Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan 2023 Update

Kankakee County, Illinois

Participants:

Kankakee County
Aroma Park, Village of
Ascension Saint Mary Kankakee
Bourbonnais, Village of
Bourbonnais Fire Protection District
Bourbonnais Township
Bradley, Village of
Grant Park, Village of
Hopkins Park, Village of
Kankakee, City of
Kankakee Community College
Manteno, Village of
Manteno Community Fire Protection District
Momence Fire Protection District
Riverside Medical Center
Union Hill, Village of

June 2023

The five year update of this Plan must be completed on or before September 19, 2028.

KANKAKEE COUNTY MULTI-JURISDICTIONAL NATURAL HAZARDS MITIGATION PLAN

KANKAKEE COUNTY, ILLINOIS

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Researched and written for the Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force
by American Environmental Corporation



1.0 INTRODUCTION

Each year natural hazards (i.e., severe thunderstorms, tornadoes, severe winter storms, flooding, etc.) cause damage to property and threaten the lives and health of the residents of Kankakee County. Since 1973, Kankakee County has been included in three major federally-declared disasters. **Figure I-1** identifies each declaration including the year the disaster was declared and the type of natural hazard that triggered the declaration. The natural hazard(s) recognized as contributing to the declaration for Kankakee County is identified in bold.

Figure I-1
Major Federal Disaster Declarations: Kankakee County

Declaration #	Year	Natural Hazard(s) Covered by Declaration
373	1974	severe storms; **flooding**
1513	2004	severe storms; **tornadoes**
4489	2020	**COVID-19 pandemic**

In the last 10 years alone (2013 – 2022), there have been 83 thunderstorms with damaging winds, 50 heavy rain events, 26 severe winter storms, 26 excessive heat events, 25 flash flood events, 25 riverine flood events, 25 extreme cold events, 17 severe storms with hail one inch in diameter or greater, 16 tornadoes, and 3 lightning strikes with verified damages in the County.

While natural hazards cannot be avoided, their impacts can be reduced through effective hazard mitigation planning. This prevention-related concept of emergency management often receives the least amount of attention, yet it is one of the most important steps in creating a hazard-resistant community.

What is hazard mitigation planning?

Hazard mitigation planning is the process of determining how to reduce or eliminate the loss of life and property damage resulting from natural hazards. This process helps the County and participating jurisdictions reduce their risk from these hazards by identifying vulnerabilities and developing mitigation actions to lessen and sometimes even eliminate the effects of a hazard. The results of this process are documented in a natural hazards mitigation plan.

Why update a natural hazards mitigation plan?

By updating and adopting a natural hazards mitigation plan, participating jurisdictions become eligible to apply for and receive federal hazard mitigation funds to implement mitigation actions identified in the plan. These funds can help provide local government entities with the opportunity to complete mitigation projects and activities that would not otherwise be financially possible.

The federal hazard mitigation funds are made available through the Disaster Mitigation Act of 2000, an amendment to the Robert T. Stafford Disaster Relief and Emergency Assistance Act, which provides federal aid for mitigation projects, but only if the local government entity has a Federal Emergency Management Agency (FEMA) approved hazard mitigation plan.

How is this plan different from other emergency plans?

A natural hazards mitigation plan is aimed at identifying projects and activities that can be conducted prior to a natural disaster, unlike other emergency plans which provide direction on how to respond to a disaster after it occurs. This is the second time that Kankakee County has updated its hazard mitigation plan. The original plan was completed in 2005 and the first update was completed in 2013. This update describes in detail the actions that can be taken to help reduce or eliminate damages caused by specific types of natural hazards.

1.1 PARTICIPATING JURISDICTIONS

Recognizing the benefits of having a natural hazards mitigation plan, the Kankakee County Board authorized the update of the Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan (hereto referred to as the Plan). The County then invited all the local government entities within Kankakee County to participate. **Figure I-2** identifies the participating jurisdictions represented in the Plan update who sought Plan approval.

Figure I-2
Participating Jurisdictions Represented in the Plan

- Aroma Park, Village of
- Ascension Saint Mary Kankakee
- Bourbonnais, Village of
- Bourbonnais Fire Protection District
- Bourbonnais Township
- Bradley, Village of
- Grant Park, Village of
- Hopkins Park, Village of
- Kankakee, City of
- Kankakee Community College
- Kankakee County
- Manteno, Village of
- Manteno Community Fire Protection District
- Momence Fire Protection District
- Riverside Medical Center
- Union Hill, Village of

While all of the municipalities within the County were invited and encouraged to participate in the Plan update, including past participants Momence and Sun River Terrace, none chose to engage in the process and therefore are not included as participating jurisdictions in the Plan update.

1.2 COUNTY PROFILE

Kankakee County is located in northeastern Illinois and covers approximately 347 square miles. Located at the end of this section, **Figure I-3** provides a location map of the County and the participating municipalities while **Figures I-4** and **I-5** identify the boundaries of the census tracts located in the County. **Figures I-6, I-7** and **I-8**, also located at the end of this section, identify the boundaries of the Kankakee County townships, fire protection districts, and Kankakee Community College campus.

The County is bounded to the south by Ford and Iroquois Counties, to the west by Livingston and Grundy Counties, to the north by Will County, and to the east by Lake and Newton Counties in Indiana. The City of Kankakee is the county seat. Much of the topography is nearly level to gently sloping. A small portion of the County is rolling to steep and is in morainal areas or the prominent sandhills. Several moraines run through the County

A majority of the County is situated in the Kankakee Plain in the northern portion of the Till Plains Section of the Central Lowland Province of the Interior Plains. Soils are characterized by a series of ground moraines with four classes of soils, rich upland prairie soils, upland timber soils, terrace soils, and bottom-land soils. Most areas are well-drained for crops grown in this area. With the exception of the western and southern edges, the Kankakee River watershed encompasses most of the County. A portion of the County along the western edge is drained by the Vermilion River and a portion along the southern edge is drained by the Iroquois River.

According to the Multi-Resolution Land Characteristics (MRLC) Consortium, in 2019 approximately 90% of the County's land cover was vegetation, including developed open spaces, cultivated crop land, pasture/hay, and deciduous/mixed forest while 8.3% of the County's land cover was considered developed with 3.7% impervious surfaces. Between 2013 and 2019 approximately 2.6 square miles or 0.4% of the land cover in the County changed with 0.41 square miles of development and 0.68 square miles of impervious surfaces gained. **Figure I-9** illustrates the changes by land cover type.

Figure I-9
Kankakee County Land Cover Data: 2013 to 2019

Land Cover Categories	Area 2013	Area Lost	Area Gained	Area 2019	Net Change	Percent Change
Developed, High Intensity	4.72	0.00	0.37	5.09	0.37	7.87%
Developed, Medium Intensity	14.06	-0.03	0.89	14.92	0.86	6.13%
Developed, Low Intensity	36.83	-0.53	0.23	36.53	-0.30	-0.80%
Developed, Open Space	17.06	-0.67	0.14	16.53	-0.53	-3.10%
Cultivated Crops	551.09	-0.52	0.09	550.67	-0.43	-0.08%
Pasture/Hay	11.77	-0.07	0.10	11.80	0.03	0.25%
Grassland	4.89	-0.16	0.25	4.98	0.08	1.71%
Deciduous Forest	23.50	-0.16	0.13	23.47	-0.03	-0.12%
Evergreen Forest	0.12	0.00	0.01	0.14	0.01	10.58%
Mixed Forest	2.84	-0.01	0.01	2.84	0.01	0.25%
Scrub/Shrub	0.57	-0.09	0.01	0.49	-0.08	-14.61%
Woody Wetland	6.43	-0.04	0.04	6.43	0.00	0.04%
Emergent Herbaceous Wetland	0.88	-0.08	0.24	1.05	0.17	19.18%
Barren Land	1.43	-0.12	0.13	1.45	0.02	1.09%
Open Water	5.04	-0.22	0.03	4.86	-0.19	-3.73%
Perennial Snow/Ice	0.00	0.00	0.00	0.00	0.00	0.00%
*All numbers expressed in square miles						

Source: Multi-Resolution Land Characteristics Consortium's National Landcover Database.

Agriculture is an important industry in Kankakee County. According to the 2017 Census of Agriculture, there were 756 farms in Kankakee County occupying approximately 72.3% (312,904 acres) of the total land area in the County. In comparison, there were 818 farms occupying 79.1% (342,637 acres) of the total land area in the County in 2012. The major crops include corn, soybeans, hay, and nursery/greenhouse crop, while the major livestock include poultry, beef cattle, sheep, and hogs. The County ranks 19th in the State for grain cash receipts and 53rd in the State for livestock cash receipts.

The largest employment sectors in Kankakee County are health care/social assistance, manufacturing, and educational services, followed by retail trade and accommodation/food services according to the Illinois Department of Commerce and Economic Opportunity. According to the Economic Alliance of Kankakee County, leading employers include Riverside Healthcare, Cigna Healthcare, Shapiro Developmental Center, Ascension Saint Mary Kankakee, Olivet Nazarene University, and Van Drunen Farms.

Figure I-10, located at the end of this section, provides demographic and socio-economic data for the County and participating townships and municipalities. Four of the six municipalities and one of the two townships meet the definition of an Economically Disadvantaged Rural Community (EDRC). FEMA defines an EDRC as a community of 3,000 or fewer individuals whose residents have an average per capita annual income not exceeding 80 percent of the U.S. per capita income based on best available data.

Figure I-11, also located at the end of this section, provides additional demographic information by census tract along with the CDC/ATSDR Social Vulnerability Index (SVI) and overall level of vulnerability. The SVI is a database that uses U.S. Census Bureau American Community Survey data to rank census tracts and counties on 16 social factors within four themes: Socioeconomic Status, Household Characteristics, Racial & Ethnic Minority Status, and Housing Type & Transportation. The goal of the SVI is to help emergency response planners and public health officials identify, map, and plan support for communities that will most likely need support before, during, and after a public health emergency.

The rankings generated by the SVI describe a county's or census tract's relative vulnerability among all other U.S. counties and census tracts. The SVI data used in this document is based on 2010 census tract information. Rankings are based on percentiles ranging from 0 to 1, with higher values indicating greater vulnerability. Each ranking is assigned to one of four levels of vulnerability: Low (0 – 0.2499), Low to Medium (0.2500 – 0.4999), Medium to High (0.5000 – 0.7499), and High (0.7500 – 1). A community with an SVI of 0.6000 or greater is considered an underserved and/or disadvantaged community. In Kankakee County the participating jurisdictions that meet this definition would be Grant Park, Hopkins Park, Momence FPD, and portions of Bourbonnais, Bourbonnais FPD, Bourbonnais Township, Bradley, the City of Kankakee, Manteno, and Manteno FPD.

Figures I-12 provides basic demographic information about the size and populations served by the participating fire protection districts.

1.3 LAND USE AND DEVELOPMENT TRENDS

Population growth and economic development are two major factors that trigger changes in land use. Kankakee County has seen an increase in its population between 1900 and 2010 from 37,154 to 113,449. Between 2010 and 2020 the population decreased by 5.2% from 113,449 to 107,502. During that same time period, all of the participating municipalities experienced population decreases with the exception of Bourbonnais, which increased slightly.

Figure I-12
Demographic Data by Participating Fire Protection Districts

Participating District	Number of Fire Stations	Estimated Population Served	Area Served (Sq. Miles) (2010)	Communities / Unincorp. Areas Served in the County	Census Tracts Falling within the District
Bourbonnais Fire Protection District	1	32,000	35.0	Bourbonnais, Bourbonnais Township, portion Ganeer Township	102.02, 105, 106.01, 106.02, 107.01, 107.02, 116, 117, 118, 119, 120
Manteno Community Fire Protection District	2	14,000	96.3	Manteno, portion of Bourbonnais, Manteno Township, Rockville Township, portion of Sumner Township, portion of Bourbonnais Township	101, 102.01, 104, 105, 106.01
Momence Fire Protection District	1	12,000	92.0	Momence, portion of Pembroke Township	101, 108, 109, 110

Source: Capability Assessment Worksheets – Fire Protection Districts.

Land use in Kankakee County is primarily agricultural. As discussed in the previous section, approximately 72.3% of the land within the County is used for farming practices. Agriculture is and will continue to be an important industry within the.

According to the Kankakee County Planning Department, there have been few substantial changes in development within the County or any of the participating jurisdictions that have impacted their overall vulnerability since the 2013 Plan was approved. The City of Kankakee has seen some industrial growth and expansion and seven solar farms have been developed, mostly in rural areas of the County.

Looking to the future, 48 additional solar farms have been approved for development on up to 2,800 acres in the County. The Nature Conservancy currently has a nearly 200-acre area, Kankakee Sands in Pembroke Township, where agricultural land has been restored to native prairie and shallow wetlands. Expansion of protected lands in this area in the future is expected.

There are no other large-scale economic development initiatives underway in the County. Substantial changes in land use (from forested and agricultural land to residential, commercial, and industrial) are not anticipated within the County in the immediate future. No sizeable increases in commercial or industrial developments are expected within the next five years.

