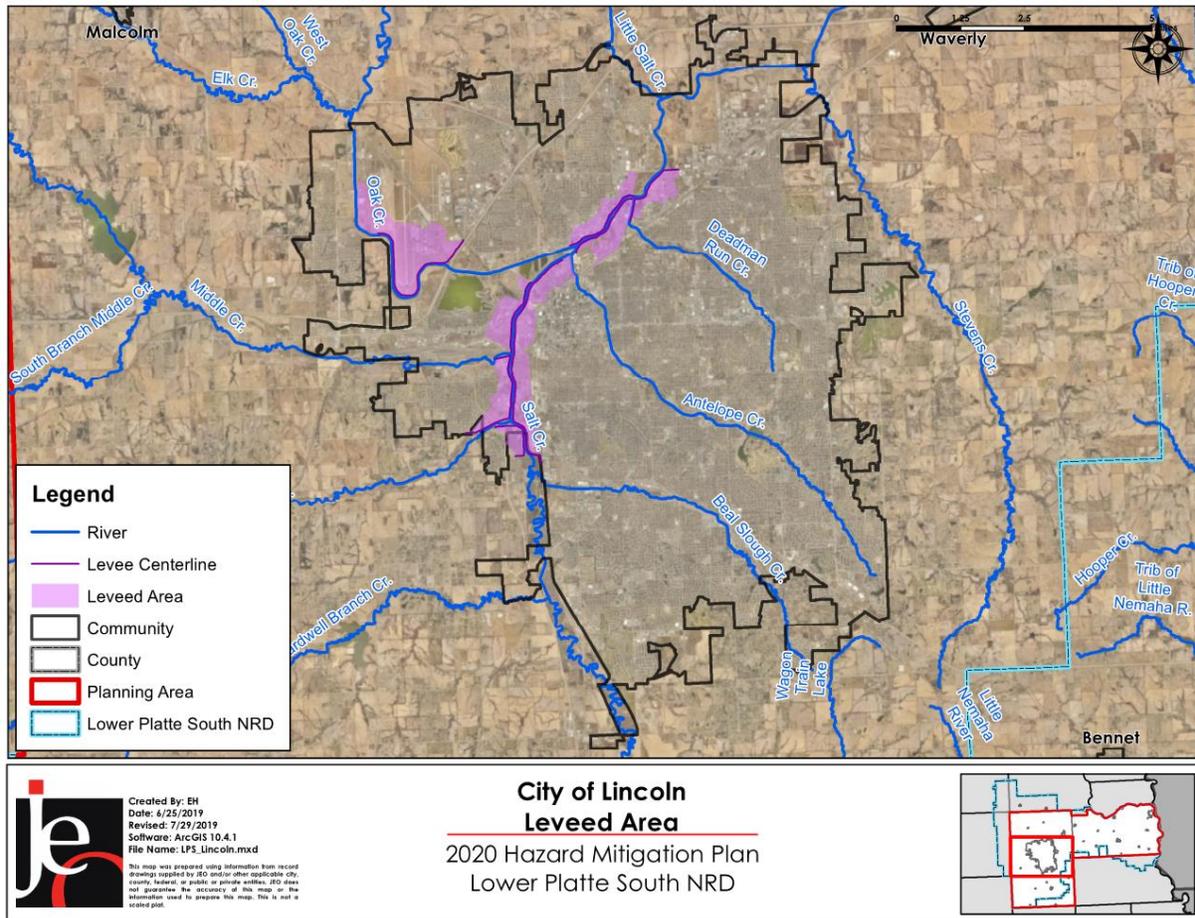
The city coordinates with the LPSNRD regarding the levees and provides support and emergency response personnel when requested. City officials attended two emergency preparedness planning (EPP) workshops and provided valuable information that assisted the NRD in developing an EPP for the Salt Creek Levee System. The LPSNRD and the City of Lincoln work closely together to develop System Wide Improvement Frameworks (SWIF) for levees including consistent repairs to the levee system to ensure adequate flood risk reduction for residents.

The following table lists the levee systems located in Lincoln.

Table LNK.6: Lincoln Levees

| Name | Sponsor | Watercourse | Length (miles) | Protected Area (sq. miles) | FEMA Accreditation | USACE Rehabilitation Status |
|--|---------|-------------|----------------|----------------------------|--------------------|-----------------------------|
| Oak Creek Levee 1 | N/A | Oak Creek | 3.32 | 1.62 | Non-Accredited | Not Enrolled |
| Salt Creek LB & Haines LB & Middle Cr RB | LPSNRD | Salt Creek | 1.26 | 0.47 | Non-Accredited | Active |
| Salt Creek LB & Haines RB | LPSNRD | Salt Creek | 1.24 | 0.19 | Non-Accredited | Active |
| Salt Creek LB & Middle Creek LB | LPSNRD | Salt Creek | 1.50 | 0.46 | Non-Accredited | Active |
| Salt Creek LB & Oak Creek LB | LPSNRD | Salt Creek | 1.72 | 0.44 | Non-Accredited | Active |
| Salt Creek RB | LPSNRD | Salt Creek | 4.71 | 1.33 | Non-Accredited | Active |
| Salt Creek RB & Dead Man's Run RB | LPSNRD | Salt Creek | 1.29 | 0.38 | Non-Accredited | Active |
| Salt Creek RB to Dead Man's Run | LPSNRD | Salt Creek | 1.62 | 0.44 | Non-Accredited | Active |

Figure LNK.9: Lincoln Levees



Severe Thunderstorms

Lightning, hail, heavy rain, and high winds from severe thunderstorms can result in loss of electricity, blocked roadways, damages to trees, and flooding. Blocked roadways, as a result 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. The local planning team noted that lightning has struck some of its critical facilities and caused small electrical fires.

The Lincoln Journal Star reports:

- **August 1, 1981:** A 25-year storm hit, producing from 4.3 to 5.5 inches of rain in some areas.
- **September 25, 1981:** A storm producing three inches of rain in the southern and eastern part of the City caused two major power outages and six or seven smaller ones. The 911 call center reported receiving an estimated 150 phone calls regarding flooded basements.
- **June 22, 1981:** Hail, heavy rains, flooding, strong wind gusts and lightning damaged power lines, vehicles, and trees.

The NCEI reports eight lightning events and 55 severe thunderstorm wind events. In total, nearly \$1.8 million in damages were reported since 1996 from seven lightning strikes and four severe thunderstorm occurrences. The most damaging severe thunderstorm event occurred on May 22,

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1996, when wind gusts to 83 mph blew the roof off of Duncan Aviation and flipped several aircraft. Water damaged the State Fair Park's grandstand and a large part of the roof blew off. There was extensive powerline and tree damage to much of Lincoln. In total, \$1.4 million in damages were reported. The most damaging lightning strike occurred on August 8, 2006 when one strike caused a fire and over \$200,000 damage to a laundry facility. The lightning struck the roof next to the east wall and smoldered for several hours before being noticed. Most of the damage was confined to the east side of the roof of the building.

Severe Winter Storms

Due to the regular occurrence of heavy snow, severe cold, and ice storms, the local planning team identified severe winter storms as a concern for the community. Heavy snow and ice can damage critical facilities, infrastructure, and downed power lines. 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 higher risk related to severe winter storms, as they may lack resources needed to sustain themselves through a major severe winter storm. Snow removal throughout the city is done through both city-owned equipment and contractual services. The local planning team indicated the current snow removal and emergency response equipment and fleet owned by the City is outdated and insufficient to fully meet City needs. The following severe winter storms were identified in the 2015 HMP and were updated with information from NCEI and the local planning team.

- **October 9, 1970:** The Columbus Day snowstorm dumped 6.6 inches of snow on the City causing extensive tree damage.
- **January 12, 1975:** The snowstorm referred to as "The Blizzard of the Century", produced 16 inches of snowfall that transpired over a 24-hour period. Both of Nebraska's metropolitan cities, Lincoln and Omaha, were brought to a standstill. Record low atmospheric pressures in the region were recorded, and strong winds created snow drifts reaching 15 feet.
- **1982:** An ice storm caused massive power outages. Nearly all of Lancaster County was impacted and some of the county residents were without power for three days.
- **January 26, 1994:** Freezing rain and sleet caused icing of trees and power lines. Some electrical outages also occurred. \$50,000 worth of property damage was incurred.
- **September 22, 1995:** Record low temperatures from the lower 20s to the lower 30s put an end to an already stunted growing season across the Midlands. Nearly the entire state fell below 28 degrees. Hardest hit were the milo, soybean, and corn crops. Crop damages reported were \$262 million.
- **October 25, 1997:** A rare winter storm brought 13 inches of wet, heavy, snow that weighed down and broke power lines and tree limbs. As a result, many residential areas and businesses were without power for several days and some areas for over a week. "Disaster areas" were declared and accrued over \$50 million in public property damage. The cleanup was extensive, continuing well into the following summer. The Lincoln Water System reported that they were without power at three critical pumping stations for several hours. The Lincoln Airport and West Lincoln business areas were two pressure districts affected by the storm.
- **December 24, 2009:** A prolonged winter storm and blizzard hit the area closing many roads and highways for several days. Interstate 80 was closed for a while east of Lincoln. A total of 12-14 inches fell across the region with extended periods of white out conditions due to northwest winds gusting over 40 mph.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Lincoln has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. The City of Lincoln is governed by a Mayor and a seven member City Council. The following offices that may help implement mitigation actions:

- Aging Partners*
- Building & Safety*
- Lincoln City Libraries*
- Planning*
- Purchasing*
- Lincoln Transportation and Utilities
- Urban Development Department
- Health*
- Human Resources*
- Human Rights Commission*
- Information Services*
- Fire Department
- Police Department
- Parks & Recreation Department

*indicates an agency which is shared with the County

Capability Assessment

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

Table LNK.7: Capability Assessment

| Survey Components/Subcomponents | | Yes/No |
|--|---|--------|
| <i>Planning & Regulatory Capability</i> | Comprehensive Plan | Yes |
| | Capital Improvements Plan | Yes |
| | Economic Development Plan | Yes |
| | Emergency Operational Plan | Yes |
| | 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 | Yes |
| Other (if any) | City Emerald Ash Borer Response and Recovery Plan | |
| <i>Administrative & Technical Capability</i> | Planning Commission | Yes |
| | Floodplain Administration | Yes |
| | GIS Capabilities | Yes |
| | Chief Building Official | Yes |
| | Civil Engineering | Yes |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | Yes |

Section Seven: City of Lincoln Community Profile

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

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|-----------------------|
| Does your community have the financial resources needed to implement mitigation projects? | High |
| Does your community have the staff/expertise to implement projects? | High |
| Does your community have the community support to implement projects? | Moderate |
| Does your community staff have the time to devote to hazard mitigation? | High |

Plan Integration

The City of Lincoln's Comprehensive Plan was last updated in 2016. This plan does include natural hazard layers including the floodplain. As such, the plan directs development away from the floodplain and chemical storage facilities. It also encourages infill development, development clustering, structure elevation in the floodplain, and the preservation of open space in hazard-prone areas such as parks. The plan will begin the update process in 2020 with an anticipated adoption at the end of 2021. During the 2020 plan update process, planners involved with the hazard mitigation plan update will be available at public open houses to address questions regarding hazard mitigation and the integration of mitigation goals into the comprehensive plan.

The City's jurisdictional zoning ordinance is updated and amended on an as-needed basis based on recommendations by the City or at the rest of an applicant. The current ordinance discourages, limits, and/or prohibits development in the floodplain/floodway and identifies these areas as parks or open space. While the ordinance does not prohibit wetland filling, additional permitting is required to do so. The ordinance also accounts for the current population and future expected trends. The City of Lincoln also utilizes the Lancaster County Zoning Ordinance which was last updated in November 2018. The County ordinance discourages development in the floodplain, requires elevation of structures in the floodplain, contains natural hazard layers, and limits development in the extra-territorial jurisdictional area. The City's subdivision regulations were updated in February 2019. While the subdivision ordinance does not directly address conservation or cluster subdivisions, there are density bonuses possible in certain areas by the Community Unit Plan in exchange for substantial protection of open space as designated in the Comprehensive Plan. There are also regulations that allow density transfers in hazard areas and restrict subdivision of land within or adjacent to the floodplain depending if the land is in an Existing Urban Area or New Growth Area.

The Capital Improvements Plan (CIP) is updated bi-annually as part of the municipal budget. The CIP includes numerous projects the City is pursuing including: storm water projects; upsizing culverts and drainage ditches; upgrading and maintaining storm water system; improving transportation routes; widening roadways for future growth and current emergency access; bridge improvements; water system and well improvements; residential water meter installation; updates to electrical distribution system; constructing and/or improving community facilities including fire halls, community centers, public works facility, and libraries; development of additional parking garages; and expansion of the public transportation system.

The City of Lincoln has an annex to the Lancaster County Local Emergency Operations Plan which was last updated in 2017. The LEOP outlines hazards of top concern, assigns specific responsibilities to communities, identifies shelter locations, and identifies evacuation protocols. The City of Lincoln is also a key stakeholder in the Lower Platte River Consortium which includes the Lower Platte South NRD, Lower Platte North NRD, MUD, Papio-Missouri NRD, and NeDNR. The Consortium worked together to develop a Drought Contingency Plan, approved in 2019, with the overall goal of sustaining public water supplies in the basin. The plan evaluates potential drought mitigation measures and drought monitoring techniques for the Consortium to adopt and implement.

Mitigation Strategy

The local planning team met to discuss a wide range of possible mitigation activities that the city could include in the HMP to be more resilient to flooding. As required for Activity 510 *Floodplain Management Planning* for consideration of CRS points, the discussion included activities that are currently implemented or ongoing, activities that should be added to the 2020 HMP, and also activities that were not selected because they were either inappropriate for the community or not feasible.

An action plan for each of the selected mitigation actions can be found under the Ongoing Mitigation Actions or New Mitigation Actions below. The completed and ongoing mitigation actions are updates to mitigation actions that were included in the 2015 HMP.

Completed Mitigation Actions from 2015 HMP

| Mitigation Action | Improve Drainage 1 |
|--------------------------|---|
| Description | Improve the drainage at 11 th Street and Harrison Ave |
| Hazard(s) Addressed | Flooding |
| Status | This action was completed in 2016 by using the general obligations bonds. |

| Mitigation Action | Improve Drainage 2 |
|--------------------------|---|
| Description | Improve the drainage at 33 rd and Holdrege Streets by replacing inlets |
| Hazard(s) Addressed | Flooding |
| Status | This action was completed in 2017 by using the general obligations bonds. |

| Mitigation Action | Improve Drainage 3 |
|--------------------------|---|
| Description | Improve the drainage on 24 th Street from E Street to Antelope Creek |
| Hazard(s) Addressed | Flooding |
| Status | This action was completed in 2018 by using the general obligations bonds. |

| Mitigation Action | Improve Drainage 4 |
|--------------------------|--|
| Description | Improve the drainage on 33 rd Street from Holdrege Street to Baldwin Avenue |
| Hazard(s) Addressed | Flooding |
| Status | This action was completed in 2017 by using the general obligations bonds. |

| Mitigation Action | Improve Drainage 5 |
|--------------------------|---|
| Description | Improve the drainage at 63 rd and Aylesworth Avenue |
| Hazard(s) Addressed | Flooding |
| Status | This action was completed in 2017 by using the general obligations bonds. |

| Mitigation Action | Improve Drainage 6 |
|--------------------------|--|
| Description | Improve the drainage from 40 th and J Streets to 37 th and M Streets |
| Hazard(s) Addressed | Flooding |
| Status | This action was completed in 2018 by using the general obligations bonds. |

| Mitigation Action | Improve Drainage 7 |
|--------------------------|---|
| Description | Improve the drainage at Cotner Blvd and Baldwin Avenue |
| Hazard(s) Addressed | Flooding |
| Status | This action was completed in 2017 by using the general obligations bonds. |

| Mitigation Action | Improve Drainage 8 |
|--------------------------|--|
| Description | Improve the drainage at N 68 th Street between Fremont Street and Seward Street |
| Hazard(s) Addressed | Flooding |
| Status | This action was completed in 2018 by using the general obligations bonds. |

| Mitigation Action | Improve Drainage 9 |
|--------------------------|---|
| Description | Improve the drainage south of Lowell Avenue between 46 th and 47 th Streets |
| Hazard(s) Addressed | Flooding |
| Status | This action was completed in 2018 by using the general obligations bonds. |

| Mitigation Action | Improve Drainage 10 |
|--------------------------|--|
| Description | Improve the drainage at North of Madison Avenue, east of 33 rd Street |
| Hazard(s) Addressed | Flooding |
| Status | This action was completed in 2018 by using the general obligations bonds. |

| Mitigation Action | No Adverse Impact |
|--------------------------|--|
| Description | Adopt a No Adverse Impact approach to floodplain management |
| Hazard(s) Addressed | Flooding |
| Status | New growth and development areas include a no adverse impact approach. |

Ongoing Mitigation Actions from 2015 HMP

| Mitigation Action | Alert Sirens |
|---------------------|--|
| Description | Install additional warning sirens. Upgrade current warning siren system. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$30,000 each |
| Potential Funding | HMGP, PDM, General Obligation Funds |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Emergency Management |
| Status | Ongoing – EMA has identified locations where additional sirens are needed. Currently have 85-90% siren coverage of the population of Lincoln. As City continues to grow, additional sirens are a priority. Limited to adding one siren per year with current funding availability. |
| Meets Expectations | No – additional funding is needed; redundant power supply upgrades are needed. |

| Mitigation Action | Backup Generators |
|---------------------|---|
| Description | Identify and evaluate current backup and emergency generators; Obtain additional generators based on identification and evaluation. Develop a long-term plan for critical infrastructure generators to provide stationary and portable backup power. These generators would be necessary to provide power to fire stations to continue providing operations for the City. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies by need |
| Potential Funding | General funds, Sales Tax, PDM, HMGP |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Fire Department |
| Status | The City is currently evaluation funding sources to purchase generators at emergency response facilities. Have identified 16 fire rescue facilities for emergency response without backup source of power. The City will emphasis all new fire stations include backup generators as part of design and construction process. |
| Meets Expectations | Yes |

| Mitigation Action | Bank Stabilization |
|---------------------|---|
| Description | Implement riverbank stabilization measures for city-owned property along the Platte River, particularly near the Lincoln well fields. Current erosion pattern will impact the ability to develop that area for wells to meet future production demands. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$1,900,000 |
| Potential Funding | Water Sustainability Fund and City funds |
| Timeline | 1 year |
| Priority | High |
| Lead Agency | Lincoln Water System |
| Status | Project has completed design and construction to begin Fall 2019. Project Phase 1 to be completed by May 2020. Following the floods of March 2019, additional bank stabilization needs may be identified and pursued in the future. |
| Meets Expectations | Yes |

| Mitigation Action | Capability to Connect to Portable Generators to Operate City Vehicle Fuel Sites |
|---------------------|---|
| Description | Conduct a comprehensive study of remote City vehicle fueling sites to identify electrical components required for utilization of portable back-up generators. Project would also include installation of those components, generators to be provided by local emergency management or contractual services. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Not yet available |
| Potential Funding | General obligation bonds |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | LTU |
| Status | Not yet started |
| Meets Expectations | N/A |

| Mitigation Action | Complete City-wide Flood Project Master Plan |
|---------------------|---|
| Description | Complete a city-wide Master Plan to prioritize all flooding related projects. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$100,000 |
| Potential Funding | FMA, General Obligation Funds |
| Timeline | 1-2 years |
| Priority | High |
| Lead Agency | Watershed Management |
| Status | City will submit an FMA grant in FY 2019 to fund the plan. Currently awaiting funding allocation. |
| Meets Expectations | N/A |

Section Seven: City of Lincoln Community Profile

| Mitigation Action | Continuity Plan |
|---------------------|---|
| Description | Develop continuity plans for critical community services |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$150,000 |
| Potential Funding | General Obligation Funds |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Risk Management |
| Status | Initial assessment of critical functions is completed. Next steps to identify gaps and complete continuity plans. |
| Meets Expectations | Yes |

| Mitigation Action | Emergency Operations Center |
|---------------------|--|
| Description | Update the Emergency Operations Center to maintain pace with technology requirements. Identify and establish additional EOC facility as appropriate to meet the needs of the growing City. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies |
| Potential Funding | Homeland Security grants, General Obligation Funds, PDM, HMGP |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Emergency Management, Fire Department |
| Status | Emergency Management recently moved to a new EOC in which technology needs are consistently reviewed and updated as appropriate. The City has identified that current growth trends will require a larger future EOC facility. |
| Meets Expectations | Yes |

| Mitigation Action | Flood Reduction within Deadman's Run Watershed |
|---------------------|---|
| Description | City of Lincoln will address flooding and drainage deficiencies, including channel improvements, within the Deadman's Run watershed. Areas include: Cornhusker Highway, University of Nebraska East Campus, University Place Park, 52 nd Street to 56 th Street |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$24,000,000 |
| Potential Funding | Cost-shared: 42% USACE, 29% LPSNRD, 29% City |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | LTU – Watershed Management Department |
| Status | Project will remove 500+ residential and commercial properties from Deadman's Run floodplain between 33 rd and 48 th Streets. As part of the project a detention pond will be constructed at Fleming Fields. Construction to start late 2020 to early 2021. |
| Meets Expectations | Yes |

| Mitigation Action | Green Mitigation |
|---------------------|---|
| Description | Educate the public and business owners regarding rain gardens, green roofs, and other minor mitigation measures |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$60,000+ |
| Potential Funding | General Obligation Funds |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Watershed Management, LPSNRD |
| Status | City works with up to 30 properties per year to implement best management practices. Multiple educational programs (school discussions, Earth Day open houses, workshops, etc.) have been implemented to educate residents. |
| Meets Expectations | Yes |

| Mitigation Action | Hazard Education |
|---------------------|--|
| Description | Increase public awareness of vulnerability and risk reduction measures through hazard education |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies |
| Potential Funding | General Obligation Funds, HMGP, PDM |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Emergency Management, Lincoln Public Schools |
| Status | Ongoing – annually engages in education and outreach programs with local schools and community stakeholders. |
| Meets Expectations | Yes |

| Mitigation Action | High Risk Properties |
|---------------------|--|
| Description | Mitigate or acquire property that is high risk to flooding |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies |
| Potential Funding | HMGP, FMA, PDM, General Obligation Bonds |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Watershed Management |
| Status | Planning Stage - Includes conservation easements as appropriate. |
| Meets Expectations | Yes |
| Land Use | Green space and/or parks |

Section Seven: City of Lincoln Community Profile

| Mitigation Action | Improve Drainage at Forest Lake Blvd |
|---------------------|---|
| Description | Culvert upsizing along Forest Lake Blvd and South 67 th Street for flood risk reduction to adjacent properties |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$90,000 - \$1,000,000 |
| Potential Funding | General Obligation Bonds, Sales Tax (all City funded) |
| Timeline | 1 year |
| Priority | High |
| Lead Agency | LTU – Watershed Management Department |
| Status | Planning Stage – project design has begun with engineer |
| Meets Expectations | Yes |

| Mitigation Action | Preserve the Floodplain |
|---------------------|--|
| Description | Preserve natural and beneficial functions of floodplain land through measures such as retaining natural vegetation, restoring streambeds, and preserving open space in the floodplain. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | N/A |
| Potential Funding | FMA, PDM, General Obligation Funds |
| Timeline | Ongoing |
| Priority | High |
| Lead Agency | Watershed Management |
| Status | Currently revising the drainage criteria manual for consideration by elected officials. Includes conservation easements as appropriate. |
| Meets Expectations | Yes |

| Mitigation Action | Promote Use of Higher Codes and Standards |
|---------------------|---|
| Description | Promote the use of higher codes and standards, such as the Fortified for Safer Living Standard, in order to provide greater protection for any new construction or building retrofits |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | N/A |
| Potential Funding | N/A |
| Timeline | Ongoing |
| Priority | High |
| Lead Agency | Building and Safety, Planning Department |
| Status | Currently updating to 2018 ICC and RBC, expected to adopt new codes by 2020. Community specific amendments are added and adopted as appropriate. |
| Meets Expectations | Yes |

| Mitigation Action | Tree City USA |
|---------------------|--|
| Description | Continue participating in Tree City USA designation. Additional actions need to be taken to reduce overall risk to city owned trees for Emerald Ash Borer. |
| Hazard(s) Addressed | High Winds, Severe Thunderstorms, Severe Winter Storms, Agricultural Disease (EAB) |
| Estimated Cost | N/A |
| Potential Funding | General Obligation Funds |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Parks and Recreation |
| Status | Participation in Tree City USA is ongoing. Additional funding has been allocated to Parks and Recreation for EAB remediation. |
| Meets Expectations | N/A |

| Mitigation Action | Utilize Low-Impact Development and Green Infrastructure |
|---------------------|---|
| Description | Utilize low impact development practices and green infrastructure to reduce flood risk |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | N/A |
| Potential Funding | General Obligation Funds |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Watershed Management |
| Status | This is an ongoing action based on current zoning and development. Other development practices are still in the planning stage. |
| Meets Expectations | N/A |

New Mitigation Actions

| Mitigation Action | Business Continuity Plan for Lincoln Water System |
|---------------------|---|
| Description | Develop a business continuity plan for the Lincoln Water System. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$100,000 |
| Potential Funding | Water Revenue/Bonds |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Lincoln Water System |
| Status | An assessment and continuity of operations plan (COOP) is needed for sustained operations for the Lincoln Water System. This plan may be done alongside or integrated with overall City department COOPs. |

Section Seven: City of Lincoln Community Profile

| Mitigation Action | Floodproof Facilities |
|---------------------|---|
| Description | Improve resiliency of critical infrastructure to reduce overall risk to flooding |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies by need |
| Potential Funding | Water Revenues/Bonds, OPPD, HMGP, PDM |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Lincoln Water System and OPPD |
| Status | Numerous facilities and infrastructure owned and managed by the City of Lincoln’s Water System should be hardened, retrofitted, or raised to reduce future flood risk potential. This may include floodproofing wells and/or hardening existing electrical and fiber lines. |

| Mitigation Action | Improve Emergency Response Resources |
|---------------------|---|
| Description | Improve/replace current resources to respond to emergencies or current operations. Examples: snowplow, blowers, four-wheel drive vehicles, etc. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies by need (\$50,000-\$1.4M) |
| Potential Funding | Obligation Bonds, Sales Tax, Surplus operation funds, PDM, HMGP |
| Timeline | Ongoing |
| Priority | High |
| Lead Agency | LTU |
| Status | Majority of current City resources are beyond service life. In particular, additional snow blowers and four-wheel drive vehicles are needed. |

| Mitigation Action | Install Weather Station |
|---------------------|--|
| Description | Install weather station to collect a variety of weather data in real time to determine emergency response requirements. Integrate various systems to produce cohesive reports and data access. |
| Hazard(s) Addressed | Severe Thunderstorms, High Winds, Severe Winter Storms, Tornadoes |
| Estimated Cost | \$1,000-\$20,000 per station |
| Potential Funding | TBD |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Emergency Management, LTU |
| Status | Currently have one station within Lincoln at the EOC, additional stations are needed to clearly identify weather conditions including the Municipal Services Center. |

| Mitigation Action | Redundancy Power for Water System |
|---------------------|--|
| Description | Evaluate current backup and emergency power transmission for Lincoln Water System infrastructure. Develop a long-term plan for critical infrastructure. These generators would be necessary to provide power to Water Systems to ensure water security for the City. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$5,000,000+ |
| Potential Funding | Utility funds, Water Revenues/Bonds, OPPD, HMGP, PDM |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Lincoln Water System, OPPD |
| Status | Currently OPPD has one transmission line to the Lincoln Wells, an additional power transmission line or access needs to be evaluated for redundancy. The City of Lincoln is currently in discussion with OPPD for power redundancy options. |

| Mitigation Action | Source Water Contingency Plan |
|---------------------|---|
| Description | Evaluate and add a secondary source water for the City of Lincoln |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies by need |
| Potential Funding | Water Revenues/Bonds, HMGP, PDM, WSF |
| Timeline | 5+ years (identified in 2014 Master Plan for to be addressed by 2045) |
| Priority | High |
| Lead Agency | Lincoln Water System |
| Status | The City is currently exploring options to add a secondary water source for the City. These efforts are supported by the City of Lincoln's City-wide Master Plan. |

| Mitigation Action | Storm Shelters/Safe Rooms |
|---------------------|---|
| Description | Design and construct storm shelters and safe rooms in high vulnerability areas such as mobile home parks, campgrounds, schools, fire stations, EOC, police departments, and other areas. |
| Hazard(s) Addressed | Tornadoes, High Winds, Severe Thunderstorms |
| Estimated Cost | \$200-\$300/sf stand alone; \$150-\$200/sf addition/retrofit |
| Potential Funding | HMGP, PDM, General Obligation Funds |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Emergency Management, Planning, Lincoln Public Schools, Fire Department |
| Status | New shelters could potentially be added to new high school facilities. Other potentially identified shelter locations include between Rokeby and 40 th St. Updates should be made to planning requirements to include shelter locations in new critical infrastructure and housing developments which primarily utilize slab-on-grade foundations. |

Removed Mitigation Actions

| Mitigation Action | Stormwater Detention |
|--------------------------|---|
| Description | Construct stormwater detention upstream of 56 th Street |
| Hazard(s) Addressed | Flooding |
| Reason for Removal | This action was identified as no longer a priority for the community. |

| Mitigation Action | Hail Resistant Roofing |
|--------------------------|--|
| Description | Encourage the use of hail resistant roofing for critical facilities and new construction |
| Hazard(s) Addressed | Hail, Severe Thunderstorms |
| Reason for Removal | This action was identified as no longer a priority for the community. |

| Mitigation Action | Equipment for Hazard Education |
|--------------------------|--|
| Description | Purchase equipment to assist with hazard education |
| Hazard(s) Addressed | All Hazards |
| Reason for Removal | The city has sufficient equipment to conduct hazard education as needed. |

| Mitigation Action | ATV Rescue |
|--------------------------|---|
| Description | Obtain ATVs to assist with search and rescue |
| Hazard(s) Addressed | Flooding |
| Reason for Removal | This action was identified as no longer a priority for the community. |

COMMUNITY PROFILE

VILLAGE OF MALCOLM

Lower Platte South Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

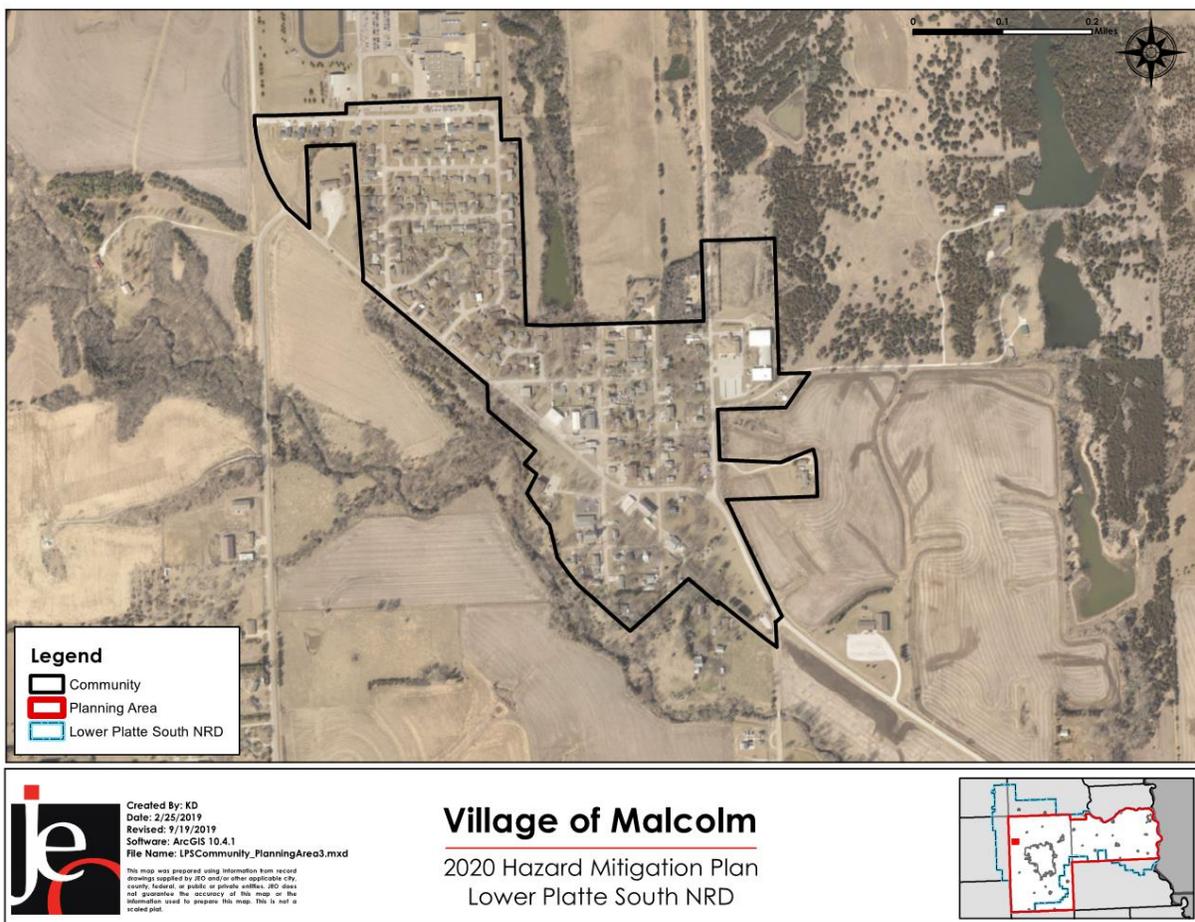
Table MLC.1: Malcolm Local Planning Team

| NAME | TITLE | JURISDICTION |
|-------------|---------------------|--------------------|
| NADINE LINK | Village Clerk | Village of Malcolm |
| JON MOHR | Planning Commission | Village of Malcolm |

Location and Geography

The Village of Malcolm is in the northwestern portion of Lancaster County, approximately 2.6 miles east of the Seward County Line and 3.5 miles north of Pawnee Lake. The Village covers an area of 0.15 square miles. There is one major waterway near the town, the Elk Creek, which flows north-to-south on the southwest side of town.

Figure MLC.1: Village of Malcolm



Transportation

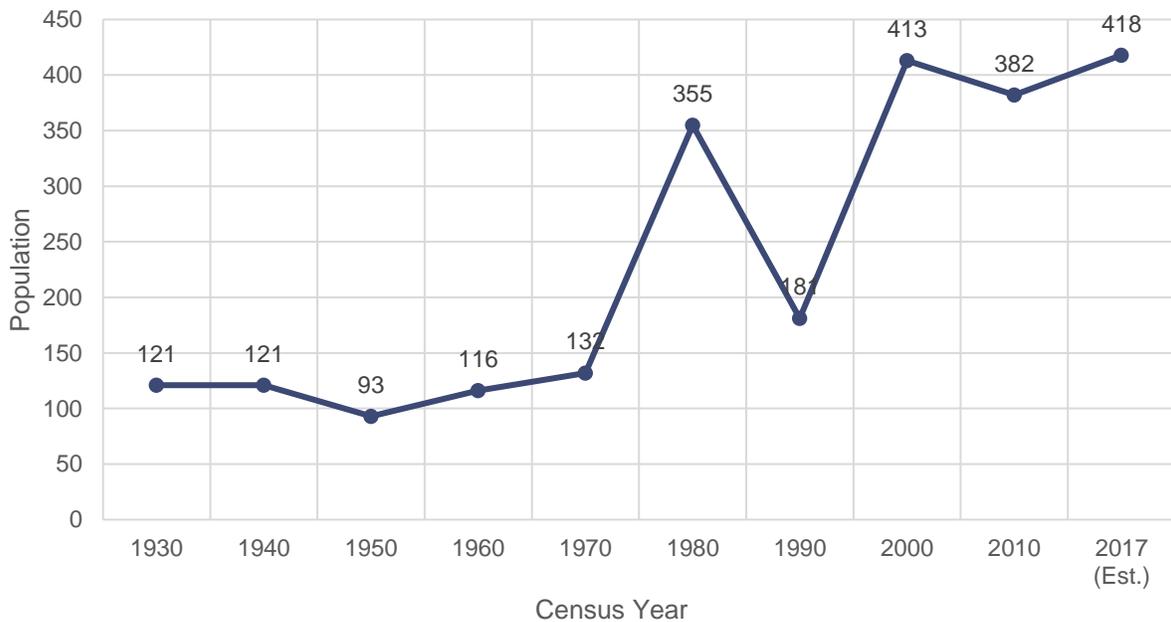
The Village of Malcolm has one major transportation corridor, US Highway 34, which runs east-and-west about a mile-and-a-half south of the village. This corridor connects to the city via Nebraska Highway 55M. The main corridor averages 5,800 vehicles per day and the spur road averages 1,515 vehicles per day.¹²⁰ Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

There are two main transportation routes of concern. The spur road Nebraska Highway 55M and NW 112th Street. Local mitigation planners noted that chemicals are not regularly transported along this route nor have there been any significant transportation events locally.

Demographics

Malcolm’s population grew from about 382 people in 2000 to 418 people in 2017, an increase of 36 people and total gain of 9.4%. This is important because a growing population is associated with increased hazard mitigation and emergency planning requirements. Malcolm’s population accounted for 0.12% of Lancaster County’s population of 306,357 in 2017.¹²¹

Figure MLC.2: Population 1930 - 2017



Source: U.S. Census Bureau

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

- Older.** The median age of Malcolm was 35 years old in 2017, compared with the County average of 33.2 years. Malcolm’s population grew younger since 2009, when the median age was 37 years old. Malcolm had a larger/smaller/similar proportion of people under 20 years old (25.4%) than Lancaster County (26.8%).¹²²

¹²⁰ Nebraska Department of Transportation. “Statewide Traffic Flow Map.” Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.

¹²¹ United States Census Bureau. “American Fact Finder: S0101: Age and Sex.” [database file]. <https://factfinder.census.gov/>.

¹²² United States Census Bureau. “American Fact Finder: S0101: Age and Sex.” [database file]. <https://factfinder.census.gov/>.

Section Seven: Village of Malcolm Community Profile

- **Less ethnically diverse.** Since 2010, Malcolm grew less ethnically diverse. In 2010, Malcolm's population was 1% Hispanic or Latino. By 2017, Malcolm's population was 0.5% Hispanic or Latino. During that time, the Hispanic or Latino population in Lancaster County grew from 5.5% in 2010 to 6.7% in 2017.¹²³
- **Less likely to be below the federal poverty line.** The poverty rate in Malcolm (3.7% of families living below the federal poverty line) was lower than Lancaster County's poverty rate (8.7%) in 2017.¹²⁴

Employment and Economics

The major economic base of Lancaster County is a mixture of education/healthcare/social services (26.8%), retail (11.1%), professional/scientific/management/administrative/waste management services (9.9%), and two employment sectors of 9.1%: manufacturing and arts/entertainment/recreation/accommodation/food services. In comparison to the County, The Village of Malcolm economy had:

- **Similar mix of industries.** Malcolm major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (28.8%), transportation/warehousing/utilities (16%) and manufacturing (11.6%).¹²⁵
- **Higher household income.** Malcolm median household income in 2017 (\$65,179) was \$9,432 higher than the County (\$55,747).¹²⁶
- **More long-distance commuters.** A total of 12.1% percent of workers in Malcolm commuted for fewer than 15 minutes, compared with 36% of workers in Lancaster County. An additional 23.3% of workers in Malcolm commute 30 minutes or more to work, compared to 15.7% of the County workers.¹²⁷

Major Employers

Major employers within Malcolm include Malcolm Public Schools and Lippy's BBQ Restaurant. A large percentage of residents commute to Lincoln, Omaha, and Seward for employment.

Housing

In comparison to Lancaster County, Malcolm's housing stock was:

- **Less renter occupied.** Of occupied housing units in Malcolm, 24.8% are renter-occupied compared with 39.9% of renter housing in Lancaster County.¹²⁸
- **Newer.** Malcolm had a smaller share of housing built prior to 1970 than Lancaster County (23.2% compared to 38.1%).¹²⁹
- **Fewer multifamily dwellings.** The predominant housing type in Malcolm is single family detached (79.5%), which is more than Lancaster County (60.8%). Malcolm contains less multifamily housing with five or more units per structure compared to Lancaster County (20.4% compared to 23.6%). Malcolm has no mobile housing.

This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities

¹²³ United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

¹²⁴ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

¹²⁵ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

¹²⁶ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

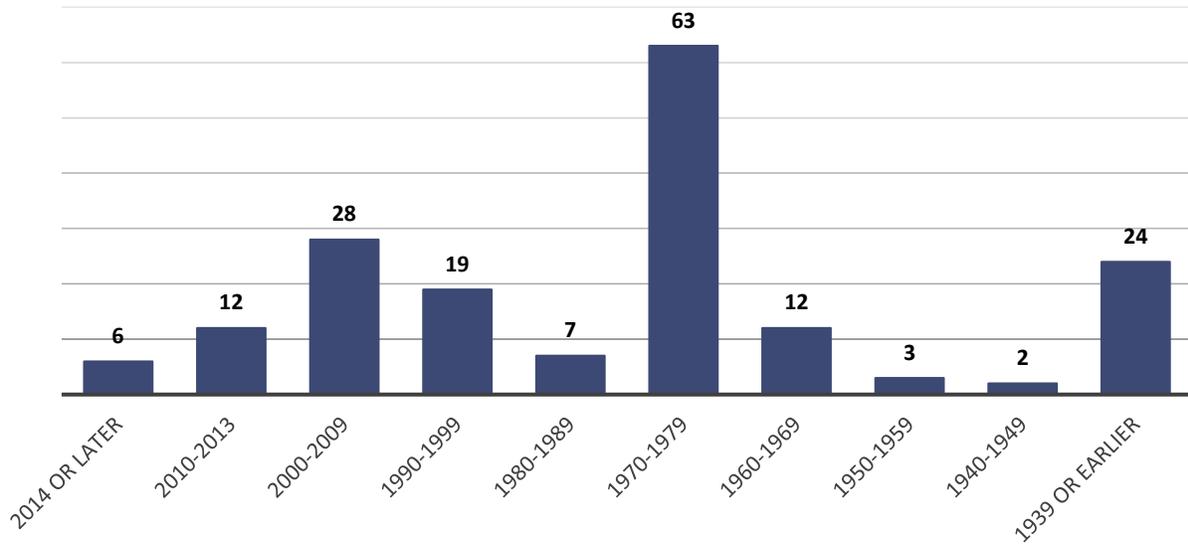
¹²⁷ United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

¹²⁸ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

¹²⁹ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

Figure MLC.3: Housing Units by Year Built



Source: U.S. Census Bureau¹³⁰

Future Development Trends

The Village of Malcolm has undergone significant changes in multiple areas since the previous mitigation plan update. Malcolm Public School received a one million-dollar addition which increased the overall capacity of the school. A new development area, the Hudkens Subdivision, brought 11 new lots into the village. There has also been a recent increase in acreages around the area. According to recent census data the population of Malcolm has been relatively stable. This is attributed to the Public-School containing classes from pre-kindergarten to 12th grade in the village. This is also indicative of Malcolm’s status as a bedroom community for Lincoln, Omaha, and Seward which increases the potential for residential development.

There is a planned housing development adjacent to village limits but no specific plans for additional housing developments. However, local representatives are confident there will be additional housing developments prior to the next mitigation plan update. Similarly, there are no specific plans for additional businesses or industries in the area, but the growing population indicates it is likely.

¹³⁰ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

Figure MLC.4: Future Land Use Map (Extraterritorial Jurisdiction)

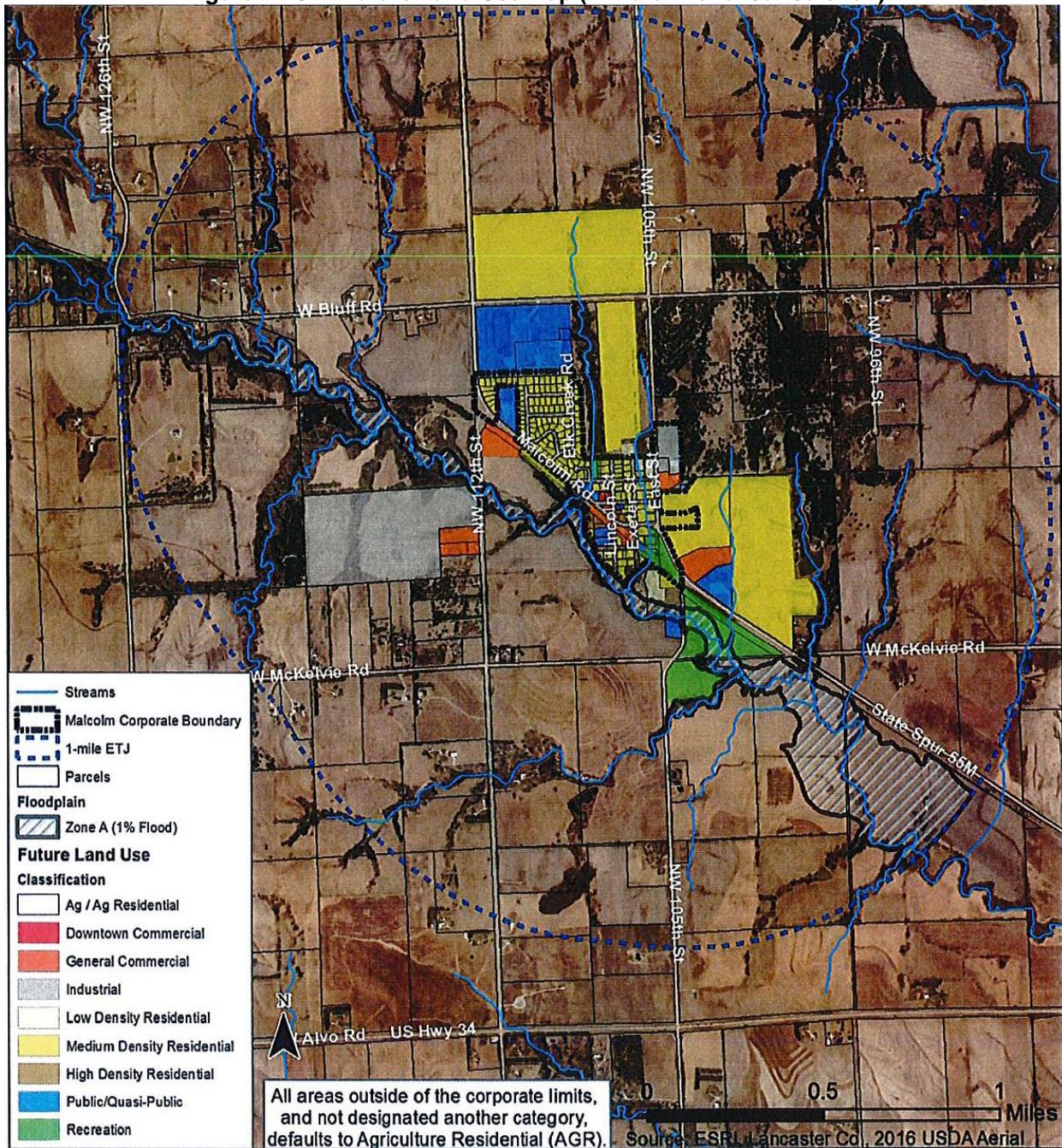
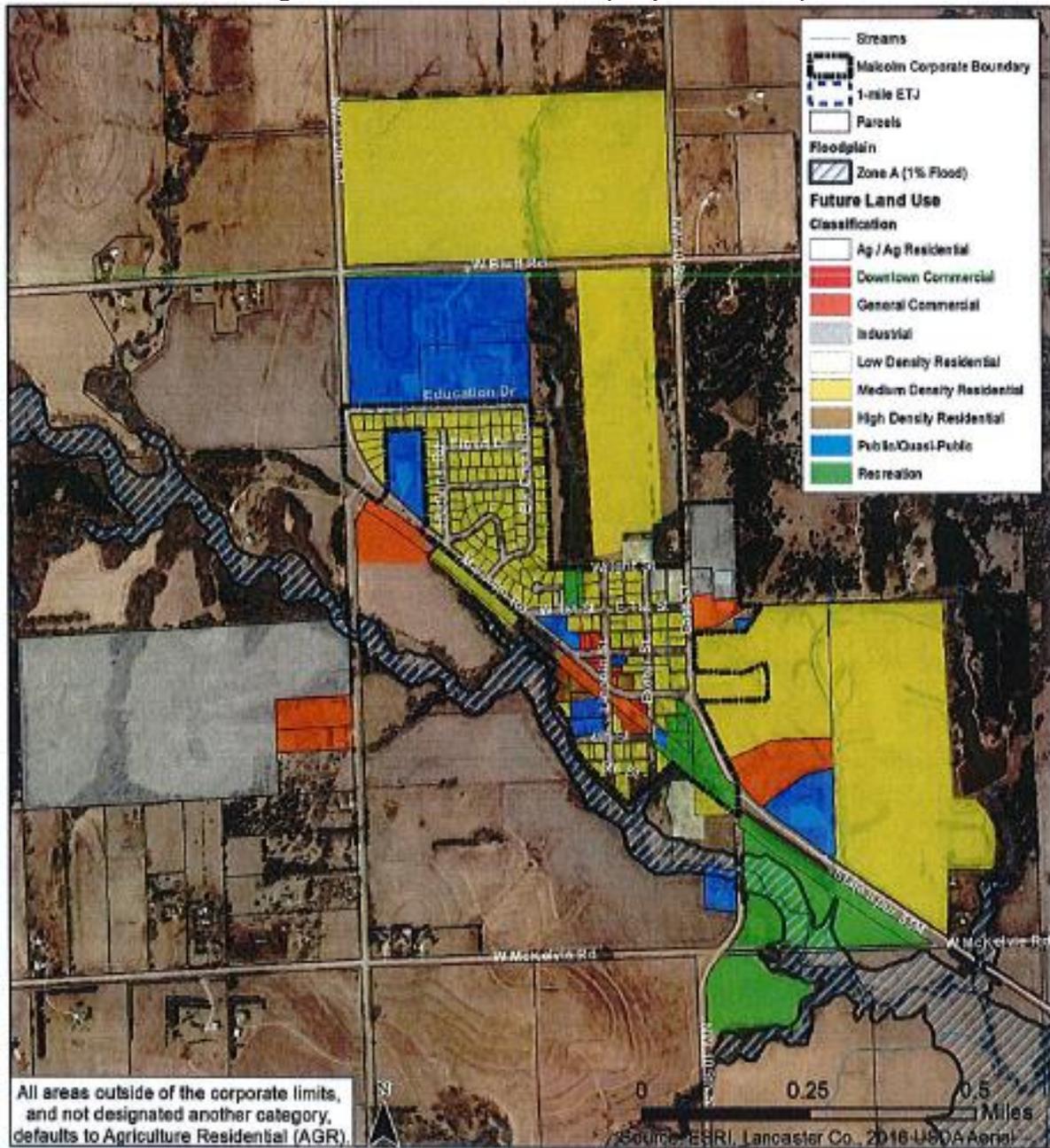


Figure MLC.5 Future Land Use (Corporate Limits)



Structural Inventory and Valuation

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

Table MLC.2: Structural Inventory/Parcel Improvements

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | MEAN VALUE OF IMPROVEMENTS PER PARCEL | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|------------------------|-------------------------|---------------------------------------|--------------------------------------|-------------------------------------|
| 163 | \$20,281,700 | \$124,428 | 2 | \$146,500 |

Source: Nebraska Department of Revenue, Property Assessment Division¹³¹

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are no chemical storage sites in Malcolm.¹³²

Critical Facilities

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

The local planning team identified the Malcolm Fire and Rescue, Methodist Church, North West Community Church, and Lutheran Church would be used as community shelters during hazard events.