Figure I-3
Location Map

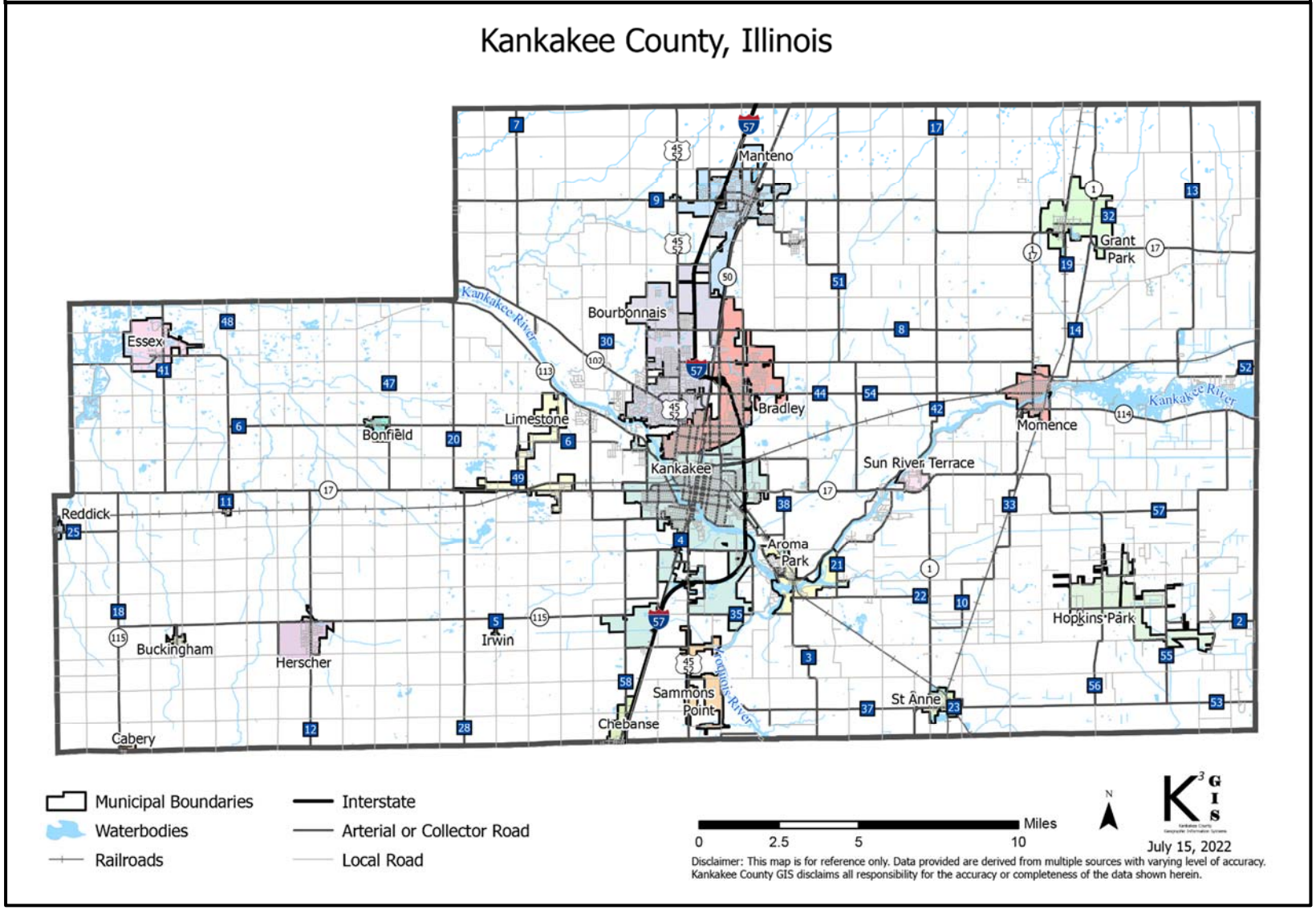


Figure I-4
Kankakee County 2010 Census Tract Map

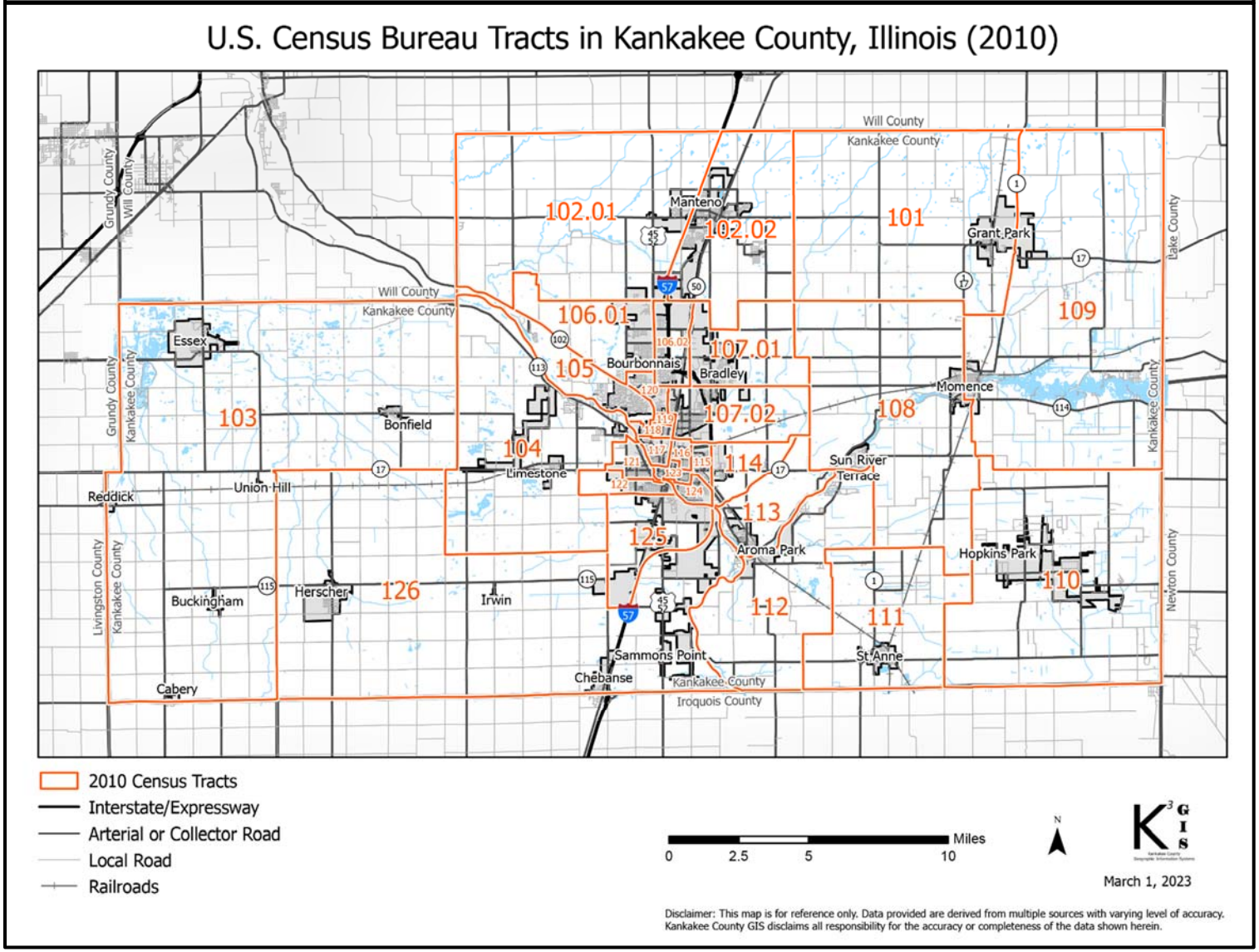


Figure I-5
Kankakee-Bourbonnais-Bradley 2010 Census Tract Map

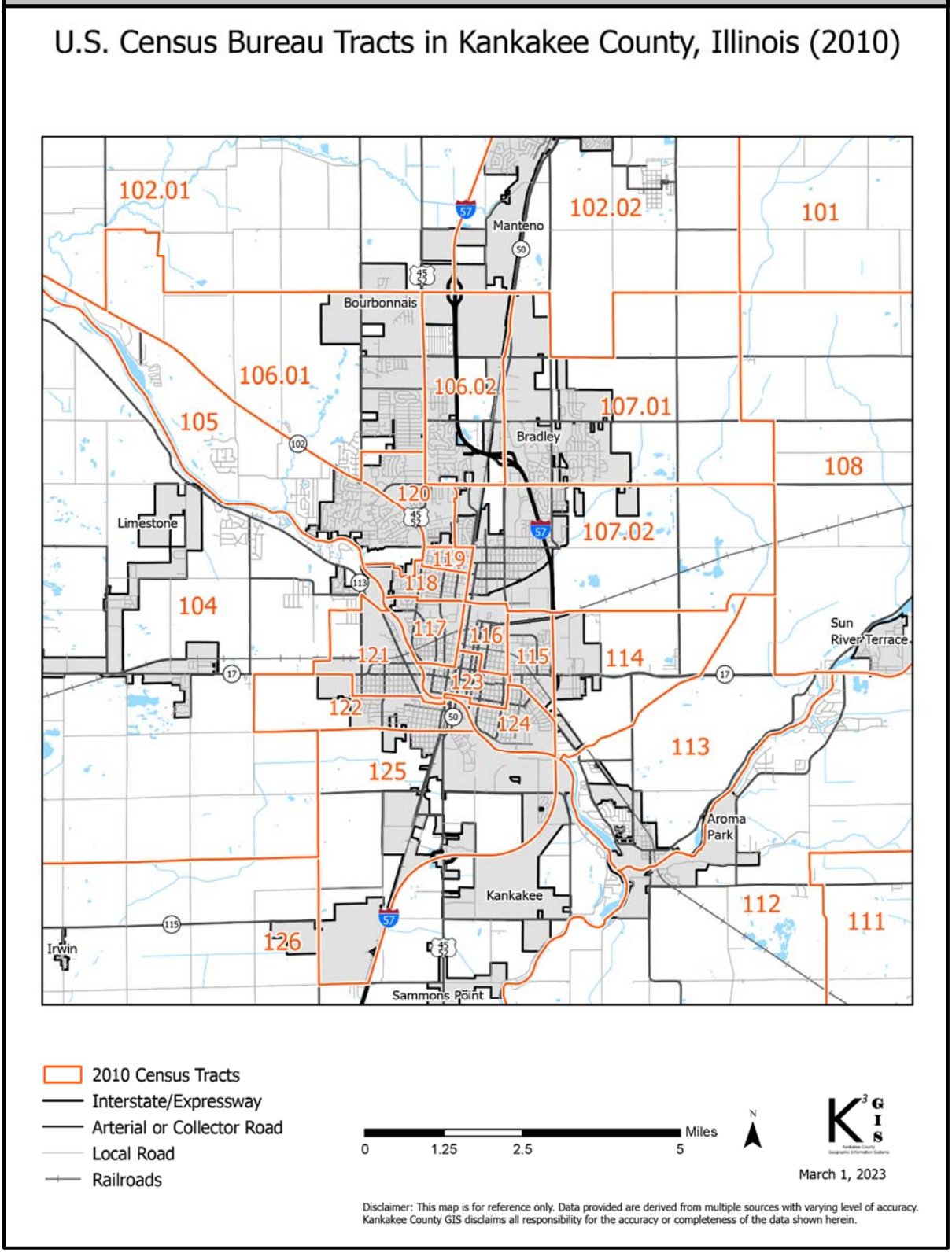


Figure I-6
Township Boundary Map

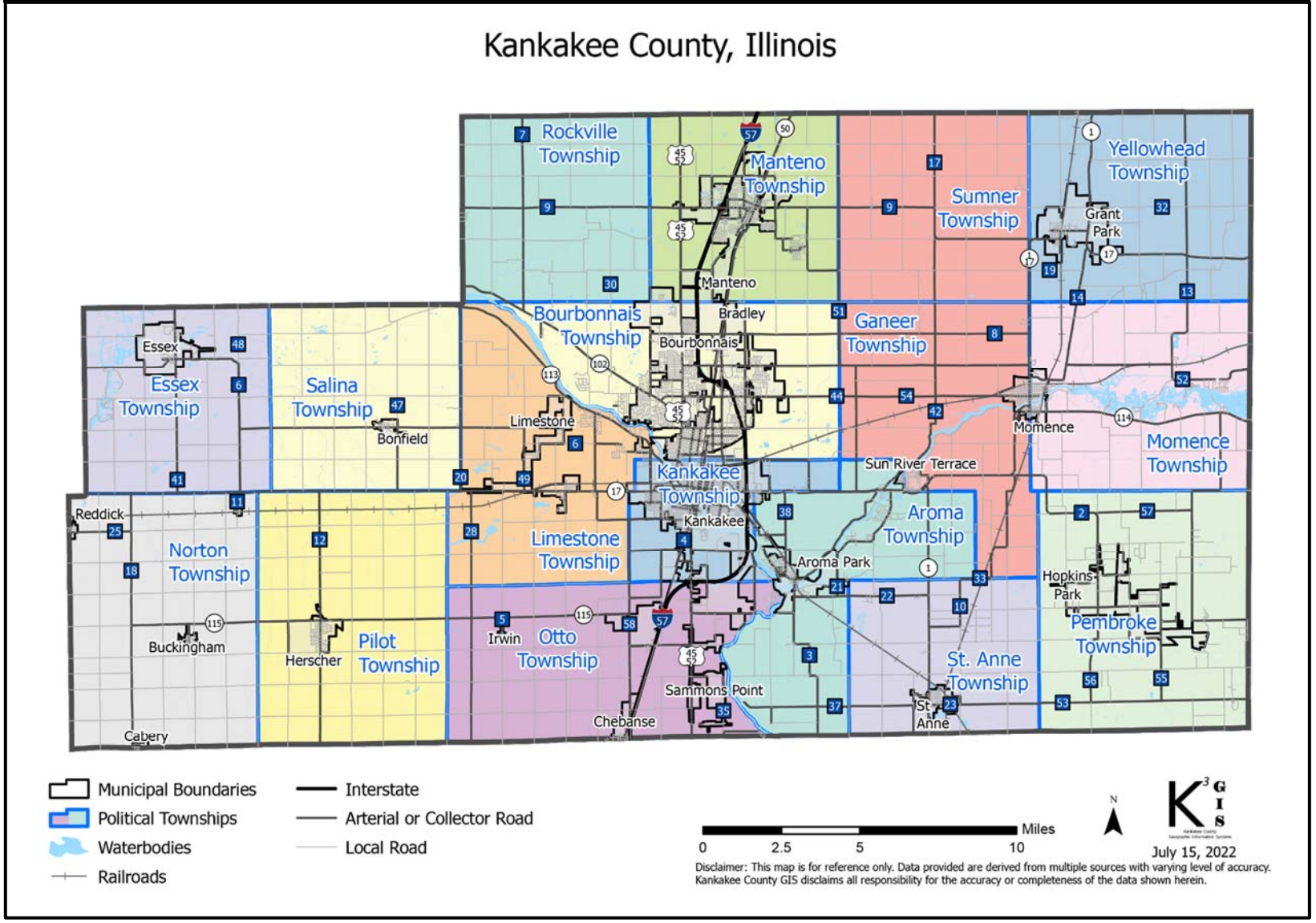


Figure I-7
Fire Protection District Boundary Map

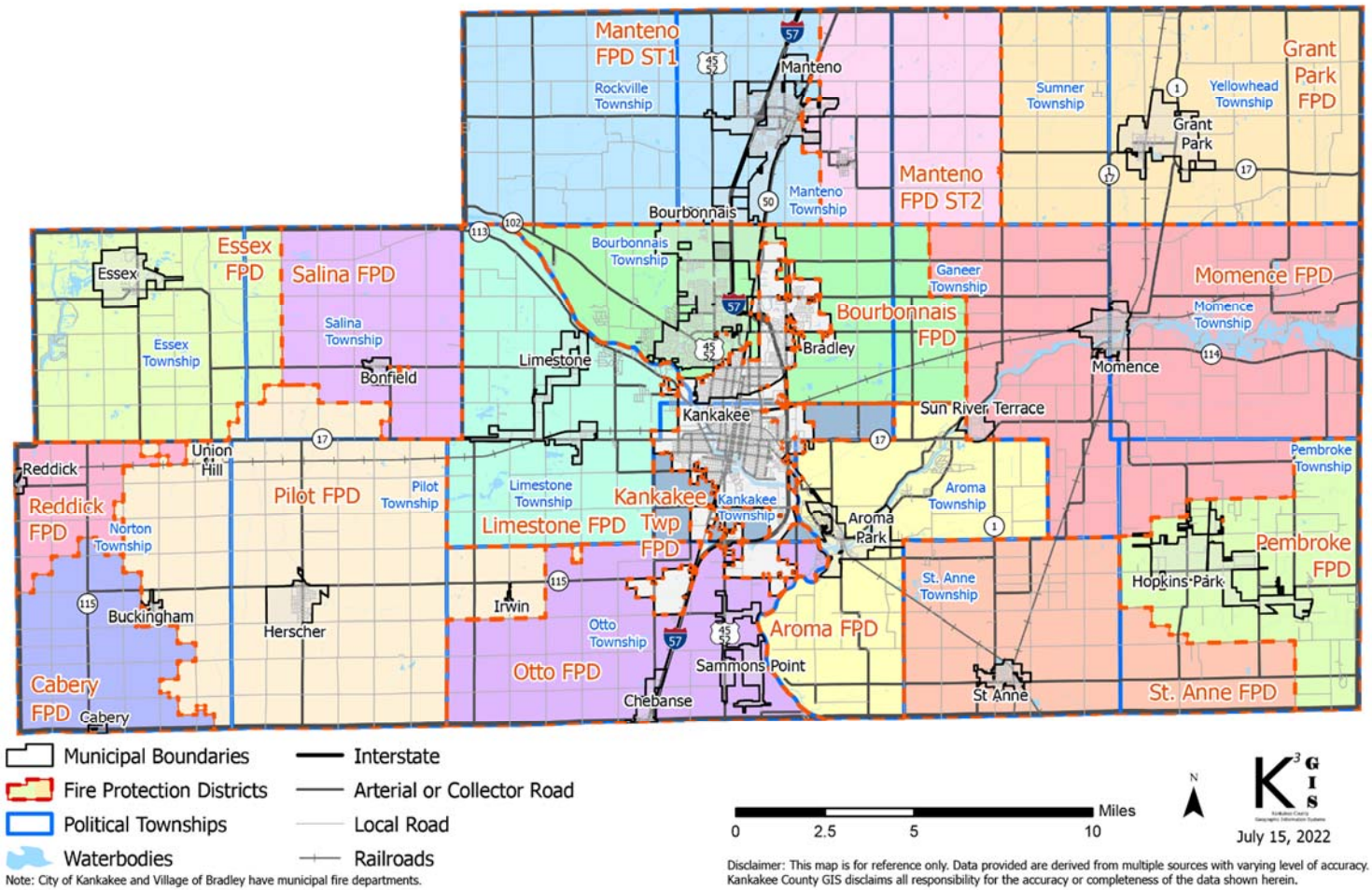


Figure I-8
Kankakee Community College Campus Boundary Map

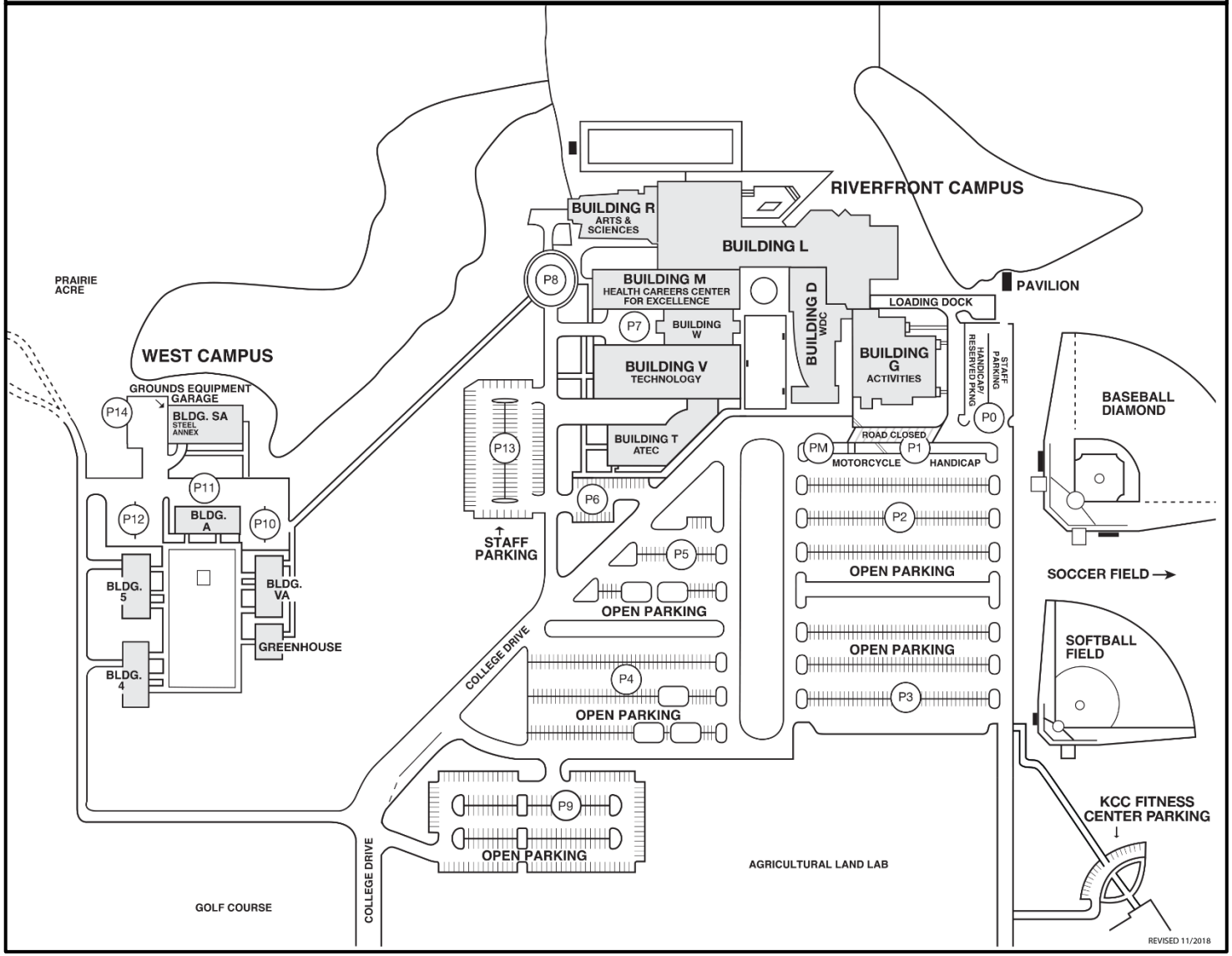


Figure I-10
2016-2020 Demographic Data by Participating Jurisdiction

Participating Jurisdiction	Population	Projected Population (2030)	Total Area (Sq. Miles) (2020)	Number of Housing Units	Percent Race								Income			Total Assessed Value of Housing Units (2021)
					White (alone)	Black or African American (alone)	Asian (alone)	Hispanic or Latino (of any race)	American Indian & Alaska Native (alone)	Native Hawaiian & Other Pacific Islander (alone)	Some other Race (alone)	Two or more Races	% of People whose Income is below the Poverty Line	Per Capita Income	EDRC*	
Kankakee County (Total)	109,924	111,969	676.490	45,626	78.1%	14.9%	0.8%	10.6%	0.2%	0.003	2.7%	3.3%	13.0%	$28,445	---	$1,428,718,193
Kankakee County (Unincorp.)	25,918	26,400	616.654	11,706	89.8%	5.9%	0.6%	5.4%	0.3%	0.0%	1.5%	1.9%	10.1%	---	---	$366,895,732
Aroma Park	692	705	1.882	303	92.8%	5.2%	0.0%	6.5%	0.0%	0.0%	0.0%	2.0%	12.7%	$25,985	Y	$9,672,477
Bourbonnais	19,639	20,004	9.312	6,977	81.1%	9.5%	2.3%	8.0%	0.0%	0.0%	1.3%	5.8%	7.1%	$30,972	N	$301,968,772
Bradley	15,296	15,581	6.932	6,252	88.8%	6.4%	0.5%	9.4%	0.1%	0.0%	3.5%	0.7%	10.0%	$26,813	N	$220,431,295
Grant Park	1,681	1,712	3.413	530	97.7%	0.1%	0.0%	2.6%	0.2%	0.0%	0.4%	1.6%	6.7%	$24,845	Y	$19,759,448
Hopkins Park	591	602	4.137	269	4.4%	88.3%	0.0%	3.4%	0.0%	0.0%	5.2%	2.0%	20.5%	$14,536	Y	$3,204,647
Kankakee, City of	25,818	26,298	15.057	11,071	48.0%	41.4%	0.5%	20.1%	0.4%	0.0%	5.4%	4.3%	27.5%	$20,680	N	$151,873,022
Manteno	8,545	8,704	5.344	3,705	95.3%	1.4%	0.8%	10.7%	0.0%	0.0%	0.2%	2.4%	4.5%	$36,235	N	$159,583,748
Union Hill	69	70	0.046	26	88.4%	0.0%	0.0%	5.8%	0.0%	0.0%	0.0%	11.6^	2.9%	$24,014	Y	$847,130
Bourbonnais Township	40,138	40,885	42.238	15,106	84.6%	8.0%	1.6%	8.6%	0.0%	0.0%	2.5%	3.3%	10.1%	$29,311	N	$605,343,525
Illinois	12,770,631	12,790,000	55,513.18	5,373,385	61.3%	14.0%	5.4%	17.1%	0.1%	0.02%	0.2%	1.9%	14.2%	$37,306	---	---
US	329,569,308	---	3,533,038	138,432,751	69.8%	12.5%	5.6%	18.0%	0.8%	0.2%	5.1%	5.1%	12.8%	$35,384	---	---

* For the purposes of FEMA's Hazard Mitigation Assistance grant programs administered by the Illinois Emergency Management Agency, an Economically Disadvantaged Rural Community (EDRC) is defined in Illinois as a community of 3,000 or fewer individuals whose residents have an average per capita annual income not exceeding 80 percent of the U.S. per capita income based on best available data.

Sources: Kankakee County Clerk.
Illinois Department Public Health, Population Projections – Illinois, Chicago and Illinois Counties by Age and Sex: July 1, 2015 to July 1, 2030 (2019 Edition).
U. S. Census Bureau, American Community Survey, 5-Year Data Profile.

Figure I-11
2016-2020 Demographic Data by Census Tract
(Sheet 1 of 3)

Census Tract (2010)	Incorporated Municipalities and Townships that Fall Within Census Tract	Population (2016-2020)	Total Area (Sq. Miles) (2010)	Number of Housing Units (2016-2020)	Percent Race								Income	Social Vulnerability Index	
					White (alone)	Black or African American (alone)	Asian (alone)	Hispanic or Latino (of any race)	American Indian & Alaska Native (alone)	Native Hawaiian & Other Pacific Islander (alone)	Some other Race (alone)	Two or more Races	% of People whose Income is below the Poverty Line	Nation-wide Overall SVI Ranking (2010)	Level of Vulnerability
101	Grant Park; Sumner Township, Yellowhead Township	2,135	49.38	914	97.7%	0.1%	0.0%	2.0%	0.1%	0.0%	0.3%	1.8%	9.5%	0.4014	Low to Medium
102.01	Bourbonnais, Manteno; Manteno Township, Rockville Township	2,192	49.38	818	93.8%	1.9%	0.4%	8.6%	0.0%	0.0%	0.6%	3.3%	2.0%	0.0289	Low
102.02	Bourbonnais, Manteno; Bourbonnais Township, Manteno Township	9,371	23.45	3,997	94.6%	2.3%	0.7%	9.8%	0.0%	0.0%	0.7%	1.7%	6.0%	0.6579	Medium to High
103	Bonfield, Buckingham, Cabery, Essex, Reddick, Union Hill; Essex Township, Norton Township, Salina Township	4,186	122.01	1,690	95.0%	0.5%	0.4%	4.1%	1.0%	0.0%	0.1%	3.0%	4.6%	0.1162	Low
104	City of Kankakee, Limestone; Limestone Township, Rockville Township	4,678	39.51	1,904	97.1%	1.0%	0.4%	1.3%	0.0%	0.0%	0.1%	1.5%	6.3%	0.0832	Low
105	Bourbonnais, Bradley, City of Kankakee; Bourbonnais Township, Rockville Township	6,470	6.49	2,522	76.2%	13.9%	2.7%	6.7%	0.0%	0.0%	2.3%	5.0%	4.9%	0.3362	Low to Medium
106.01	Bourbonnais; Bourbonnais Township, Rockville Township	5,739	10.11	2,004	86.6%	1.4%	5.8%	3.5%	0.0%	0.0%	1.0%	5.2%	1.7%	0.1914	Low
106.02	Bourbonnais, Bradley; Bourbonnais Township	6,385	3.94	2,179	85.8%	7.4%	0.3%	10.3%	0.0%	0.0%	0.0%	6.6%	14.7%	0.6657	Medium to High
107.01	Bradley; Bourbonnais Township, Ganeer Township	4,160	10.80	1,677	84.5%	11.7%	1.4%	4.9%	0.0%	0.0%	1.1%	1.4%	6.0%	0.2715	Low to Medium
107.02	Bourbonnais, Bradley, City of Kankakee; Bourbonnais Township, Ganeer Township	7,142	9.76	2,778	87.8%	5.6%	0.2%	11.6%	0.0%	0.0%	6.4%	0.0%	13.6%	0.6122	Medium to High
108	Momence, Sun River Terrace; Aroma Township, Bourbonnais Township, Ganeer Township, Momence Township, Pembroke Township, St. Anne Township	3,444	46.07	1,373	71.3%	16.2%	0.0%	12.1%	0.4%	0.0%	2.4%	9.7%	11.5%	0.8296	High

Figure I-10
2016-2020 Demographic Data by Census Tract
(Sheet 2 of 3)

Census Tract (2010)	Incorporated Municipalities and Townships that Fall Within Census Tract	Population (2016-2020)	Total Area (Sq. Miles) (2010)	Number of Housing Units (2016-2020)	Percent Race								Income	Social Vulnerability Index	
					White (alone)	Black or African American (alone)	Asian (alone)	Hispanic or Latino (of any race)	American Indian & Alaska Native (alone)	Native Hawaiian & Other Pacific Islander (alone)	Some other Race (alone)	Two or more Races	% of People whose Income is below the Poverty Line	Nation-wide Overall SVI Ranking (2010)	Level of Vulnerability
109	Grant Park, Momence; Momence Township, Yellowhead Township	4,430	73.14	1,977	89.9%	0.6%	0.2%	12.6%	0.0%	0.0%	7.0%	2.3%	9.0%	0.6047	Medium to High
110	Hopkins Park; Momence Township, Pembroke Township, St. Anne Township	1,529	55.46	1,090	20.1%	76.8%	0.3%	6.4%	0.0%	0.0%	2.0%	0.8%	24.3%	0.9270	High
111	St. Anne; St. Anne Township	2,004	23.22	948	87.8%	3.2%	0.0%	16.1%	0.4%	0.0%	7.9%	0.6%	7.1%	0.6860	Medium to High
112	Aroma Park; Aroma Township, St. Anne Township	1,962	25.87	849	92.8%	2.0%	0.9%	4.9%	1.3%	0.0%	1.0%	2.0%	7.9%	0.1650	Low
113	Aroma Park; Aroma Township, Ganeer Township, Kankakee Township	2,136	7.69	1,016	87.2%	10.4%	0.0%	5.7%	0.0%	0.0%	0.2%	2.2%	5.9%	0.2191	Low
114	City of Kankakee; Aroma Township, Kankakee Township	1,605	4.42	862	37.5%	37.4%	0.4%	25.0%	1.2%	0.0%	2.3%	21.1%	40.9%	0.9731	High
115	City of Kankakee; Kankakee Township	2,045	0.99	991	29.0%	64.1%	0.1%	18.8%	1.9%	0.0%	1.2%	3.7%	36.7%	0.9892	High
116	City of Kankakee; Bourbonnais Township, Kankakee Township	1,577	0.70	852	19.2%	78.3%	0.0%	13.3%	0.6%	0.0%	2.0%	0.0%	25.1%	0.9053	High
117	City of Kankakee; Bourbonnais Township, Kankakee Township	3,803	0.92	1,566	48.3%	41.9%	0.0%	14.0%	0.0%	0.0%	9.5%	0.3%	35.4%	0.9365	High
118	Bradley, City of Kankakee; Bourbonnais Township	2,519	0.69	1,167	93.7%	2.9%	0.0%	13.2%	0.4%	0.0%	1.6%	1.4%	16.4%	0.2247	Low
119	Bradley; Bourbonnais Township	1,354	0.28	650	92.5%	1.4%	0.7%	15.0%	0.0%	0.0%	4.1%	1.4%	10.9%	0.5621	Medium to High
120	Bourbonnais, Bradley; Bourbonnais Township	5,659	1.30	1,892	81.5%	13.9%	0.6%	8.4%	0.0%	0.0%	0.9%	3.1%	19.6%	0.6749	Medium to High
121	City of Kankakee; Kankakee Township, Limestone Township	3,631	1.70	1,859	77.1%	15.6%	3.4%	5.1%	0.1%	0.0%	1.4%	2.4%	3.5%	0.6682	Medium to High
122	City of Kankakee; Kankakee Township, Limestone Township	3,364	2.29	1,585	75.1%	11.4%	0.0%	18.7%	0.9%	0.0%	11.3%	1.3%	12.6%	0.5418	Medium to High
123	City of Kankakee; Kankakee Township	4,220	0.76	1,766	33.6%	50.5%	0.0%	33.9%	0.0%	0.0%	4.1%	11.7%	36.5%	0.9917	High
124	City of Kankakee; Kankakee Township	4,589	0.93	2,050	52.9%	39.9%	0.0%	25.1%	0.0%	0.0%	5.3%	1.9%	20.0%	0.8979	High

Figure I-10
2016-2020 Demographic Data by Census Tract
(Sheet 3 of 3)

Census Tract (2010)	Incorporated Municipalities and Townships that Fall Within Census Tract	Population (2016-2020)	Total Area (Sq. Miles) (2010)	Number of Housing Units (2016-2020)	Percent Race								Income	Social Vulnerability Index	
					White (alone)	Black or African American (alone)	Asian (alone)	Hispanic or Latino (of any race)	American Indian & Alaska Native (alone)	Native Hawaiian & Other Pacific Islander (alone)	Some other Race (alone)	Two or more Races	% of People whose Income is below the Poverty Line	Nation-wide Overall SVI Ranking (2010)	Level of Vulnerability
125	City of Kankakee; Kankakee Township, Otto Township	2,635	9.18	775	58.6%	38.0%	0.3%	8.0%	0.3%	0.0%	1.3%	1.7%	28.2%	0.7778	High
126	Chebanse, Herscher, Irwin, City of Kankakee, Sammons Point; Kankakee Township, Otto Township, Pilot Township	4,960	96.11	1,875	93.8%	2.6%	0.0%	4.5%	0.0%	0.1%	0.5%	2.9%	7.7%	0.4966	Low to Medium
Kankakee County		109,924	676.490	45,626	78.1%	14.9%	0.8%	10.6%	0.2%	0.003%	2.7%	3.3%	13.0%	0.7816	High

Sources: CDC/ATSDR Social Vulnerability Index.
U.S. Census Bureau, American Community Survey, 5-Year Data Profile.

2.0 PLANNING PROCESS

The Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan (the Plan) was updated through the Kankakee County Regional Planning Commission and the Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Advisory Task Force (Task Force). The Plan was prepared to comply with the Disaster Mitigation Act of 2000 and incorporates the nine recommended tasks for developing or updating a local hazard mitigation plan as outlined in Federal Emergency Management Agency's (FEMA) *Local Mitigation Planning Handbook*. **Figure PP-1** provides a brief description of the process utilized to prepare this Plan.

Figure PP-1
Description of Planning Process

Tasks	Description
Task One: Building the Planning Team	The Task Force was reformed with broad representation and specific expertise to assist the County and the Consultant in updating the Plan.
Task Two: Outreach Strategy	Early and ongoing public involvement activities were conducted throughout the Plan's development to ensure the stakeholders and public was given every opportunity to participate and provide input.
Task Three: Risk Assessment	The Consultant identified and profiled the natural hazards that have impacted the County and conducted vulnerability analyses to evaluate the risk to each participating jurisdiction.
Task Four: Capability Assessment	Participating jurisdictions have a unique set of capabilities and resources available to accomplish hazard mitigation. Capabilities that include planning and regulatory, administrative and technical, financial, and education and outreach were identified and cataloged to determine the existing capabilities of each participant related to hazard and loss reduction/prevention.
Task Five: Mitigation Strategy	After reviewing existing plans and completing the risk assessment, the Consultant assisted the Task Force in updating the goals and objectives for the Plan. The participating jurisdictions were then asked to identify mitigation actions that had been started and/or completed since the previous Plan was adopted. In addition, they were asked to identify any new mitigation actions based on the results of the risk assessment. The new mitigation actions were then analyzed, categorized, and prioritized.
Task Six: Plan Maintenance and Update	The method and schedule for monitoring, evaluating, and updating the Plan was reviewed and discussed with the participating jurisdictions. The Plan update will be monitored and evaluated by a Plan Maintenance Subcommittee on an annual basis and updated again in five years.
Task Seven: Review and Adopt the Plan	The draft Plan update summarized the results of Tasks Two through Seven. The Plan was reviewed by the participants and a public forum was held to give the public an additional opportunity to provide input. Comments received were incorporated into the draft Plan update and submitted to the Illinois Emergency Management Agency (IEMA) and FEMA for review and approval. Comments received from IEMA and FEMA were incorporated into the final Plan update. The final Plan update was then submitted to the County and participating jurisdictions for adoption.

The Plan update and development was led at the staff level by Delbert Skimerhorn Sr., the Kankakee County Director of Planning & GIS. American Environmental Corp. (AEC) an environmental consulting firm, with experience in hazard mitigation, risk assessment and public involvement, was employed to guide the County and participating jurisdictions through the planning process.

Participation in the planning process, especially by the County and local government representatives, was crucial to the development of the Plan update. To ensure that all participating jurisdictions took part in the planning process, participation requirements were established. Each participating jurisdiction agreed to satisfy the following requirements in order to be included in the Plan update. All of the participating jurisdictions met the participation requirements.

- Attend at least one Task Force meeting.
- Complete a capability assessment identifying existing capabilities and resources (i.e., plans, policies, ordinances studies, reports, maps, etc.) available to accomplish hazard mitigation.
- Identify/submit a list of critical infrastructure and facilities.
- Review the risk assessment and provide additional information on events and damages when available.
- Participate in the update of the mitigation goals and project prioritization methodology.
- Provide information on any mitigation actions started and/or completed since the adoption of the original Plan.
- Identify and submit a list of new mitigation actions.
- Review and comment on the draft Plan update.
- Formally adopt the Plan update.
- Where applicable, incorporate the Plan update into existing planning efforts.
- Participate in the Plan update maintenance.

2.1 TASK FORCE

As previously mentioned, at the start of the planning process, the Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Advisory Task Force was formed to update the hazard mitigation plan. The Task Force included representatives from each participating jurisdiction, as well as agriculture, education, emergency services, healthcare, planning, and social services.

Figure PP-2 details the entities represented on the Task Force and the individuals who attended on their behalf. The Task Force was chaired by the Kankakee County Planning Department.

Additional technical expertise was provided by the staff at the Illinois Emergency Management Agency and the Illinois Department of Natural Resources Office of Water Resources.

Figure PP-2
Kankakee County Task Force Member Attendance Record
(Sheet 1 of 2)

Representing	Name	Title	5/26/2022	8/3/2022	11/2/2022	3/1/2023	5/31/2023
American Environmental Corporation	Bostwick-Campbell, Andrea	EMS Manager	X	X	X	X	X
American Environmental Corporation	Runkle, Ken	Environmental Toxicologist / Risk Assessor	X	X	X	X	X
American Environmental Corporation	Smith, Callie	Environmental Analyst			X		
American Red Cross	McDaniel, Brian	Executive Director	X				
Aroma Park Fire Protection District	Sheperd, Luke	Fire Chief	X	X		X	
Aroma Park, Village of	Pasel, Julie	Clerk	X				
Aroma Park, Village of	Slavin, Kathleen	Trustee	X	X	X	X	
Aroma Park, Village of	Stump, Brian	Mayor					X
Ascension Saint Mary Kankakee	Bernard, Kevin	Director of Trauma / Emergency Operations	X	X		X	
Bonfield, Village of	VanVoorst, Rob	Village President	X				
Bourbonnais Fire Protection District	Keener, Jim	Fire Chief	X	X	X	X	
Bourbonnais Township	Posing, Jamie	Office Administrator	X	X	X	X	
Bourbonnais, Village of	Schore, Paul	Mayor		X			
Bourbonnais, Village of	Van Mill, Mike	Administrator		X		X	
Bradley, Village of	Kaderabek, Don	Fire Chief	X	X	X	X	
Chebanse, Village of	Pasel, Julie	Clerk	X				
Grant Park, Village of	Danahey, Sylvia	Village Trustee			X	X	X
Grant Park, Village of	Detloff, Ben	Street Commissioner	X				
Herscher, Village of	Meredith, Heather	Clerk	X				
Hopkins Park, Village of	Hodge, Mark	Mayor		X	X		X
Iroquois-Kankakee Regional Office of Education	Petkunas, Frank	Assistant Regional Supt / Regional Supt	X	X	X	X	
Kankakee Community College	Kenney, Rob	Director of Facilities	X		X	X	
Kankakee County - Board	Kerkstra, Larry	Member	X				
Kankakee County - Board	Miller, Chad	Member	X				
Kankakee County - EMA	Buzas, Angela	Office Manager		X	X	X	
Kankakee County - EMA	Powell, Becky	Director	X	X		X	
Kankakee County - GIS Department	Kowalis, Jack	GIS Technician	X				
Kankakee County - GIS Department	Olson, Geoff	GIS Coordinator	X	X			
Kankakee County - Health Department	Pacton, Kayla	Emergency Response Coordinator	X	X	X	X	
Kankakee County - Highway Department	Heiden, Greg	County Engineer	X	X	X	X	X
Kankakee County - KanComm 911	Peterson, Tammy	Director			X	X	
Kankakee County - Maintenance Department	Andrews, Wes	Maintenance Director	X				
Kankakee County - Planning Department	Fischer, Rob	Transportation Planner	X	X			
Kankakee County - Planning Department	Marion, Steve	Zoning & Building Division Manager	X	X	X	X	
Kankakee County - Planning Department	Sadler, Michelle	Office Manager / Planner II	X	X	X	X	X
Kankakee County - Planning Department	Skimerhorn, Delbert	Director of Planning & GIS	X	X	X	X	X
Kankakee County - Supervisor of Assessments Office	Blair, Erich	Supervisor of Assessments	X				
Kankakee County Farm Bureau	Miller, Chad	Manager	X				
Kankakee County Regional Planning Commission	Bergdahl, David	Member	X	X			X
Kankakee County Regional Planning Commission	Jarvis, Jeff	Member	X	X			
Kankakee County Regional Planning Commission	Maloney, Michael	Member	X	X	X		
Kankakee County Regional Planning Commission	Manuel, Rick	Member	X		X		X
Kankakee County Regional Planning Commission	Maricle, Dondi	Member		X	X		
Kankakee County Regional Planning Commission	Miller, Chad	Chair	X				
Kankakee County Regional Planning Commission	Paarlberg, Bruce	Member	X		X	X	X
Kankakee County Regional Planning Commission	Peterson, Thomas	Member	X	X			
Kankakee County Regional Planning Commission	Smith, Abigail	Member		X			
Kankakee County Regional Planning Commission	Sutrina, Thomas	Member	X		X	X	X
Kankakee County Regional Planning Commission	Washington, Dana	Member	X	X			
Kankakee County Soil & Water Conservation District	Raymond, Matt	Conservation Coordinator		X			
Kankakee County Soil & Water Conservation District	Sauder, Crystal	Resource Conservationist	X				
Kankakee, City of	Heid, Adam	Deputy Fire Chief	X	X	X	X	X

Figure PP-2
Kankakee County Task Force Member Attendance Record
(Sheet 2 of 2)

Representing	Name	Title	5/26/2022	8/3/2022	11/2/2022	3/1/2023	5/31/2023
Manteno Community Fire Protection District	O'Brien, Scott	Fire Chief	X	X	X	X	
Manteno, Village of	Marion, Ryan	Director of Building & Zoning	X	X	X		
Momence Fire Protection District	Spoon, Jim	Fire Chief				X	
Otto Township	Cavanaugh, Gerald (Bill)	Supervisor	X	X	X		
Pembroke Township Fire Protection District	Baines, Mark	Fire Chief			X		
Riverside Medical Center	Kindle, Jay	Emergency Preparedness Coordinator				X	
Riverside Medical Center	Winterroth, Katan	EMA Officer	X	X	X		
Sorensen, Wilder & Associates	Wilder, Steve	CEO		X			
Union Hill, Village of	Van Voorst, Grant	Mayor	X	X			X
Union Hill, Village of	Wakeley, Chris	Special Projects Manager			X	X	X
Veterans Assistance Commission of Kankakee County	Smietanski, Karen	Assistant Superintendent		X			

Mission Statement

Over the course of the first two meetings, the Task Force developed a mission statement that described their objectives for the Plan update.

The mission of the Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Advisory Task Force is to prepare a mitigation plan that:

1) documents the risks associated with the natural hazards that impact the County and

2) identifies projects and activities that mitigate risk to residents, structures, facilities, and systems that provide support to the County, its residents and economy as well as community lifelines that enable the continuous operation of critical government and business functions.

Task Force Meetings

The Task Force met five times between May 2022 and May 2023. **Figure PP-2** identifies the representatives by jurisdiction present at each meeting. **Appendices A** and **B** contain copies of the attendance sheets and meeting minutes for each meeting. The purpose of each meeting, including the topics discussed, is provided below.

First Task Force Meeting – May 26, 2022

The purpose of this meeting was to explain the planning process to the Task Force members and give them a brief overview of the planning process including what mitigation is, what a hazards mitigation plan is and why the Plan needs to be updated. A discussion regarding the hazards to be included in the Plan update was conducted and an electronic survey was sent out following the meeting asking Task Force members whether dam failures and mine subsidence should be included in the Plan update. Based on the responses received, the Task Force chose to include dam failures. The Task Force did not feel mine subsidence posed a significant impact on the County and therefore decided not to include it in the update.

Information needed from each participant was discussed and representatives for the County and the participating jurisdictions were asked to complete the forms entitled “Capability Assessment Worksheet,” “Critical Facilities & Infrastructure,” “Identification of Severe Weather Shelters” and “Drinking Water Supply Worksheet” and return them at the next meeting.

Task Force members were then asked to identify any recent or historic natural hazard events that have impacted the County and participants. A "Hazard Events Questionnaire" was distributed to solicit information on hazard events. Community participation was also discussed. The County and participating jurisdictions were asked to make information available on the planning process at their offices and in the communities. A "Citizen Questionnaire," was also distributed electronically to Task Force members prior to the meeting for distribution to their constituents to gauge the public's perception about the hazards that impact the County. Finally, drafts of a mission statement and updated mitigation goals were presented for review.

Due to the continuation of the COVID-19 pandemic the first meeting of Task Force was conducted as a hybrid meeting, allowing both in-person and virtual/teleconference participation.

Second Task Force Meeting – August 3, 2022

At the second Task Force meeting portions of the updated natural hazard risk assessment section were presented for review. Following the review of the risk assessment, the Task Force members participated in an exercise to calculate the Risk Priority Index (RPI) for the County and participating jurisdictions. The RPI can assist participants in determining which hazards present the highest risks and therefore which ones to focus on when formulating mitigation projects and activities. The Task Force then discussed the draft mission statement and updated mitigation goals. The mission statement was reviewed and finalized with the addition of the word "residents" to Item 2 between "mitigate risk to" and "structures". The mitigation goals were then reviewed, discussed, and finalized with no changes.

Next, mitigation actions were defined, and examples were discussed. As part of the Plan update, individual mitigation action lists will be created for each participating jurisdiction. Task Force members were asked to identify any mitigation projects and activities their jurisdictions had started and/or completed since the previous Plan was completed in 2013. Ideas for new potential mitigation projects and activities were presented. Representatives for the County and the participating jurisdictions were asked to complete the forms entitled "Existing Mitigation Project/Activity Status" and "New Hazard Mitigation Projects" and return them at the next meeting.

Due to the continuation of the COVID-19 pandemic the second meeting of Task Force was conducted as a hybrid meeting, allowing both in-person and virtual/teleconference participation.

Third Task Force Meeting – November 2, 2022

The purpose of the third Task Force meeting was to discuss the vulnerability analysis for select natural hazards and the preliminary results of the RPI exercise. The Task Force members then discussed vulnerable community assets and completed the form entitled "Critical Facilities Vulnerability Survey" which will be used in the vulnerability analyses.

The concept of community lifelines was also discussed. Community lifelines enable the continuous operation of critical government and business functions essential to human health and safety or economic security. While the concept was developed to support emergency response and planning, FEMA has begun applying it to all phases of emergency management, including

mitigation. Community lifelines will be included in most project descriptions to create a clear connection to the concept.

Next, an explanation of what a mitigation action prioritization methodology is and how it fits into the Mitigation Strategy was provided. The Task Force reviewed the updated mitigation project prioritization methodology and approved it with no changes. Finally, a discussion on how the mitigation projects and activities identified by the participating jurisdictions will be presented in the Plan update was provided. Participants were encouraged to provide their mitigation project lists prior to the 4th meeting when draft lists will be distributed for review.

The third meeting of Task Force was conducted as a hybrid meeting, allowing both in-person and virtual/teleconference participation.

Fourth Task Force Meeting – March 1, 2023

At the fourth Task Force meeting, members reviewed the draft jurisdiction-specific mitigation action tables which identified and prioritized the new and existing mitigation projects and activities provided by the participants. Members were given the opportunity to add additional projects and activities to their tables.

The public forum and adoption process were then discussed, and a date for the public forum was set. Finally, the plan maintenance and update requirements were discussed. The Plan update will be monitored and evaluated on an annual basis by a Plan Maintenance Subcommittee which will be made up of the Regional Planning Commission, participating jurisdictions, and key members of the Task Force. The Plan must be reviewed, revised, and resubmitted to IEMA and FEMA at least once every five years.

The fourth meeting of Task Force was conducted as a hybrid meeting, allowing both in-person and virtual/teleconference participation.

Fifth Task Force Meeting – May 31, 2023

At this Task Force meeting the public was provided an opportunity to ask questions and provide comments on the draft Plan update.

2.2 OUTREACH STRATEGY

To engage the public in the planning process, a comprehensive outreach strategy was developed. The strategy was structured to engage the public, including underserved communities and vulnerable populations, in a two-way dialogue, encouraging the exchange of information throughout the planning process. A mix of public involvement techniques and practices were utilized to:

- disseminate information;
- identify additional useful information about natural hazard occurrences and impacts;
- assure that interested residents would be involved throughout the Plan update's development; and
- cultivate ownership of the Plan update, thus increasing the likelihood of adoption by the participating jurisdictions.

The dialogue with the public followed proven risk communication principles to help assure clarity and avoid overstating or understating the impacts posed by the natural hazards identified in the Plan update. The following public involvement techniques and practices were applied to give the public an opportunity to access information and participate in the dialogue at their level of interest and availability.

Citizen Questionnaire

A citizen questionnaire was developed to gather facts and gauge public perceptions about natural hazards that affect Kankakee County. The questionnaire was distributed electronically to the Task Force members who were encouraged to make it available to their residents and the general public. A copy of the questionnaire is contained in **Appendix C**.

A total of 50 questionnaires were completed and returned to the Task Force. Questionnaires were completed by residents in each participating jurisdiction with the exception of Hopkins Park. These responses provide useful information to decision makers as they determine how best to disseminate information on natural hazards and safeguard the public. Additionally, these responses identify the types of projects and activities the public is most likely to support. The following provides a summary of the results.