Table MLC.3: Critical Facilities

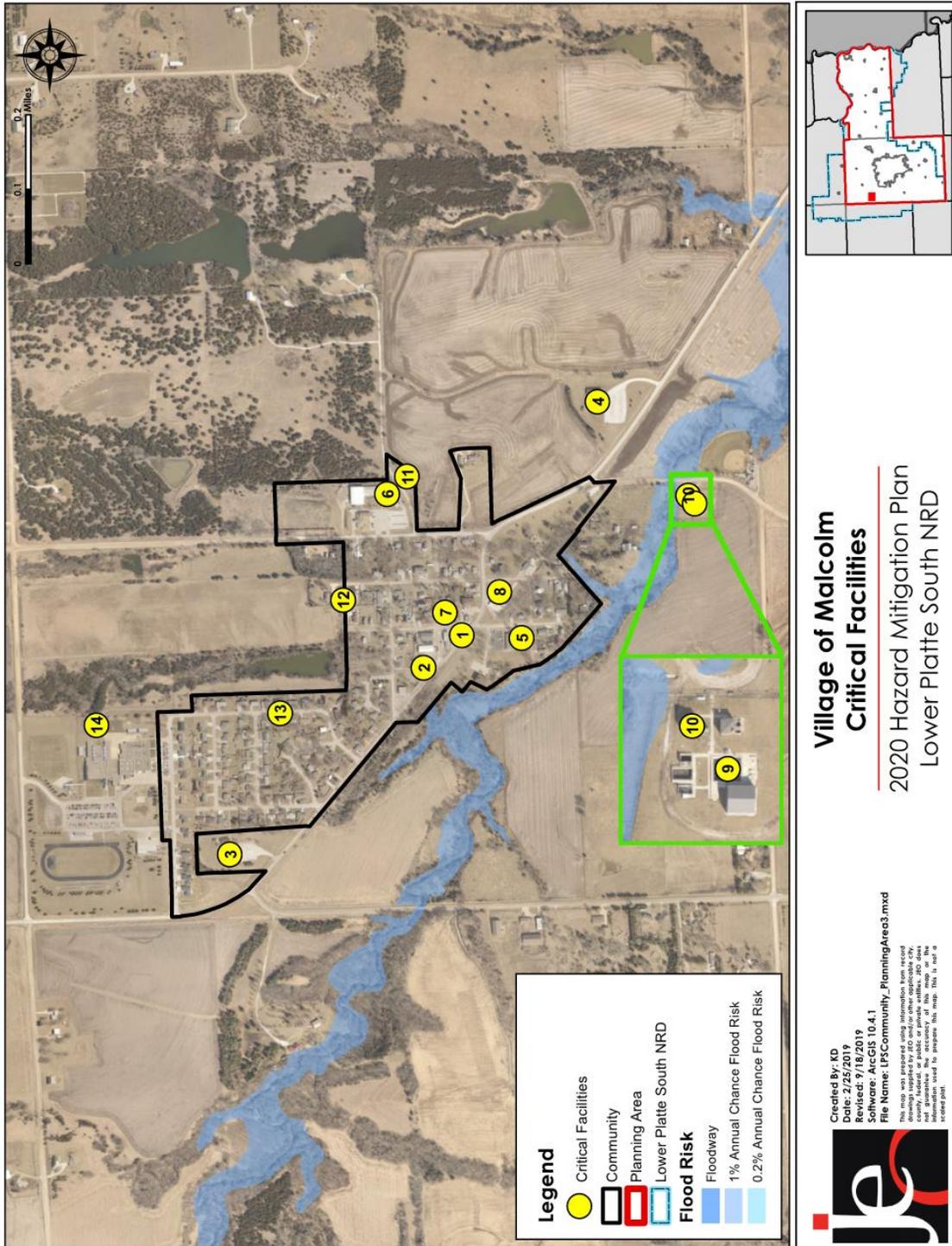
| CF Number | Name | Red Cross Shelter (Y/N) | Generator (Y/N) | Located in Floodplain (Y/N) |
|-----------|-----------------------------|-------------------------|-----------------|-----------------------------|
| 1 | Lancaster County Shop | N | N | N |
| 2 | Malcolm Fire & Rescue | N | Y | N |
| 3 | Methodist Church of Malcolm | N | N | N |
| 4 | North West Community Church | N | N | N |
| 5 | St. Paul's Lutheran Church | N | N | N |
| 6 | Town Hall-Banquet Hall | N | N | N |
| 7 | Village Hall/Office | N | Y | N |
| 8 | Village Maintenance Shop | N | Y | N |
| 9 | Wastewater Lagoon | N | N | N |
| 10 | Wastewater Treatment Plant | N | Y | N |
| 11 | Water Tower | N | N | N |
| 12 | Well # 1 | N | Y | N |
| 13 | Well # 2 | N | N | N |

¹³¹ County Assessor. Personal correspondence, [DATE].

¹³² Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

| CF Number | Name | Red Cross Shelter (Y/N) | Generator (Y/N) | Located in Floodplain (Y/N) |
|-----------|----------|-------------------------|-----------------|-----------------------------|
| 14 | Well # 3 | N | N | N |

Figure MLC.6: Critical Facilities



Historical Occurrences

See the Lancaster County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Drought

The Village of Malcolm has adopted water drought emergency procedures as part of the local municipal code. The code identifies the actions the community will take in the case of diminished water supply or drought conditions, including water shut offs and enforcement. The Village relies on the University of Nebraska-Lincoln Drought Mitigation Center to define drought and provide information about current conditions. All properties within Malcolm are metered and each of the three wells in town are monitored for water levels. The wells are limited in their capacity and concerns exist locally for water quantity for the Village.

Flooding

Significant flooding in spring 2008 caused damage to vegetation through the Village. The Village requested help from NEMA and FEMA to help clear out downed trees, branches, and brush. During the March 2019 flooding event that impacted most of eastern Nebraska, Malcolm experienced only minor flooding on some local roads and the driveway into the sewer plant. The local planning team indicated the greatest concern about flooding stems from flash flooding. Areas of the Village most prone to flooding include the older part of Malcolm by Harriett Circle Park, behind residential homes on north and south Exeter Street, and through the park and creek bed by the sewer plant. The local planning team identified water and sewer lines along the creek as a primary concern at risk of damage from trees, branches, or other debris during flood events.

Hail

Hail is a common occurrence across the planning area and the local planning team is concerned about the significant damage that can occur to roofs, homes, businesses, and vehicles from hail. While no significant events have damaged critical facilities locally, the Village addresses infrastructure standards through updating the building codes.

High Winds

The local planning team indicated concerns exist regarding several large, old trees on private property which could threaten property or electrical lines if downed during high wind events. In the case of power failure from downed power lines, municipal records are backed up. Approximately 50% of power lines in the Village are buried.

Severe Thunderstorms

Severe thunderstorms are a normal part of the climate for the State of Nebraska and the planning area. Damage from severe thunderstorms typically is associated with high winds, lightning strikes, and heavy rain. During the March 2019 flooding event, heavy rains from thunderstorms caused high water levels in the creeks surrounding Malcolm and flooded some local roads. A second severe thunderstorm in May 2019 caused hail and wind damage to roofs and vehicles throughout town. The local planning team identified infrastructure along the creek as a primary concern during heavy rain and high-water flow events. There are water and sewer lines that cross the creek

between the Village and the sewer plant that are at risk of damage from trees, branches, or other debris. The sewer plant does have a backup generator in case of power outages.

Severe Winter Storms

Severe winter storms were identified as a hazard of top concern for the Village of Malcolm in regard to damage to critical facilities, infrastructure, and downed power lines. Approximately 50% of power lines in the Village are buried and the fire department, sewer plant, one well, and village shop have backup generators. Snow removal is the responsibility of the Utility Superintendent and snow removal resources are currently sufficient for the Village.

Tornadoes

Tornadoes are a concern due to their potential to cause catastrophic damage to homes, businesses, infrastructure, and surrounding land. Thus far, no tornado events have occurred locally. Municipal records are backed up and there is a siren in town for emergency alerts that can be activated by Malcolm Volunteer Fire and Rescue. There are no tornado grade safe rooms in town, but community members are able to seek shelter at the fire hall, St. Paul Lutheran Church, Village Hall, and Malcolm Public Schools. The volunteer fire department has an internal communication system to alert each member in case of severe weather events, but there is no village wide or county text alert system in place. The Village has interlocal mutual aid agreements with the Villages of Bee, Pleasant Dale, Staplehurst, as well as Nebraska Rural Water.

Governance

A community’s governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Malcolm has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Malcolm has five village board members and the following offices that may help implement mitigation actions.

- Clerk
- Utility Superintendent
- Malcolm Fire and Rescue
- Village Board of Trustees
- Nebraska Rural Water
- Emergency Management

Capability Assessment

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

Table MLC.4: Capability Assessment

| Survey Components/Subcomponents | | Yes/No |
|---|-----------------------------|--------------------|
| <i>Planning & Regulatory Capability</i> | Comprehensive Plan | Yes, recent update |
| | Capital Improvements Plan | No |
| | Economic Development Plan | No |
| | Emergency Operational Plan | Yes |
| | Floodplain Management Plan | No |
| | Storm Water Management Plan | No |

Section Seven: Village of Malcolm Community Profile

| Survey Components/Subcomponents | | Yes/No |
|--|--|-------------------------------|
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | Yes |
| | Floodplain Ordinance | Yes |
| | Building Codes | Yes |
| | National Flood Insurance Program | Yes |
| | Community Rating System | No |
| | Other (if any) | |
| <i>Administrative & Technical Capability</i> | Planning Commission | Yes |
| | Floodplain Administration | Yes |
| | GIS Capabilities | Yes |
| | Chief Building Official | Yes |
| | Civil Engineering | No |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | Health Department |
| | Grant Manager | No |
| | Mutual Aid Agreement | Volunteer Fire Department |
| | Other (if any) | |
| <i>Fiscal Capability</i> | Capital Improvement Plan/ 1 & 6 Year plan | Yes |
| | Applied for grants in the past | Yes |
| | Awarded a grant in the past | Yes |
| | Authority to Levy Taxes for Specific Purposes such as Mitigation Projects | No |
| | Gas/Electric Service Fees | NPPD |
| | Storm Water Service Fees | No |
| | Water/Sewer Service Fees | Yes |
| | Development Impact Fees | Yes |
| | General Obligation Revenue or Special Tax Bonds | No |
| | Other (if any) | |
| <i>Education & Outreach Capability</i> | Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc. | Nebraska Emergency Management |
| | 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 | |
| | Firewise Communities Certification | |
| | Tree City USA | No |
| | Other (if any) | |

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|-----------------------|
| Does your community have the financial resources needed to implement mitigation projects? | Limited |
| Does your community have the staff/expertise to implement projects? | Limited |
| Does your community have the community support to implement projects? | High |
| Does your community staff have the time to devote to hazard mitigation? | High |

Plan Integration

The Village of Malcolm has numerous plans in order to help guide mitigation measures and ensure overall goals for the Village are consistent. The Village has interlocal agreements with neighboring communities to share resources and equipment as needed. The local Volunteer Fire Department also has mutual aid agreements with surrounding fire districts.

The Village’s Comprehensive Plan was last updated in 2017. The plan includes future land use maps for the Village and is based on Smart Growth goals and objectives. The local planning team stated that safe and sustainable growth for the Village is a top priority. The comprehensive plan also discusses directing development away from hazardous areas including the floodplain and chemical storage facilities. The update in 2017 also included new information about the local volunteer fire department and future land use map updates.

Malcolm has two local emergency operations plan – one for their wells and one for their water treatment plant – as well as is part of the Lancaster County Local Emergency Operations Plan. The well and water treatment plan emergency operation plans were last updated in 2015. These plans assign specific responsibilities to staff members, provide contact information to appropriate contacts or providers, and describe what type of equipment is available. The LEOP also assigns specific responsibilities, provides contact information, and identifies sheltering locations. The local planning team indicated that currently identified shelters are sufficient to meet community needs and copies of the emergency plans are held with the Village Clerk, Maintenance Department, and with the Nebraska Department of Health and Human Services.

The Village’s Zoning and Subdivision Ordinances and Building Codes are currently written to automatically update alongside the City of Lincoln, which holds the International Building Code 2012 version. The Zoning ordinance prevents development in the floodplain and near hazardous areas. While landowners may subdivide property to sell, there are size restrictions in place for residential or agricultural land to ensure the community grows sustainably. The Building Code includes a special provision to require sewer backflow valves for structures in the floodplain and requires certain fire-resistant building materials to be used in some cases.

The Village has a Wellhead Protection Area which has signs in place to alert community members of the area. The Village is currently working with the Nebraska Department of Environment and Energy to complete the certification process for their Wellhead Protection Plan. Malcolm also has a water conservation plan in place which describes specific drought triggers and actions to be taken to reduce water consumption during periods of drought.

Overall the Village of Malcolm has a relatively stable annual municipal budget which may be used to pursue future mitigation action measures. The Village is nearing completion of payment on past projects including water treatment facility upgrades and Malcolm Road improvements. Over the past several years the municipal budget has experienced little change.

Mitigation Strategy

Completed Mitigation Actions

| Mitigation Action | Improve Drainage Patterns in and Around the Community |
|---------------------|---|
| Description | Malcolm can utilize stormwater systems comprising of ditches and culverts to convey runoff. Undersized systems can contribute to localized flooding. Drainage improvements may include ditch upsizing, ditch cleanout, and culvert improvements. These improvements can serve to more effectively convey runoff within villages, preventing interior localized flooding |
| Hazard(s) Addressed | Flooding |
| Status | In October of 2015 Lancaster County Engineer replaced culvert before the Village annexed road by Hudkens Rd and Malcolm Rd. JEO is currently designing additional drainage improvements along Malcolm Road as part of an ongoing transportation route improvement project. |

| Mitigation Action | Weather Radios |
|---------------------|--|
| Description | Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed. |
| Hazard(s) Addressed | All hazards |
| Status | The fire department has new weather radios and communication protocols are in place between local officials to share needed weather-related information. Weather radios are located at the Fire Hall and School. |

Ongoing and New Mitigation Actions

| Mitigation Action | Continuity Planning |
|---------------------|---|
| Description | Develop continuity plans for critical community services |
| Hazard(s) Addressed | All Hazards |
| Estimated Cost | \$0 |
| Potential Funding | Village of Malcolm Funds |
| Timeline | 5 years |
| Priority | Medium |
| Lead Agency | Village of Malcolm Board, Malcolm Fire Department, Lancaster County EMA |
| Status | This action has not yet been started |

| Mitigation Action | Promote Use of High Codes and Standards |
|---------------------|---|
| Description | Promote the use of higher codes and standards, such as the Fortified for Safer Living Standard, in order to provide greater protection for any new construction of building retrofits. This includes hail resistant roofing for all new construction. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$5,000+ |
| Potential Funding | HMGP, PDM, CDBG, PLSNRD, Lancaster County, Village of Malcolm |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Village of Malcolm Board, Planning Commission |
| Status | This is an ongoing action to continue improving codes and standards. Requirements for egress windows and backflow preventions have been added since the last plan. |

Section Seven: Village of Malcolm Community Profile

| Mitigation Action | Preserve the Floodplain |
|---------------------|---|
| Description | Preserve natural and beneficial functions of floodplain land through measures such as: retaining natural vegetation, restoring streambeds, and preserving open space in the flood plain |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies by need |
| Potential Funding | Lancaster County and Village of Malcolm Funds |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Village of Malcolm Board, Village Clerk |
| Status | This is an ongoing action. The Village includes information about the floodplain and limited development during the building permit process. |

| Mitigation Action | Public Education |
|---------------------|--|
| Description | Through activities such as outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. Also, educate citizens on water conservation methods. Additional information about continuity planning can be shared with departments and businesses. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$0-\$5,000+ |
| Potential Funding | General Fund, HMGP, PDM, LPSNRD, Volunteer Fire Department |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Village of Malcolm Board, Malcolm Fire Department |
| Status | This is an ongoing action. The Village provides information to residents about flooding threats during the building permit process and the Volunteer Fire Department is active in the community to share hazard reduction information. The School has safety meetings with the Village, local law enforcement, and the volunteer fire department in order to discuss emergency procedures. |

Removed Mitigation Actions

| Mitigation Action | Hail Resistant Roofing |
|---------------------|---|
| Description | Encourage or require the use of hail resistant roofing for any new construction |
| Hazard(s) Addressed | Hail |
| Reason for Removal | Hail resistant roofing is covered by promoting the use of high building codes and standards and is not needed as a second action. |

| Mitigation Action | Evacuation Plan |
|---------------------|---|
| Description | Develop an evacuation plan for all critical facilities and the village as a whole |
| Hazard(s) Addressed | All hazards |
| Reason for Removal | Due to the limited development of the Village, an evacuation plan is not identified as a high priority for the community. Residents will evacuate via major transportation corridors. |

| Mitigation Action | Maintain good standing with the National Flood Insurance Program (NFIP) |
|---------------------|---|
| Description | Maintain good standing with National Flood Insurance Program (NFIP). |
| Hazard(s) Addressed | Flooding |
| Reason for Removal | While the Village of Malcolm will continue to participate in the NFIP, continued participation is no longer considered a mitigation action. |

Section Seven: Village of Malcolm Community Profile

| Mitigation Action | Protection of Vulnerable Populations |
|---------------------|--|
| Description | Ensure that facilities which will house vulnerable populations are placed in the least vulnerable areas of the community |
| Hazard(s) Addressed | All hazards |
| Reason for Removal | There are no nursing homes, hospitals, or assisted living facilities housing vulnerable populations in the Village. Residents are expected |

| Mitigation Action | Storm Shelters |
|---------------------|---|
| Description | Identify, design, and develop storm shelters |
| Hazard(s) Addressed | Tornadoes, High Winds |
| Reason for Removal | This mitigation action is not a high priority for the community and is not financially feasible for the community to pursue at this time. |

| Mitigation Action | Utilize Low Impact Development practices and Green Infrastructure to reduce flood risk |
|---------------------|---|
| Description | Utilize Low Impact Development practices and Green Infrastructure to reduce flood risk |
| Hazard(s) Addressed | Flooding |
| Reason for Removal | The amount of residents and businesses in Malcolm is limited and this mitigation action is not considered a priority for the Village. |

COMMUNITY PROFILE

VILLAGE OF PANAMA

Lower Platte South Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

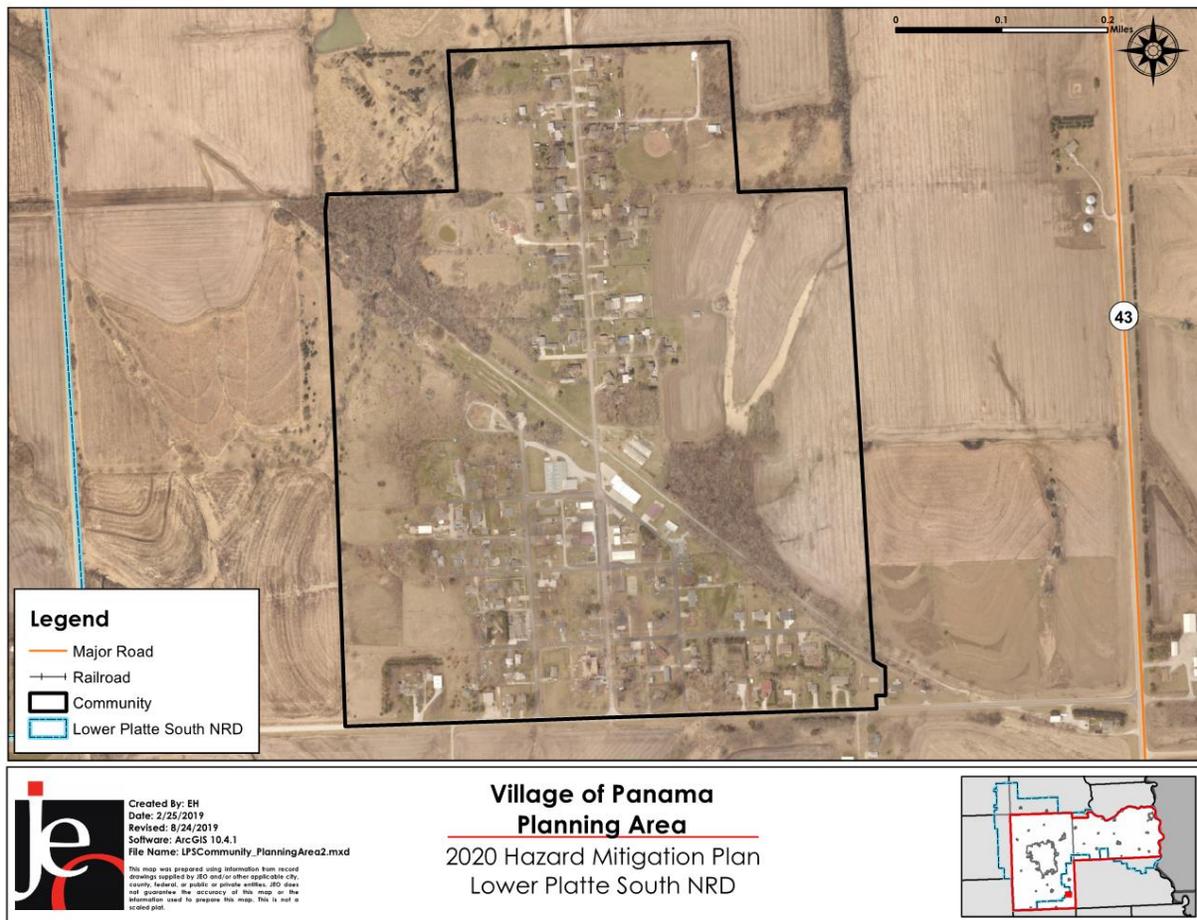
Table PNM.1: Panama Local Planning Team

| NAME | TITLE | JURISDICTION |
|-------------|----------------|-------------------|
| JIM CRAIG | Board Chairman | Village of Panama |
| PAM PLACARD | Village Clerk | Village of Panama |

Location and Geography

The Village of Panama is in the southeast corner of Lancaster County, approximately 2.25 miles west of the Otoe County line and 4.5 miles southeast of the Wagon Train Lake. The Village covers an area of 0.28 square miles.

Figure PNM.1: Village of Panama



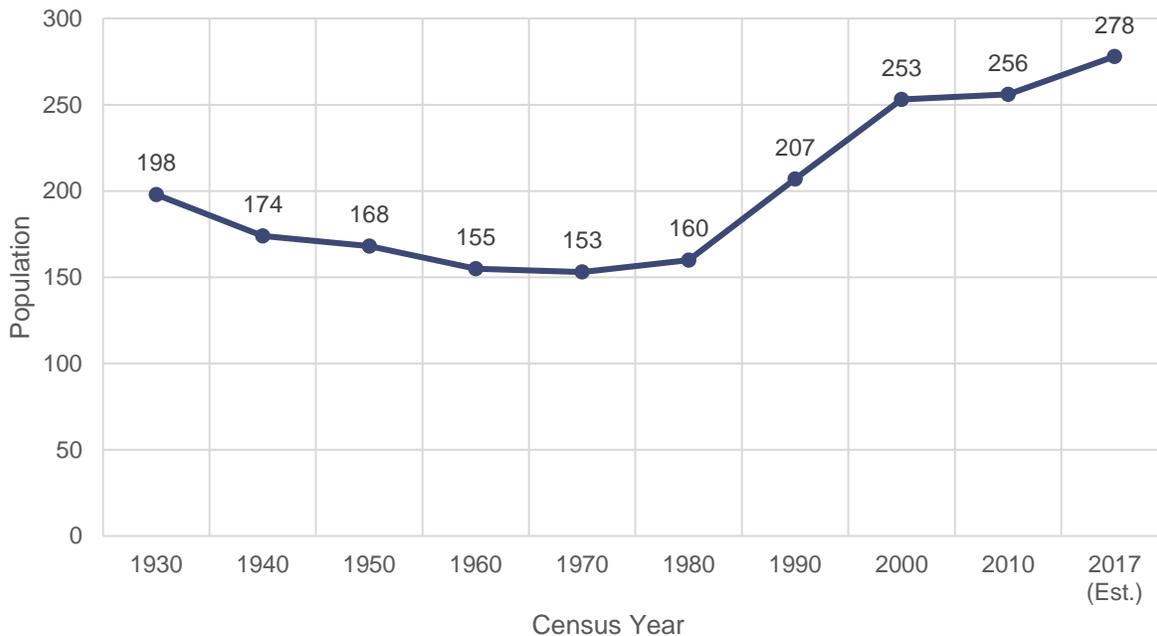
Transportation

The Village of Panama has one major transportation corridor, Nebraska Highway 43 with a spur road, Nebraska 55D, for access. The main corridor runs north-and-south less than a mile east of town and averages 1,855 vehicles per day. The spur road, locally called Panama Road, runs east and west along the southern edge of town and averages 450 vehicles per day.¹³³ Due to the heavy agricultural use of the surrounding area, hazardous chemicals are common transported through or by town via semi-truck or farmers. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

Demographics

Panama's population grew from about 253 people in 2000 to 278 people in 2017, an increase of 25 people and total gain of 9.9%. This is important because a growing population is associated with increased hazard mitigation and emergency planning requirements. Panama's population accounted for 0.09% of Lancaster County's population of 306,357 in 2017.¹³⁴

Figure PNM.2: Population 1930 - 2017



Source: U.S. Census Bureau

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

- Older.** The median age of Panama was 35.3 years old in 2017, compared with the County average of 33.2 years. Panama's population grew younger since 2009, when the median age was 39.4 years old. Panama had a similar proportion of people under 20 years old (27.1%) to Lancaster County (26.8%).¹³⁵

¹³³ Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.

¹³⁴ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

¹³⁵ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

Section Seven: Village of Panama Community Profile

- **Not ethnically diverse.** In 2010, Panama's population was 0% Hispanic or Latino and stayed that way through 2017. During that time, the Hispanic or Latino population in Lancaster County grew from 5.5% in 2010 to 6.7% in 2017.¹³⁶
- **Less likely to be below the federal poverty line.** The poverty rate in Panama (7.4% of families living below the federal poverty line) was lower than Lancaster County's poverty rate (8.7%) in 2017.¹³⁷

Employment and Economics

The major economic base of Lancaster County is a mixture of education/healthcare/social services (26.8%), retail (11.1%), professional/scientific/management/administrative/waste management services (9.9%), and two employment sectors of 9.1%: manufacturing and arts/entertainment/recreation/accommodation/food services. In comparison to the County, The Village of Panama economy had:

- **Similar mix of industries.** Panama major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (27.1%), retail (12%) and manufacturing (10.2%).¹³⁸
- **Higher household income.** Panama median household income in 2017 (\$73,750) was \$18,003 higher than the County (\$55,747).¹³⁹
- **More long-distance commuters.** A total of 19.1% percent of workers in Panama commuted for fewer than 15 minutes, compared with 36% of workers in Lancaster County. An additional 44% of workers in Panama commute 30 minutes or more to work, compared to 15.7% of the County workers.¹⁴⁰

Major Employers

The largest employer in the Village is Transformation Marketing while most residents either farm the surrounding land or commute to Lincoln for employment.

Housing

In comparison to Lancaster County, Panama's housing stock was:

- **Less renter occupied.** Of occupied housing units in Panama, 25.5% are renter-occupied compared with 39.9% of renter housing in Lancaster County.¹⁴¹
- **Similar Age.** Panama had a similar share of housing built prior to 1970 than Lancaster County (38.3% compared to 38.1%).¹⁴²
- **No multifamily dwellings.** The predominant housing type in Panama is single family detached (93.1%), which is more than Lancaster County (60.8%). Panama contains no multifamily housing with five or more units per structure. Panama has a similar share of mobile housing (2%) compared to the County (1.9%).¹⁴³ Mobile homes are located throughout the Village.

This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities

¹³⁶ United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

¹³⁷ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

¹³⁸ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

¹³⁹ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁴⁰ United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

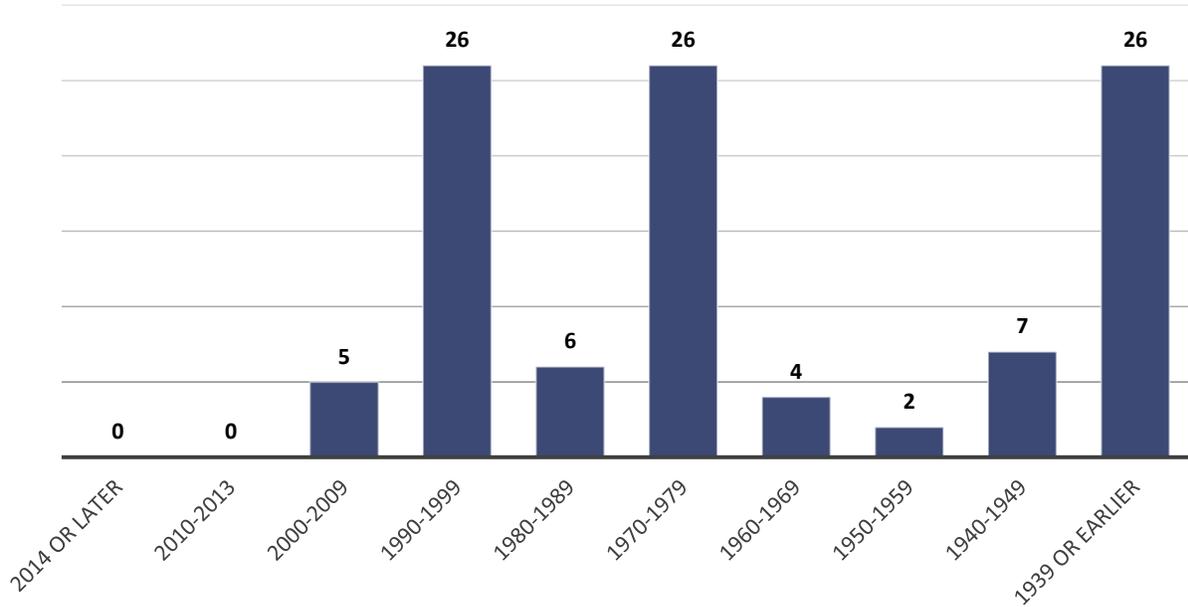
¹⁴¹ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁴² United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁴³ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

Figure PNM.3: Housing Units by Year Built



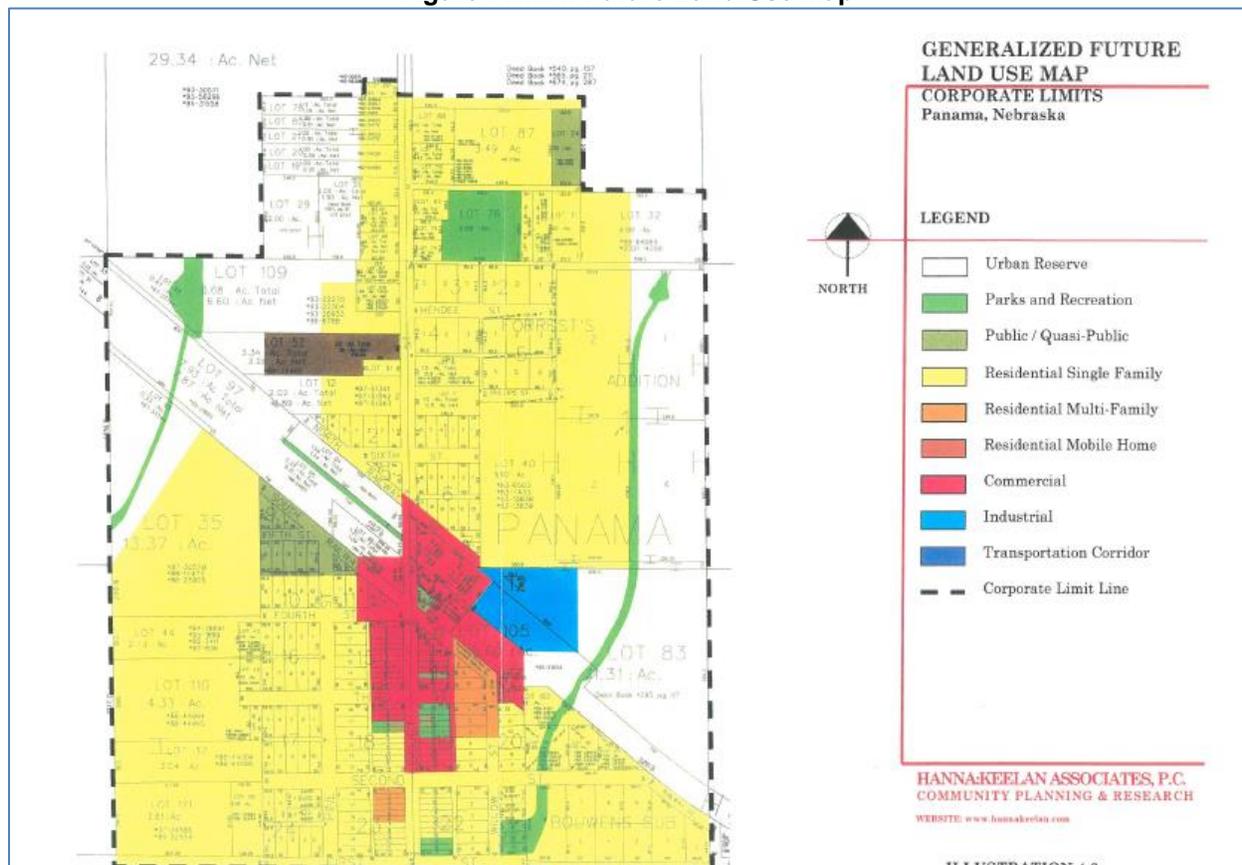
Source: U.S. Census Bureau¹⁴⁴

Future Development Trends

Over the past five years the Village built a few new homes to account for the growing population. The local planning team indicated Panama is growing due to an influx of younger families with kids moving to town. At this time there are no plans for future residential or commercial developments in the Village.

¹⁴⁴ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

Figure PNM.4: Future Land Use Map



Structural Inventory and Valuation

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

Table PNM.2: Structural Inventory/Parcel Improvements

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | MEAN VALUE OF IMPROVEMENTS PER PARCEL | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|------------------------|-------------------------|---------------------------------------|--------------------------------------|-------------------------------------|
| 120 | \$14,861,400 | \$123,845 | 0 | \$0 |

Source: Nebraska Department of Revenue, Property Assessment Division¹⁴⁵

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are no chemical storage sites in Panama.¹⁴⁶

¹⁴⁵ County Assessor. Personal correspondence, [DATE].

¹⁴⁶ Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Critical Facilities

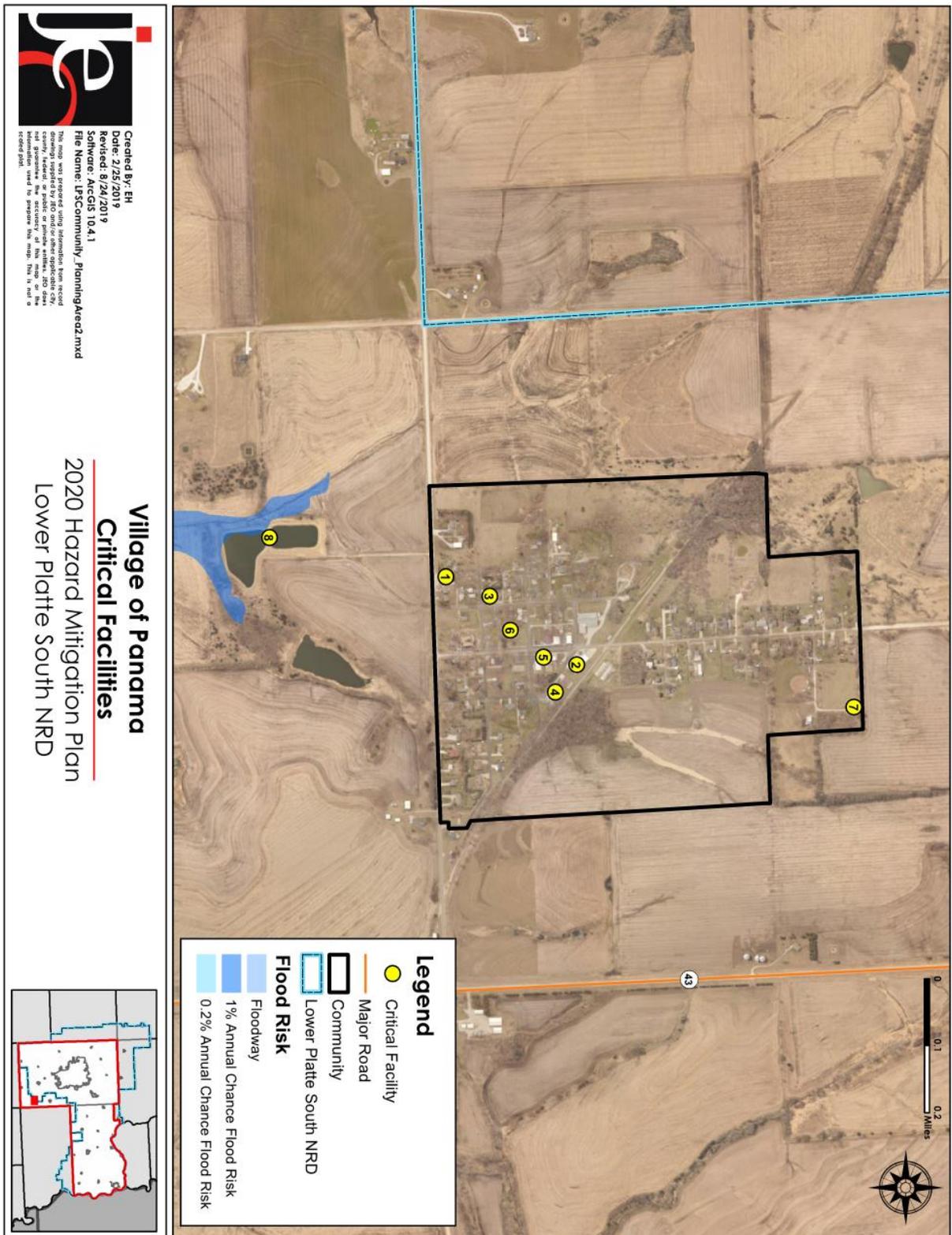
Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction’s functions to normal during and after a disaster. Critical facilities were identified during the original planning process and updated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

In case of an emergency event, the fire and rescue department and the local Presbyterian Church would be used as shelters or distribution centers.

Table PNM.3: Critical Facilities

| CF Number | Name | Red Cross Shelter (Y/N) | Generator (Y/N) | Located in Floodplain (Y/N) |
|-----------|----------------------------|-------------------------|-----------------|-----------------------------|
| 1 | County Maintenance Shop | N | N | N |
| 2 | Panama Fire & Rescue | N | N | N |
| 3 | Panama Presbyterian Church | N | N | N |
| 4 | Town Maintenance Shop | N | N | N |
| 5 | Village Offices | N | N | N |
| 6 | Village Well | N | N | N |
| 7 | Water Tower | N | N | N |
| 8 | Wastewater Lagoon | N | N | N |

Figure PNM.4: Critical Facilities



Historical Occurrences

See the Lancaster County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Flooding

The Village of Panama has historically experienced flooding damages. A flash flood in 1996 caused a reported \$1,500,000 in damages to infrastructure in Panama and the surrounding areas. During the March 2019 flood event, many residents reported water intrusion in their basements and the Village lagoon filled to capacity and was at risk of overtopping. The Village is currently evaluating options to increase their lagoon capacity.

Grass/Wildfire

The local planning team is concerned about grass/wildfires due to the limited firefighting capability in the area and impacts on the agricultural sector. The local fire department is volunteer based but does have mutual aid agreements with neighboring communities. The local planning team indicated particular concern for residents due to delayed response times.

Hail

Hail damage impacts siding, roofing, windows, and vehicles across the Village. This is an annual threat to the village. A severe hailstorm in 2015 reported hail up to two inches in diameter and caused significant damage to roofs throughout the Village. Many of the damaged roofs were replaced.

Severe Winter Storms

The Village of Panama experiences severe winter storms every year which stretch local resources. Concerns from severe winter storms include power loss from downed or damaged power lines, property damage, and blocked transportation routes in and out of town. The local planning team indicated no facilities in town have backup generators.

Tornadoes

Tornadoes are a concern to the local planning team because of the hazard's potential to cause widespread property damages and loss of life. Residents without basements or underground cellars are at heightened potential risk from tornadoes. At this time there are no designated community safe rooms or an official Emergency Operations Center. While no tornadic events have directly impacted the Village of Panama, tornadoes in the surrounding areas have prompted concerns for the local planning team.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Panama has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Panama has five village board members and the following offices that may help implement mitigation actions.

- Village Board
- Clerk
- Maintenance Superintendent
- Fire Chief
- Street Commissioner

Capability Assessment

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

Table PNM.4: Capability Assessment

| Survey Components/Subcomponents | | Yes/No |
|--|---|-------------|
| <i>Planning & Regulatory Capability</i> | Comprehensive Plan | Yes |
| | Capital Improvements Plan | No |
| | Economic Development Plan | No |
| | Emergency Operational Plan | Yes, County |
| | Floodplain Management Plan | No |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | Yes |
| | Floodplain Ordinance | No |
| | Building Codes | Yes |
| | National Flood Insurance Program | No |
| | Community Rating System | No |
| Other (if any) | | |
| <i>Administrative & Technical Capability</i> | Planning Commission | No |
| | Floodplain Administration | No |
| | GIS Capabilities | No |
| | Chief Building Official | Yes |
| | Civil Engineering | No |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | No |
| | Grant Manager | No |
| | Mutual Aid Agreement | Yes |
| Other (if any) | | |
| <i>Fiscal Capability</i> | Capital Improvement Plan/ 1 & 6 Year plan | No |
| | Applied for grants in the past | Yes |

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

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|-----------------------|
| Does your community have the financial resources needed to implement mitigation projects? | Limited |
| Does your community have the staff/expertise to implement projects? | Moderate |
| Does your community have the community support to implement projects? | Moderate |
| Does your community staff have the time to devote to hazard mitigation? | Limited |

Plan Integration

The Village of Panama’s Comprehensive Plan was last updated in 2013 and includes a future land use map but does not discuss natural hazards. The local planning team has identified that the plan needs updated again to include current goals and actions for the Village.

The Village has its own Emergency Operations Plan which is updated annually. This plan assigns responsibilities specifically to Village personnel, particularly the Village Board, Water Operator and Clerk. The Village also has an annex to the Lancaster County Local Emergency Operations Plan which assigns responsibilities and identifies shelter locations.

The Village follows the City of Lincoln’s Building Code, Zoning Ordinances, and Subdivision Ordinances and updates them as needed at the local level. Currently they are following the 2012 International Building Codes.

Section Seven: Village of Panama Community Profile

The Village's Capital Improvement Plan is updated annually and primarily focuses on stormwater and drainage improvements. Currently lagoon improvements are the top priority identified for the Village. As the Village's annual municipal budget is fairly limited, all available funds are earmarked for the lagoon improvement.

Mitigation Strategy

New and Ongoing Mitigation Actions

| Mitigation Action | Automated Telephone Dialer |
|---------------------|---|
| Description | Develop and implement telephone warning system such as Reverse 911. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$5,000 |
| Potential Funding | General Funds, PDM, HMGP |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Village of Panama, Lancaster County Emergency Management |
| Status | This project has not yet been started. |

| Mitigation Action | Backup Generators |
|---------------------|---|
| Description | Provide a portable or stationary source of backup power to critical facilities. |
| Hazard(s) Addressed | Tornadoes, High Winds, Severe Thunderstorms, Severe Winter Storms |
| Estimated Cost | \$30,000+ |
| Potential Funding | General Funds, PDM, HMGP |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Village of Panama |
| Status | This project has not yet been started. |

| Mitigation Action | Continuity Planning |
|---------------------|--|
| Description | Continuity planning helps to ensure that services can be maintained during and after a disaster. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$5,000+, Staff Time |
| Potential Funding | General Funds |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Village of Panama |
| Status | This project has not yet been started. |

| Mitigation Action | Educate Local Businesses about Continuity Planning |
|---------------------|---|
| Description | Educate local businesses about the value of continuity planning. Continuity planning helps to ensure that services can be maintained during and after a disaster. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$1,000+ |
| Potential Funding | General Funds |
| Timeline | 1 year |
| Priority | High |
| Lead Agency | Village of Panama |
| Status | Currently developing educational materials. |

| Mitigation Action | Educate Public and Businesses on Flood Mitigation Projects |
|---------------------|--|
| Description | Educate the public and business owners regarding rain gardens, green roofs, and other minor mitigation measures. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$5,000+, Staff Time |
| Potential Funding | General Funds, Lancaster County |
| Timeline | Ongoing |
| Priority | High |
| Lead Agency | Village of Panama |
| Status | Currently developing education materials. |

| Mitigation Action | Emergency Operations Center |
|---------------------|--|
| Description | Identify an Emergency Operations Center. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$0 |
| Potential Funding | General Funds |
| Timeline | 1 year |
| Priority | Low |
| Lead Agency | Fire Department |
| Status | This is a new mitigation action. |

| Mitigation Action | Evacuation Plan |
|---------------------|--|
| Description | Develop an evacuation plan to be prepared for any disaster that would require evacuation |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$5,000+, Staff Time |
| Potential Funding | General Funds, PDM, HMGP |
| Timeline | 2-5 years |
| Priority | Low |
| Lead Agency | Village of Panama, Lancaster County Emergency Management |
| Status | This project has not yet been started. |

Section Seven: Village of Panama Community Profile

| Mitigation Action | Preserve Natural and Beneficial Floodplain Functions |
|---------------------|--|
| Description | Preserve natural and beneficial functions of floodplain land through measures such as: retaining natural vegetation, restoring streambeds, and preserving open space in the floodplain |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$5,000+, Staff Time |
| Potential Funding | General Funds, PDM, HMGP |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Village of Panama |
| Status | This project has not yet been started. |

| Mitigation Action | Public Education |
|---------------------|--|
| Description | Increase public awareness of vulnerability and risk reduction measures through hazard education. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$1,000+, Staff Time |
| Potential Funding | General Fund, PDM, HMGP |
| Timeline | Ongoing |
| Priority | High |
| Lead Agency | Village of Panama, Lancaster County Emergency Management, LPSNRD |
| Status | This project has not yet been started. |

| Mitigation Action | Storm Shelters |
|---------------------|--|
| Description | Identify, design, and develop storm shelters to protect community and critical facilities. |
| Hazard(s) Addressed | Tornadoes, High Winds, Severe Thunderstorms, Severe Winter Storms |
| Estimated Cost | \$200-\$300/sf stand alone; \$150-\$200/sf addition/retrofit |
| Potential Funding | General Funds, PDM, HMGP |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Village of Panama, Lancaster County Emergency Management |
| Status | This project has not yet been started. |

| Mitigation Action | Stormwater System and Drainage Improvements |
|---------------------|--|
| Description | Panama can utilize stormwater systems comprising of ditches and culverts to convey runoff. Undersized systems can contribute to localized flooding. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. These improvements can serve to more effectively convey runoff within villages, preventing interior localized flooding. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$2,000,000 |
| Potential Funding | General Funds, PDM, HMGP |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Village of Panama |
| Status | This project has not yet been started. The Village's lagoon needs to be expanded. Current bids have estimated over \$2 million in work which is financially prohibitive for the Village. The Village is currently looking into dredging the lagoon. |

| Mitigation Action | Update Comprehensive Plan |
|---------------------|-----------------------------------|
| Description | Update Village Comprehensive Plan |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$10,000 |
| Potential Funding | General Fund, HMGP, PDM |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Village of Panama |
| Status | This is a new mitigation action. |

| Mitigation Action | Utilize Low Impact Development and Green Infrastructure |
|---------------------|--|
| Description | Low impact development practices and green infrastructure can reduce runoff and result in a reduction in stormwater related flooding |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Staff Time |
| Potential Funding | General Funds, Lancaster County, PDM, HMGP |
| Timeline | Ongoing |
| Priority | High |
| Lead Agency | Village of Panama |
| Status | This project has not yet been started. |

Section Seven: Village of Panama Community Profile

| Mitigation Action | Vulnerable Populations Assistance Database |
|---------------------|---|
| Description | Work with stakeholders to develop a database of vulnerable populations and organizations which support them |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$5,000+, Staff Time |
| Potential Funding | General Funds |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Village of Panama |
| Status | This project has not yet been started. |

Removed Mitigation Actions

| Mitigation Action | Purchase a 10kW Generator for the EOC |
|---------------------|---|
| Description | Purchase a generator for the EOC |
| Hazard(s) Addressed | All hazards |
| Reason for Removal | This is not currently financially feasible for the community to pursue. |

| Mitigation Action | Obtain Tree City USA Designation |
|---------------------|---|
| Description | Work to become a Tree City USA through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a tree maintenance program in order to maintain trees in a community to limited potential damages when a storm event occurs. |
| Hazard(s) Addressed | Tornadoes, High Winds, Severe Thunderstorms, Severe Winter Storms |
| Reason for Removal | This is no longer a priority for the Village. |

| Mitigation Action | Maintain Good Standing in the NFIP |
|---------------------|---|
| Description | Maintain good standing in the National Flood Insurance Program. |
| Hazard(s) Addressed | Flooding |
| Reason for Removal | While the Village will continue to participate in the NFIP, this is no longer considered a mitigation action by FEMA. |

| Mitigation Action | Join the CRS |
|---------------------|--|
| Description | Participation in the CRS, part of the NFIP, can provide a movement for the community to undertake a number of projects and activities designed to increase the flooding mitigation efforts. Participation in CRS can help reduce flood insurance premiums. |
| Hazard(s) Addressed | Flooding |
| Reason for Removal | This action is no longer a priority for the Village. |

Section Seven: Village of Panama Community Profile

| Mitigation Action | Promote the use of higher codes and standards |
|--------------------------|---|
| Description | Promote the use of higher codes and standards, such as the Fortified for Safer Living Standard, in order to provide greater protection for any new construction or building retrofits |
| Hazard(s) Addressed | All hazards |
| Reason for Removal | The Village follows Lancaster County's codes. |

| Mitigation Action | Encourage the use of hail resistant roofing |
|--------------------------|---|
| Description | Educate the public and business owners regarding hail resistant roofing |
| Hazard(s) Addressed | Severe Thunderstorms |
| Reason for Removal | The Village follows Lancaster County's codes. |

| Mitigation Action | Vehicular Barriers |
|--------------------------|--|
| Description | Install vehicular barriers to protect critical facilities and key infrastructure where possible. |
| Hazard(s) Addressed | Terrorism |
| Reason for Removal | This action is no longer a priority for the Village. |

| Mitigation Action | Promote First Aid Training for All Residents |
|--------------------------|--|
| Description | Promote first aid training for all residents. |
| Hazard(s) Addressed | All hazards |
| Reason for Removal | First aid training is completed and provided by the fire department. |

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COMMUNITY PROFILE

VILLAGE OF RAYMOND

Lower Platte South Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

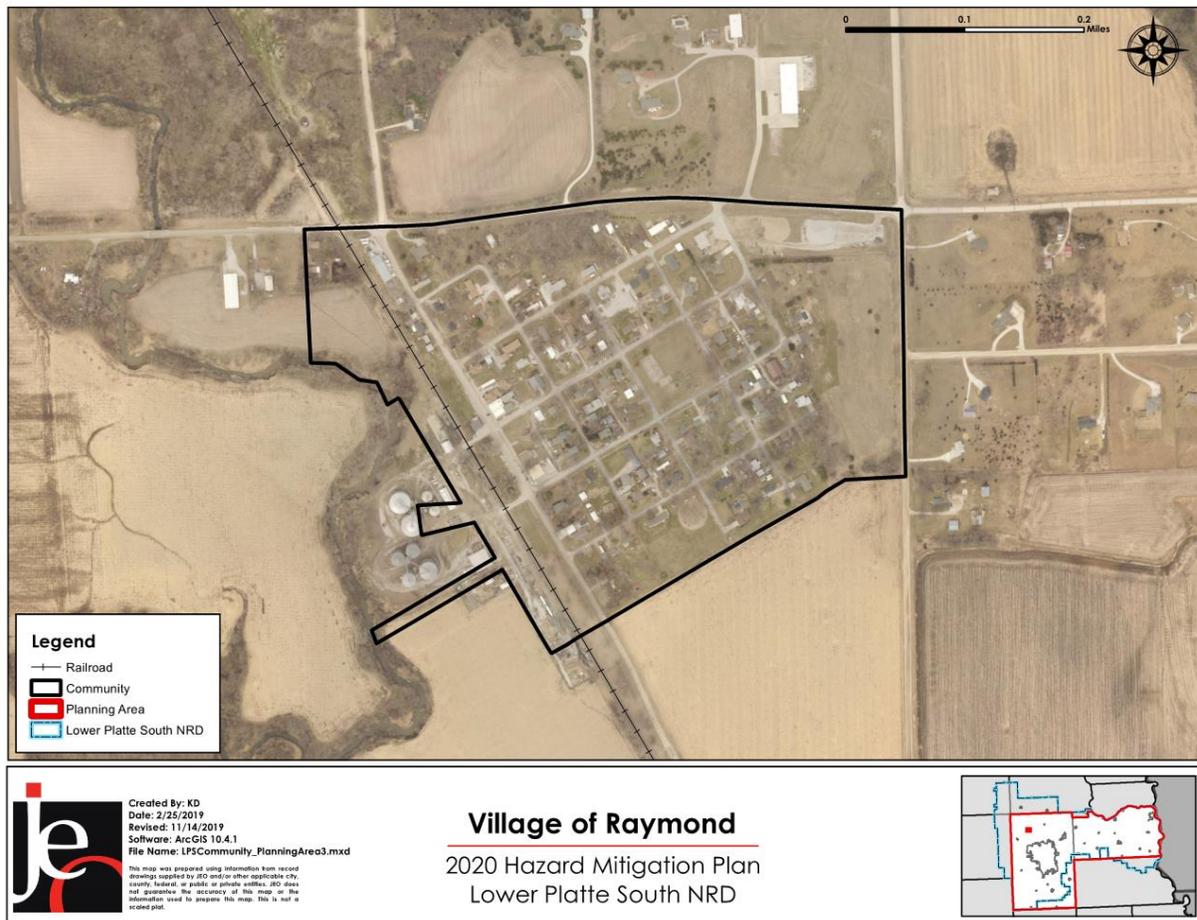
Table RYM.1: Raymond Local Planning Team

| NAME | TITLE | JURISDICTION |
|----------------|--------------------------|--------------------|
| SHANE CUTTLERS | Deputy Emergency Manager | Village of Raymond |

Location and Geography

The Village of Raymond is in the northwest corner of Lancaster County, approximately 4.6 miles east of Branched Oak Lake and 11 miles northwest of the downtown Lincoln. The Village covers an area of 0.13 square miles. There are two major waterways near the town. The main stem, Oak Creek, flows north-to-south. It forms a confluence with North Branch Oak Creek, which flows north-to-south on the western end of town. The confluence is located less than a mile southwest of town.