- Respondents felt that severe summer storms were the most frequently encountered natural hazard in Kankakee County followed by severe winter storms and excessive heat. However, compiled weather records indicate that flood events, in fact, occur more frequently than severe winter storms or excessive heat.
- The most effective means of communication identified by respondents to disseminate information about natural hazards were social media and the Internet, followed by the mailings and radio. Fact sheets/brochures disseminated via fire departments/law enforcement, as well as materials from municipal/county offices also received some support among respondents.
- In terms of the most needed mitigation projects and activities, the following categories received the strongest support:
  - maintain power during storms by burying power lines, trimming trees and/or purchasing backup generators (80%);
  - maintain roadway passages during snowstorms and heavy rains (52%);
  - install/maintain sirens and other alert systems (50%);
  - flood or drainage protection (46%); and
  - retrofit critical infrastructure (46%).

FAQ Fact Sheet

A "Frequently Asked Questions" fact sheet was disseminated to help explain what a natural hazards mitigation plan is and briefly describe the planning process. The fact sheet was made available to the Regional Planning Commission, Task Force members, and each participating jurisdiction to provide to their constituents. A copy of the fact sheet is contained in **Appendix D**.

News Releases & Social Media Posts

News releases were prepared and submitted to local media outlets and posted to the Kankakee County Facebook page prior to each Task Force meeting. The releases announced the purpose of the meetings and how the public could become involved in the Plan update's development. **Appendix E** contains a list of the media outlets that received the news releases while copies of the releases, Facebook posts, and any news articles published can be found in **Appendix F**.

Task Force Meetings

All of the meetings conducted by the Task Force were open to the public and publicized in advance to encourage public participation. At the end of each meeting, time was set aside for public comment. In addition, Task Force members were available throughout the planning process to talk with residents and local government officials and were responsible for relaying any concerns and questions voiced by the public to the Task Force. Interested individuals from the public who attended the Planning Committee meetings were provided handout materials and encouraged though not required to provide their names and/or sign the attendance sheets. Copies of the attendance sheets are included in **Appendix A**.

Public Forum

The final meeting of the Task Force, held on May 31, 2023 was conducted as an open-house public forum. The open-house format was chosen for this forum instead of a hearing to provide greater flexibility for residents who wished to participate. Residents were able to come and go at any time during the forum, reducing conflicts with business, family, and social obligations.

In conjunction with the public forum, the draft Plan update was made available for review and comment on the Kankakee County website. A two-page handout summarizing the planning process and a link to a comment survey that could be used to provide feedback on the draft Plan update were also posted on the website.

At the forum, residents could review a draft of the Plan update; meet with representatives from the County, the participating jurisdictions, and the Consultant; ask any questions; and provide verbal and/or written comments on the draft Plan update. Individuals attending the public forum were provided with a two-page handout summarizing the planning process and a comment sheet that could be used to provide feedback on the draft Plan update. **Appendices G** and **H** contain copies of these materials.

Public Comment Period

After the public forum, the draft Plan update was made available for public review and comment through June 14, 2023 at the Kankakee County Planning Department's Office and on the County's website. A two-page handout summarizing the planning process and a link to a comment survey that could be used to provide feedback on the draft Plan update were also posted on the website. **Appendix H** contains a copy of the online comment survey. Residents were encouraged to submit their comments electronically, by mail or through representatives of the Task Force.

Results of Outreach Strategy

The public involvement strategy implemented during the planning process created a dialogue among participants and interested residents, which resulted in many benefits, a few of which are highlighted below.

- *Acquired additional information about natural hazards*. Verifiable hazard event and damage information was obtained from participants that presents a clearer assessment of the extent and magnitude of natural hazards that have impacted the County. This information included details about thunderstorms with damaging winds, lightning strikes, extreme cold, and wildfires not available from state and federal databases.
- *Obtained critical facilities damage information*. Data collection surveys soliciting information about critical facilities damaged by natural hazards were used to supplement information obtained from government databases. This information was vital to the preparation of the vulnerability analysis.
- *Increased awareness of the impacts associated with natural hazard events within the County*. Understanding how mitigation actions can reduce risk to life and property helped generate ***over 100 new mitigation projects and activities*** at the local level that had not been previously identified in any other planning process.

2.3 PARTICIPATION OPPORTUNITIES FOR INTERESTED PARTIES

Businesses, schools, not-for-profit organizations, neighboring counties, and other interested parties were provided multiple opportunities to participate in the planning process. Wide-reaching applications were combined with direct, person-to-person contacts to identify anyone who might have an interest or possess information which could be helpful in updating the Plan.

Agricultural Community

Representatives from the agricultural community were invited to serve on the Planning Committee through the Kankakee County Farm Bureau and Kankakee County Soil & Water Conservation District. Both served as technical partners on the Planning Committee, receiving all electronic communications including surveys, meeting announcements, and meeting handouts to provide their members and providing input into the planning process.

Education

The Iroquois-Kankakee Regional Office of Education served as a technical partner on the Task Force representing the school districts in the area and provided input into the planning process and coordinating with the districts. While invited to participate directly, none of the school districts chose to be included as participating jurisdictions in the Plan update. Kankakee Community College also served on Task Force and provided input into the planning process. The College chose to be included as participating jurisdiction in the Plan update.

Healthcare

Input was sought from the healthcare community. Representatives from the Kankakee County Health Department, Ascension St. Mary Kankakee, and Riverside Medical Center attended the Task Force meetings, providing input into the planning process. Both Ascension Saint Mary Kankakee and Riverside Medical Center chose to be included as participating jurisdictions in the Plan update.

Regional Planning
The Kankakee County Regional Planning Commission assisted in the Plan update and served on the Task Force, providing input into the planning process.

Social Service Agencies
American Red Cross and the Veterans Assistance Commission of Kankakee County served as technical partners on the Task Force and provided input into the planning process.

Other Government Entities
The fire departments/fire protection districts and townships in Kankakee County as well as River Valley Metro Mass Transit District and Illinois Department of Transportation were contacted and invited to participate in the Plan update. Representatives from the Aroma Park Fire Protection District (FPD), Bourbonnais FPD, Bourbonnais Township, Manteno Community FPD, Momence FPD, Otto Township, and Pembroke Township FPD served on the Task Force and provided input into the planning process. The Bourbonnais FPD, Bourbonnais Township, Manteno Community FPD, and Momence FPD chose to be included as participating jurisdictions in the Plan update.

Neighboring Counties
A memo was sent to EMA/ESDA coordinators in the neighboring counties inviting them to participate in the mitigation planning process. The counties contacted included Ford, Grundy, Iroquois, Livingston and Will in Illinois and Lake and Newton in Indiana. **Appendix I** contains a copy of the invitation memo.

2.4 IDENTIFICATION OF EXISTING CAPABILITIES

Each participating jurisdiction has a unique set of capabilities and resources available to accomplish hazard mitigation and reduce long-term vulnerabilities to hazard events. In order to identify these existing capabilities and resources, a Capability Assessment was conducted. The Capability Assessment helps determine the ability of the participating jurisdictions to implement the Mitigation Strategy and to identify potential opportunities for establishing or enhancing specific mitigation policies, program, or projects. It is important to try and establish which goals and actions are feasible based on an understanding of the organizational capacity of those entities tasked with their implementation. This assessment is designed to provide a general overview of the key capabilities in place for each participating jurisdiction along with their potential effect of loss reduction.

In order to catalog the existing capabilities of each participant, Capability Assessment Worksheets were distributed to each of the participating jurisdictions at the first Task Force meeting on May 26, 2022. The worksheets requested information on four primary types of capabilities: planning and regulatory; administrative and technical; financial; and education and outreach. The following provides a brief description of each capability type.

Planning & Regulatory Capabilities: Planning and regulatory capabilities are based on the implementation of existing plans, policies, codes, ordinances, resolutions, local laws, and programs that prevent or reduce the impacts of hazards and guide and manage growth and development.

Administrative & Technical Capabilities: Administrative and technical capabilities are based on the available staff and personnel resources as well as their related skills and tools that can be used to develop and implement mitigation actions, policies, and programs.

Financial Capabilities: Financial capabilities include those resources a jurisdiction has access to or is eligible to use to implement mitigation actions, polices, and programs.

Education & Outreach Capabilities: Education and outreach capabilities include programs and methods already in place that could be used to support implementation of mitigation actions and communicate hazard-related information.

Figures PP-3 through **PP-14** summarize the results of the Capability Assessment by participating jurisdiction type (i.e., county/municipalities, schools, fire protection districts, townships, healthcare facilities, etc.) A capability level of "Limited", "Moderate" or "High" was assigned by capability type to each participating jurisdiction based on the number of available capabilities and resources as well as the jurisdiction's size/area served. **Figure PP-15** summarizes the individual capability levels by capability type and provides an overall capability ranking for each participant.

This assessment provides a consolidated inventory of existing plans, ordinances, programs, and resources in place. Whenever applicable, these existing capabilities were reviewed and incorporated into the Plan.

Highlights from the Capability Assessment include:

- The County and all of the municipalities, with the exception of Union Hill, have building codes in place.
- he County and all of the municipalities, with the exception of Bradley and Union Hill, have and a zoning ordinance in place.
- Only the County, Bourbonnais, Bradley, and the City of Kankakee have comprehensive/master plans in place.
- Only the County has a continuity of operations plan in place.

The County, Bourbonnais, Bradley, Grant Park, City of Kankakee, Manteno, Kankakee Community College, Bourbonnais FPD, Manteno Community FPD, Momence FPD, Ascension Saint Mary Kankakee, and Riverside Medical Center are fortunate to have the resources and abilities to potentially expand on and improve the existing policies and programs identified. Bourbonnais Township, Aroma Park, Hopkins Park, and Union Hill have more limited resources and abilities to expand on and improve the existing policies and programs identified. The lack of legal authority and policies/programs currently in place, may hamper these participants' abilities to expand and strengthen existing policies and programs. Their fiscal and staffing situations are also limited.

Overcoming these limitations will require time and a range of actions including, but not limited to improved general awareness of natural hazards and the potential benefits that may come from the development of new standards in terms of hazard loss prevention and the identification of

resources available to expand and improve existing policies and programs should the opportunity arise.

Based on conversations with Task Force members, none of the jurisdictions that participated in the 2013 Plan update have incorporated it into other planning mechanisms within their jurisdictions.

2.5 REVIEW & INCORPORATION OF EXISTING PLANS

The existing plans, studies, reports, technical information, and maps that were reviewed and incorporated into the Plan update, where appropriate, can be found in Section 7.0 References and are cited in each appropriate section.

A review of local plans revealed that while the County, Bradley, Bourbonnais, and the City of Kankakee have comprehensive/land us plans, they have not been updated since the 2013 Plan update was completed with the exception of Bourbonnais. Bourbonnais completed an update of its comprehensive plan in 2020, which revised the future land use map and updated the Village's land use policies and land use designations where conditions or opportunities have changed but did not incorporate any portion of the 2013 Plan update into the revisions. None of the other participating municipalities have developed comprehensive/land use plans.

Figure PP-3
County / Municipalities – Planning & Regulatory Capabilities

Capability Type	County/Municipality								
	Kankakee County	Aroma Park	Bourbonnais	Bradley	Grant Park	Hopkins Park	Kankakee	Manteno	Union Hill
Plans, Policies, Codes & Ordinances									
Comprehensive/Master Land Use Plan	X		X	X			X		
Continuity of Operations Plan	X								
Stormwater Management Plan	X			X			X		
Transportation Plan	X		X	X			X		
Economic Development Plan	X		X	X			X		
Emergency Operations Plan	X						X		
Disaster Recovery Plan	X						X		
Threat & Hazard Identification Risk Assessment (THIRA) - County Only	X								
Infrastructure Maps			X	X	X	X		X	
Building Codes	X	X	X	X	X	X	X	X	
Floodplain Ordinance	X	X	X	X			X	X	
Stormwater Ordinance	X		X		X		X		
Zoning Ordinance	X	X	X		X	X	X	X	
Subdivision Ordinance	X		X		X	X	X	X	
Historic Preservation Ordinance	X						X		
Private Sewage Disposal System Ordinance - County Only	X								
Manufactured/Mobile Home Tie Down Ordinance					X		X	X	
Steep Slope Ordinance					X				
Mined Areas/Developed Over Mined Areas Ordinance									
National Incident Management System (NIMS) Adoption	X		X				X		
National Flood Insurance Program (NFIP) Participation	X	X	X	X			X	X	
Community Rating System (CRS) Participation									
Level of Capability	**H**	**L**	**M**	**M**	**L**	**L**	**H**	**L**	**L**

An "X" indicates that the item is currently in place and being implemented.
Level of Capacity: "L" = Limited; "M" = Moderate; "H" = High

Figure PP-4
County / Municipalities – Administrative & Technical Capabilities

Capability Type	County/Municipality								
	Kankakee County	Aroma Park	Bourbonnais	Bradley	Grant Park	Hopkins Park	Kankakee	Manteno	Union Hill
Adminstrative & Technical									
Zoning Board	X	X	X		X	X	X	X	
Public Utility Board									
Planning Commission	X		X	X	X		X	X	
Mutual Aid Agreements	X	X	X	X	X	X	X	X	
Administrator/Manager	X		X	X			X	X	X
Building Inspector/Officer	X	X	X	X	X	X	X	X	X
Community/Economic Development Planner	X		X	X			X		
Emergency Manager	X							X	
Engineer/Construction Project Manager	X		X		X		X	X	
GIS Coordinator	X		X						
Grant Administrator/Writer	X							X	
Fire Chief - Municipalities Only				X	X		X	X	
Floodplain Administrator	X	X	X						
Police Chief - Municipalities Only			X	X	X		X	X	
Public Works/Streets Director - Municipalities Only		X	X	X	X		X	X	X
Water Superintendent - Municipalities Only		X							
Zoning Officer/Administrator	X		X		X		X	X	X
Solid Waste Director - County Only									
Level of Capability	**H**	**L**	**M**	**M**	**M**	**L**	**M**	**M**	**L**

An "X" indicates the presence of staff with specified knowledge or skills.
Level of Capacity: "L" = Limited; "M" = Moderate; "H" = High

Figure PP-5
County / Municipalities – Financial / Education & Outreach Capabilities

Capability Type	County/Municipality								
	Kankakee County	Aroma Park	Bourbonnais	Bradley	Grant Park	Hopkins Park	Kankakee	Manteno	Union Hill
Financial									
Roadway/Bridge Improvement Plan - County Only	X								
Capital Improvements Program			X	X			X		
Tax Levies for Special Purposes	X	X	X	X	X		X		
Motor Fuel Tax	X	X	X	X	X	X	X	X	X
General Obligation Bonds and/or Special Tax Bonds	X		X	X			X		
Utility Fees (Stormwater, Sewer, Water, Gas, or Electric Service)				X	X	X	X		
Impact Fees - New Development			X		X		X	X	
Federal Funding Programs (Non-FEMA)	X	X		X			X		
Level of Capability	**M**	**L**	**M**	**M**	**M**	**L**	**H**	**L**	**L**
Education & Outreach									
StormReady Certification									
Natural Disaster/Safety-Related School Programs								X	
Ongoing Public Education or Information Programs (Fire Safety, Household Preparedness, Responsible Water Use)				X				X	
Seasonal Outreach				X			X		
Local Citizen Groups/Non-Profit Organizations (Emergency Preparedness, Access & Functional Needs Populations)							X	X	
Public-Private Partnership Initiatives Addressing Disaster-Related Issues							X	X	
Level of Capability	**L**	**L**	**L**	**L**	**L**	**L**	**M**	**M**	**L**

An "X" indicates a given resource is locally available for mitigation purposes.
Level of Capacity: "L" = Limited; "M" = Moderate; "H" = High

Figure PP-6
Townships – Planning & Regulatory / Administrative & Technical Capabilities

Capability Type	Township
	Bourbonnais Township
Plans, Policies, Codes & Ordinances	
Comprehensive/Master Land Use Plan	
Stormwater Management Plan	X
Open Space/Recreational Area Plan	
Building Codes	
Stormwater Ordinance	
Zoning Ordinance	
Subdivision Ordinance	
Private Sewage Disposal System Ordinance	
Manufactured/Mobile Home Tie Down Ordinance	
Steep Slope Ordinance	
Mined Areas/Developed Over Mined Areas Ordinance	
Road Weight Restriction Ordinance	
Nuisance Weed, Grass & Tree Ordinance	
National Incident Management System (NIMS) Adoption	
Level of Capability	**L**
Adminstrative & Technical	
Zoning Board	
Public Utility Board	
Planning Commission	
Mutual Aid Agreements	
Assessor	X
Clerk	X
Collector	
Highway/Road District Commissioner	X
Supervisor	X
Level of Capability	**M**

An "X" indicates that the item is currently in place and being implemented or the presence of staff with specified knowledge or skills.

Level of Capacity: "L" = Limited; "M" = Moderate; "H" = High

Figure PP-7
Townships – Financial / Education & Outreach Capabilities

Capability Type	Township
	Bourbonnais Township
Financial	
Capital Improvements Program	X
Roadway/Bridge Improvement Plan	X
Tax Levies for Special Purposes	X
Motor Fuel Tax	X
General Obligation Bonds and/or Special Tax Bonds	
Utility Fees (Stormwater, Sewer, Water, Gas or Electric Service)	
Impact Fees - New Development	
Federal Funding Programs (Non-FEMA)	
Level of Capability	**M**
Education & Outreach	
StormReady Certification	
Natural Disaster/Safety-Related School Programs	
Ongoing Public Education or Information Programs (Fire Safety, Household Preparedness, Responsible Water Use)	
Seasonal Outreach	
Local Citizen Groups/Non-Profit Organizations (Emergency Preparedness, Access & Functional Needs Populations)	
Public-Private Partnership Initiatives Addressing Disaster-Related Issues	
Level of Capability	**L**

An "X" indicates a given resource is locally available for mitigation purposes.
Level of Capacity: "L" = Limited; "M" = Moderate; "H" = High

Figure PP-8
Colleges – Planning & Regulatory / Administrative & Technical Capabilities

Capability Type	College
	Kankakee Community College
Plans & Policies	
Strategic/Tactical Plan	X
Campus Facilities Master Plan	X
Housing Master Plan	NA
Historic Preservation Plan	
Emergency/Crisis Response Plan	X
Continuity of Operations Plan	X
National Incident Management System (NIMS) Adoption	X
Level of Capability	**H**
Adminstrative & Technical	
Governing Board	X
Mutual Aid Agreements	X
President/Chancellor	
Provost/Dean	
Chief Financial Officer/Finance Director	X
Emergency Management Coordinator	
Facilities Manager	
Food Services Supervisor	
Grant Writer	X
Student Health Supervisor	X
IT Director/Specialist	X
Maintenance Manager	X
Communications Director	X
Operations Manager	X
Safety & Security Director	X
Transportation Director	X
Level of Capability	**H**

An "X" indicates that the item is currently in place and being implemented or the presence of staff with specified knowledge or skills.
Level of Capacity: "L" = Limited; "M" = Moderate; "H" = High

Figure PP-9
Colleges – Financial / Education & Outreach Capabilities

Capability Type	College
	Kankakee Community College
Financial	
Capital Improvements Program	X
State Appropriations	
Tax Levies for Special Purposes	X
General Obligation Bonds and/or Special Tax Bonds	X
Endowments/Bequests	
Federal Funding Programs (Non-FEMA)	X
Non-Operating Grants and Contracts	
Level of Capability	**M**
Education & Outreach	
StormReady Certification	X
Natural Disaster/Safety-Related Campus Programs	
Ongoing Campus Education or Information Programs (Fire Safety, Household Preparedness, Responsible Water Use, Environmental Education, etc.)	X
Seasonal Outreach	X
Public-Private Partnership Initiatives Addressing Disaster-Related Issues	
Level of Capability	**M**

An "X" indicates a given resource is locally available for mitigation purposes.
Level of Capacity: "L" = Limited; "M" = Moderate; "H" = High

Figure PP-10
Fire Protection Districts – Planning & Regulatory Capabilities

Capability Type	Fire Protection District		
	Bourbonnais FPD	Manteno Community FPD	Momence FPD
Plans, Policies, Codes, Ordinances, Resolutions, & Technical Documents			
Standard Operating Procedures/Guidelines for Structural Fire Fighting (NFPA 1700)		X	X
Standard Operating Procedures for Operations at Technical Search & Rescue Incidents (NFPA 1670)		X	X
Pre-Incident Planning (NFPA 1620)	X	X	X
Fire Prevention Codes	X	X	X
Burn Ordinance	X	X	X
National Incident Management System (NIMS) Adoption		X	X
Incident Command System (ICS) Adoption		X	X
Building Inspections	X	X	X
Tier II Reports	X	X	X
County Emergency Operations Plan		X	
Safety Data Sheets	X	X	X
Pipeline Maps	X	X	X
Hazardous Materials Facilities Maps	X	X	
Water Supply Systems Maps		X	X
Impassable Roads & Bridges Maps		X	
Evacuation Zones Maps		X	X
Community & Special Residential Areas Maps (i.e., manufactured home parks, subdivisions, recreational communities)	X	X	
Level of Capability	**M**	**H**	**H**

An "X" indicates that the item is currently in place and being implemented.
Level of Capacity: "L" = Limited; "M" = Moderate; "H" = High

Figure PP-11
Fire Protection Districts –
Administrative & Technical Capabilities

Capability Type	Fire Protection District		
	Bourbonnais FPD	Manteno Community FPD	Momence FPD
Adminstrative & Technical			
Board of Trustees	X	X	X
Board of Fire Commissioners	X	X	
Mutual Aid Box Alarm System (MABAS)	X	X	X
Mutual Aid Agreements	X	X	X
Hazardous Materials Response Team	X	X	X
Water Rescue/Dive Team			
Technical Rescue Team	X	X	X
Fire Chief	X	X	X
Deputy Fire Chief			
Administrative Assistant	X	X	
Financial/Business Manager			
Inspector	X	X	X
Public Education Director/Officer	X	X	X
Telecom Director			
Training Coordinator	X	X	X
Level of Capability	**H**	**H**	**M**

An "X" indicates the presence of staff with specified knowledge or skills.
Level of Capacity: "L" = Limited; "M" = Moderate; "H" = High

Figure PP-12
Fire Protection Districts –
Financial / Education & Outreach Capabilities

Capability Type	Fire Protection District		
	Bourbonnais FPD	Manteno Community FPD	Momence FPD
Financial			
Capital Improvements Program	X	X	
Tax Levies for Special Purposes		X	X
General Obligation Bonds and/or Special Tax Bonds		X	
Federal Funding Programs (Non-FEMA)			
Level of Capability	**L**	**M**	**L**
Education & Outreach			
Natural Disaster/Safety-Related School Programs	X	X	
Ongoing Public Education or Information Programs (Fire Safety, Household Preparedness, Responsible Water Use)	X	X	X
Seasonal Outreach	X	X	
Public-Private Partnership Initiatives Addressing Disaster-Related Issues	X	X	
Level of Capability	**H**	**H**	**L**

An "X" indicates a given resource is locally available for mitigation purposes.
Level of Capacity: "L" = Limited; "M" = Moderate; "H" = High

Figure PP-13
Healthcare Facilities – Planning & Regulatory / Administrative & Technical Capabilities

Capability Type	Healthcare	
	Ascension St. Mary Kankakee	Riverside Medical Center
Plans, Policies, Codes, Ordinances & Resolutions		
Continuity of Operations Plan	X	X
Strategic Plan	X	X
Facilities Plan	X	
Emergency Preparedness Plan	X	X
Medical Disaster Preparedness & Response Plan	X	X
Community Health Needs Assessment (CHNA)	X	X
Severe Weather Plan	X	X
National Incident Management System (NIMS) Adoption	X	X
Level of Capability	**H**	**H**
Administrative & Technical		
Board of Directors	X	X
Patient Advisory Board	X	X
Mutual Aid Agreements	X	X
Chief Executive Officer	X	X
Chief Medical Officer	X	X
Chief Financial Officer	X	X
Chief Development Officer	X	X
Chief Nursing Officer	X	X
Communications Director	X	X
EMS Director	X	X
ER Director	X	X
Grant Writer	X	X
IT Director/GIS Specialist	X	X
Maintenance Manager	X	X
Rehab & Long-Term Care Director	X	X
Safety Officer	X	X
Level of Capability	**H**	**H**

An "X" indicates that the item is currently in place and being implemented or the presence of staff with specified knowledge or skills.