Figure RYM.1: Village of Raymond



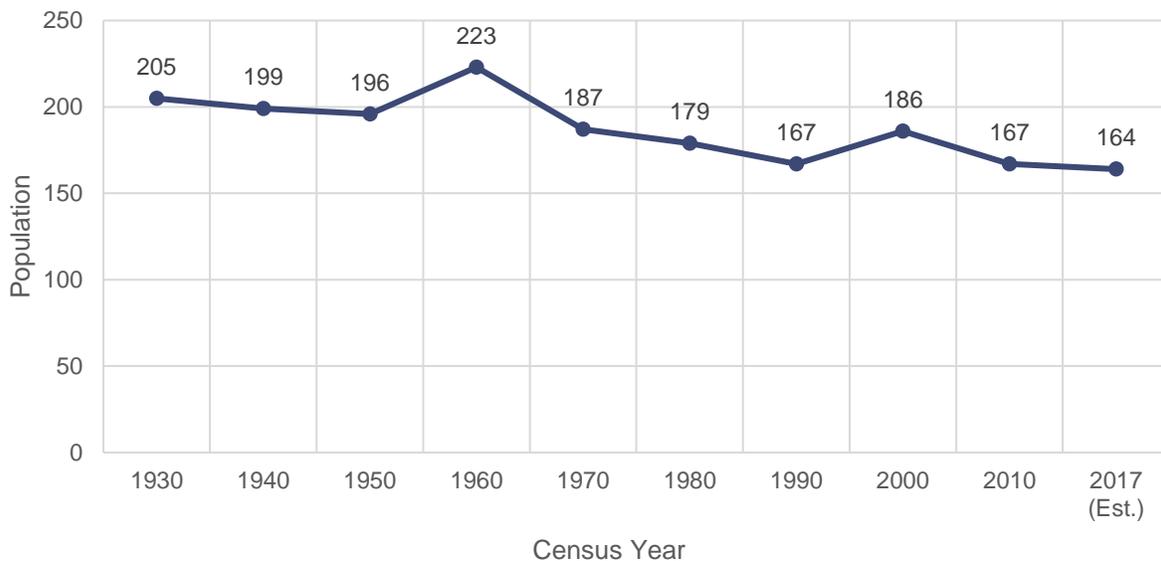
Transportation

The Village of Raymond has one major transportation corridor, Nebraska Highway 79 which runs north-south approximately a mile west of town. The highway averages 2,585 vehicles per day. The main routes in town include Raymond Road, NW 40th St, and 1st St. Raymond Road, also called NE highway 55T, averages 1,230 vehicles per day.¹⁴⁷ There is one rail line running north-and-south on the west side of town owned by Union Pacific (UP).¹⁴⁸ The local planning team indicated a broad variety of materials are transported via rail through town, but semi-trucks typically only haul grain to and from the Co-Op in town. There have been no major transportation incidents in town. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

Demographics

Raymond's population declined from about 186 people in 2000 to 164 people in 2017, a decrease of 22 people and total loss of 12%. This is important because shifting internal demographics in a relatively stable population may impact hazard mitigation priorities. Raymond's population accounted for 0.05% of Lancaster County's population of 306,357 in 2017.¹⁴⁹

Figure RYM.2: Population 1930 - 2017



Source: U.S. Census Bureau

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

- Older.** The median age of Raymond was 52 years old in 2017, compared with the County average of 33.2 years. Raymond's population grew older since 2009, when the median age was 43.3 years old. Raymond had a larger/smaller/similar proportion of people under 20 years old (14.6%) than Lancaster County (26.8%).¹⁵⁰

¹⁴⁷ Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.
¹⁴⁸ Nebraska Department of Roads. "Nebraska Railroads." Accessed December 2018. <http://opportunity.nebraska.gov/files/businessdevelopment/wineryq/NebraskaRailMap.pdf>.
¹⁴⁹ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.
¹⁵⁰ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

Section Seven: Village of Raymond Community Profile

- **Not ethnically diverse.** In 2010, Raymond’s population was 0% Hispanic or Latino and remained so through 2017. During that time, the Hispanic or Latino population in Lancaster County grew from 5.5% in 2010 to 6.7% in 2017.¹⁵¹
- **Less likely to be below the federal poverty line.** The poverty rate in Raymond (1.8% of families living below the federal poverty line) was lower than Lancaster County’s poverty rate (8.7%) in 2017.¹⁵²

Employment and Economics

The major economic base of Lancaster County is a mixture of education/healthcare/social services (26.8%), retail (11.1%), professional/scientific/management/administrative/waste management services (9.9%), and two employment sectors of 9.1%: manufacturing and arts/entertainment/recreation/accommodation/food services. In comparison to the County, The Village of Raymond economy had:

- **Diverse mix of industries.** Raymond major employment sectors, accounting for 10% or more of employment each, were: retail (20.3%), manufacturing (15.3%), wholesale trade (14.4%), education/healthcare/social services (12.7%), construction (11%), and finance/insurance/real estate/rental/leasing (10.2%).¹⁵³
- **Higher household income.** Raymond median household income in 201 (\$118,125) was \$62,378 higher than the County (\$55,747).¹⁵⁴
- **Similar Commute Distance.** A total of 36% percent of workers in Raymond commuted for fewer than 15 minutes, compared with 36% of workers in Lancaster County. An additional 14.4% of workers in Raymond commute 30 minutes or more to work, compared to 15.7% of the County workers.¹⁵⁵

Major Employers

The major employers in town include the Co-Op, local bar, and a construction company, but the majority of residents commute to Lincoln for employment.

Housing

In comparison to Lancaster County, Raymond’s housing stock was:

- **Fewer renter-occupied.** Of occupied housing units in Raymond, 5.1% are renter-occupied compared with 39.9% of renter housing in Lancaster County.¹⁵⁶
- **Older.** Raymond had a larger/smaller share of housing built prior to 1970 than Lancaster County (51.9% compared to 38.1%).¹⁵⁷
- **No multifamily dwellings.** The predominant housing type in Raymond is single family detached (91.1%), which is more than Lancaster County (60.8%). Raymond contains no multifamily housing with five or more units per structure. Raymond has a larger share of mobile housing (8.9%) compared to the County (1.9%).¹⁵⁸ Mobile homes are located along the northern edge of the Village.

This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities

¹⁵¹ United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

¹⁵² United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁵³ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁵⁴ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁵⁵ United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

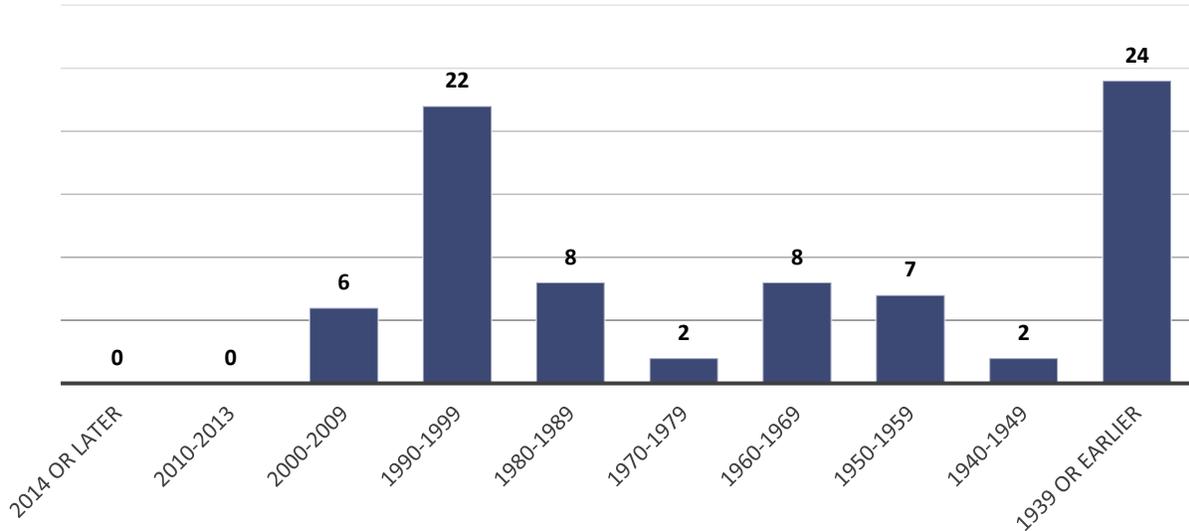
¹⁵⁶ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁵⁷ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁵⁸ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

Figure RYM.3: Housing Units by Year Built



Source: U.S. Census Bureau¹⁵⁹

Future Development Trends

Over the past five years a few new homes have been constructed throughout town and one new business leased property in town for storage. The Co-Op has also expanded its storage capacity in the past five years. The Village is currently working on putting in a new sewer treatment plant, but there are no other future housing or commercial developments currently planned.

Structural Inventory and Valuation

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

Table RYM.2: Structural Inventory/Parcel Improvements

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | MEAN VALUE OF IMPROVEMENTS PER PARCEL | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|------------------------|-------------------------|---------------------------------------|--------------------------------------|-------------------------------------|
| 98 | \$9,761,500 | \$99,607 | 5 | \$865,600 |

Source: Nebraska Department of Revenue, Property Assessment Division¹⁶⁰

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environmental Quality, there is one chemical storage site in Raymond.

¹⁵⁹ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

¹⁶⁰ County Assessor. Personal correspondence. [DATE].

Section Seven: Village of Raymond Community Profile

Table RYM.3: Chemical Storage Fixed Sites

| FACILITY NAME | ADDRESS | IN FLOODPLAIN (Y/N) |
|----------------------|------------------|---------------------|
| FARMERS' COOPERATIVE | 14540 W Railroad | N |

Source: Nebraska Department of Environmental Quality 2017¹⁶¹

Critical Facilities

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

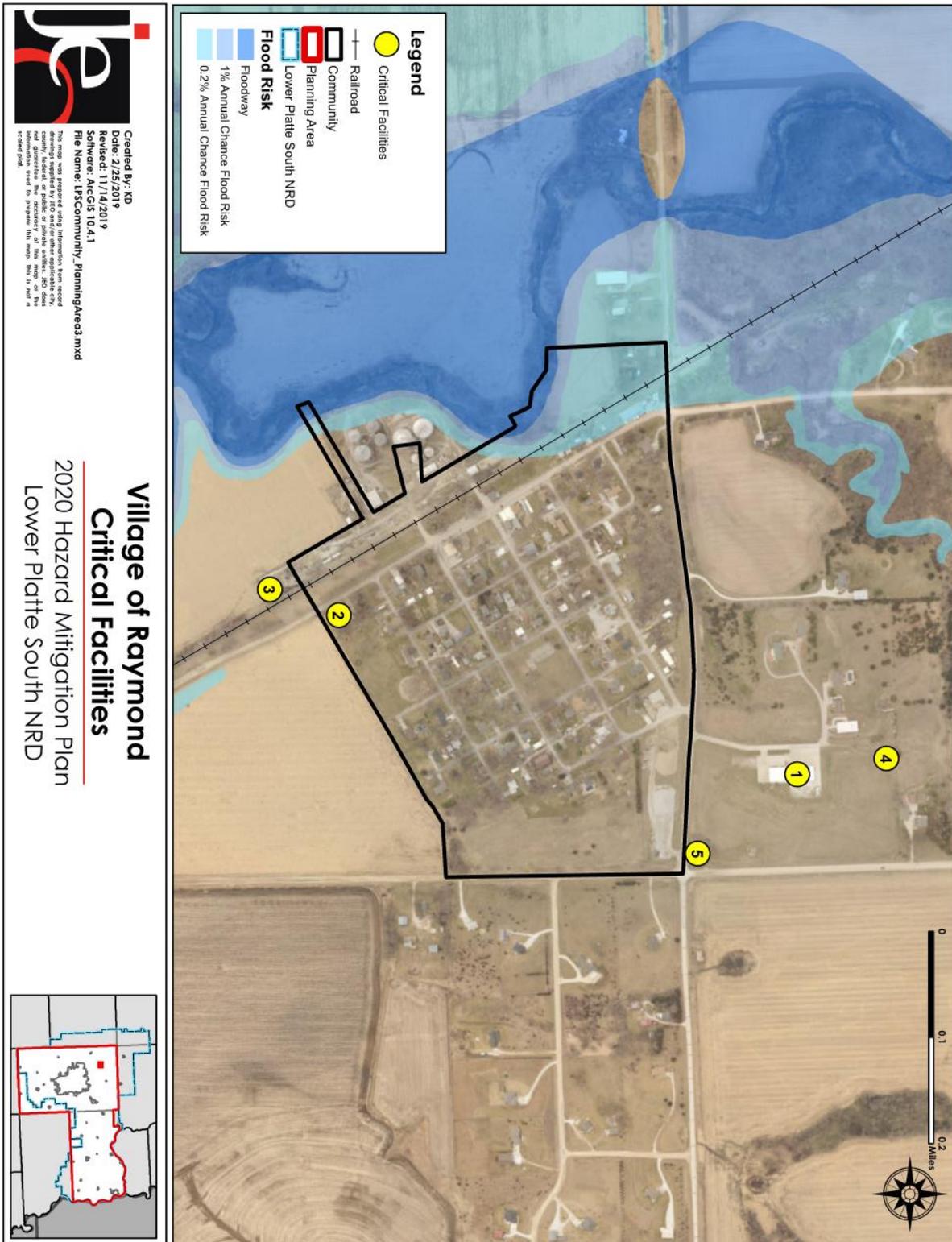
In the case of an emergency the Fire and Rescue building would be used as an emergency shelter or a short term residency shelter. The main room in the building was built to reinforced tornado safety standards.

Table RYM.4: Critical Facilities

| CF Number | Name | Red Cross Shelter (Y/N) | Generator (Y/N) | Located in Floodplain (Y/N) |
|-----------|-----------------|-------------------------|-----------------|-----------------------------|
| 1 | Fire & Rescue | N | Y | N |
| 2 | NPPD Substation | N | Unknown | N |
| 3 | Sewer Plant | N | Y – portable | N |
| 4 | Water Tower | N | N | N |
| 5 | Well House | N | Y - stationary | N |

¹⁶¹ Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Figure RYM.4: Critical Facilities



Historical Occurrences

See the Lancaster County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Dam Failure

While there have been no known dam failure incidents, Raymond would be inundated with flood waters damaging homes and businesses if the Branched Oak Lake dam were to fail. The dam is inspected and maintained regularly and emergency action plans, as required, are in place. The Village has not collaborated with Lancaster County Emergency Management for dam failure exercises.

Flooding

Flooding has been a primary concern for the village because of its proximity to Oak Creek. Past floods have occurred in the Village, including a flash flood which caused \$50,000 in damages in 2014. The local planning team indicated flooding has been reduced in town with dam projects completed upstream by the NRD. Part of the Co-Op facility and some residential homes are still located in the floodplain. The rail line which runs between the river and the Village provides some level of flood protection.

Severe Thunderstorms

Severe thunderstorms occur annually in the State of Nebraska and the planning area. Damage from severe thunderstorms typically is associated with high winds, lightning strikes, and heavy rain. Primary concerns for severe thunderstorms include blocked transportation routes, loss of power, and downed tree limbs or damage from trees. The majority of power lines in the Village are above ground. The fire and rescue station, wells, and sewer plant have backup generators in case of power outages.

Severe Winter Storms

The Village of Raymond experiences severe winter storms every year which stretch local resources. Concerns from severe winter storms include power loss from downed or damaged power lines, property damage, blocked transportation routes in and out of town, and damage from hazardous trees.

Tornadoes

Tornadoes are a significant hazard of concern due to their potential to cause large-scale damage and injury or death to residents. The Fire and Rescue station would be used as a local shelter and was built to an EF5 tornado rating. The Village also has an alert siren in town which is owned and controlled by Lancaster County Emergency Management. On Mother's Day in 2014 two tornadoes hit near town and destroyed one home and damaged several others. The NCEI provided the following summaries of the two events:

- ... the first and stronger of the two tornadoes that tracked near the Raymond area. This track was around 2.5 miles long. Although relatively short in length, this tornado impacted several farmsteads along its path. The first of these was as it crossed Northwest 48th Street where some structural damage was done to a home. The tornado increased in

intensity as it reached Northwest 40th Street where a well-built garage was completely destroyed, and a camper was rolled over 100 yards. The tornado reached maximum intensity as it crossed Northwest 12th Street where the roof was partially removed from a home. In addition, outbuildings were completely destroyed, and farm machinery was tossed at this location. The tornado quickly dissipated after this location.

- ... the second tornado to track near the Raymond area from this event. This particular tornado had a path length of around 5.3 miles. The tornado was generally weak throughout the path but did remove the roof from a well-built large outbuilding as it crossed North 14th Street at Branch Oak Road. Otherwise damage was confined to mainly tree damage.

Governance

A community’s governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Raymond has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Raymond has five village board members and the following offices that may help implement mitigation actions.

- Board Chair
- Clerk
- Volunteer Fire and Rescue

Capability Assessment

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

Table RYM.5: Capability Assessment

| Survey Components/Subcomponents | | Yes/No |
|--|----------------------------------|--------------|
| <i>Planning & Regulatory Capability</i> | Comprehensive Plan | No |
| | Capital Improvements Plan | No |
| | Economic Development Plan | No |
| | Emergency Operational Plan | Yes - County |
| | Floodplain Management Plan | No |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | Yes |
| | Floodplain Ordinance | Yes |
| | Building Codes | Yes |
| | National Flood Insurance Program | Yes |
| | Community Rating System | No |
| Other (if any) | | |
| <i>Administrative & Technical Capability</i> | Planning Commission | No |
| | Floodplain Administration | Yes |
| | GIS Capabilities | No |
| | Chief Building Official | No |

Section Seven: Village of Raymond Community Profile

| Survey Components/Subcomponents | | Yes/No |
|--|--|---------------------------------|
| | Civil Engineering | No |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | No |
| | Grant Manager | No |
| | Mutual Aid Agreement | No (Raymond Fire District does) |
| | Other (if any) | |
| <i>Fiscal Capability</i> | Capital Improvement Plan/ 1 & 6 Year plan | No |
| | Applied for grants in the past | Yes |
| | Awarded a grant in the past | Yes |
| | Authority to Levy Taxes for Specific Purposes such as Mitigation Projects | Yes |
| | Gas/Electric Service Fees | 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) | |
| <i>Education & Outreach Capability</i> | Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc. | No |
| | Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education) | No |
| | Natural Disaster or Safety related school programs | No |
| | StormReady Certification | No |
| | Firewise Communities Certification | No |
| | Tree City USA | No |
| | Other (if any) | |

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|-----------------------|
| DOES YOUR COMMUNITY HAVE THE FINANCIAL RESOURCES NEEDED TO IMPLEMENT MITIGATION PROJECTS? | Limited |
| DOES YOUR COMMUNITY HAVE THE STAFF/EXPERTISE TO IMPLEMENT PROJECTS? | Limited |
| DOES YOUR COMMUNITY HAVE THE COMMUNITY SUPPORT TO IMPLEMENT PROJECTS? | Limited |
| DOES YOUR COMMUNITY STAFF HAVE THE TIME TO DEVOTE TO HAZARD MITIGATION? | Limited |

Plan Integration

Raymond has an annex to the Lancaster County's LEOP, last updated in 2017. The LEOP assigns responsibilities to jurisdictions and personnel, identifies shelter locations, and outlines actions to take in emergency events. Copies of the plan are held with the Village Office and local emergency responders.

The village has a floodplain ordinance and zoning which regulates development within the floodplain and flood hazard areas. No other plan integration capabilities were identified during this plan update.

Mitigation Strategy

New Mitigation Actions

| Mitigation Action | Bury Power Lines |
|---------------------|--|
| Description | Work with local Public Power Districts or electric department to identify vulnerable transmission and distribution lines and plan to bury lines undergrounds or retrofit existing structures to be less vulnerable to storm events. Electrical utilities should be required to use underground construction methods where possible for future installation of power lines. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies by scope |
| Potential Funding | General Fund, PDM, HMGP, NPPD |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Village Board, NPPD |
| Status | This is a new mitigation action. |

| Mitigation Action | Hazardous Tree Removal |
|---------------------|--|
| Description | Identify and remove hazardous trees throughout the community. |
| Hazard(s) Addressed | High Winds, Severe Thunderstorms, Severe Winter Storms, Tornadoes |
| Estimated Cost | \$200+ per tree |
| Potential Funding | General Fund, Arbor Day Foundation |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Village Board |
| Status | The Village annually contracts out to remove overhanging limbs from streets. |

| Mitigation Action | New Sewer Plant |
|---------------------|--|
| Description | Construct a new sewer plant to increase capacity in order to meet local needs. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Unknown |
| Potential Funding | General Fund, USDA, HMGP, PDM |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Village Board |
| Status | The Village is currently exploring options to purchase land to expand and construct a new sewer plant. |

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COMMUNITY PROFILE

VILLAGE OF ROCA

Lower Platte South Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

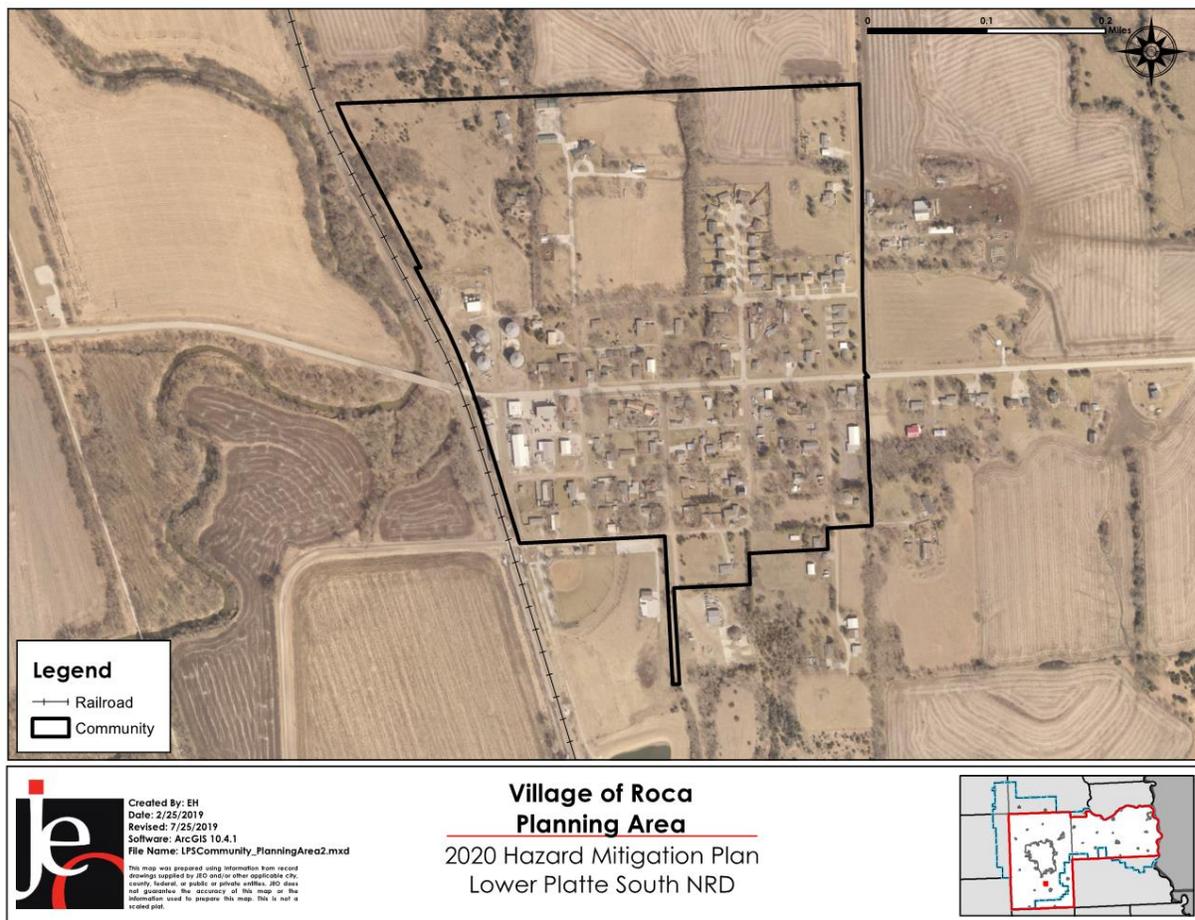
Table RCA.1: Roca Local Planning Team

| NAME | TITLE | JURISDICTION |
|----------------|---------------|-----------------|
| DIANE VAN DEUN | Village Clerk | Village of Roca |

Location and Geography

The Village of Roca is in the south, central portion of Lancaster County, approximately 11 miles south of downtown Lincoln and 4.5 miles northwest of Wagon Train Lake. The Village covers an area of 0.14 square miles. There is one major waterway near the town, the Salt Creek, which flows south-to-north on the west side of town.

Figure RCA.1: Village of Roca



Transportation

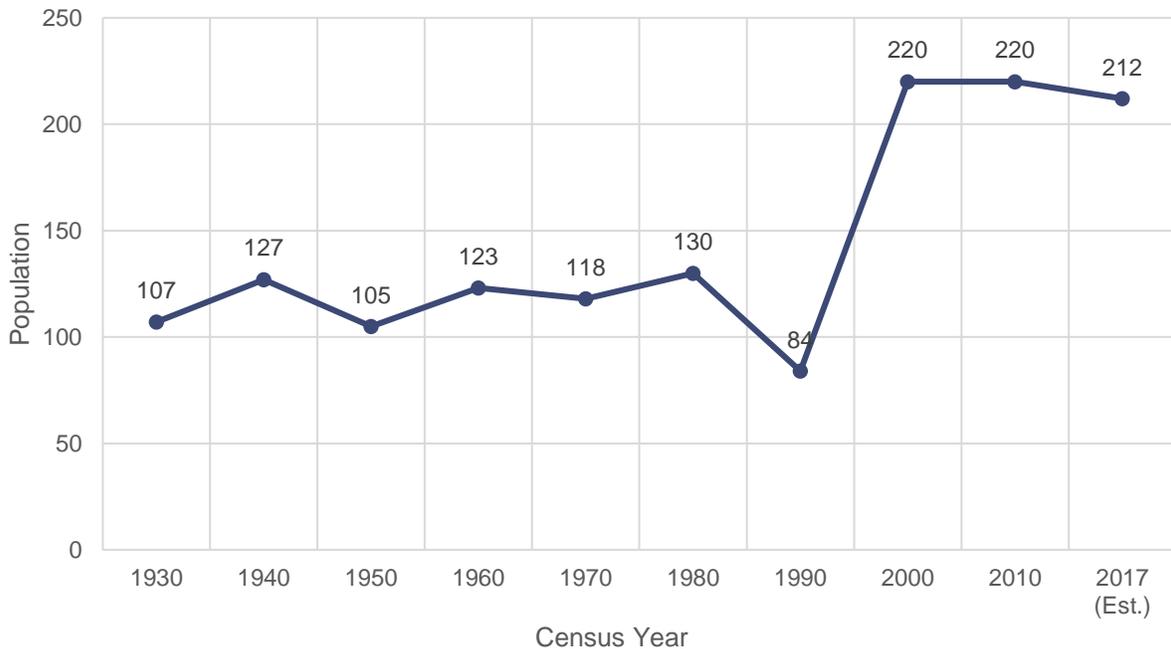
The Village of Roca has two major transportation corridors and a spur road to access them. The first is US Highway 77, which runs north-and-south less than a mile west of the village. This corridor averages 14,620 vehicles per day. The second is corridor, Nebraska Highway 31, intersects with the main corridor and goes east-and-west. Main Street was repaired and improved in 2018-2019 with upsized sewer and stormwater system, new sidewalks, and extended drives to side roads. This corridor averages 5,010 vehicles per day. The spur road that connects Roca to this intersection, Nebraska Highway 55F runs east-and-west and averages 1,310 vehicles per day.¹⁶² While there are a large amount of semi-trucks that travel through town, the local planning team indicated they carry construction materials more than hazardous chemicals.