Level of Capacity: "L" = Limited; "M" = Moderate; "H" = High

Figure PP-14
Healthcare Facilities – Financial / Education & Outreach Capabilities

Capability Type	Healthcare	
	Ascension St. Mary Kankakee	Riverside Medical Center
Financial		
Capital Improvements Program	X	X
Tax Levies for Special Purposes		
General Obligation Bonds and/or Special Tax Bonds		
Federal Funding Programs (Non-FEMA)		X
Level of Capability	**L**	**M**
Education & Outreach		
StormReady Certification		
Natural Disaster/Safety-Related School Programs	X	X
Ongoing Public Education or Information Programs (Fire Safety, Household Preparedness, Responsible Water Use)	X	X
Seasonal Outreach	X	
Local Citizen Groups/Non-Profit Organizations (Emergency Preparedness, Access & Functional Needs Populations)	X	
Public-Private Partnership Initiatives Addressing Disaster-Related Issues	X	
Level of Capability	**H**	**L**

An "X" indicates a given resource is locally available for mitigation purposes.
Level of Capacity: "L" = Limited; "M" = Moderate; "H" = High

Figure PP-15
Capability Rankings by Participating Jurisdiction

Capability Type	County/Municipality									Township	College	Fire Protection District			Healthcare	
	Kankakee County	Aroma Park	Bourbonnais	Bradley	Grant Park	Hopkins Park	Kankakee	Manteno	Union Hill	Bourbonnais Township	Kankakee Community College	Bourbonnais FPD	Manteno Community FPD	Momence FPD	Ascension St. Mary Kankakee	Riverside Medical Center
Planning & Regulatory	H	L	M	M	L	L	H	L	L	L	H	M	H	H	H	H
Administrative & Technical	H	L	M	M	M	L	M	M	L	M	H	H	H	M	H	H
Financial	M	L	M	M	M	L	H	L	L	M	M	L	M	L	L	M
Education & Outreach	L	L	L	L	L	L	M	M	L	L	M	H	H	L	H	L
Overall Capability	**H/M**	**L**	**M**	**M**	**L/M**	**L**	**M/H**	**L/M**	**L**	**L/M**	**H/M**	**M/H**	**H/M**	**M**	**H/M**	**H/M**

Level of Capacity: "L" = Limited; "M" = Moderate; "H" High

3.0 RISK ASSESSMENT

Risk assessment is the process of evaluating the vulnerability of assets in order to estimate the potential loss of life, personal injury, economic loss, and property damage resulting from natural and man-made hazards. Assets are determined by each participant and can include people; structures (i.e., critical facilities, lifelines, and infrastructure); systems (i.e., networks such as electrical and communications, etc.); and natural, historic, and cultural resources). This section summarizes the results of the risk assessment conducted on the natural and man-made hazards in Kankakee County. The information contained in this section was gathered by evaluating local, state, and federal records from the last 20 to 70 years.

This risk assessment identifies the natural and man-made hazards deemed most important to the Planning Committee and includes a profile of each hazard that identifies past occurrences, the severity or extent of the events, and the likelihood of future occurrences. It also provides a vulnerability analysis that identifies the impacts to public health and property, evaluates the assets of the participating jurisdictions and estimates the potential impacts each natural hazard would have on the evaluated assets. Where applicable, the differences in vulnerability between participating jurisdictions are described.

The subsequent sections provide detailed information on each of the selected natural hazards. The sections are color coded and ordered by the frequency with which the natural hazard has previously occurred within the County. Each natural hazard section contains three subsections: hazard identification, hazard profile, and hazard vulnerability.

Hazard Selection
One of the responsibilities of the Task Force was to review the natural hazards detailed in the previous Plan and decide if additional hazards should be included in the Plan update. Over the course of the first two meetings, the Task Force members discussed their experiences with natural hazard events and reviewed information on various hazards. After discussing the information provided, the Task Force chose to add dam failures to this Plan update.

The following identifies the hazards included in the Plan update:

- severe storms (thunderstorms, hail, lightning & heavy rain)
- floods (riverine & flash)
- severe winter storms (snow & ice)
- excessive heat
- extreme cold
- tornadoes
- drought
- wildfires
- dam failures
- earthquakes

The Task Force chose not to include the following hazards in the Plan: landslides, land/mine subsidence, and levee failures. A review of the USGS Landslide Inventory, NASA's Global Landslide Catalog, and the Illinois State Geological Survey's (ISGS) Landslide Inventory of Illinois did not identify any landslide events within the County. Discussions with the Task Force did not reveal any recent occurrences of landslides.

In Illinois land subsidence general occurs in areas where mining has been conducted. According to ISGS's ILMINES mapper, there are only nine small underground mines located southwest of Essex in unincorporated Kankakee County. Karst refers to landforms underlain by limestone that has been dissolved, producing characteristic landscapes such as sinkholes. Mapping prepared by the ISGS shows no karst geologic characteristics present in Kankakee County. Information obtained from the U.S. Army Corps of Engineers' National Levee Database indicates there are no public or private levees located in Kankakee County.

Based on the information provided, the Task Force did not consider these hazards warranted inclusion in the Plan update.

Risk Priority Index

After reviewing the preliminary results of the risk assessment at the second meeting, Task Force members and the participating jurisdictions were asked to complete a Risk Priority Index (RPI) exercise for the hazards that have the potential to impact the County and participating jurisdictions. The RPI provides quantitative guidance for ranking the hazards and offers participants with another tool to determine which hazards present the highest risk and therefore which ones to focus on when formulating mitigation actions.

Each hazard was scored on three categories: 1) frequency, 2) impacts on life and health, and 3) impacts on property and infrastructure. A scoring system was developed that assigned specific factors to point values ranging from 1 to 4 for each category. For those hazards that were not applicable to a particular jurisdiction, a value of "NA" was assigned to each category. The higher the point value, the greater the risk associated with that hazard. **Figure R-1**, located at the end of this section, identifies the factors and values/point values associated with each category. Participants were asked to score the selected hazards based on the perspective of the entity they represented on the Task Force.

The Consultant took the point values assigned to each category and averaged the remaining results and came up with an overall value for each category. The values for each category were then added together to calculate an RPI score for each hazard. A ranking was then assigned to each hazard based on the RPI score. **Figure R-2**, located at the end of this section, provides the hazard rankings for the participating jurisdictions.

FEMA's National Risk Index

The National Risk Index (NRI) is an online mapping and data-based interface that helps illustrate a community's risk to 18 identified natural hazards. The natural hazards identified by the NRI and included in this Plan are: cold wave, drought, earthquake, hail, heat wave, ice storm, lightning, riverine flooding, strong wind, tornado, and winter weather. The NRI leverages available source data for natural hazard and community risk facts, such as social vulnerability and community resilience, to develop a baseline relative risk measurement for each county and census tract in the U.S. The goal is to help individuals better understand the natural hazard risk of their communities.

In the NRI, risk is defined as the potential for negative impacts as a result of a natural hazard. The risk equation behind the NRI includes three components: a natural hazards component (expected annual loss), a consequence enhancing component (social vulnerability), and a consequence

reduction component (community resilience). Social vulnerability represents the susceptibility of social groups to the adverse impacts of natural hazards. Community resilience represents the ability of a community to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions.

The scores and ratings generated by the NRI describe a county's or census tract's relative position among all other U.S. counties and census tracts for a given component. Dataset Update 1.18.1 released November 18, 2021 was used in this analysis. Scores can range from 0 (the lowest possible value) to 100 (the highest possible value). For every score there is assigned one of five qualitative ratings: "Very Low", "Relatively Low", "Relatively Moderate", "Relatively High", and "Very High." Because all ratings are relative, there are no specific numeric values that determine the rating.

In order to provide the participating jurisdictions and public with additional information on the natural hazards included in the Plan, **Figure R-3** located at the end of this section, presents the overall NRI scores and ratings for each census tract as well as for the County and State as a whole. 2010 census tract information was used in this version of the NRI. In 2010, there were 29 census tracts in Kankakee County. Only one of the census tracts has a Risk Index rating of "Relatively Moderate". The rest of the census tracts have a Risk Index rating of "Relatively Low" or "Very Low". Six of the census tracts have a Social Vulnerability rating of " Relatively High" while ten of the census tracts have a Social Vulnerability rating of "Relatively Moderate". The remaining census tracts have a Social Vulnerability rating of "Relatively Low" or "Very Low".

Figure R-4, located at the end of this section, provides the NRI scores and ratings by hazard type for each census tract as well as the County. Hazard ratings of "Relatively High" and "Very High" are highlighted in yellow by census tract. The hazards with the highest relative rating include severe storms, extreme cold, excessive heat, and tornadoes.

Critical Facilities & Infrastructure

Critical facilities and infrastructure include structures, lifelines, systems, networks, and institutions that are critical for life, safety, and economic viability and necessary for a community's response to and recovery from emergencies. The loss of function of any of these assets can intensify the severity of the impacts and speed of recovery associated a hazard event. Critical facilities and infrastructure may include, but are not limited to, the following:

- **Essential Facilities**: Facilities essential to the health and welfare of the whole population including hospitals and other medical facilities, police and fire stations, emergency operations centers, evacuation shelters, and schools.
- **Government Facilities**: Facilities associated with the continued operations of government services such as courthouses, city/village halls, township buildings, and highway/maintenance centers.
- **Infrastructure Systems**: Infrastructure associated with drinking water, wastewater, transportation (roads, railways, waterways), communication systems, electric power, natural gas and oil.

- **Housing Facilities**: Facilities that serve populations that have access and function needs such as nursing homes, skilled and memory care facilities, residential group homes, and day care centers.
- **High Potential Loss Facilities**: Facilities that would have an impact or high loss associated with them if their functionality is compromised such as nuclear power plants, dams, levees, military installations and facilities housing industrial or hazardous materials.
- **Gathering Places**: Facilities such as parks, libraries, community centers, and churches.

As part of the planning process each participating jurisdiction completed a questionnaire identifying the critical facilities and infrastructure located within their jurisdiction, both publicly and privately-owned. **Figure R-5**, located at the end of this section, identifies the number of critical facilities and infrastructure located in each participating jurisdiction for select categories. Identifying these assets makes local leaders more aware of the critical facilities and infrastructure located within their jurisdictions and helps them make informed choices on how to better protect these key resources.

While considered a "local government entity" for planning purposes, Ascension Saint Mary Kankakee, Bourbonnais Fire Protection District (FPD), Bourbonnais Township, Kankakee Community College, Manteno Community FPD, Momence FPD, and Riverside Medical center do not have an extensive inventory of assets to consider when conducting the risk assessment.

Since the assets for these local government entities, with the exception of Momence FPD, are located within a participating municipality and are a subset of these municipalities' critical facilities, their risk is considered to be the same or similar to the risk experienced by the municipalities for those hazards that either impact the entire planning area or can occur at any location within the planning area (i.e., severe storms, severe winter storms, etc.). For those hazards where the risk to the College, FPDs, and medical centers varies from the risk facing the municipalities, a separate narrative assessment will be provided under the appropriate hazard's vulnerability subsection.

The Momence FPD critical facilities are located in the City of Momence. Momence's risk is considered to be the same or similar to the risk experienced by the participating municipalities and the County for those hazards that either impact the entire planning area or can occur at any location within the planning area (i.e., severe storms, severe winter storms, etc.). For those hazards where the risk to the FPD critical facilities varies from the risk facing the municipalities, a separate narrative assessment will be provided under the appropriate hazard's vulnerability subsection.

Critical Facilities Vulnerability Survey

The participating jurisdictions were also asked to complete a Critical Facilities Vulnerability Survey at the third meeting to assist them in creating problem statements summarizing the consequences and/or effects the studied hazards have on their assets. The Survey asked participants to describe their jurisdiction's greatest vulnerabilities to natural hazards and which assets they felt have the greatest vulnerabilities and the hazards they are most vulnerable to. This information is summarized under the appropriate hazard's vulnerability subsection.

Future Conditions

While we cannot predict with certainty what the weather of the future will look like, we can use models to help us make sense of the patterns we have seen in the past and to use that information to predict what events will be more likely to occur going forward.

By looking at data from previous weather conditions and taking into account trends in that data that have emerged over time, we can with some degree of accuracy project what weather may look like in the future. It is important to consider that nearer term predictions have the greatest likelihood of accuracy since they require the least extrapolation and guesswork; however, this does not mean that longer term predictions are not plausible or not useful. Often, having a prediction that is even partly right is preferable to having no guide at all. By coming up with best case and worst case scenarios, even if neither is terribly likely, we can gain a better understanding of the range of potential outcomes and a good idea of what the most probable outcomes might look like.

Earth's weather and climate have always been variable. Over time, sea levels have risen and fallen, glaciers have advanced and retreated, and droughts, floods, wildfires, and storms have periodically upended the notion of "normal". In recent years in the U.S., there have been several trends observed in weather patterns that offer us some insight as to what the near future may hold. Broadly, these likely changes can be referred to as "future conditions". They include more general seasonal trends as well as more specific weather pattern trends.

In recent decades we have seen both earlier springs (earlier last frost dates) and later winters (later first frost dates) in the U.S. Taken together, these two changes mean that winters are likely to be shorter and milder, and summers are likely to be longer and hotter across much of the continental U.S. than they were historically. In combination, shorter, milder winters and longer, more intense summers have resulted in an observed increase in average annual temperature.

As with any change that occurs gradually, the difference can be difficult to perceive if the time frame you are looking at is small. Additionally, smaller windows of time are more likely to be skewed by rare occurrences or anomalies. Looking at longer time frames allows us to see the big picture, putting highly unusual years into context by averaging them out with other more typical years. Looking at consecutive 30-year period averages called "Normals" allows us to detect how what is average (or 'normal') has shifted over time.

Figure R-6 shows U.S. annual temperature compared to 20th-century averages. By looking at 30 Year Normals for average annual temperature compared to overall 20th century averages, a trend of increasing annual temperature is particularly apparent in the final three 30 year periods. (1971-2000, 1981-2010, 1991-2020). Since these are average annual temperatures, even a small difference corresponds to larger temperature changes recorded within a year.

Also observed have been changes in when, where, and how much precipitation occurs across the U.S. **Figure R-7** shows U.S. annual precipitation compared to 20th-century averages. For some areas of the Country, this has resulted in increases in overall precipitation. The Midwestern U.S. has been on average getting progressively wetter in 30 year rolling averages from the period of 1951-1980 onwards; elsewhere, it has resulted in decreases, such as in much of the Western and Southwestern US, which has been getting drier since the period of 1971-2000 onwards.

Figure R-6
U.S. Annual Temperature Compared to 20th Central Average

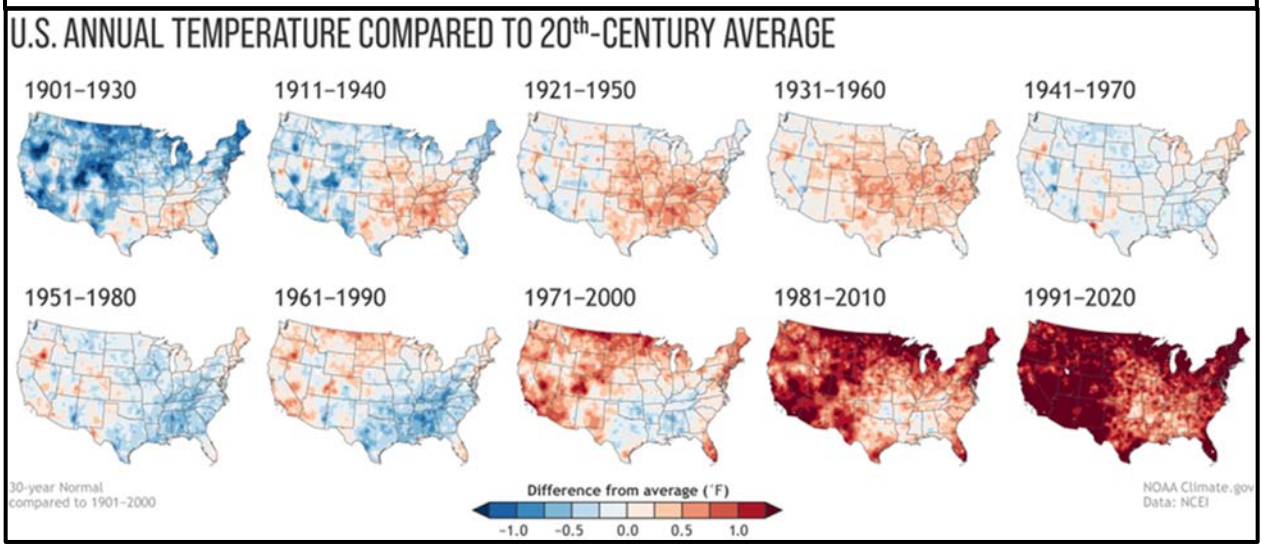
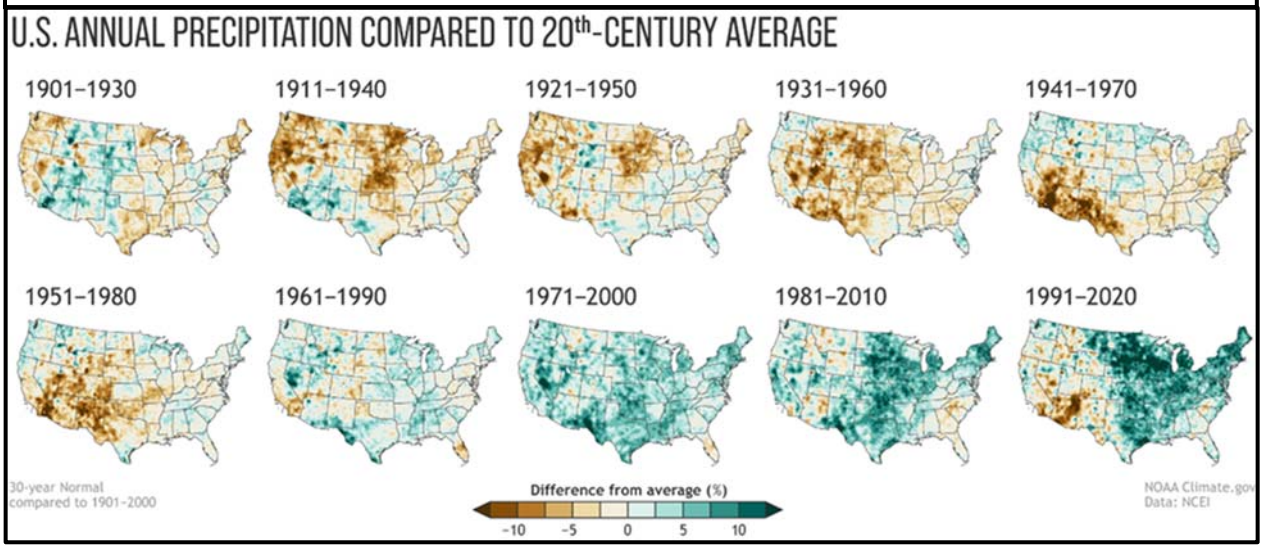


Figure R-7
U.S. Annual Precipitation Compared to 20th Central Average



Trends also reveal an uptick in the frequency and severity of hazardous weather events. While this is in part due to better record-keeping and a higher number of people and monitoring devices to witness hazardous events in order to report them, this trend is at least in part due to warmer bodies of air that tend to "supercharge" summer storm systems, making them more likely to produce severe weather events.

Figure R-1
Risk Priority Index Scoring System

Category	Factors	Value	Point Value
Hazard Frequency	An event is likely to occur in the next 1 to 3 years.	High	3
	An event is possible in the next 3 to 10 years.	Moderate	2
	An event is unlikely to occur within the next 10 years.	Low	1
Impacts on Life & Health	While fatalities are unlikely, injuries, some requiring hospitalization, may occur during the event.	High	3
	Minor injuries not requiring hospitalization may occur during the event.	Moderate	2
	Injuries or fatalities are unlikely to occur during the event.	Low	1
Impacts on Property & Infrastructure	- Substantial property damage is likely to occur including damage to infrastructure and critical facilities. AND/OR - Loss of access/operations at infrastructure and critical facilities (i.e., road & school closures, loss of power to drinking water/wastewater treatment facilities, municipal buildings, etc.) is anticipated for a period of time (i.e., a day or more).	High	3
	- Some minor property damage is anticipated (i.e., shingles & siding torn off homes, windows broken, etc.) but no significant damage to infrastructure or critical facilities is anticipated. AND/OR - Loss of access/operations to infrastructure and critical facilities is anticipated but only for a short period of time (i.e., up to a couple hours).	Moderate	2
	- Property damage is likely to be negligible and no loss of access/operations is anticipated at any infrastructure/critical facilities during the event.	Low	1

Figure R-2
Risk Priority Index Hazard Ranking by Participating Jurisdiction
(Sheet 1 of 2)

Hazard	Hazard Ranking by Participating Jurisdiction								
	Kankakee County	Aroma Park	Bourbonnais	Bradley	Grant Park	Hopkins Park	Kankakee	Manteno	Union Hill
Dam Failures	N/A	N/A	N/A	**1/2/3/4**	N/A	N/A	3/4/5	N/A	N/A
Drought	11	9	7/8	12	6/7/8/9	9/10	12	9/10	11
Earthquakes	12	11/12	9/10/11/12	**1/2/3/4**	10/11	11	9/10/11	11	8/9/10
Excessive Heat	8	5/6/7/8	4/5/6	10/11	**1/2**	7/8	6/7/8	**1/2**	5/6/7
Extreme Cold	5	5/6/7/8	4/5/6	8/9	6/7/8/9	3/4/5/6	3/4/5	5/6/7/8	4
Floods	3	2	7/8	**1/2/3/4**	6/7/8/9	9/10	2	9/10	5/6/7
Hail	10	10	9/10/11/12	6/7	3/4/5	7/8	6/7/8	4	8/9/10
Heavy Rain	7	3/4	4/5/6	6/7	3/4/5	3/4/5/6	9/10/11	3	8/9/10
Lightning	6	5/6/7/8	9/10/11/12	5	10/11	3/4/5/6	3/4/5	5/6/7/8	5/6/7
Thunderstorms w/ Damaging Winds	4	3/4	**1/2/3**	8/9	**1/2**	**1/2**	9/10/11	**1/2**	**1/2**
Tornadoes	**1/2**	**1**	**1/2/3**	**1/2/3/4**	3/4/5	3/4/5/6	**1**	5/6/7/8	**1/2**
Wildfires	9	13	13	13	12	12	13	12	12
Winter Storms	**1/2**	5/6/7/8	**1/2/3**	10/11	6/7/8/9	**1/2**	6/7/8	5/6/7/8	3

Figure R-2
Risk Priority Index Hazard Ranking by Participating Jurisdiction
(Sheet 2 of 2)

Hazard	Hazard Ranking by Participating Jurisdiction						
	Bourbonnais Township	Kankakee Community College	Bourbonnais FPD	Manteno Community FPD	Momence FPD	Ascension Saint Mary Kankakee	Riverside Medical Center
Dam Failures	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drought	9/10	8/9	8	12	6/7/8/9	11	10/11
Earthquakes	11/12	10/11/12	9/10/11/12	3/4	10/11	6/7/8	10/11
Excessive Heat	4/5/6/7	5/6	9/10/11/12	3/4	6/7/8/9	6/7/8	9
Extreme Cold	4/5/6/7	7	9/10/11/12	**1/2**	6/7/8/9	6/7/8	2/3/4/5
Floods	9/10	10/11/12	**1**	7/8	2/3/4/5	4/5	2/3/4/5
Hail	4/5/6/7	8/9	9/10/11/12	11	10/11	4/5	7/8
Heavy Rain	4/5/6/7	5/6	2/3/4/5/6	9/10	2/3/4/5	3	7/8
Lightning	8	2/3/4	2/3/4/5/6	6	6/7/8/9	9/10	2/3/4/5
Thunderstorms w/ Damaging Winds	3	**1**	2/3/4/5/6	5	2/3/4/5	**1/2**	6
Tornadoes	**1**	2/3/4	2/3/4/5/6	**1/2**	**1**	**1/2**	**1**
Wildfires	11/12	13	2/3/4/5/6	9/10	12	12	12
Winter Storms	2	2/3/4	7	7/8	2/3/4/5	9/10	2/3/4/5

Figure R-3
National Risk Index Overall Scores/Ratings by Census Tract

Census Tract No.	Incorporated Municipality Located in Census Tract	Risk Index Score	Risk Index Rating	Social Vulnerability Score	Social Vulnerability Rating	Community Resilience Score	Community Resilience Rating
101	Grant Park	12.33	Very Low	31.04	Relatively Low	*	*
102.01	Bourbonnais, Manteno	10.75	Very Low	27.28	Relatively Low	*	*
102.02	Bourbonnais, Manteno	18.88	Relatively Moderate	33.13	Relatively Moderate	*	*
103	Bonfield, Buckingham, Cabrey, Essex, Reddick, Union Hill,	12.41	Very Low	28.98	Relatively Low	*	*
104	Kankakee, Limestone	13.65	Relatively Low	30.34	Relatively Low	*	*
105	Bourbonnais, Bradley, Kankakee	14.68	Relatively Low	29.24	Relatively Low	*	*
106.01	Bourbonnais	11.61	Very Low	26.77	Very Low	*	*
106.02	Bourbonnais, Bradley	13.55	Relatively Low	31.14	Relatively Low	*	*
107.01	Bradley	11.87	Very Low	28.94	Relatively Low	*	*
107.02	Bourbonnais, Bradley, Kankakee	18.07	Relatively Low	32.10	Relatively Moderate	*	*
108	Momence, Sun River Terrace	14.65	Relatively Low	33.03	Relatively Moderate	*	*
109	Grant Park, Momence	17.73	Relatively Low	32.99	Relatively Moderate	*	*
110	Hopkins Park	11.88	Very Low	36.00	Relatively High	*	*
111	St. Anne	10.57	Very Low	32.19	Relatively Moderate	*	*
112	Aroma Park	11.75	Very Low	32.17	Relatively Moderate	*	*
113	Aroma Park	11.54	Very Low	29.95	Relatively Low	*	*
114	Kankakee	11.37	Very Low	36.18	Relatively High	*	*
115	Kankakee	11.32	Very Low	33.61	Relatively Moderate	*	*
116	Kankakee	11.63	Very Low	36.85	Relatively High	*	*
117	Kankakee	14.46	Relatively Low	36.46	Relatively High	*	*
118	Bradley, Kankakee	10.95	Very Low	31.21	Relatively Low	*	*
119	Bradley	9.67	Very Low	30.27	Relatively Low	*	*
120	Bourbonnais, Bradley	16.40	Relatively Low	35.29	Relatively High	*	*
121	Kankakee	17.60	Relatively Low	35.93	Relatively High	*	*
122	Kankakee	11.80	Very Low	30.47	Relatively Low	*	*
123	Kankakee	15.48	Relatively Low	33.58	Relatively Moderate	*	*
124	Kankakee	14.57	Relatively Low	34.00	Relatively Moderate	*	*
125	Kankakee	13.91	Relatively Low	34.89	Relatively Moderate	*	*
126	Chebanse, Herscher, Irwin, Kankakee, Sammons Point	14.69	Relatively Low	29.90	Relatively Low	*	*
Kankakee County		10.61	Relatively Low	37.72	Relatively Moderate	58.00	Very High
Illinois	---	9.87	---	35.15	---	56.70	---
National	---	10.60	---	38.35	---	54.59	---

* Community Resilience scores are only available at the county level.

Figure R-4
NRI Hazard Scores/Ratings by Hazard by Census Tract
(Sheet 1 of 2)

Census Tract No.	Incorporated Municiplity Located in Census Tract	Severe Storms						Severe Winter Storms				Riverine Floods	
		Hail Score	Hail Rating	Lightning Score	Lightning Rating	Strong Wind Score	Stong Wind Rating	Ice Storm Score	Ice Storm Rating	Winter Weather Score	Winter Weather Rating	Score	Rating
101	Grant Park	10.07	RL	12.00	VL	22.26	RM	10.75	RL	6.90	RL	12.24	RM
102.01	Bourbonnais, Manteno	7.84	RL	9.53	VL	17.73	RL	8.21	VL	5.51	RL	12.62	RM
102.02	Bourbonnais, Manteno	16.39	RM	20.13	RM	36.17	RH	17.91	RM	11.17	RM	15.81	RM
103	Bonfield, Buckingham, Cabrey, Essex, Reddick, Union Hill,	10.35	RL	12.80	RL	23.98	RM	10.27	RL	7.47	RL	0.71	VL
104	Kankakee, Limestone	11.92	RL	14.93	RL	26.42	RM	12.47	RL	8.17	RL	6.61	RL
105	Bourbonnais, Bradley, Kankakee	12.71	RM	16.15	RL	28.24	RM	13.97	RL	8.74	RL	11.69	RM
106.01	Bourbonnais	10.38	RL	13.18	RL	23.37	RM	11.60	RL	7.29	RL	0.00	NR
106.02	Bourbonnais, Bradley	11.99	RL	15.70	RL	27.46	RM	13.72	RL	8.65	RL	2.81	VL
107.01	Bradley	10.35	RL	13.41	RL	23.64	RM	11.77	RL	7.44	RL	5.88	RL
107.02	Bourbonnais, Bradley, Kankakee	15.48	RM	18.60	RL	32.63	RH	16.04	RL	9.79	RL	17.93	RM
108	Momence, Sun River Terrace	12.31	RL	14.64	RL	26.76	RM	13.07	RL	8.25	RL	13.15	RM
109	Grant Park, Momence	12.79	RM	15.26	RL	28.26	RM	13.74	RL	8.75	RL	22.07	RH
110	Hopkins Park	9.15	RL	12.74	VL	22.33	RM	11.08	RL	7.42	RL	0.00	NR
111	St. Anne	8.65	RL	11.53	VL	19.97	RL	9.95	RL	6.47	RL	0.00	NR
112	Aroma Park	9.01	RL	11.39	VL	20.01	RL	9.90	RL	6.35	RL	12.18	RM
113	Aroma Park	8.54	RL	10.92	VL	19.12	RL	9.61	RL	6.09	RL	12.69	RM
114	Kankakee	9.04	RL	12.24	VL	21.18	RM	10.74	RL	6.90	RL	7.69	RL
115	Kankakee	9.56	RL	12.65	VL	21.74	RM	10.98	RL	6.98	RL	0.00	NR
116	Kankakee	9.41	RL	12.78	RL	21.82	RM	11.07	RL	7.07	RL	7.86	RL
117	Kankakee	12.55	RL	15.93	RL	27.32	RM	13.70	RL	8.55	RL	7.60	RL
118	Bradley, Kankakee	9.61	RL	12.40	VL	21.24	RM	10.67	RL	6.69	RL	0.00	NR
119	Bradley	8.69	RL	10.44	VL	18.31	RL	9.00	VL	5.48	RL	8.55	RL
120	Bourbonnais, Bradley	15.55	RM	18.50	RL	32.54	RH	15.96	RL	9.69	RL	9.91	RL
121	Kankakee	15.96	RM	17.93	RL	31.06	RH	15.13	RL	8.82	RL	10.90	RL
122	Kankakee	9.95	RL	13.00	RL	22.25	RM	11.22	RL	7.08	RL	5.16	RL
123	Kankakee	13.19	RM	16.74	RL	28.86	RM	14.49	RL	9.06	RL	10.32	RL
124	Kankakee	11.14	RL	15.75	RL	26.96	RM	13.74	RL	8.89	RL	11.37	RL
125	Kankakee	12.40	RL	14.21	RL	24.85	RM	12.17	RL	7.29	RL	8.89	RL
126	Chebanse, Herscher, Irwin, Kankakee, Sammons Point	11.77	RL	14.38	RL	26.23	RM	12.10	RL	8.17	RL	13.18	RM
Kankakee County		11.60	RL	10.21	RL	15.52	RM	11.70	RL	10.69	RL	10.18	RL

Rating Abbreviations: NR = No Rating; VL = Very Low; RL = Relatively Low; RM = Relatively Moderate; RH = Relatively High; VH = Very High

Figure R-4
NRI Hazard Scores/Ratings by Hazard by Census Tract
(Sheet 2 of 2)

Census Tract No.	Incorporated Municiplity Located in Census Tract	Extreme Cold		Excessive Heat		Tornadoes		Drought		Wildfires		Earthquakes	
		Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating
101	Grant Park	20.33	RH	20.08	RM	25.71	RL	1.52	VL	0.00	NR	7.25	VL
102.01	Bourbonnais, Manteno	16.44	RM	16.06	RM	20.29	RL	2.07	VL	0.00	VL	5.63	VL
102.02	Bourbonnais, Manteno	32.08	RH	32.84	RH	42.45	RH	2.02	VL	0.00	NR	11.30	RL
103	Bonfield, Buckingham, Cabrey, Essex, Reddick, Union Hill,	22.46	RH	21.76	RM	28.42	RM	2.92	RL	0.88	VL	8.35	RL
104	Kankakee, Limestone	23.65	RH	23.94	RM	32.95	RM	2.01	VL	1.49	VL	7.91	VL
105	Bourbonnais, Bradley, Kankakee	25.06	RH	25.75	RM	33.42	RM	0.79	VL	0.99	VL	8.51	RL
106.01	Bourbonnais	21.01	RH	21.52	RM	27.42	RM	1.10	VL	0.00	NR	7.79	VL
106.02	Bourbonnais, Bradley	24.93	RH	25.61	RM	31.92	RM	0.75	VL	0.00	NR	8.33	RL
107.01	Bradley	21.48	RH	21.98	RM	27.45	RM	1.07	VL	0.00	NR	8.02	VL
107.02	Bourbonnais, Bradley, Kankakee	27.77	RH	28.49	RH	39.49	RH	0.00	NR	0.00	NR	12.54	RL
108	Momence, Sun River Terrace	23.98	RH	24.04	RM	32.30	RM	0.00	NR	0.21	VL	10.08	RL
109	Grant Park, Momence	25.64	RH	25.54	RM	32.84	RM	0.00	NR	1.21	VL	7.97	VL
110	Hopkins Park	22.16	RH	21.88	RM	27.35	RM	0.00	NR	1.42	VL	7.46	VL
111	St. Anne	18.97	RM	19.04	RM	25.13	RL	0.00	NR	0.00	NR	7.33	VL
112	Aroma Park	18.55	RM	18.57	RM	25.47	RL	0.00	NR	1.42	VL	5.85	VL
113	Aroma Park	17.55	RM	17.93	RM	24.47	RL	0.00	NR	0.00	NR	6.89	VL
114	Kankakee	19.98	RM	20.46	RM	26.76	RM	0.00	NR	0.10	VL	7.28	VL
115	Kankakee	20.07	RM	20.63	RM	27.78	RM	0.00	NR	0.00	NR	7.33	VL
116	Kankakee	20.39	RH	20.96	RM	27.72	RM	0.00	NR	0.00	NR	6.61	VL
117	Kankakee	24.41	RH	25.10	RM	35.41	RM	0.00	NR	0.00	NR	8.90	RL
118	Bradley, Kankakee	19.14	RM	19.68	RM	27.04	RM	0.00	NR	0.01	VL	6.68	VL
119	Bradley	15.52	RM	15.96	RM	21.86	RL	0.00	NR	0.00	NR	6.33	VL
120	Bourbonnais, Bradley	27.40	RH	28.18	RH	38.94	RH	0.28	VL	0.00	NR	11.21	RL
121	Kankakee	24.17	RH	24.85	RM	41.99	RH	0.61	VL	0.00	NR	17.63	RM
122	Kankakee	20.32	RH	20.88	RM	28.58	RM	0.69	VL	0.00	NR	8.75	RL
123	Kankakee	25.87	RH	26.60	RH	37.34	RH	0.00	NR	0.00	NR	10.29	RL
124	Kankakee	25.78	RH	26.51	RH	33.84	RM	0.00	NR	0.00	NR	7.77	VL
125	Kankakee	20.39	RH	20.81	RM	33.14	RM	0.00	NR	0.00	NR	13.22	RL
126	Chebanse, Herscher, Irwin, Kankakee, Sammons Point	24.09	RH	23.77	RM	32.96	RM	2.40	VL	0.00	NR	8.50	RL
Kankakee County		41.21	RH	14.87	RM	21.75	RM	2.72	VL	1.06	VL	4.43	RL

Rating Abbreviations: NR = No Rating; VL = Very Low; RL = Relatively Low; RM = Relatively Moderate; RH = Relatively High; VH = Very High

Figure R-5
Critical Facilities & Infrastructure by Jurisdiction

Participating Jurisdiction	Critical Facilities				Critical Infrastructure						
	Government[1]	Emergency Protection[2]	Medical & Healthcare[3]	Schools	Drinking Water[4]	Wastewater Treatment[5]	Rail Lines	Bridges	Interstates US/State Routes & Key Roads	Power Plants	Comm. Systems
Kankakee County	2	3	---	---	---	---	---	---	---	---	2
Aroma Park	1	2	1	1	2	1	1	---	3	---	---
Bourbonnais	5	2	1	9	1	---	1	6	11	---	---
Bradley	2	4	3	5	1	2	2	---	5	---	---
Grant Park	7	4	---	2	1	1	1	---	2	---	---
Hopkins Park	4	---	3	1	2	4	---	---	2	---	---
Kankakee, City of	6	12	4	17	2	2	2	2	10	---	---
Manteno	5	3	4	4	---	1	---	---	---	---	---
Union Hill	---	---	---	---	---	---	---	---	1	---	---
Bourbonnais Township	3	2	4	---	---	1	1	2	7	---	---
Kankakee Community College	---	---	---	2	---	---	---	---	---	---	---
Bourbonnais FPD	---	1	---	---	---	---	---	---	---	---	---
Manteno Community FPD	5	5	4	4	---	---	1	4	6	---	---
Momence FPD	4	2	3	4	4	3	2	1	3	---	---
Ascension Saint Mary Kankakee	---	---	2	---	---	---	---	---	---	---	---
Riverside Medical Center	---	1	4	---	---	---	---	---	---	---	---

[1] Government includes: courthouses, city/village halls, township buildings, highway/road maintenance centers, libraries, etc.
[2] Emergency Protection includes: sheriff's department, police, fire, ambulance, emergency operations centers, jail/correctional facilities and evacuation shelters.
[3] Medical & Healthcare includes: public health departments, hospitals, urgent/prompt care and medical clinics, nursing homes, skilled nursing facilities, memory care facilities, residential group homes, etc.
[4] Drinking Water includes: drinking water treatment plants, drinking water wells, and water storage towers/tanks.
[5] Wastewater Treatment includes: wastewater treatment plants and lift stations.
--- Indicates the jurisdiction does not own/maintain any critical facilities within that category.

3.1 SEVERE STORMS (THUNDERSTORMS, HAIL, LIGHTNING & HEAVY RAIN)

HAZARD IDENTIFICATION

What is the definition of a severe storm?

The National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS) defines a "severe storm" as any thunderstorm that produces one or more of the following:

- winds with gust of 50 knots (58 mph) or greater;
- hail that is at least one inch in diameter (quarter size) or larger; and/or
- a tornado.

While severe storms are capable of producing deadly lightning and heavy rain that may lead to flash flooding, the NWS does not use lightning/either to define a severe storm. However, a discussion of both lightning and heavy rain is included in this section because both are capable of causing extensive damage. For the purposes of this report, tornadoes and flooding are categorized as separate hazards and are not discussed under severe storms.

What is a thunderstorm?

A thunderstorm is a rain shower accompanied by lightning and thunder. An average thunderstorm is approximately 15 miles in diameter, affecting a relatively small area when compared to winter storms or hurricanes, and lasts an average of 30 minutes. Thunderstorms can bring heavy rain, damaging winds, hail, lightning and tornadoes.

There are four basic types of thunderstorms: single-cell, multi-cell, squall line, and supercell. The following provides a brief description of each.

Single-cell Thunderstorm

Single cell storms are small, weak storms that only last about ½ hour to an hour and are not usually considered severe. They are typically driven by heating on a summer afternoon. Occasionally a single cell storm will become severe, but only briefly. When this happens, it is called a pulse severe storm.

Multi-cell Thunderstorm

Multi-cell storms are the most common type of thunderstorms. A multi-cell storm is organized in clusters of at least two to four short-lived cells. Each cell usually lasts 30 to 60 minutes while the system as whole may persist for many hours. Multi-cell storms may produce hail, strong winds, brief tornadoes, and/or flooding.

Squall Line

A Squall line is a group of storms arranged in a line, often accompanied by "squalls" of high wind and heavy rain. The line of storms can be continuous or there can be gaps and breaks in the line. Squall lines tend to pass quickly and can be hundreds of miles long but are typically only 10 to 20 miles wide. A "bow echo" is a radar signature of a squall line that "bows out" as winds fall behind the line and circulation develops on either end.

Supercell Thunderstorm

Supercell storms are long-lived (greater than one hour) and highly organized storms that feed off a rising current of air (an updraft). The main characteristic that sets a supercell storm apart from other thunderstorm types is the presence of rotation in the updraft. The rotating updraft of a supercell (called a mesocyclone when visible on radar) helps a supercell storm produce extreme weather events. Supercell storms are potentially the most dangerous storm type and have been observed to generate the vast majority of large and violet tornadoes, as well as downburst winds and large hail.

Despite their size, all thunderstorms are dangerous and capable of threatening life and property. Of the estimated 100,000 thunderstorms that occur each year in the U.S., roughly 10% are classified as severe.