There is one rail lines running through the town owned by Burlington-Northern-Santa Fe (BNSF). The tracks run north-and-south and the line mainly hauls agricultural and energy commodities.¹⁶³ The privately-owned Mueller Airport is located approximately 2.25 miles from Roca.¹⁶⁴ Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

Demographics

Roca’s population declined from about 220 people in 2000 to 212 people in 2017, a decrease of eight people and total loss of 3.6%. This is important because shifting internal demographics in a relatively stable population may impact hazard mitigation priorities. Roca’s population accounted for 0.07% of Lancaster County’s population of 306,357 in 2017.¹⁶⁵

Figure RCA.2: Population 1930 - 2017



Source: U.S. Census Bureau

¹⁶² Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.
¹⁶³ Nebraska Department of Roads. "Nebraska Railroads." Accessed December 2018. <http://opportunity.nebraska.gov/files/businessdevelopment/winergy/NebraskaRailMap.pdf>.
¹⁶⁴ Airnav.com. "Mueller Airport." Accessed January 2019. <https://www.airnav.com/airport/NE79>.
¹⁶⁵ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

Section Seven: Village of Roca Community Profile

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

- **Older.** The median age of Roca was 40 years old in 2017, compared with the County average of 33.2 years. Roca's population grew older since 2009, when the median age was 26.7 years old. Roca had a similar proportion of people under 20 years old (26%) than Lancaster County (26.8%).¹⁶⁶
- **Not ethnically diverse.** In 2010, Roca's population was 0% Hispanic or Latino and remained so through 2017. During that time, the Hispanic or Latino population in Lancaster County grew from 5.5% in 2010 to 6.7% in 2017.¹⁶⁷
- **Less likely to be below the federal poverty line.** The poverty rate in Roca (3.3% of families living below the federal poverty line) was lower than Lancaster County's poverty rate (8.7%) in 2017.¹⁶⁸

Employment and Economics

The major economic base of Lancaster County is a mixture of education/healthcare/social services (26.8%), retail (11.1%), professional/scientific/management/administrative/waste management services (9.9%), and two employment sectors of 9.1%: manufacturing and arts/entertainment/recreation/accommodation/food services. In comparison to the County, The Village of Roca economy had:

- **Diverse mix of industries.** Roca major employment sectors, accounting for 10% or more of employment each, were: construction (20.9%), education/healthcare/social services (15.8%), professional/scientific/management/administrative/waste management services (15.8%) and retail (11.5%).¹⁶⁹
- **Higher household income.** Roca median household income in 2017 (\$83,438) was \$27,691 higher than the County (\$55,747).¹⁷⁰
- **More long-distance commuters.** A total of 19.3% percent of workers in Roca commuted for fewer than 15 minutes, compared with 36% of workers in Lancaster County. An additional 24.6% of workers in Roca commute 30 minutes or more to work, compared to 15.7% of the County workers.¹⁷¹

Major Employers

Major employers within Roca include the local bank, the Tavern, Roca Berry Farms, and the Co-Op. A large percentage of residents commute to Lincoln and Hickman for employment.

Housing

In comparison to Lancaster County, Roca's housing stock was:

- **Less renter-occupied.** Of occupied housing units in Roca, 21.3% are renter-occupied compared with 39.9% of renter housing in Lancaster County.¹⁷²
- **Older.** Roca had a larger share of housing built prior to 1970 than Lancaster County (44.1% compared to 38.1%).¹⁷³
- **No multifamily dwellings.** The predominant housing type in Roca is single family detached (90.3%), which is more than Lancaster County (60.8%). Roca contains no

¹⁶⁶ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

¹⁶⁷ United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

¹⁶⁸ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁶⁹ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁷⁰ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁷¹ United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

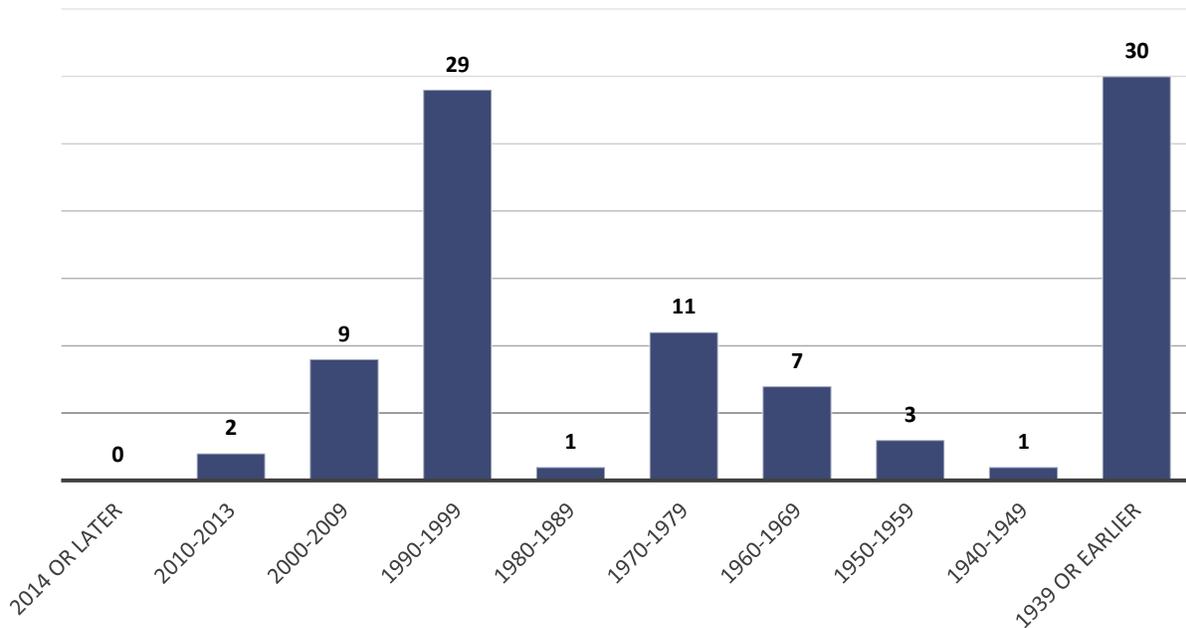
¹⁷² United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁷³ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

multifamily housing with five or more units per structure. Roca has a larger share of mobile housing (6.5%) compared to the County (1.9%).¹⁷⁴ Mobile homes are located along the southwest edge of the Village.

There are about five to ten mobile homes located in the Village of Roca along either the east or west side of town, but no mobile home courts are located within village boundaries. Housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

Figure RCA.3: Housing Units by Year Built



Source: U.S. Census Bureau¹⁷⁵

Future Development Trends

Over the last five years there have been two new homes built and an additional two are currently in development. The Village has a shortage of housing in town which the local planning team indicated is caused by a lack of available land to build on. However, Roca’s population is relatively stable. Several grain bins owned by the Co-Op have been demolished in the past year, but there are no plans for any further demolitions or commercial or residential developments.

¹⁷⁴ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.
¹⁷⁵ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

Structural Inventory and Valuation

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

Table RCA.2: Structural Inventory/Parcel Improvements

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | MEAN VALUE OF IMPROVEMENTS PER PARCEL | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|------------------------|-------------------------|---------------------------------------|--------------------------------------|-------------------------------------|
| 101 | \$11,035,400 | \$109,261 | 26 | \$2,469,400 |

Source: Nebraska Department of Revenue, Property Assessment Division¹⁷⁶

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are three chemical storage sites in Roca.

Table RCA.3: Chemical Storage Fixed Sites

| FACILITY NAME | ADDRESS | IN FLOODPLAIN (Y/N) |
|------------------------------|------------------|---------------------|
| FARMERS COOPERATIVE | 15505 A St | Y |
| MAGELLAN PIPELINE COMPANY LP | 11200 S 14th St | N |
| MAGELLAN PIPELINE COMPANY LP | 2000 Saltillo Rd | N |

Source: Nebraska Department of Environment and Energy, 2017¹⁷⁷

Critical Facilities

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

While there are no FEMA-certified safe rooms in Roca, the Lutheran Church, Methodist Church, and Community Center are used as local community shelters. The Baseball Field Complex is also available to be used as an emergency supply depot to residents after major hazard events.

Table RCA.4: Critical Facilities

| CF Number | Name | Red Cross Shelter (Y/N) | Generator (Y/N) | Located in Floodplain (Y/N) |
|-----------|---------------------------------------|-------------------------|-----------------|-----------------------------|
| 1 | Community Center/Village Office/Siren | N | N | Y |
| 2 | Faith of Our Father Lutheran Church | N | N | N |
| 3 | Lagoons | N | N | Y |
| 4 | Sanitary Lift Station | N | Y | N |
| 5 | Sanitary Lift Station | N | N | Y |
| 6 | Siren | N | N | Y |
| 7 | United Methodist Church | N | N | N |

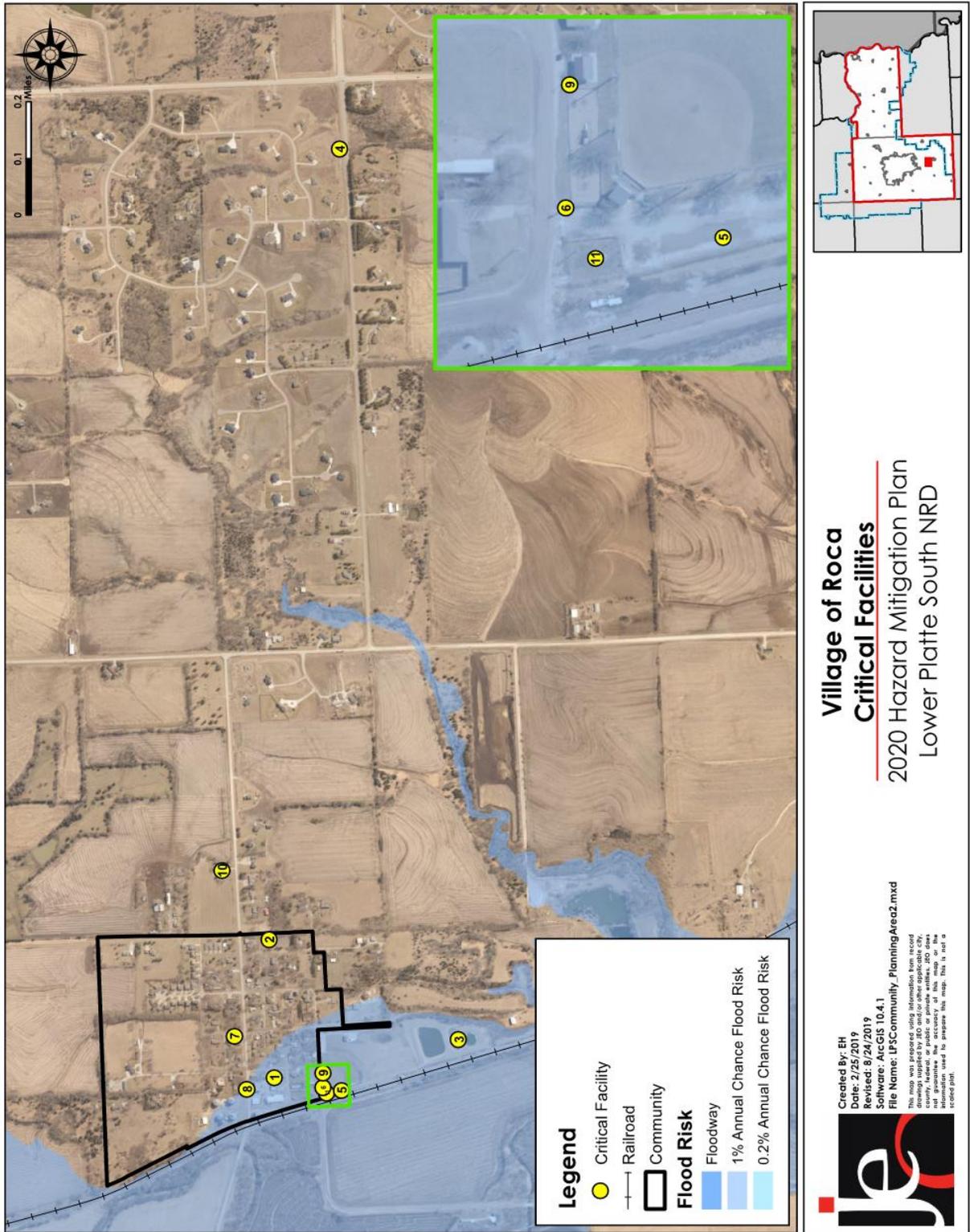
¹⁷⁶ County Assessor. Personal correspondence, [DATE].

¹⁷⁷ Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Section Seven: Village of Roca Community Profile

| | | | | |
|----|---|---|---|---|
| 8 | Village Hall | N | N | Y |
| 9 | Village Storage/ Baseball Field Complex | N | Y | Y |
| 10 | Water Tower | N | Y | N |
| 11 | Well House | N | N | Y |

Figure RCA.5: Critical Facilities



Historical Occurrences

See the Lancaster County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Chemical Spills (Fixed Site)

The Village is concerned about chemical fixed site spills as the local co-op has some hazardous chemical storage tanks which are currently in the floodplain. The above ground storage tanks are currently being moved towards the intersection of A Street and Main Street. Burlington Northern Santa Fe Rail is a project partner in the move. While there have been no past chemical spills in town, the Village Administration is taking proactive steps in monitoring how the tanks are being moved, where they will be placed to be outside of flood risk areas, and safety procedures. The new storage site will be located near the local bar and grill and will be outfitted with a fence and security cameras. The facility will also have an Emergency Action Plan prepared in the case of any spill events. While the Village does not currently have any education programs about chemical spills currently in place, an education effort will be incorporated into the storage tank move.

Flooding

Flooding is a major concern for the Village of Roca. The Village is part of the National Flood Insurance Program and part of the west side of town is located within the floodplain. Both riverine and flash flooding are concerns for the Village. Main Street has recently been repaired and has upgraded sewer and stormwater systems to aid in mitigating interior flood issues. The March 2019 flood event occurred before construction could be completed but the event showcased that the stormwater system improvements were effective. The Village did experience approximately \$15,000 in damages, particularly to other side roads and the local ballfield.

Severe Thunderstorms

Severe thunderstorms are a common occurrence across the state and planning area. They can commonly be associated with heavy rain, hail, lightning strikes, and strong winds. There is a new siren in town located at the Village Office which was sponsored and installed by the Lower Platte South NRD. The local planning team indicated the siren is loud enough to reach all residents. Municipal records are backed up and all historical records have been preserved via electronic backups or in a fireproof safe. Powerlines in town are all above ground and power is supplied by NPPD. The local water tower does not have a lightning rod. The Village is currently undergoing a 5-year cleaning plan for the water tower. Most residents in town have basements to use as a storm shelter, but those without could go to a neighbor that does.

Severe Winter Storms

The Village has a local contractor who clears snow from Village roads. There is a minimal concern for power outages, however NPPD has historically shown a fast response time in restoring power to residents. No power lines in town are buried. In fall 2018 several trees were removed by the community center to mitigate potential tree damage from broken limbs.

Tornadoes

Tornadoes are a primary concern due to the potential for catastrophic damage. While no tornadic events have occurred in Roca, neighboring communities such as Hallam have experienced tornadoes in recent years. There are no tornado safe rooms in town, but restrooms at the ballfield and residential basements are used as shelter locations.

Governance

A community’s governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Roca has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Roca has five village board members and the following offices that may help implement mitigation actions.

- Board Chair
- Clerk/Treasurer
- Utility Superintendent
- Street Superintendent
- Water/Maintenance Superintendent
- Planning Commission
- Engineer

Capability Assessment

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

Table RCA.5: Capability Assessment

| Survey Components/Subcomponents | | Yes/No |
|--|----------------------------------|-------------|
| <i>Planning & Regulatory Capability</i> | Comprehensive Plan | Yes |
| | Capital Improvements Plan | Yes |
| | Economic Development Plan | No |
| | Emergency Operational Plan | Yes, County |
| | Floodplain Management Plan | No |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | Yes |
| | Floodplain Ordinance | Yes |
| | Building Codes | No, County |
| | National Flood Insurance Program | Yes |
| Community Rating System | No | |
| Other (if any) | | |
| <i>Administrative & Technical Capability</i> | Planning Commission | Yes |
| | Floodplain Administration | Yes |
| | GIS Capabilities | Yes |
| | Chief Building Official | No |

Section Seven: Village of Roca Community Profile

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

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|-----------------------|
| DOES YOUR COMMUNITY HAVE THE FINANCIAL RESOURCES NEEDED TO IMPLEMENT MITIGATION PROJECTS? | Limited |
| DOES YOUR COMMUNITY HAVE THE STAFF/EXPERTISE TO IMPLEMENT PROJECTS? | Limited |
| DOES YOUR COMMUNITY HAVE THE COMMUNITY SUPPORT TO IMPLEMENT PROJECTS? | Limited |
| DOES YOUR COMMUNITY STAFF HAVE THE TIME TO DEVOTE TO HAZARD MITIGATION? | Limited |

Plan Integration

The Village of Roca's Comprehensive Plan, Zoning Ordinance, and Subdivision Regulations were last updated in 2018. The Comprehensive Plan has a future land use map aimed at safe growth. Hazardous areas are discussed in the Comprehensive Plan, as well as spots for emergency shelters. Locations include the ball field and by the recycling center. Both the Zoning Ordinance

and Comprehensive Plan limit development in the floodplain. The Subdivision Ordinance requires that any new subdivision must be three acres or more. Roca’s Building Code was updated to meet the 2018 International Building Code.

Roca has an annex as part of the Lancaster County Local Emergency Operations Plan, which was last updated in 2017. The village also has a Water Emergency Management Plan which was created in 2018 for the response to contamination or in-operation of the potable water system.

The budget for the village is tight as there is no steady source of revenue. Street repairs are a priority as only a few non main streets are paved in the village. The village is considering adding a sales tax for increased revenue, but this has not been fully discussed yet.

Mitigation Strategy

Ongoing and New Mitigation Actions

| Mitigation Action | Backup Generators |
|---------------------|--|
| Description | Provide a portable or stationary source of backup power to critical facilities. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | \$15,000+ |
| Potential Funding | Community Betterment Fund, General Funds, HMGP, PDM |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Village Clerk, Village Board |
| Status | A backup generator is needed at any new storm shelters constructed at the Community Center. Additional backup power is needed for the water tower and maintenance supply building. |

| Mitigation Action | Storm Shelters |
|---------------------|---|
| Description | Identify, design, and develop storm shelters to protect critical facilities and the community. |
| Hazard(s) Addressed | All Hazards |
| Estimated Cost | \$200-\$300/sf stand alone; \$150-\$200/sf addition/retrofit |
| Potential Funding | General Funds, Community Betterment Fund |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | This project has not yet been started. For new facilities land would need to be acquired. A storm shelter is needed at the local Community Shelter. |

Section Seven: Village of Roca Community Profile

| Mitigation Action | Stormwater System and Drainage Improvements |
|---------------------|--|
| Description | Roca can utilize stormwater systems comprising of ditches and culverts to convey runoff. Undersized systems can contribute to localized flooding. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$10,000-\$50,000 |
| Potential Funding | Village Tax, Levy, PDM, HMGP |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Water/Sewer Department, Utilities Superintendent |
| Status | Road, drainage, and stormwater improvements have been made all along Main Street and were completed in June 2019. Additional stormwater improvements are needed by the ball fields, along A and B Streets, and along the rail road tracks. |

Removed Actions

| Mitigation Action | Weather Radios |
|---------------------|---|
| Description | Conduct an inventory of weather radios at schools and other CFs and provide new radios as needed. |
| Hazard(s) Addressed | All Hazards |
| Reason for Removal | There is no school located in town and with the availability of cellphones and internet, this is no longer considered a priority. |

COMMUNITY PROFILE

VILLAGE OF SPRAGUE

Lower Platte South Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

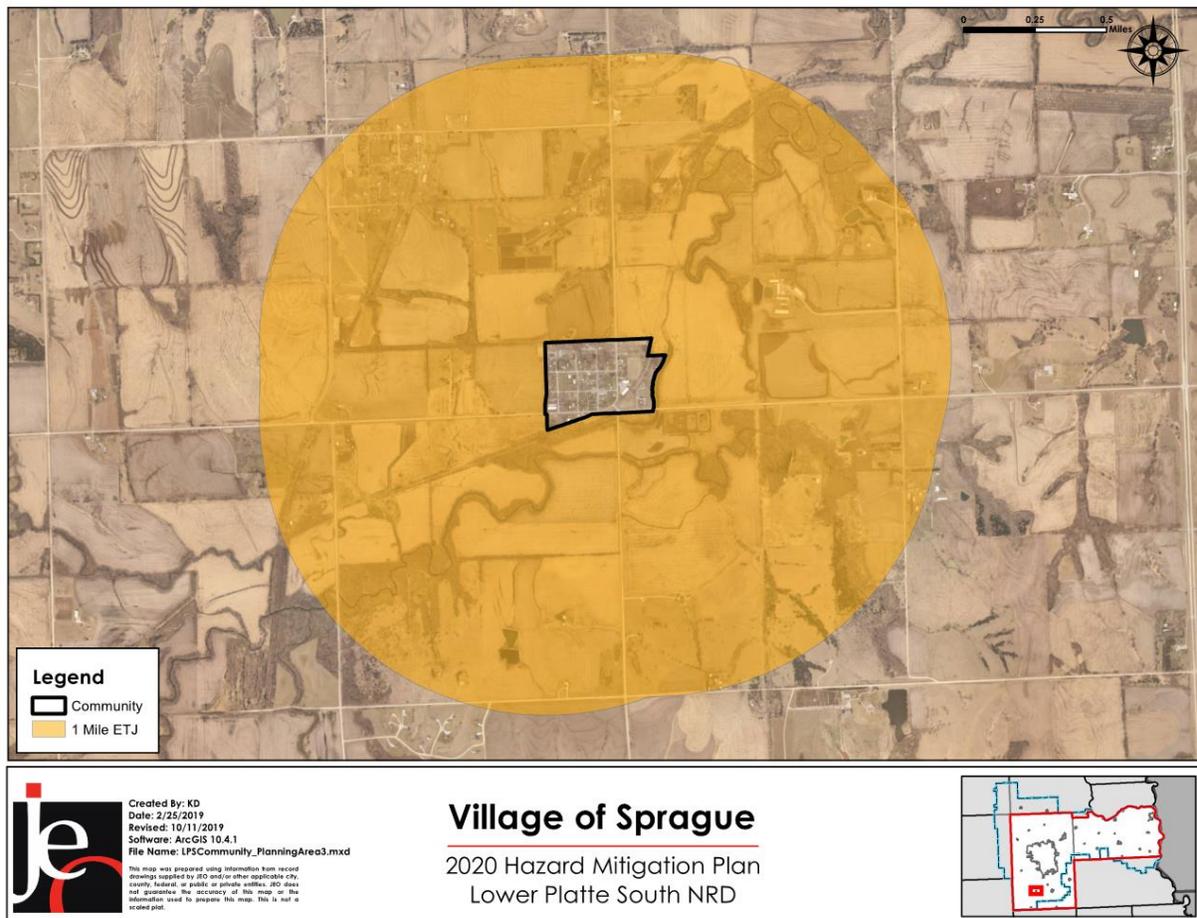
Table SPG.1: Sprague Local Planning Team

| NAME | TITLE | JURISDICTION |
|--------------|----------------|--------------------|
| LUKE FOOTE | Board Chairman | Village of Sprague |
| KEN CHELTON | Board Member | Village of Sprague |
| STACI HAYDEN | Village Clerk | Village of Sprague |

Location and Geography

The Village of Sprague is in the southern, central portion of Lancaster County, approximately three miles east of the Bluestem Lake State Recreation Area and 5.5 miles west of Stagecoach Lake. The Village covers an area of 0.1 square miles. There are two major waterways near the town. The largest is the Salt Creek, which flows west-to-east on the south side of town. The second is the Bluestem Lake, a 325-acre lake at the center of a local State Recreation site. The Village of Sprague’s one-mile extra-territorial jurisdictional boundary includes portions of the unincorporated community of Martell to the northwest. The local volunteer fire department which responds to both communities is located in Martell.

Figure SPG.1: Village of Sprague



Transportation

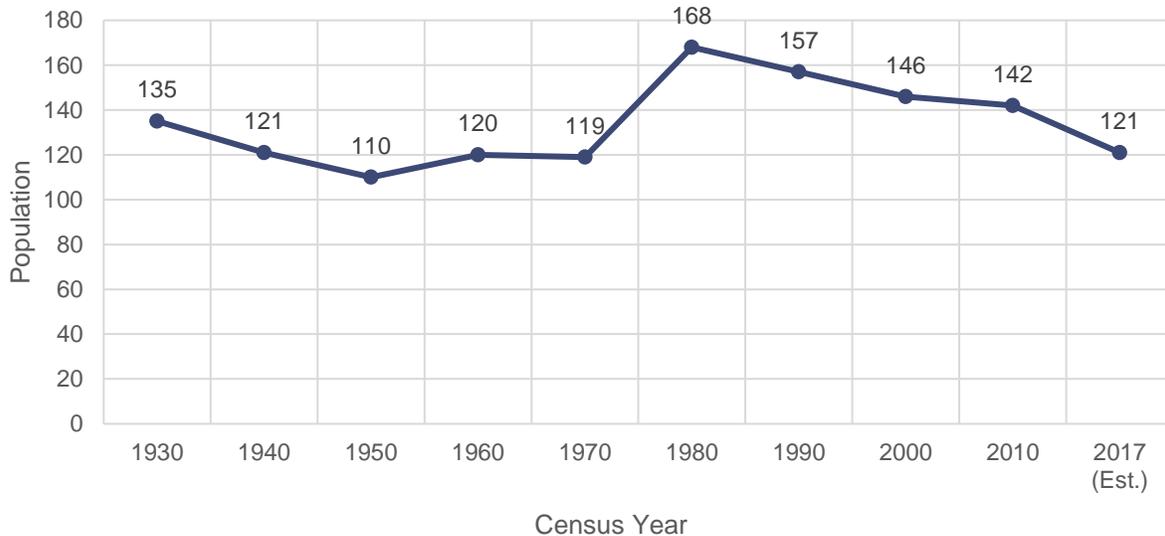
The Village of Sprague has two major transportation corridors and two spur roads for access. The first is US Highway 77, which runs north-and-south 2 miles east of town. Sprague connects to this corridor via the east-and-west Nebraska Highway 55G. The corridor averages 10,370 vehicles per day and the spur road averages 1,355 vehicles per day. The second is Nebraska Highway 33, which runs east-and-west about two miles north of town and connects via the spur road Nebraska Highway 55B. This corridor averages 4,095 vehicles per day while the spur road averages 810 vehicles per day.¹⁷⁸

One bridge on the east side of town (Sprague Rd) and one bridge south of town (SW 14th St) have both been repaired in the last few years. The bridge to the south was washed out entirely during the 2015 flood event. Without these access points into town, detours can add an additional 20 to 60 minutes of drive time for residents. As the community is a strong farming community with many farms in the surrounding area, transportation corridors are critical. Additionally, hazardous chemicals including fertilizer and anhydrous ammonia commonly travel through town along Sprague Rd and 55B. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

Demographics

Sprague’s population declined from about 146 people in 2000 to 121 people in 2017, a decrease of 25 people and total loss of 17%. This is important because a declining population is associated with a higher level of unoccupied housing and decreasing tax revenue. Sprague’s population accounted for 0.04% of Lancaster County’s population of 306,357 in 2017.¹⁷⁹

Figure SPG.2: Population 1930 - 2017



Source: U.S. Census Bureau

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

¹⁷⁸ Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.
¹⁷⁹ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

Section Seven: Village of Sprague Community Profile

- **Similarly aged.** The median age of Sprague was 34.6 years old in 2017, compared with the County average of 33.2 years. Sprague’s population grew younger/older/remained the same since 2009, when the median age was 32.6 years old. Sprague had a larger proportion of people under 20 years old (32%) than Lancaster County (26.8%).¹⁸⁰
- **Less ethnically diverse.** Since 2010, Sprague grew less ethnically diverse. In 2010, Sprague’s population was 2.8% Hispanic or Latino. By 2017, Sprague’s population was 1.7% Hispanic or Latino. During that time, the Hispanic or Latino population in Lancaster County grew from 5.5% in 2010 to 6.7% in 2017.¹⁸¹
- **Less likely to be below the federal poverty line.** The poverty rate in Sprague (3.3% of families living below the federal poverty line) was lower than Lancaster County’s poverty rate (8.7%) in 2017.¹⁸²

Employment and Economics

The major economic base of Lancaster County is a mixture of education/healthcare/social services (26.8%), retail (11.1%), professional/scientific/management/administrative/waste management services (9.9%), and two employment sectors of 9.1%: manufacturing and arts/entertainment/recreation/accommodation/food services. In comparison to the County, The Village of Sprague economy had:

- **Diverse mix of industries.** Sprague major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (22.2%), transportation/warehousing/utilities (15.9%), and manufacturing (12.7%).¹⁸³
- **Higher household income.** Sprague median household income in 2017 (\$73,750) was \$18,003 higher than the County (\$55,747).¹⁸⁴
- **More long-distance commuters.** A total of 18.3% percent of workers in Sprague commuted for fewer than 15 minutes, compared with 36% of workers in Lancaster County. An additional 31.6% of workers in Sprague commute 30 minutes or more to work, compared to 15.7% of the County workers.¹⁸⁵

Major Employers

The majority of residents in Sprague farm the surrounding areas. Channel, a seed dealer, and Olive Branch are other major employers in town. The rest commute to Lincoln, Beatrice, or Crete for employment.

Housing

In comparison to Lancaster County, Sprague’s housing stock was:

- **Less renter occupied.** Of occupied housing units in Sprague, 14% are renter-occupied compared with 39.9% of renter housing in Lancaster County.¹⁸⁶
- **Older.** Sprague had a larger share of housing built prior to 1970 than Lancaster County (66% compared to 38.1%).¹⁸⁷
- **No multifamily dwellings.** The only housing type in Sprague is single family detached (100%), which is more than Lancaster County (60.8%). Sprague contains no multifamily housing with five or more units per structure and no mobile housing.

¹⁸⁰ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

¹⁸¹ United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

¹⁸² United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁸³ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁸⁴ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

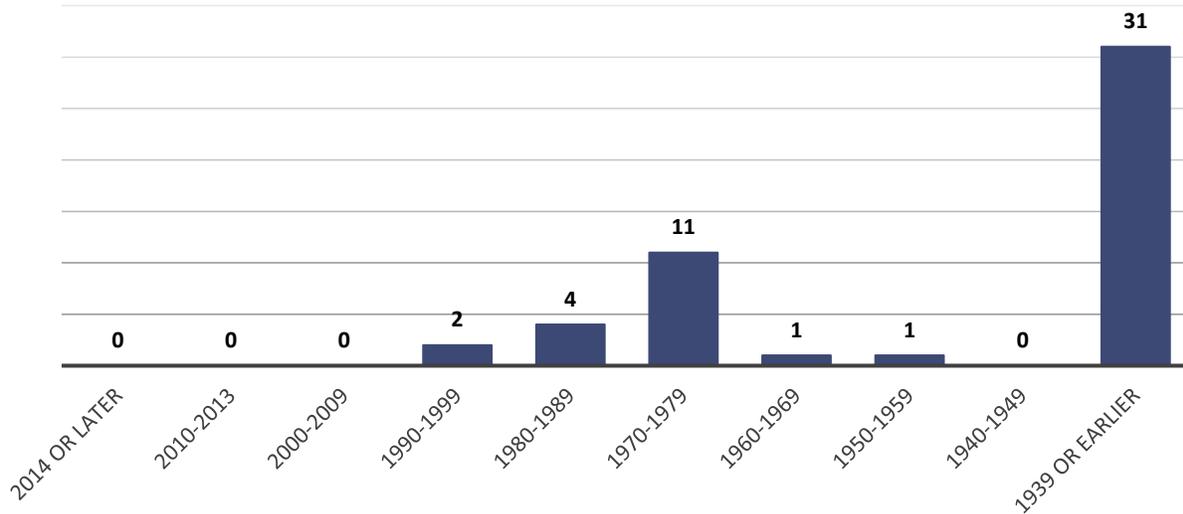
¹⁸⁵ United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁸⁶ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁸⁷ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

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

Figure SPG.3: Housing Units by Year Built



Source: U.S. Census Bureau¹⁸⁸

Future Development Trends

In the past five years one new business and major employer opened and one home was lost in a house fire. The local planning team indicated no other changes have occurred as the housing stock and community is stable. In the next five years a new processing plant is relocated to one mile west of town.

Structural Inventory and Valuation

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

Table SPG.2: Structural Inventory/Parcel Improvements

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | MEAN VALUE OF IMPROVEMENTS PER PARCEL | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|------------------------|-------------------------|---------------------------------------|--------------------------------------|-------------------------------------|
| 79 | \$8,270,800 | \$104,694 | 8 | \$816,400 |

Source: Nebraska Department of Revenue, Property Assessment Division¹⁸⁹

¹⁸⁸ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

¹⁸⁹ County Assessor. Personal correspondence. [DATE].

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are no chemical storage sites in Sprague.¹⁹⁰

Critical Facilities

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

While there are no certified safe rooms in town, the Community Church is used as a sheltering and distribution center as it has a basement and full kitchen.

Table SPG.3: Critical Facilities

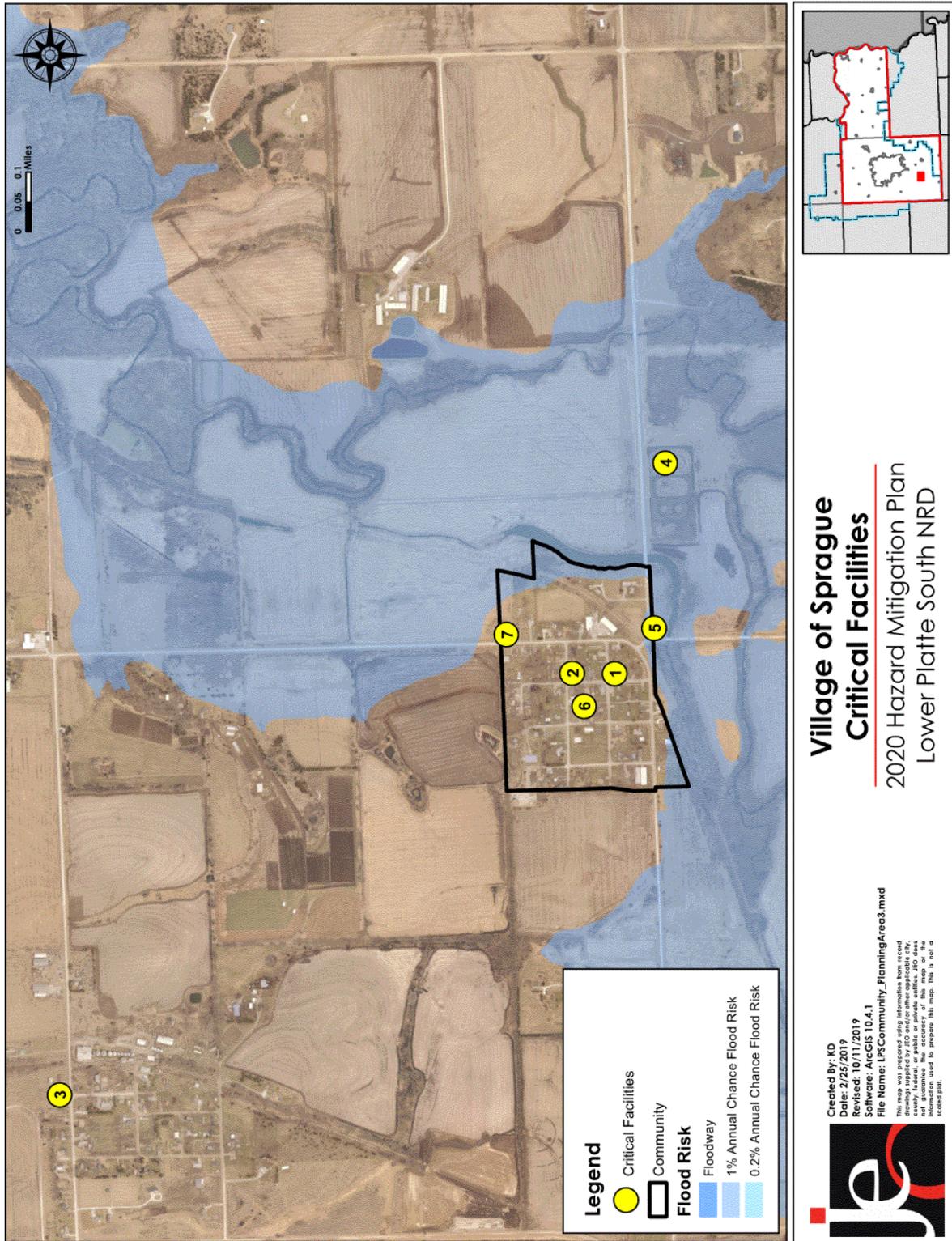
| CF Number | Name | Red Cross Shelter (Y/N) | Generator (Y/N) | Located in Floodplain (Y/N) |
|-----------|------------------|-------------------------|-----------------|-----------------------------|
| 1 | City Hall | N | N | N |
| 2 | Community Church | N | N | N |
| 3 | Fire Department | N | N | N |
| 4 | Lagoons | N | N | Y |
| 5 | Lift Station | N | Y | Y |
| 6 | Well 1/Siren | N | N | N |
| 7 | Well 2 | N | N | N |

¹⁹⁰ Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

^{xv} Nebraska Department of Roads. "Nebraska Railroads." Accessed December 2018. <http://opportunity.nebraska.gov/files/businessdevelopment/winery/NebraskaRailMap.pdf>.

^{xvi} Airnav.com. "Laurel Municipal Airport." Accessed December 2018. <https://www.airnav.com/airport/08NE>.

Figure SPG.4: Critical Facilities



Historical Occurrences

See the Lancaster County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Drought

Drought is a pervasive hazard which can severely harm the surrounding agricultural economy. Concerns exist for overall water quantity and quantity as the wells in town are currently blended to reduce nitrate levels. In cases of drought, additional wells may experience high nitrate concentrations and pose concerns for water quality. During the 2012 drought, water supplies were sufficient to meet local needs.

Flooding

Both poor stormwater drainage and riverine flooding are of concern for the Village of Sprague. During the 2015 flood event the bridge south of town was washed out. Disaster assistance funds were used to repair the structure. The Village did not sustain any damage during the March 2019 flood event. While the lagoons are in the floodplain, currently they are not being used to full capacity.

Grass/Wildfire

Grass/wildfire is a concern for the Village due to the large amount of surrounding agricultural land. The local volunteer fire department is located in the unincorporated community of Martell to the northwest. The Village does not have Wildland-Urban Interface (WUI) code and there are no incentives for property owners to include defensible space around their homes or utilize fire-resistant building materials. However, the Village has mutual aid agreements with the surrounding communities of Hickman, Hallam, and Crete.

Severe Thunderstorms

Severe thunderstorms are a common occurrence across the State of Nebraska and the planning area, with the Village annually experiencing events. Primary concerns from severe thunderstorms include loss of power and blocked transportation routes from downed trees or hail. While the lift station has a generator, no other critical facilities have generators in town. Heavy rain flows also contribute to significant interior ponding and stormwater drainage problems. Several drainage culverts in town have been identified to be cleaned and upsized to help mitigate these impacts.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Sprague has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Sprague has five village board members and the following offices that may help implement mitigation actions.

- Village Board
- Water Operator
- Clerk
- Utility Superintendent

Capability Assessment

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

Table SPG.4: Capability Assessment

| Survey Components/Subcomponents | | Yes/No |
|--|---|-----------------|
| <i>Planning & Regulatory Capability</i> | Comprehensive Plan | Y |
| | Capital Improvements Plan | Y |
| | Economic Development Plan | N |
| | Emergency Operational Plan | N |
| | Floodplain Management Plan | N |
| | Storm Water Management Plan | N |
| | Zoning Ordinance | Y |
| | Subdivision Regulation/Ordinance | Y |
| | Floodplain Ordinance | Y |
| | Building Codes | Y |
| | National Flood Insurance Program | Y |
| | Community Rating System | N |
| | Other (if any) | |
| <i>Administrative & Technical Capability</i> | Planning Commission | N |
| | Floodplain Administration | Y |
| | GIS Capabilities | No – Contracted |
| | Chief Building Official | N |
| | Civil Engineering | Y |
| | Local Staff Who Can Assess Community’s Vulnerability to Hazards | Y |
| | Grant Manager | N |
| | Mutual Aid Agreement | Y |
| | Other (if any) | |
| <i>Fiscal Capability</i> | Capital Improvement Plan/ 1 & 6 Year plan | Y |
| | Applied for grants in the past | Y |
| | Awarded a grant in the past | Y |
| | Authority to Levy Taxes for Specific Purposes such as Mitigation Projects | Y |
| | Gas/Electric Service Fees | N |
| | Storm Water Service Fees | N |
| | Water/Sewer Service Fees | Y |
| | Development Impact Fees | N |
| | General Obligation Revenue or Special Tax Bonds | Y |
| | Other (if any) | |
| <i>Education &</i> | Local citizen groups or non-profit organizations focused on environmental protection, emergency | N |

Section Seven: Village of Sprague Community Profile

| Survey Components/Subcomponents | | Yes/No |
|---------------------------------|---|--------|
| <i>Outreach Capability</i> | preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc. | |
| | Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education) | N |
| | Natural Disaster or Safety related school programs | N |
| | StormReady Certification | N |
| | Firewise Communities Certification | N |
| | Tree Village USA | N |
| | Other (if any) | |

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|-----------------------|
| Does your community have the financial resources needed to implement mitigation projects? | Limited |
| Does your community have the staff/expertise to implement projects? | Moderate |
| Does your community have the community support to implement projects? | Moderate |
| Does your community staff have the time to devote to hazard mitigation? | Limited |

Plan Integration

The Village of Sprague has limited plans in which to integrate mitigation goals and actions. The Village's Comprehensive Plan and Zoning Ordinance were written in 1977 and there are currently no plans to update them. The Comprehensive Plan does not discuss natural hazards. The Village does have a 1 & 6 Year/Capital Improvements Plan which is reviewed annually. This plan identifies projects the Village is working on. Many of these projects align with hazard mitigation projects identified in this HMP including road improvements, stormwater management improvements, and road repairs.

Sprague has an annex as part of the Lancaster County Local Emergency Operations Plan which was last updated in 2017. The plan assigns specific responsibilities to staff members, provides contact information to appropriate contacts or providers, and identifies sheltering locations.

The Village's annual municipal budget is fairly limited to maintaining current facilities and municipal systems. Other available funds are currently earmarked for current or ongoing projects. The local planning team indicated that contractor availability has been a limiting factor in pursuing current projects. Overall the amount of municipal funds has remained the same over the last decade.

Mitigation Strategy

Ongoing and New Mitigation Actions

| Mitigation Action | Backup Generators |
|---------------------|--|
| Description | Provide backup generators for the city maintenance shop, wells, city hall, and wastewater treatment plan |
| Hazard(s) Addressed | All Hazards |
| Estimated Cost | Unknown |
| Potential Funding | General Fund, HMGP, PDM |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | A 10-kWh dual-powered propane/diesel generator is needed at the Village Office. |

| Mitigation Action | Improve Water Supply |
|---------------------|--|
| Description | Study water supply deficiencies, identify alternative solutions, and implement cost effective measures to increase/improve supply for residents and fire protection. |
| Hazard(s) Addressed | Grass/Wildfire |
| Estimated Cost | Unknown |
| Potential Funding | General Fund, Water Service Fees, Fire Grants, HMGP, PDM |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Volunteer Fire Department, Village Board |
| Status | This is a new mitigation action. |

| Mitigation Action | Stormwater System and Drainage Improvements |
|---------------------|---|
| Description | Smaller communities may utilize stormwater systems comprising of ditches and culverts to convey runoff. Undersized systems can contribute to localized flooding. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$10,000-\$50,000 |
| Potential Funding | Roads Fund, PDM, HMGP |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Village Board |
| Status | The Village has identified several projects to help mitigate local flooding issues including improvements by the Church and on Buelle Street. |

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COMMUNITY PROFILE

CITY OF WAVERLY

Lower Platte South Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

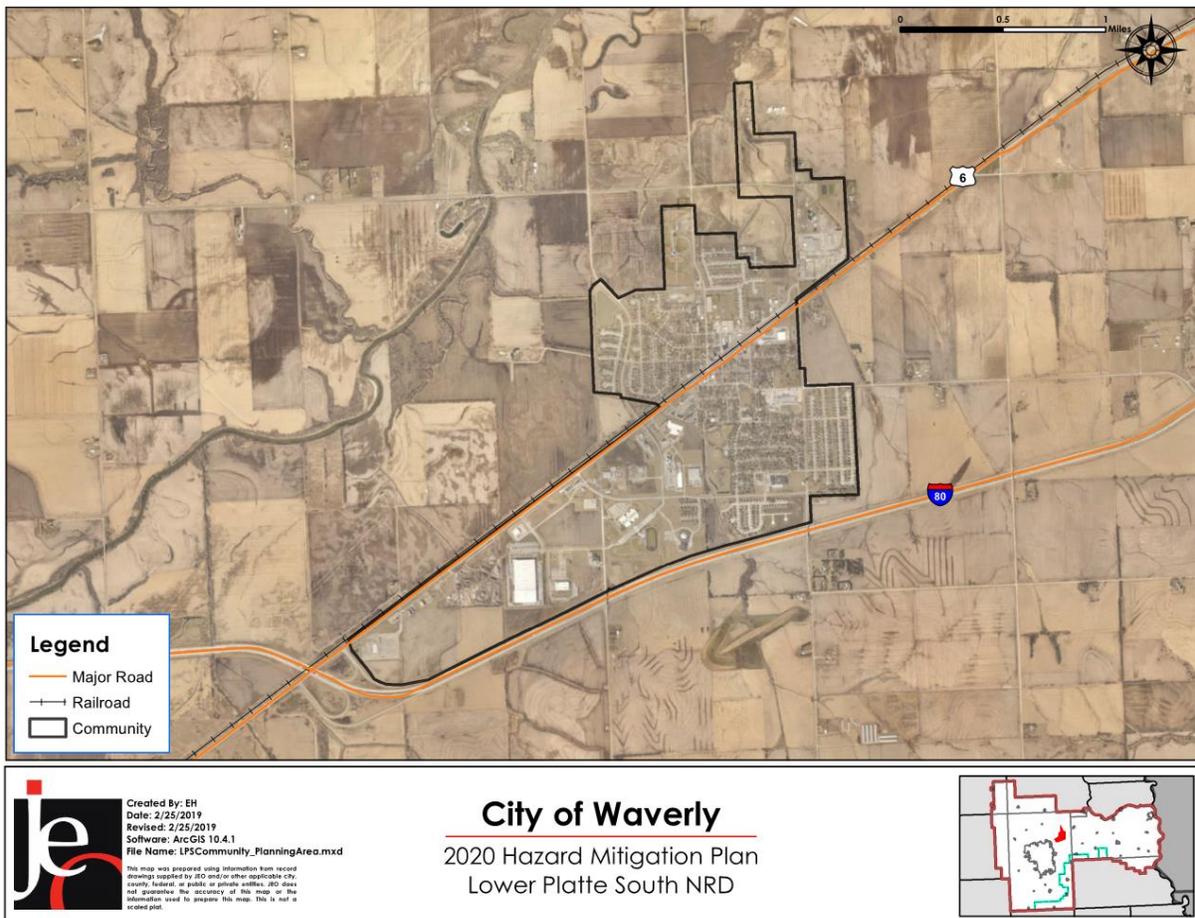
Table WAV.1: Waverly Local Planning Team

| NAME | TITLE | JURISDICTION |
|------------------|--------------------------------|-----------------|
| AARON HUMMEL | Emergency Services Coordinator | City of Waverly |
| CHAD LYON | Floodplain Administrator | City of Waverly |
| STEPHANIE FISHER | City Administrator | City of Waverly |

Location and Geography

The City of Waverly is in the northeast corner of Lancaster County, approximately 15 miles southwest of the Platte River and 12 miles northeast of downtown Lincoln. The City covers an area of 2.34 square miles. There is one major waterway near the town, the Salt Creek, which flows south-to-north on the northeast side of town.

Figure WAV.1: City of Waverly



Transportation

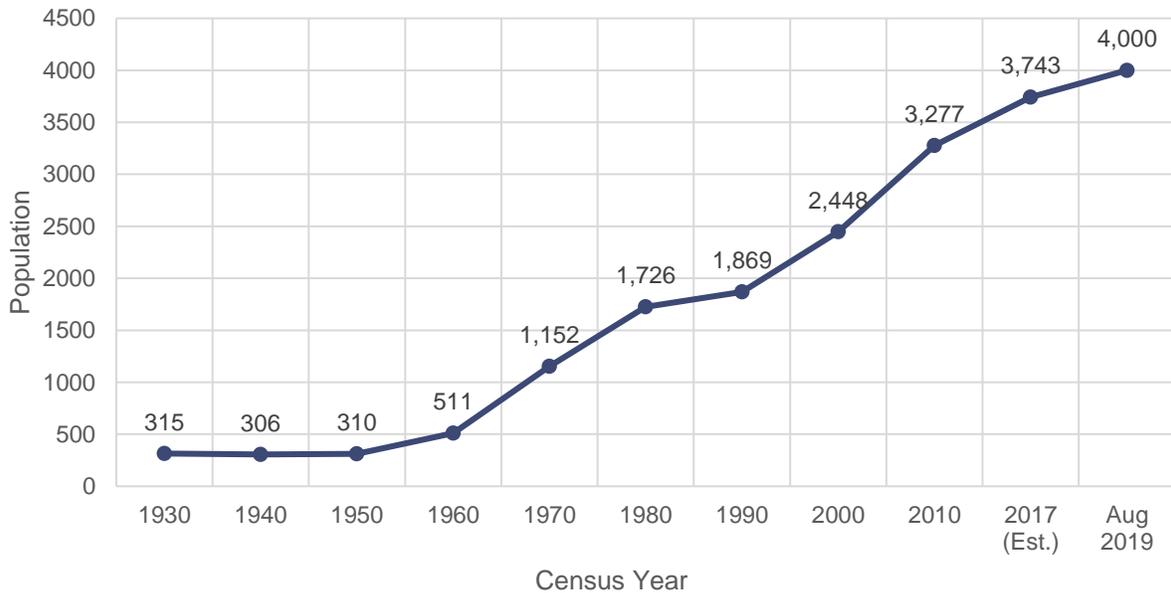
The City of Waverly has two major transportation corridors. The first is Interstate 80, which runs northeast-and-southwest directly adjacent to the south end of town. This corridor averages 42,840 vehicles per day. The second is US Highway 6, which runs northeast-and-southwest through the center of town. This corridor averages 5,595 vehicles per day.¹⁹¹ There is one rail line running through the town owned by Burlington-Northern-Santa Fe (BNSF). The tracks run northeast-and-southwest and the line mainly hauls agricultural and energy commodities.¹⁹² Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

The transportation route of most concern for the community is 148th St, which is surrounded by residential and commercial traffic. The county is responsible for this road and has plans to expand it. The largest transportation incident in recent history occurred when a car jumped the railroad tracks cause the wheel of a train to come off its tracks. The derailment sparked about 27 fires from the City of Lincoln to the City of Ashland. The Midwest Co-op, Matheson Tri-Gas, and the rail line all transport chemicals through the city. The community is not notified of what chemicals are being transported. Mutual aid agreements are in place should a spill or major transportation event occur.