What kinds of damaging winds are produced by a thunderstorm?

Aside from tornadoes, thunderstorms can produce straight-line winds. A straight-line wind is defined as any wind produced by a thunderstorm that is not associated with rotation. There are several types of straight-line winds including downdrafts, downbursts, microbursts, gust fronts and derechos.

Damage from straight-line winds is more common than damage from tornadoes and accounts for most thunderstorm wind damage. Straight-line wind speeds can exceed 87 knots (100 mph), produce a damage pathway extending for hundreds of miles and can cause damage equivalent to a strong tornado.

The NWS measures a storm's wind speed in knots or nautical miles. A wind speed of one knot is equal to approximately 1.15 miles per hour. **Figure SS-1** shows conversions from knots to miles per hour for various wind speeds.

Figure SS-1
Wind Speed Conversions

Knots (kts)	Miles Per Hour (mph)	Knots (kts)	Miles Per Hour (mph)
50 kts	58 mph	60 kts	69 mph
52 kts	60 mph	65 kts	75 mph
55 kts	63 mph	70 kts	81 mph
58 kts	67 mph	80 kts	92 mph

What is hail?

Hail is precipitation in the form of spherical or irregular-shaped pellets of ice that occur within a thunderstorm when strong rising currents of air (updrafts) carry raindrops upward into extremely cold areas of the atmosphere where they freeze into ice.

Hailstones grow by colliding with supercooled water drops. The supercooled water drops freeze on contact with ice crystals, frozen rain drops, dust, etc. Thunderstorms with strong updrafts continue lifting the hailstones to the top of the cloud where they encounter more supercooled water and continue to grow. Eventually the updraft can no longer support the weight of the hail, or the updraft weakens, and the hail falls to the ground.

In the U.S., hail causes more than $1 billion in damages to property and crops annually. Hail has been known to cause injuries, although it rarely causes fatalities or serious injury.

How is the severity of a hail event measured?

The severity or magnitude of a hail event is measured in terms of the size (diameter) of the hailstones. The hail size is estimated by comparing it to known objects. **Figure SS-2** provides descriptions for various hail sizes.

Figure SS-2
Hail Size Descriptions

Hail Diameter (inches)	Description	Hail Diameter (inches)	Description
0.25 in.	pea	1.75 in.	golf ball
0.50 in.	marble/mothball	2.50 in.	tennis ball
0.75 in.	penny	2.75 in.	baseball
0.88 in.	nickel	3.00 in.	teacup
1.00 in.	quarter	4.00 in.	grapefruit
1.50 in.	ping pong ball	4.50 in.	softball

Source: NOAA, National Severe Storm Laboratory.

Hail size can vary widely. Hailstones may be as small as 0.25 inches in diameter (pea-sized) or, under extreme circumstances, as large as 4.50 inches in diameter (softball-sized). Typically hail that is one (1) inch in diameter (quarter-sized) or larger is considered severe.

The severity of a hail event can also be measured or rated using the TORRO Hailstorm Intensity Scale. This scale was developed in 1986 by the Tornado and Storm Research Organisation of the United Kingdom. It measures the intensity or damage potential of a hail event based on several factors including: maximum hailstone size, distribution, shape and texture, numbers, fall speed and strength of the accompanying winds.

The Hailstorm Intensity Scale identifies ten different categories of hail intensity, H0 through H10. **Figure SS-3** gives a brief description of each category. This scale is unique because it recognizes that, while the maximum hailstone size is the most important parameter relating to structural damage, size alone is insufficient to accurately categorize the intensity and damage potential of a hail event.

It should be noted that the typical damage impacts associated with each intensity category reflect the building materials predominately used in the United Kingdom. These descriptions may need to be modified for use in other countries to take into account the differences in building materials typically used (i.e., whether roofing materials are predominately shingle, slate or concrete, etc.).

What is lightning?

Lightning, a component of all thunderstorms, is a visible electrical discharge that results from the buildup of charged particles within storm clouds. It can occur from cloud-to-ground, cloud-to-cloud, within a cloud or cloud-to-air. The air near a lightning strike is heated to approximately

50,000°F (hotter than the surface of the sun). The rapid heating and cooling of the air near the lightning strike causes a shock wave that produces thunder.

Figure SS-3
TORRO Hailstorm Intensity Scale

Intensity Category		Typical Hail Diameter		Description	Typical Damage Impacts
		millimeters (approx.)*	inches (approx.)*		
H0	Hard Hail	5 mm	0.2”	pea	no damage
H1	Potentially Damaging	5-15 mm	0.2” – 0.6”	pea / mothball	slight general damage to plants, crops
H2	Significant	10-20 mm	0.4” – 0.8”	dime / penny	significant damage to fruit, crops, vegetation
H3	Severe	20-30 mm	0.8” – 1.2”	nickel / quarter	severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored
H4	Severe	25-40 mm	1.0” – 1.6”	half dollar / ping pong ball	widespread glass damage, vehicle bodywork damage
H5	Destructive	30-50 mm	1.2” – 2.0”	golf ball	wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
H6	Destructive	40-60 mm	1.6” – 2.4”	golf ball / egg	bodywork of grounded aircraft dented; brick walls pitted
H7	Destructive	50-75 mm	2.0” – 3.0”	egg / tennis ball	severe roof damage, risk of serious injuries
H8	Destructive	60-90 mm	2.4” – 3.5”	tennis ball / teacup	severe damage to aircraft bodywork
H9	Super Hailstorms	75-100 mm	3.0” – 4.0”	teacup / grapefruit	extensive structural damage, risk of severe or even fatal injuries to persons caught in the open
H10	Super Hailstorms	> 100 mm	> 4.0”	softball	extensive structural damage, risk of severe or even fatal injuries to persons caught in the open

* Approximate range since other factors (i.e., number and density of hailstones, hail fall speed and surface wind speed) affect severity.

Source: Tornado and Storm Research Organisation, TORRO Hailstorm Intensity Scale Table.

Lightning on average causes 60 fatalities and 400 injuries annually in the U.S. Most fatalities and injuries occur when people are caught outdoors in the summer months during the afternoons and evenings. In addition, lightning can cause structure and forest fires. Many of the wildfires in the western U.S. and Alaska are started by lightning. According to the NWS lightning strikes cost more than $1 billion in insured losses each year.

Are alerts issued for severe storms?

Yes. The NWS Weather Forecast Office in Chicago, Illinois is responsible for issuing ***severe thunderstorm watches*** and ***warnings*** for Kankakee County depending on the weather conditions. The following provides a brief description of each type of alert.

- **Watch.** A severe thunderstorm watch is issued when conditions are favorable for the development of severe thunderstorms producing hail greater than one inch in diameter

and/or wind speeds of 58 mph in or near the watch area. Individuals should stay alert for the latest weather information and be prepared to take shelter.

- **Warning.** A severe thunderstorm warning is issued when a severe thunderstorm or a line of severe thunderstorms capable of producing hail greater than one inch in diameter and/or wind speeds of 58 mph is approaching or is occurring. Warnings indicate imminent danger to life and property for those who are in the path of the storm and individuals should seek safe shelter.

HAZARD PROFILE

The following identifies past occurrences of severe storms; details the severity or extent of each event (if known); identifies the locations potentially affected; and estimates the likelihood of future occurrences.

When have severe storms occurred previously? What is the extent of these previous severe storms?

Tables 1, 2, 3, and 4, located in **Appendix J,** summarize the previous occurrences as well as the extent or magnitude of severe storm events recorded in Kankakee County. Severe storm events are separated into four categories: thunderstorms with damaging winds, hail, lightning, and heavy rain. In Kankakee County, severe storms are the most frequently occurring natural hazard.

Thunderstorms with Damaging Winds

NOAA's Storm Events Database was used to document 213 reported occurrences of thunderstorms with damaging winds in Kankakee County between 1957 and 2022. Of the 213 occurrences, 180 had reported wind speeds of 50 knots or greater. There were 33 occurrences, however, where the wind speed was not recorded.

Severe Storms Fast Facts – Occurrences

Number of recorded Thunderstorms with Damaging Winds (1957 – 2022): ***213***

Number of recorded Severe Hail Events (1981 – 2022): ***61***

Number recorded of Lightning Strike Events (2000 – 2022): ***9***

Number of Heavy Rain Events (2000 – 2022): ***120***

Highest Recorded Wind Speed: ***80 knots (June 27, 1986 & June 12, 2013)***

Largest Hail Recorded: ***6 inches (April 23, 1961)***

Most Likely Month for Thunderstorms with Damaging Winds to Occur: ***June***

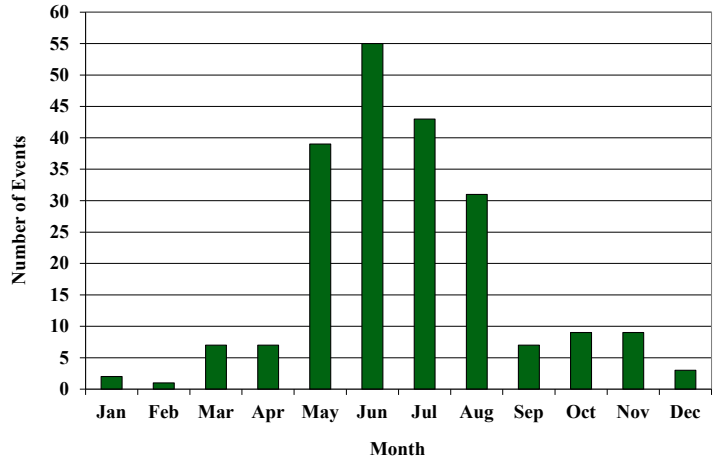
Most Likely Months for Severe Hail to Occur: ***May & July***

Most Likely Month for Heavy Rain to Occur: ***June***

The highest wind speed recorded in Kankakee County occurred in the City of Kankakee on June 27, 1986 and again near Manteno on June 12, 2013 when winds reached 80 knots (92 mph) during a thunderstorm event. Thunderstorms with damaging winds have been recorded in every participating jurisdiction within the County on multiple occasions.

Of the 213 events, 137 (64%) took place in May, June, and July making this the peak period for thunderstorms with damaging winds in Kankakee County. Of those 137 events, 55 (40%) occurred during June, making this the peak month for thunderstorms with damaging winds. Of the 213 occurrences, 81% of all thunderstorms with damaging winds occurred during the p.m. hours.

Figure SS-4
Thunderstorms with Damaging Winds by Month
1957 – 2022



Hail

NOAA's Storm Events Database was used to document 61 reported occurrences of severe storms with hail one (1) inch in diameter or greater in Kankakee County between 1981 and 2022. Of the 61 occurrences, 26 produced hailstones 1.50 inches or larger in diameter.

The largest hail stones documented in Kankakee County measured 6.0 inches in diameter (larger than a softball) and fell on April 23, 1961 near Manteno. Hail one (1) inch in diameter or greater has been recorded in every participating jurisdiction except Aroma Park on at least one occasion. This does not mean that hail one inch in diameter or greater has not fallen in Aroma Park, it simply indicates it wasn't recorded.

Figure SS-5 charts the reported occurrences of hail by month. Of the 61 occurrences, 42 (69%) took place in May, June, and July making this the peak period for hail in Kankakee County. Of these 42 events, 15 (36%) occurred during May and 15 (36%) occurred during July, making these the peak months for hail events. Fifty-seven (93%) of the 61 severe storms with hail occurred during the p.m. hours.

Lightning

While lightning strike events occur regularly across northeastern Illinois, NOAA's Storm Events Database and Task Force Member records were only able to identify nine occurrences of lightning strikes with verified damages in Kankakee County. The data limitations are almost certainly due to the rural nature of most of the County.

According to data from Vaisala's National Lightning Detection Network, Kankakee County averaged from to 6 to 20 cloud-to-ground lightning flashes per square mile annually between 2009 and 2018. **Figure SS-6** illustrates the cloud-to-ground lightning flash density (number of cloud-to-ground flashes per square mile per year) by county for the continental U.S. In comparison,

Illinois averaged 12.7 cloud-to-ground lightning flashes per square mile from 2009 to 2018, ranking it eighth in the Country for lightning flash density.

Figure SS-5
Hail Events by Month
1981 – 2022

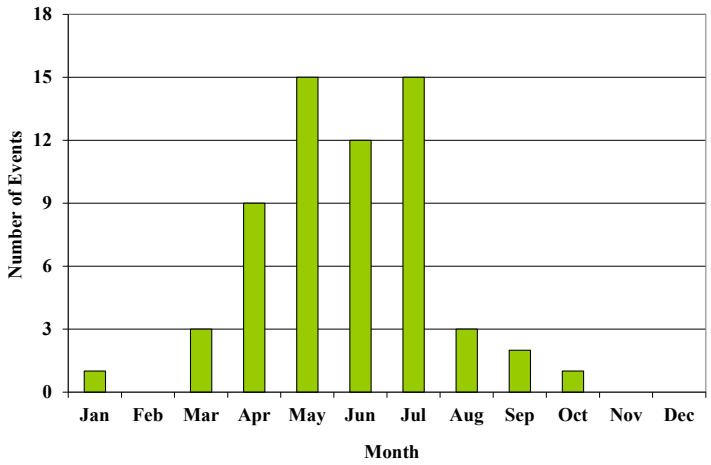
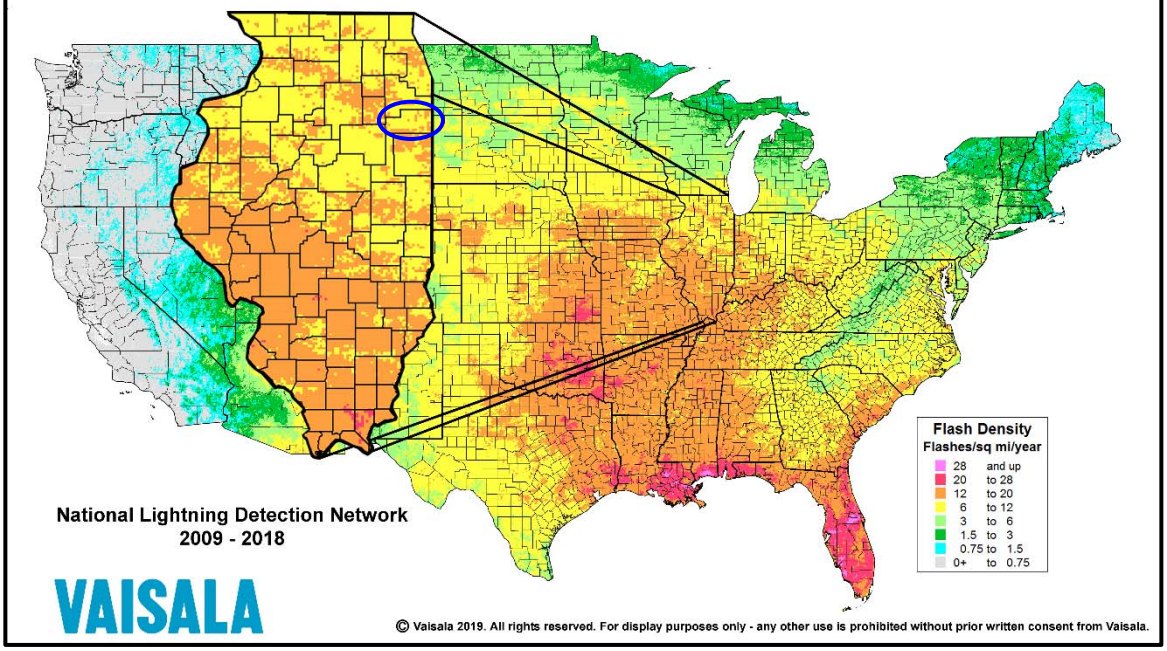


Figure SS-6
Cloud-to-Ground Lightning Flash Density: Continental U.S.

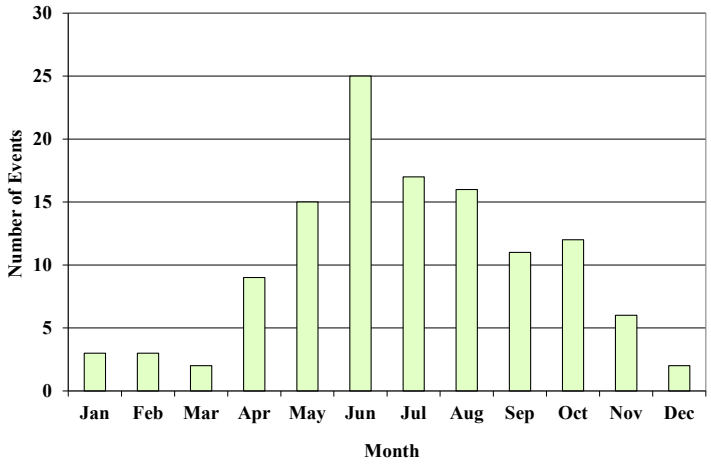


Heavy Rain

NOAA's Storm Events Database, Midwestern Regional Climate Center's cli-MATE database, and National Weather Service's COOP data records were used to document 120 heavy rain events for Kankakee County between 2000 and 2022. Of the 120 occurrences, 24 events (20%) produced three inches or more of rain.

Figure SS-7 charts the reported occurrences of heavy rain by month. Of the 120 events, 58 (48%) took place in June, July, and August making this the peak period for heavy rain in Kankakee County. Of these 58 events, 25 (43%) occurred during June, making this the peak month for heavy rains.

Figure SS-7
Heavy Rain Events by Month
2000 - 2022



What locations are affected by severe storms?

Severe storms affect the entire County. A single severe storm event will generally extend across the entire County and affect multiple locations. The 2018 Illinois Natural Hazard Mitigation Plan prepared by the Illinois Emergency Management Agency (IEMA) classifies Kankakee County's hazard rating for severe storms as "severe." (IEMA's overall hazard rating system has five levels: very low, low, medium, high, and severe.)

What is the probability of future severe storm events occurring based on historical data?

Thunderstorms with Damaging Winds

Kankakee County has had 213 verified occurrences of thunderstorms with damaging winds between 1957 and 2022. With 213 occurrences over the past 66 years, Kankakee County would expect to experience at least three thunderstorms with damaging winds in any given year. There were 29 years over the last 66 years where multiple (three or more) thunderstorms with damaging winds occurred. This indicates that the probability that multiple thunderstorms with damaging winds may occur during any given year within the County is 44%.

Hail

There have been 61 verified occurrences of hail one (1) inch in diameter or greater between 1981 and 2022. With 61 occurrences over the past 42 years, the County should expect to experience at least one severe storm with hail event each year. There were 16 years over the last 42 years where two or more hail events occurred. This indicates that the probability that more than one severe storm with hail may occur during any given year within the County is 38%.

Heavy Rain

Kankakee County has had 120 heavy rain events between 2000 and 2022. With 120 occurrences over the past 23 years, the County should expect to experience approximately five heavy rain events each year.

What is the probability of future heavy rain events occurring based on modeled future conditions?

In the last 120 years, total annual precipitation in Illinois has increased by between 12% to 15% across the State. This trend is likely to continue, and as a result, precipitation in Illinois is forecasted to increase in coming decades. In addition to changes in the overall amount of precipitation, changes in precipitation patterns indicate that future events will likely be less frequent, but larger and more severe. The Illinois State Climatologist indicates that since the beginning of the 20th Century, Illinois has seen a 40% increase in the number of days with extreme precipitation events (rainfall of 2 inches or greater) per year.

Figures SS-8, SS-9, and **SS-10** provide tabular and graphical projections for Kankakee County, showing estimations for average annual precipitation and number of days with total precipitation greater than 2 inches in the early, mid, and late 21st century with both low and high estimates for each time period. Most likely, the true value will fall between these two estimates. By midcentury, the average annual precipitation in Kankakee County is projected to increase by two inches per year, while the average number of days with precipitation per year is projected to decrease by 3 to 4 days according to the Climate Mapping for Resilience and Adaptation's Assessment Tool.

By midcentury, the annual number of days with total precipitation greater than 1 inch is projected to increase by one day. The annual number of days with total precipitation greater than 2 inches is not projected to increase significantly. This is confirmed by the Climate Explorer which indicates that in Kankakee County the annual counts of intense rainstorms (rainfall of 2 inches or greater in one day) are not projected to increase. This is based on the findings of the 2018 National Climate Assessment and compares projections for the middle third of the century (2035-2064) with average conditions observed from 1961-1990.