Demographics

Waverly's population increased from about 2,448 people in 2000 to 3,743 people in 2017, an increase of 1,295 people and total gain of 53%. This is important because a growing population is associated with increased hazard mitigation and emergency planning requirements. Waverly's population accounted for 1.22% of Lancaster County's population of 306,357 in 2017.¹⁹³

Figure WAV.2: Population 1930 - 2017



Source: U.S. Census Bureau

¹⁹¹ Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.
¹⁹² Nebraska Department of Roads. "Nebraska Railroads." Accessed December 2018. <http://opportunity.nebraska.gov/files/businessdevelopment/winergy/NebraskaRailMap.pdf>.
¹⁹³ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

Section Seven: City of Waverly Community Profile

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

- **Similarly aged.** The median age of Waverly was 32.3 years old in 2017, compared with the County average of 33.2 years. Waverly's population remained consistent since 2009, when the median age was 33.5 years old. Waverly had a larger proportion of people under 20 years old (33.8%) than Lancaster County (26.8%).¹⁹⁴
- **Less ethnically diverse.** Since 2010, Waverly grew less ethnically diverse. In 2010, Waverly's population was 4% Hispanic or Latino. By 2017, Waverly's population was 2.1% Hispanic or Latino. During that time, the Hispanic or Latino population in Lancaster County grew from 5.5% in 2010 to 6.7% in 2017.¹⁹⁵
- **Less likely to be below the federal poverty line.** The poverty rate in Waverly (4.2% of families living below the federal poverty line) was lower than Lancaster County's poverty rate (8.7%) in 2017.¹⁹⁶

Employment and Economics

The major economic base of Lancaster County is a mixture of education/healthcare/social services (26.8%), retail (11.1%), professional/scientific/management/administrative/waste management services (9.9%), and two employment sectors of 9.1%: manufacturing and arts/entertainment/recreation/accommodation/food services. In comparison to the County, The City of Waverly economy had:

- **Similar mix of industries.** Waverly major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (24%), retail (11.6%), professional/scientific/management/administrative/waste management services (11.4%), and construction (10.1%).¹⁹⁷
- **Higher household income.** Waverly median household income in 2017 (\$82,893) was \$27,146 higher than the County (\$55,747).¹⁹⁸
- **More long-distance commuters.** A total of 20.3% percent of workers in Waverly commuted for fewer than 15 minutes, compared with 36% of workers in Lancaster County. An additional 23.8% of workers in Waverly commute 30 minutes or more to work, compared to 15.7% of the County workers.¹⁹⁹

Major Employers

Most major employers in Waverly staff people who live outside of town, due to high housing costs within Waverly. These employers include Millard Lumber, TSC Distribution Center, MBA Poultry, Waverly Public Schools, and Matheson Tri-Gas. Most residents commute to the Cities of Lincoln and Omaha for work.

Housing

In comparison to Lancaster County, Waverly's housing stock was:

- **Less renter occupied.** Of occupied housing units in Waverly, 19.4% are renter-occupied compared with 39.9% of renter housing in Lancaster County.²⁰⁰

¹⁹⁴ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

¹⁹⁵ United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

¹⁹⁶ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁹⁷ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

¹⁹⁸ United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

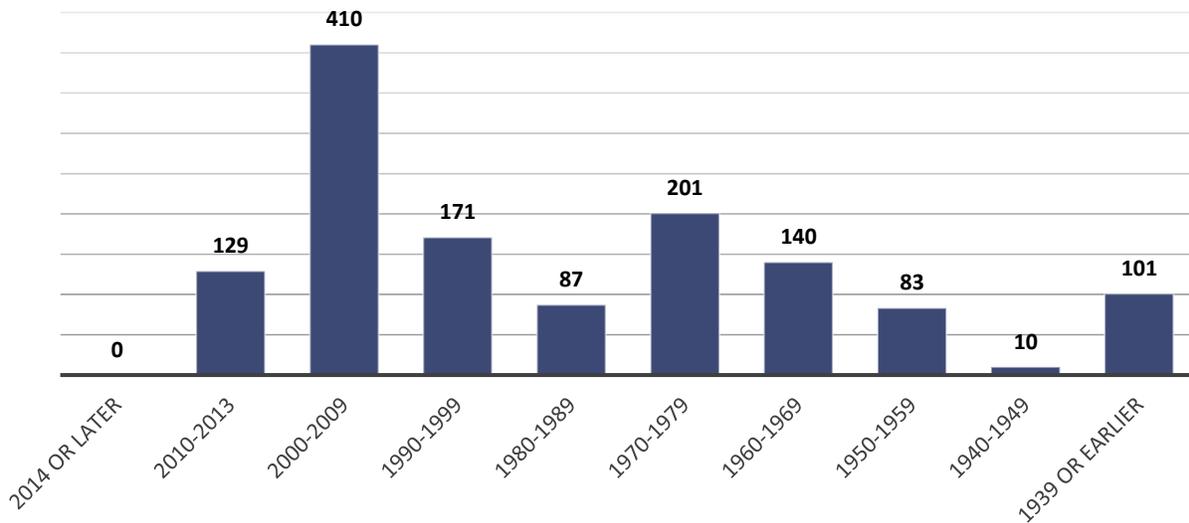
¹⁹⁹ United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

²⁰⁰ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

- **Newer.** Waverly had a smaller share of housing built prior to 1970 than Lancaster County (25.1% compared to 38.1%).²⁰¹
- **Less multifamily dwellings.** The predominant housing type in Waverly is single family detached (82.4%), which is more than Lancaster County (60.8%). Waverly contains less multifamily housing with five or more units per structure compared to Lancaster County (4.1% compared to 23.6%). Waverly has no mobile housing.

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

Figure WAV.3: Housing Units by Year Built



Source: U.S. Census Bureau²⁰²

Future Development Trends

About 50 new homes have been added to the community each year for the past two years. This trend is likely to continue, though more lots will need to be annexed to accommodate continue growth at this rate. One major developer is building most of this new housing. They have a preliminary plat on the north side of Waverly that would accommodate 200 homes – 80 of these have already been platted and the newest phase of development will add 37 lots with working utilities. There is an area for sale on the southeast side of the town that is zoned for both commercial and residential properties. Another development on the south side of town will have about 17 townhomes and 90 apartments. Any new developments must bury utilities. They must also have tree cover. Waverly has been a member of Tree City USA for 20 years. Residents cost-share to remove deceased trees on the right-of-way and to plant new trees. An arborist is contracted by the city.

The baseball field built in 2006 has evolved into a large sports complex in the last three years. The facilities are rented, leading to higher traffic on the weekends but also an economic boost for

²⁰¹ United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

²⁰² United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are nine chemical storage sites in Waverly.

Table WAV.3: Chemical Storage Fixed Sites

| FACILITY NAME | ADDRESS | IN FLOODPLAIN (Y/N) |
|-----------------------------|----------------------------|---------------------|
| MIDWEST FARMERS COOPERATIVE | 11730 N 148th St | Y |
| MIDWEST FARMERS COOPERATIVE | 10741 N 142nd St | N |
| TRACTOR SUPPLY CO 0399 | 12851 Dovers St | N |
| TECUMSEH POULTRY LLC (MBA) | 13151 Dovers St | N |
| WINDSTREAM COMMUNICATIONS | 14131 Heywood St | N |
| MATHESON TRI-GAS INC | 9911 Deer Park Rd | Y |
| AMPRIDE | 14341 Highway 6 | N |
| CASEY'S GAS STATION | 13941 Cornhusker Hwy/Hwy 6 | Y |
| CUBBY'S GAS STATION | 13821 Guildford St B | Y |

Source: Nebraska Department of Environment and Energy 2017²⁰⁴

Critical Facilities

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

The local planning team indicated that the Peace Lutheran Church and Community Foundation are currently used as shelter locations, however there are no certified community safe room or storm shelters in the City of Waverly.

Table WAV.4: Critical Facilities

| CF Number | Name | Red Cross Shelter (Y/N) | Generator (Y/N) | Located in Floodplain (Y/N) |
|-----------|-------------------------------|-------------------------|-----------------|-----------------------------|
| 1 | City Well #4 | N | N | N |
| 2 | City Well #5 | N | N | N |
| 3 | City Well #6 | N | Y | N |
| 4 | City Well #7 | N | Y | N |
| 5 | City Well #8 | N | Y | N |
| 6 | City Well #9 | N | Y | N |
| 7 | City Well #10 & #11 | N | Y | N |
| 8 | LES Substation | N | N | N |
| 9 | MCI Communication | N | N | N |
| 10 | Peace Lutheran Church | N | N | N |
| 11 | Phantom II Post #9875 | N | N | N |
| 12 | Wastewater Treatment Facility | N | Y* | N |
| 13 | Water Storage Tank | N | N | N |
| 14 | Water Tower | N | N | N |
| 15 | Waverly Care Center | N | Y | N |
| 16 | Waverly City Office | N | N | N |

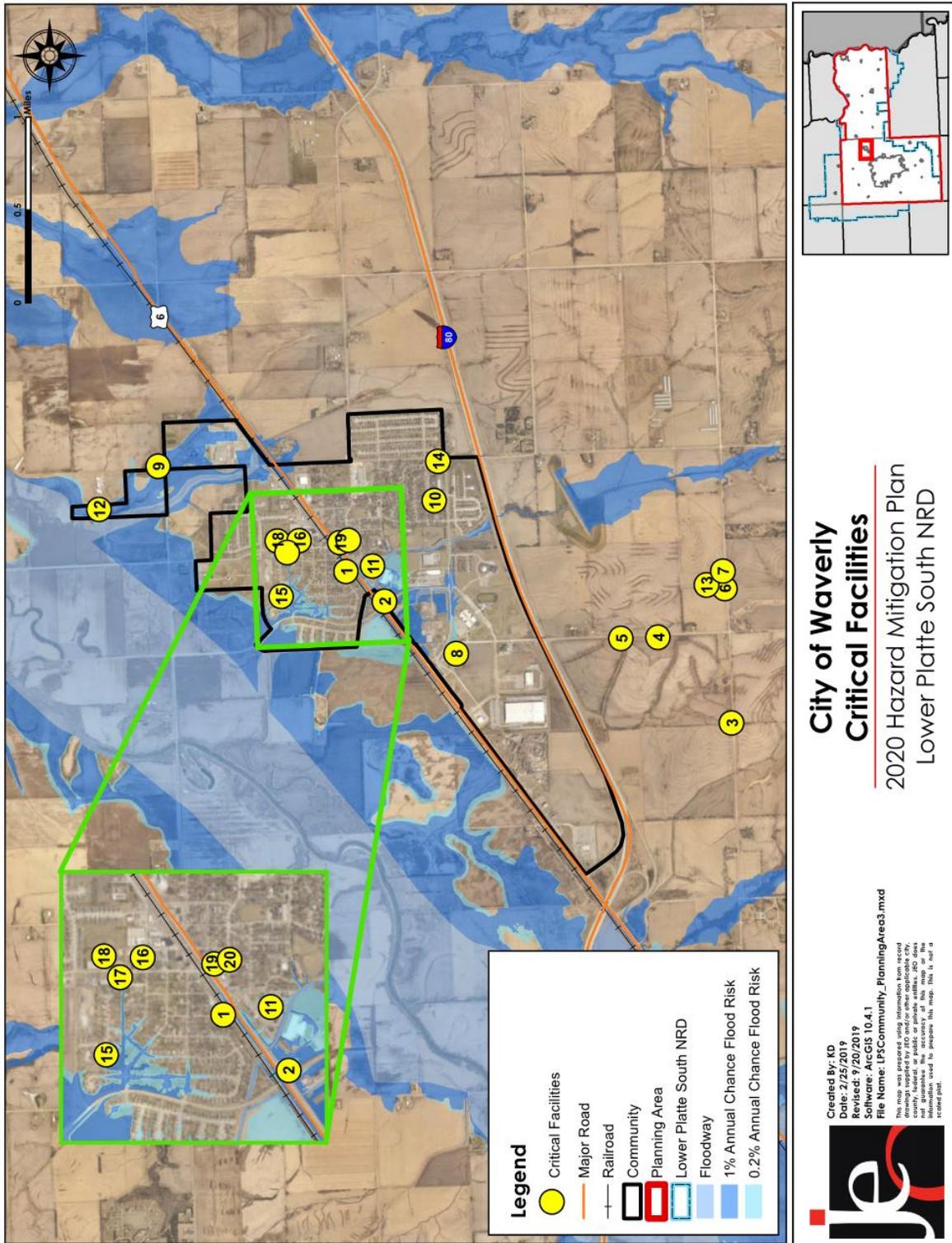
²⁰⁴ Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Section Seven: City of Waverly Community Profile

| CF Number | Name | Red Cross Shelter (Y/N) | Generator (Y/N) | Located in Floodplain (Y/N) |
|------------------|------------------------------|--------------------------------|------------------------|------------------------------------|
| 17 | Waverly City Shop | N | Y | N |
| 18 | Waverly Community Foundation | N | N | N |
| 19 | Waverly Fire & Rescue | N | Y | N |
| 20 | Windstream Communication | N | N | N |

**While the Wastewater Treatment Facility has a small generator, it is not sufficient to meet local needs. The City has been advised to upgrade the generator.*

Figure WAV.5: Critical Facilities



Historical Occurrences

See the Lancaster County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Chemical Spills (Transportation)

Large liquid nitrogen, liquid oxygen, and milk spills have all occurred in Waverly. The community does not know the identity of most chemicals that are transported through the community, leading to concern that they may not be prepared for a spill. The fire station is vulnerable to spills and transportation incidents because it is near the railroad. Waverly does not have an evacuation plan for the community, though it has an informal agreement with the Waverly Public School District to use their buses in case of an evacuation.

Dam Failure

While there have been no dam failure incidents in the past, Waverly would be devastated if the high hazard dam south of the city were to fail. The dam was built in 2017 in a cost-share project between the city and the Lower Platte South NRD. Waverly maintains the dam. The dam has an Emergency Action Plan (EAP) established in case of failure.

Flooding

Waverly frequently experiences heavy rains that could lead to localized flash flooding especially as there are few drainage areas or stormwater sewers. Flooding tends to occur on the west side of town (near 135th and Jonestown Streets), and flooding in 2017 left water along Waverly Rd and 144th Street. Lancashire and 144th Streets also have poor drainage. Flooding conditions can block transportation routes and prevent access to emergency services for residents. Riverine flooding along Salt Creek is also a concern for the local planning team. New homes in the floodplain are elevated to conform to NFIP regulations. A new dry dam has been constructed south of town which has significantly helped reduce flood risk to the City.

Severe Thunderstorms

Hail is one of the most damaging aspects of thunderstorms in Waverly. Hail damage from a 2017 storm required nearly one third of the town to replace roofs. The building code does not require hail resistant roofing materials. Most critical facilities have flat roofs while some well houses have hail-resistant, metal roofs. Power outages are also a concern during severe thunderstorms. Trees in older neighborhoods are at risk of dropping limbs onto power lines.

Tornadoes

Tornadoes have not yet occurred in the community, though they would have a large impact if they were to occur. There is a handshake agreement in place with the schools to use their buses in the case of an evacuation. Approximately 90% of residents have a basement in case they need shelter during a storm.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Waverly has a number of offices or departments that

may be involved in implementing hazard mitigation initiatives. Waverly has four city council members and the following offices that may help implement mitigation actions.

- Mayor
- Council Members
- City Administrator
- Clerk
- Wastewater Operator
- Maintenance Supervisor
- Zoning Administrator
- Economic Development Liaison
- Planning Commission
- Public Health and Safety
- Public Works Liaison
- Emergency Services Coordinator
- Emergency Management Coordinator
- City of Waverly Fire Chief
- Water Operator

Capability Assessment

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

Table WAV.5: Capability Assessment

| Survey Components/Subcomponents | | Yes/No |
|--|----------------------------------|--------|
| <i>Planning & Regulatory Capability</i> | Comprehensive Plan | Yes |
| | Capital Improvements Plan | Yes |
| | Economic Development Plan | Yes |
| | Emergency Operational Plan | Yes |
| | 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 | No |
| Other (if any) | | |
| <i>Administrative & Technical Capability</i> | Planning Commission | Yes |
| | Floodplain Administration | Yes |
| | GIS Capabilities | No |
| | Chief Building Official | Yes |
| | Civil Engineering | No |

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| Survey Components/Subcomponents | | Yes/No |
|--|--|--------|
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | No |
| | Grant Manager | No |
| | Mutual Aid Agreement | Yes |
| | Other (if any) | |
| <i>Fiscal Capability</i> | Capital Improvement Plan/ 1 & 6 Year plan | Yes |
| | Applied for grants in the past | Yes |
| | Awarded a grant in the past | Yes |
| | Authority to Levy Taxes for Specific Purposes such as Mitigation Projects | Yes |
| | Gas/Electric Service Fees | No |
| | Storm Water Service Fees | No |
| | Water/Sewer Service Fees | Yes |
| | Development Impact Fees | No |
| | General Obligation Revenue or Special Tax Bonds | Yes |
| Other (if any) | TIF, Franchise Fees, City Sales Tax, Property Taxes | |
| <i>Education & Outreach Capability</i> | Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc. | Yes |
| | Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education) | No |
| | Natural Disaster or Safety related school programs | No |
| | StormReady Certification | No |
| | Firewise Communities Certification | No |
| | Tree City USA | Yes |
| | Other (if any) | |

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|-----------------------|
| Does your community have the financial resources needed to implement mitigation projects? | Moderate |
| Does your community have the staff/expertise to implement projects? | High |
| Does your community have the community support to implement projects? | Moderate |
| Does your community staff have the time to devote to hazard mitigation? | Limited |

Plan Integration

The City of Waverly has numerous plans in place in order to help guide and facilitate mitigation measures to improve resilience in the City overall. There are interlocal agreements in place with the surrounding communities to provide assistance, as well as Mutual Aid Agreements with the local fire departments.

The City of Waverly’s Comprehensive Plan is reviewed annually to determine if amendments are needed. Projects in the Comprehensive Plan align with HMP goals and projects and include such measures as directing development out of the floodplain or other hazardous areas, encourages infill development and preservation of open spaces, and emphasizes the need for emergency access to reach all parts of the community. The planning team will identify additional potential hazards in the Comprehensive Plan and how they City should plan ahead for them in order to reduce risk as analyzed through this Hazard Mitigation Plan.

Waverly has an annex to the Lancaster County Emergency Operations Plan which was last updated in 2017. The LEOP outlines hazards of top concern, assigns specific responsibilities to communities, identifies shelter locations, and identifies evacuation protocols.

Waverly’s Zoning Ordinance was fully updated in 2013. The newest revision emphasized the need to avoid development in the floodplain, near chemical storage sites, and to limit density in hazard prone areas. The ordinance also identifies floodplain areas as park or open space, limits development in the ETJ, and accounts for continued population growth for the City overall. The City’s Building Code was last updated in 2015 to follow the 2012 International Building Codes. These codes require elevation of structures in the floodplain, outline proper sump pump installation, allow raingardens, require hurricane clips during construction, and encourage and/or require the use of fire-resistant building materials for new construction. While there are currently no plans to update either the Zoning Ordinance or Building Code at this time, it is a priority for the local planning team to ensure their goals and hazards are consistent with this Hazard Mitigation Plan.

The Capital Improvement Plan for the City was last updated in 2011 and includes numerous projects that align with resiliency goals identified by the City. Some of these projects include, but are not limited to: stormwater projects, culvert and drainage structure improvements, street repairs, bridge improvements, well infrastructure improvements, water metering, and additional community facility improvements.

Currently the City of Waverly is working to develop a Wellhead Protection Plan that is anticipated to be completed in the next few years. With this plan the City will educate residents about the area and make efforts to protect and preserve their drinking water supply.

Mitigation Strategy

Ongoing and New Mitigation Actions

| Mitigation Action | Backup Generators |
|---------------------|---|
| Description | Provide backup generators for the city maintenance shop, wells, city hall, and wastewater treatment plan |
| Hazard(s) Addressed | All |
| Estimated Cost | Unknown |
| Potential Funding | General Fund |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | City Administrator |
| Status | Several generators are needed including two for wells, one large unit at Water Treatment Facility, and one at the City Office. The City is currently evaluating size and cost estimates for generators. |

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| Mitigation Action | Continuity Planning |
|---------------------|---|
| Description | Continuity planning helps to ensure that services can be maintained during and after a disaster |
| Hazard(s) Addressed | All |
| Estimated Cost | A\$0 |
| Potential Funding | Staff Time |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Emergency Services Coordinator |
| Status | This project has not yet been started. |

| Mitigation Action | Dam Failure Exercise |
|---------------------|---|
| Description | Conduct tabletop exercises to determine the response scenarios in the event of dam failure. |
| Hazard(s) Addressed | Dam Failure |
| Estimated Cost | \$5,000+ |
| Potential Funding | General Fund |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Building & Zoning Department |
| Status | This is a new mitigation action. |

| Mitigation Action | Develop Dam Failure Emergency Action and Evacuation Plans |
|---------------------|---|
| Description | Work with officials to develop emergency action and evacuation plans if a dam were to fail. |
| Hazard(s) Addressed | Dam Failure |
| Estimated Cost | \$10,000+ |
| Potential Funding | General Fund |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Floodplain Administrators |
| Status | This is a new mitigation action. |

| Mitigation Action | Evacuation Planning |
|---------------------|--|
| Description | Develop an evacuation plan to be prepared for any disaster that would require evacuation |
| Hazard(s) Addressed | All |
| Estimated Cost | \$0 |
| Potential Funding | General Fund |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Emergency Services Coordinator |
| Status | This project has not yet been started. |

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| Mitigation Action | Hazardous Tree Inventory |
|---------------------|---|
| Description | Tree inventory to ID problem trees that may lose or drop branches and ash trees that are vulnerable to the Emerald Ash Borer |
| Hazard(s) Addressed | All |
| Estimated Cost | \$0 for inventory; \$2,000/tree removal |
| Potential Funding | General Fund |
| Timeline | Ongoing |
| Priority | Low |
| Lead Agency | Parks & Recreation Department, Tree Committee |
| Status | This has been completed for city owned properties. The city sends letters to residents if their trees encroach on streets or sidewalks. |

| Mitigation Action | New Fire Hall |
|---------------------|--|
| Description | Build a new fire hall with a FEMA-certified storm shelter and a full-sized back-up generator that can also be used to power the city hall. The facility will also be used to house the EOC, Fire Department, and City Hall. |
| Hazard(s) Addressed | All |
| Estimated Cost | \$1.5 million |
| Potential Funding | General Fund, Forestry Services, Fire Grants |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | City Administrator |
| Status | Currently there are no community shelter facilities in the City. Current fire hall does not meet the needs for Waverly's growing population and emergency management team. The new fire hall will improve available space for training and education outreach efforts, training for staff and storm spotters, and shelter for residents and those traveling through Waverly during poor conditions. The current Fire Hall is also located in a highly vulnerable area near railroad tracks and main transportation route. A land purchase is currently under development for siting the new fire hall. |

| Mitigation Action | New Overpass Construction |
|---------------------|--|
| Description | Design and construct an overpass to provide an additional transportation route across railroad tracks in town. |
| Hazard(s) Addressed | Chemical Spills (Transportation) |
| Estimated Cost | Unknown |
| Potential Funding | General Fund, BNSF |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | City Administration |
| Status | This is a new mitigation action. An overpass should be added at 148 th St and Highway 6. |

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| Mitigation Action | Preserve Natural and Beneficial Functions |
|---------------------|---|
| Description | Preserve natural and beneficial functions of floodplain land through measures such as: retaining natural vegetation, restoring streambeds, and preserving open space in the floodplain. Channel work is planned by Ash Hollow, with the priority being to keep the floodplain where it is but reduce residential flood risk. Restrictions will be placed to restrict new development in the floodplain. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$5,000+ |
| Potential Funding | General Fund, LPSNRD cost-share, WSF NET |
| Timeline | 2-5 years |
| Priority | Low |
| Lead Agency | Building & Zoning Department, Floodplain Administrators |
| Status | This project has not yet been started. |

| Mitigation Action | Public Education |
|---------------------|--|
| Description | Increase public awareness of vulnerability and risk reduction measure through hazard education. This would include information on trees and home flooding, and a flyer on backflow prevention. |
| Hazard(s) Addressed | All |
| Estimated Cost | \$0-1,000 |
| Potential Funding | General funds |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | City Clerk |
| Status | This project has not yet been started. |

| Mitigation Action | Shelter in Place Training |
|---------------------|---|
| Description | Provide shelter in place training to facilities housing vulnerable populations (nursing homes, childcare facilities, schools, etc.) |
| Hazard(s) Addressed | Chemical Spills (Transportation) |
| Estimated Cost | \$100 per person, Staff Time |
| Potential Funding | General Fund |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | City Administration |
| Status | This is a new mitigation action. |

| Mitigation Action | Storm Shelters |
|---------------------|--|
| Description | Design and construct storm shelters and safe rooms in vulnerable areas which are available to the public during hazard events. Establish a community safe room or safe area for residents. |
| Hazard(s) Addressed | High Winds, Severe Thunderstorms, Severe Winter Storms, Tornadoes |
| Estimated Cost | \$200-\$250 per sf |
| Potential Funding | General Fund |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | City Administration |
| Status | This is a new mitigation action. A community access safe room/storm shelter is needed and will be built in the new fire hall. An additional storm shelter should be developed at the community pool bathrooms. |

| Mitigation Action | Stormwater System and Drainage Improvements |
|---------------------|--|
| Description | Undersized systems can contribute to localized flooding. Stormwater system improvements may include pipe upsizing and additional inlets. These improvements can serve to more effectively convey runoff, preventing interior localized flooding. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements. Some projects are listed in the Stormwater Management Plan and some are identified in the CIP. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$100,000+ |
| Potential Funding | CIP, LPSNRD cost-share |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Public Works |
| Status | This project has not yet been started. |

| Mitigation Action | Utilize Low Impact Development and Green Infrastructure |
|---------------------|--|
| Description | Utilize low impact development practices and green infrastructure to reduce flood risk |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | \$0 |
| Potential Funding | General Fund |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Zoning Department |
| Status | This project has not yet been started. |

Removed Mitigation Action

| Mitigation Action | Maintain Good Standing with the NFIP |
|---------------------|---|
| Description | Maintain good standing with the National Flood Insurance Program (NFIP) |
| Hazard(s) Addressed | Flooding |
| Reason for Removal | This project is no longer recognized as a mitigation action by FEMA |

| Mitigation Action | Purchase and Issue Weather Radios for Schools and CFs |
|---------------------|--|
| Description | Conduct an inventory of weather radios at schools and other CFs and provide new radios as needed |
| Hazard(s) Addressed | All |
| Reason for Removal | Cell phones have filled the need for weather radios |

| Mitigation Action | Educate Local Businesses About the Value of Continuity Planning |
|---------------------|---|
| Description | Continuity planning helps to ensure that services can be maintained during and after a disaster |
| Hazard(s) Addressed | All |
| Reason for Removal | This need is addressed with the public education mitigation action |

| Mitigation Action | Join the CRS |
|---------------------|--|
| Description | Participation in the CRS, part of the NFIP, can provide a movement for the community to undertake a number of projects and activities designed to increase the flooding mitigation efforts. Participation in the CRS can help reduce flood insurance premiums. |
| Hazard(s) Addressed | Flooding |
| Reason for Removal | This is no longer a priority for the community since the completion of the dry dam provides flood protection |

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