Figure SS-8
Average Annual Precipitation Projections Table – Kankakee County

Indicator	Modeled History (1976 - 2005)	Early Century (2015 - 2044)		Mid Century (2035 - 2064)		Late Century (2070 - 2099)	
		Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions
	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max
Precipitation:							
Annual average total precipitation	36" 34 - 37	38" 35 - 40	37" 32 - 41	38" 34 - 42	38" 33 - 43	38" 35 - 42	40" 34 - 46
Days per year with precipitation (wet days)	181 days 176 - 185	179 days 166 - 186	178 days 164 - 189	178 days 162 - 190	177 days 156 - 191	177 days 165 - 189	173 days 134 - 195
Maximum period of consecutive wet days	11 days 11 - 13	11 days 10 - 12	11 days 10 - 13	12 days 10 - 13	11 days 9 - 13	11 days 10 - 13	11 days 9 - 13
Annual days with:							
Annual days with total precipitation > 1inch	4 days 3 - 4	5 days 3 - 6	4 days 4 - 6	5 days 3 - 6	5 days 4 - 7	5 days 4 - 8	6 days 4 - 10
Annual days with total precipitation > 2 inches	0 days 0 - 0	0 days 0 - 0	0 days 0 - 1	0 days 0 - 1	0 days 0 - 1	0 days 0 - 1	1 days 0 - 1
Annual days with total precipitation > 3 inches	0 days 0 - 0	0 days 0 - 0	0 days 0 - 0	0 days 0 - 0	0 days 0 - 0	0 days 0 - 0	0 days 0 - 0
Annual days that exceed 99th percentile precipitation	5 days 5 - 5	6 days 6 - 6	6 days 6 - 6	6 days 6 - 7	7 days 6 - 7	7 days 6 - 7	8 days 7 - 9
Days with maximum temperature below 32 °F	38 days 35 - 42	28 days 17 - 36	27 days 21 - 35	24 days 14 - 33	22 days 12 - 32	21 days 11 - 32	13 days 3 - 24

Figure SS-9
Average Annual Precipitation Projections Graph – Kankakee County

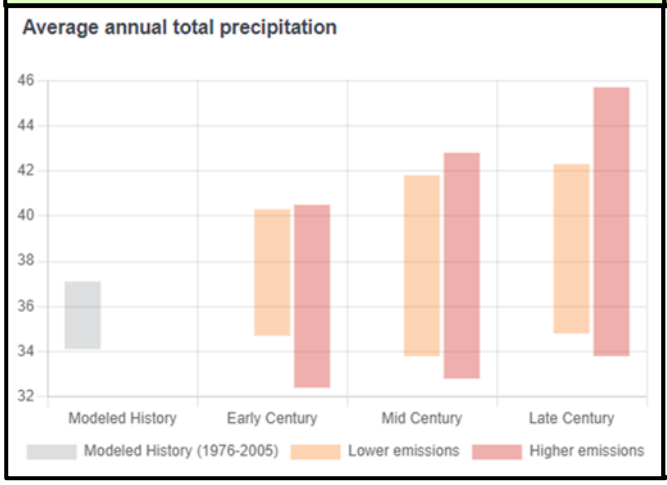
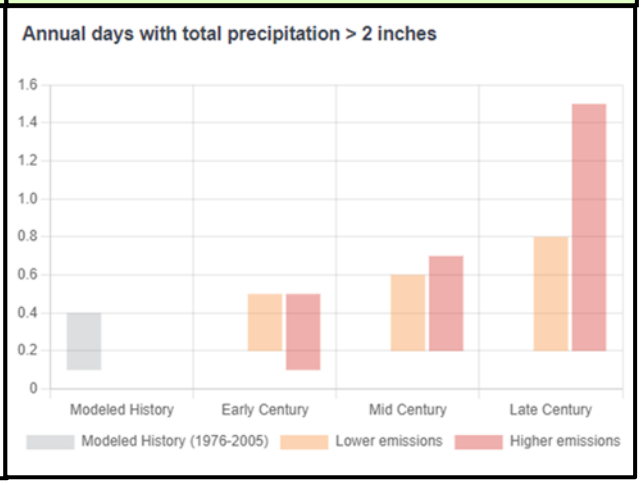


Figure SS-10
Number of Days with Total Precipitation > 2 Inches Graph – Kankakee County



HAZARD VULNERABILITY

The following describes the vulnerability to participating jurisdictions, identifies the impacts on public health and property (if known) and estimates the potential impacts on public health and safety as well as buildings, infrastructure, and critical facilities from severe storms.

Are the participating jurisdictions vulnerable to severe storms?

Yes. All of Kankakee County is vulnerable to the dangers presented by severe storms due to the topography of the region and its location in relation to the movement of weather fronts across north-central Illinois. Since 2013, Kankakee County has recorded 83 thunderstorms with damaging winds, 50 heavy rain events, 17 severe storms with hail one (1) inch in diameter or greater, and three lightning strikes with verified damages.

Figure SS-11 details the number of thunderstorms with damaging winds and hail events that were recorded in or near each participating municipality while **Figure SS-12** details the number of thunderstorms with damaging winds and hail events that were recorded in or near unincorporated areas of Kankakee County.

Figure SS-11
Verified Severe Storm Events by Participating Municipality

Participating Municipality	Number of Events	
	Thunderstorm & High Wind	Severe Hail
Aroma Park	13	0
Bourbonnais[2]	31	14
Bradley	35	19
Grant Park	15	5
Hopkins Park	3	1
Kankakee, City of[1,5,6]	70	15
Manteno[3]	20	7
Union Hill	2	0

Figure SS-12
Verified Severe Storm Events in Unincorporated Kankakee County

Unincorporated Area	Number of Events	
	Thunderstorm & High Wind	Severe Hail
Deselm[3]	0	1
St. George[4]	3	0
Solitt	6	0

[1]Kankakee Community College [2]Bourbonnais FPD [3]Manteno Community FPD
[4]Momence FPD [5]Ascension Saint Mary Kankakee [6]Riverside Medical Center

Of the participating municipalities, the City of Kankakee has had more recorded occurrences of thunderstorms with damaging winds while Bradley has had the greatest number of recorded severe storms with hail events than any of the other municipalities. The differences in the number of recorded events between participating municipalities is likely due to the relative size of the municipalities as well as the fact that there has been a long-term NWS COOP Observation Station located in the City of Kankakee.

Have any of the participating jurisdictions identified specific assets vulnerable to the impacts of severe storms?

Yes. Based on responses to a Critical Facilities Vulnerability Survey distributed to the participating jurisdictions, the following jurisdictions considered specific assets within their jurisdiction vulnerable to severe storms.

Aroma Park:
Heavy rains have overwhelmed the storm sewer drains causing minor flooding of some streets.

Ascension Saint Mary Kankakee:
Severe storms with high winds have damaged the facility's high communications antennas.

Bourbonnais Fire Protection District:
- The potential exists for a severe storm to take out a large ComEd electrical substation that provides power to a large number of customers and critical infrastructure in the Village and surrounding communities.
- Severe storms also have the ability to impact numerous assets within the District such as healthcare, critical infrastructure, educational, hazardous materials and commercial and industrial operations.

Grant Park:
- The main road through the Village floods during heavy rain events, impeding travel.
- In addition, severe storms with high winds have downed trees and tree limbs which damage homes and block access to streets.

Hopkins Park:
- During severe storms, high winds have downed overhead electric lines causing power outages that affect critical facilities such as the water treatment facility and service to residents.
- Downed electrical lines and trees have blocked roadways, impacting travel and access for residents.

Kankakee, City of:
- Both regional hospitals are located within a mile of each other within the City and there is a strong possibility that a severe storm with damaging winds would impact both hospitals leaving no alternate medical facility.

Kankakee County:
- Heavy rains can cause flooding that forces the closure of roads within the County.

Kankakee Community College:
- Power outages caused by severe storms affect the College's central boiler plant in addition to disrupting data and network servers.

Manteno:
- A couple of the main roads in the Village are impacted floodwaters from Rock Creek following significant heavy rain events.
- Severe storms with damaging winds have downed overhead electrical and communication lines causing service disruptions that affect critical services to residents.

Manteno Community Fire Protection District:
- Severe storms have disrupted microwave communications as well as the District's direct communication link with Skincom.

Riverside Medical Center:
- Not all of the Center's facilities have emergency backup generators and therefore are vulnerable to power outages caused by severe storms.

Union Hill:
- The Village has experienced power loss during severe storms impacting service to residents.
- During heavy rain events the Village's sewer system can't handle the storm water flow causing backups.

What impacts resulted from the recorded severe storms?

Severe storms as a whole have caused an estimated $6.3 million in recorded property damages and $65,000 in recorded crop damages. The following provides a breakdown of impacts by category.

Thunderstorms with Damaging Winds

Data obtained from NOAA's Storm Events Database and Task Force member records indicates that between 1957 and 2022, 62 of the 213 thunderstorms with damaging winds caused $3,104,250 in property damages. Damage information was either unavailable or none was recorded for the remaining 181 reported occurrences.

NOAA's Storm Events Database documented one fatality and seven injuries as the result of three separate thunderstorm with damaging wind events. The following provides a brief description of each.

- On June 24, 1968, high winds blew over two mobile homes in the Momence area injuring four residents.
- A woman in Bradley was crushed to death in her car when high winds blew a tree down onto her car on June 27, 1986.
- On August 23, 2007, three people in the Bradley and Bourbonnais area were injured by flying debris.

Hail

Data obtained from NOAA's Storm Events Database indicates that between 1981 and 2022, three of the 61 hail events caused $2,255,000 in property damages and $35,000 in crop damages. Damage information was either unavailable or none was recorded for the remaining 58 events.

No injuries or fatalities were reported as a result of any of the recorded hail events.

Severe Storms Fast Facts – Impacts/Risk

Thunderstorms with Damaging Winds Impacts:
- Total Property Damage (62 events): ***$3,104,250***
- Total Crop Damage (3 events): ***$30,000***
- Injuries (2 events): ***7***
- Fatalities (1 event): ***1***

Severe Hail Impacts:
- Total Property Damage (3 events): ***$2,255,000***
- Total Crop Damage (2 events) : ***$35,000***
- Injuries: ***n/a***
- Fatalities: ***n/a***

Lightning Strike Impacts:
- Total Property Damage (7 events): ***$946,000***
- Total Crop Damage: ***n/a***
- Injuries (1 event): ***1***
- Fatalities: ***n/a***

Heavy Rain Impacts:
- Total Property Damage: ***n/a***
- Total Crop Damage: ***n/a***
- Injuries: ***n/a***
- Fatalities: ***n/a***

Severe Storms Risk/Vulnerability:
- Public Health & Safety: ***Low***
- Buildings/Infrastructure/Critical Facilities: ***Medium***

Lightning

Data obtained from NOAA's Storm Events Database and Task Force member records indicate that seven of the nine lightning strike events caused $946,000 in property damages. Damage information was unavailable for the remaining two events. One injury was reported as the result of an October 3, 2013 lightning strike event in the City of Kankakee. A golfer was standing near a tree that was struck by lightning and sustained non-life threatening injuries.

Heavy Rain

Damage information was either unavailable or none was recorded for the 120 heavy rain events between 2000 and 2022. No injuries or fatalities were reported as a result of any of the heavy rain events.

What other impacts can result from severe storms?

In Kankakee County, the greatest risk to health and safety from severe storms is vehicle accidents. Hazardous driving conditions resulting from severe storms (i.e., wet pavement, poor visibility, high winds, etc.) can contribute to accidents that result in injuries and fatalities. Traffic accident data assembled by the Illinois Department of Transportation from 2016 through 2020 indicates that wet road surface conditions were present for 13.2% to 15.4% of all crashes recorded annually in the County.

While other circumstances cause wet road surface conditions (i.e., melting snow, condensation, light showers, etc.), law enforcement officials agree that hazardous driving conditions caused by severe storms add to the number of crashes. **Figure SS-13** provides a breakdown by year of the number of crashes and corresponding injuries and fatalities that occurred when wet road surface conditions were present.

Figure SS-13
Severe Weather Crash Data for Kankakee County

Year	Total # of Crashes	Presence of Wet Road Surface Conditions		
		# of Crashes	# of Injuries	# of Fatalities
2016	2,344	362	138	4
2017	2,227	337	140	1
2018	2,413	351	125	2
2019	2,352	357	112	1
2020	1,972	261	86	1
Total:	**11,308**	**1,668**	**601**	**9**

Source: Illinois Department of Transportation.

What is the level of risk/vulnerability to public health and safety from severe storms?

For Kankakee County the level of risk or vulnerability posed by severe storms to public health and safety is considered to be ***low***. This assessment is based on the fact that despite their relative frequency, the number of injuries and fatalities is low. In addition, Ascension Saint Mary Kankakee and Riverside Medical Center, as well as nearby hospitals in Watseka (Iroquois County), Pontiac (Livingston County), Morris (Grundy County), Joliet area (Will County) as well as hospitals in Lake County, Indiana are equipped to provide care to persons injured during a severe storm.

Are existing buildings, infrastructure, and critical facilities vulnerable to severe storms?

Yes. All existing buildings, infrastructure and critical facilities located in Kankakee County and the participating jurisdictions are vulnerable to damage from severe storms. Structural damage to buildings is a relatively common occurrence with severe storms. Damage to roofs, siding, awnings, and windows can occur from hail, flying and falling debris and high winds. Lightning strikes can damage electrical components and equipment (i.e., appliances, computers etc.) and can cause fires that consume buildings. If the roof is compromised or windows are broken, rain can cause additional damage to the structure and contents of a building.

Infrastructure and critical facilities tend to be just as vulnerable to severe storm damage as buildings. The infrastructure and critical facilities that are the most vulnerable to severe storms are related to power distribution and communications. High winds, lightning and flying and falling debris have the potential to cause damage to communication and power lines; power substations; transformers and poles; and communication antennas and towers.

The damage inflicted by severe storms often leads to disruptions in communication and creates power outages. Depending on the damage, it can take anywhere from several hours to several days to restore service. Power outages and disruptions in communications can impair vital services, particularly when backup power generators are not available. Eight of the participating jurisdictions acknowledged the need for emergency backup generators to allow continued operation of critical facilities such as county/municipal buildings, lift stations, schools, shelters, and emergency services (police and fire).

According to the Critical Facilities Surveys completed by the participants, the County has backup generators at KanComm, the Sheriff's Office/Jail, and the EOC. Both Ascension Saint Mary Kankakee and Riverside Medical Center have backup generators at the hospitals and Kankakee Community College has backup generators at its main campus. All three FPDs have generators at their fire stations and Bourbonnais Township has a generator its administrative/maintenance building. Bourbonnais, Bradley, the City of Kankakee, and Manteno have backup generators at their administrative buildings. While Bourbonnais, Bradley, Grant Park, and the City of Kankakee have backup generators at their police departments.

In addition to affecting power distribution and communications, debris and flooding from severe storms can block state and local roads hampering travel. When transportation is disrupted, emergency and medical services are delayed, rescue efforts are hindered, and government services can be affected.

Based on the frequency with which severe storms occur in Kankakee County, the amount of property damage previously reported and the potential for disruptions to power distribution and communication; the risk or vulnerability to buildings, infrastructure and critical facilities from severe storms is ***medium***.

Are future buildings, infrastructure, and critical facilities vulnerable to severe storms?

Yes and No. The County and all of the participating municipalities, with the exception of Union Hill, have building codes in place that will likely help lessen the vulnerability of new buildings and critical facilities to damage from severe storms. However, infrastructure such as new communication and power lines will continue to be vulnerable to severe storms as long as they are located above ground. High winds, lightning and flying and falling debris can disrupt power and communication. Steps to bury all new lines would eliminate the vulnerability, but this action would be cost prohibitive in most areas.

What are the potential dollar losses to vulnerable structures from severe storms?

Unlike other natural hazards, such as tornadoes, there are no standard loss estimation models or methodologies for severe storms. With only 72 of the 403 recorded events listing property damage numbers for all categories of severe storms, there is no way to accurately estimate future potential dollar losses. However, according to the Kankakee County Clerk the total equalized assessed values of all residential, commercial, and industrial buildings in the planning area is $1,908,485,831. Since all of the structures in the planning area are vulnerable to damage, this total represents the countywide property exposure to severe storm events.

3.2 FLOODS

HAZARD IDENTIFICATION

What is the definition of a flood?

The Federal Emergency Management Agency (FEMA) defines a "flood" as a general or temporary condition where two or more acres of normally dry land or two or more properties are inundated by:

- overflow of inland or tidal waters;
- unusual and rapid accumulation or runoff of surface waters from any source;
- mudflows; or
- a sudden collapse or subsidence of shoreline land.

The severity of a flooding event is determined by a combination of topography and physiography, ground cover, precipitation and weather patterns and recent soil moisture conditions. On average, flooding causes more than $5 billion in damages each year in the U.S. Floods cause utility damage and outages, infrastructure damage (both to transportation and communication systems), structural damage to buildings, crop loss, decreased land values and impede travel.

What types of flooding occur in the County?

There are two main types of flooding that affect Kankakee County: general flooding and flash flooding. General flooding can be broken down into two categories: riverine flooding and shallow flooding. The following provides a brief description of each type.

General Flooding – Riverine Flooding

Riverine flooding occurs when the water in a river or stream gradually rises and overflows its banks. This type of flooding affects low lying areas near rivers, streams, lakes, and reservoirs and generally occurs when:

- persistent storm systems enter the area and remain for extended periods of time,
- winter and spring rains combine with melting snow to fill river basins with more water than the river or stream can handle,
- ice jams create natural dams which block normal water flow, and
- torrential rains from tropical systems make landfall.

General Flooding – Shallow Flooding

Shallow flooding occurs in flat areas where there are no clearly defined channels (i.e., rivers and streams) and water cannot easily drain away. There two main types of shallow flooding: sheet flow and ponding. If the surface runoff cannot find a channel, it may flow out over a large area at a somewhat uniform depth in what's called sheet flow. In other cases, the runoff may collect in depressions and low-lying areas where it cannot drain out, creating a ponding effect. Ponding floodwaters do not move or flow away, they remain in the temporary ponds until the water can infiltrate the soil, evaporate, or are pumped out.

Flash Floods

Flash flooding occurs when there is a rapid rise of water along a stream or low-lying area. This type of flooding generally occurs within six hours of a significant rain event and is usually produced when heavy localized precipitation falls over an area in a short amount of time. Considered the most dangerous type of flood event, flash floods happen quickly with little or no warning. Typically, there is no time for the excess water to soak into the ground nor are the storm sewers able to handle the sheer volume of water. As a result, streams overflow their banks and low-lying (such as underpasses, basements etc.) areas can rapidly fill with water.

Flash floods are very strong and can tear out trees, destroy buildings and bridges and roll boulders the size of cars. Flash flood-producing rains can also weaken soil and trigger debris flows that damage homes, roads, and property. A vehicle caught in swiftly moving water can be swept away in a matter of seconds. Twelve inches of water can float a car or small SUV and 18 inches of water can carry away large vehicles.

What is a base flood?

A base flood refers to any flood having a 1% chance of occurring in any given year. It is also known as the 100-year flood or the one percent annual chance flood. The base flood is the national standard used by the National Flood Insurance Program (NFIP) and the State of Illinois for the purposes of requiring the purchase of flood insurance and regulating new development.

Many individuals misinterpret the term "100-year flood". This term is used to describe the risk of future flooding; it does not mean that it will occur once every 100 years. Statistically speaking, a 100-year flood has a 1/100 (1%) chance of occurring in any given year. In reality, a 100-year flood could occur two times in the same year or two years in a row, especially if there are other contributing factors such as unusual changes in weather conditions, stream channelization or changes in land use (i.e., open space land developed for housing or paved parking lots). It is also possible not to have a 100-year flood event over the course of 100 years.

While the base flood is the standard most commonly used for floodplain management and regulatory purposes in the U.S., the 500-year flood is the national standard for protecting critical facilities, such as hospitals and power plants. A 500-year flood has a 1/500 (0.2%) chance of occurring in any given year.

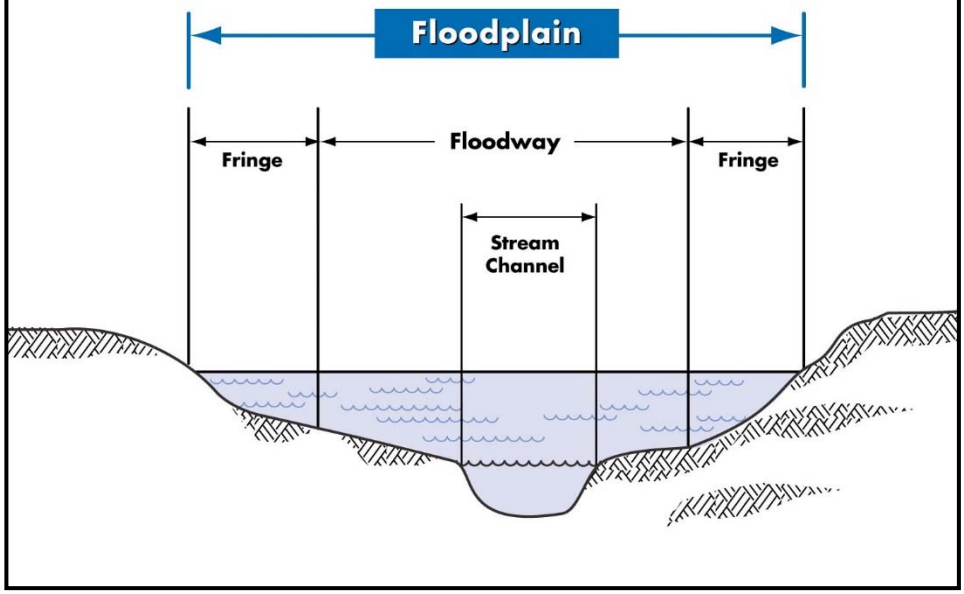
What is a floodplain?

The general definition of a floodplain is any land area susceptible to being inundated or flooded by water from any source (i.e., river, stream, lake, estuary, etc.). This general definition differs slightly from the regulatory definition of a floodplain.

A regulatory or base floodplain is defined as the land area that is covered by the floodwaters of the base flood. This land area is subject to a 1% chance of flooding in any given year. The base floodplain is also known as the 100-year floodplain or a Special Flood Hazard Area (SFHA). It is this second definition that is generally most familiar to people and the one that is used by the NFIP and the State of Illinois.

A base floodplain is divided into two parts: the floodway and the flood fringe. **Figure F-1** illustrates the various components of a base floodplain.

Figure F-1
Floodplain Illustration



Source: Illinois Department of Natural Resources, Quick Guide to Floodplain Management.

The floodway is the channel of a river or stream and the adjacent floodplain that is required to store and convey the base flood without increasing the water surface elevation. Typically, the floodway is the most hazardous portion of the floodplain because it carries the bulk of the base flood downstream and is usually the area where water is deepest and is moving the fastest. Floodplain regulations prohibit construction within the floodway that results in an increase in the floodwater's depth and velocity.

The flood fringe is the remaining area of the base floodplain, outside of the floodway, that is subject to shallow inundation and low velocity flows. In general, the flood fringe plays a relatively insignificant role in storing and discharging floodwaters. The flood fringe can be quite wide on large streams and quite small or nonexistent on small streams. Development within the flood fringe is typically allowed via permit if it will not significantly increase the floodwater's depth or velocity and the development is elevated above or otherwise protected to the base flood elevation.

What is a Special Flood Hazard Area?

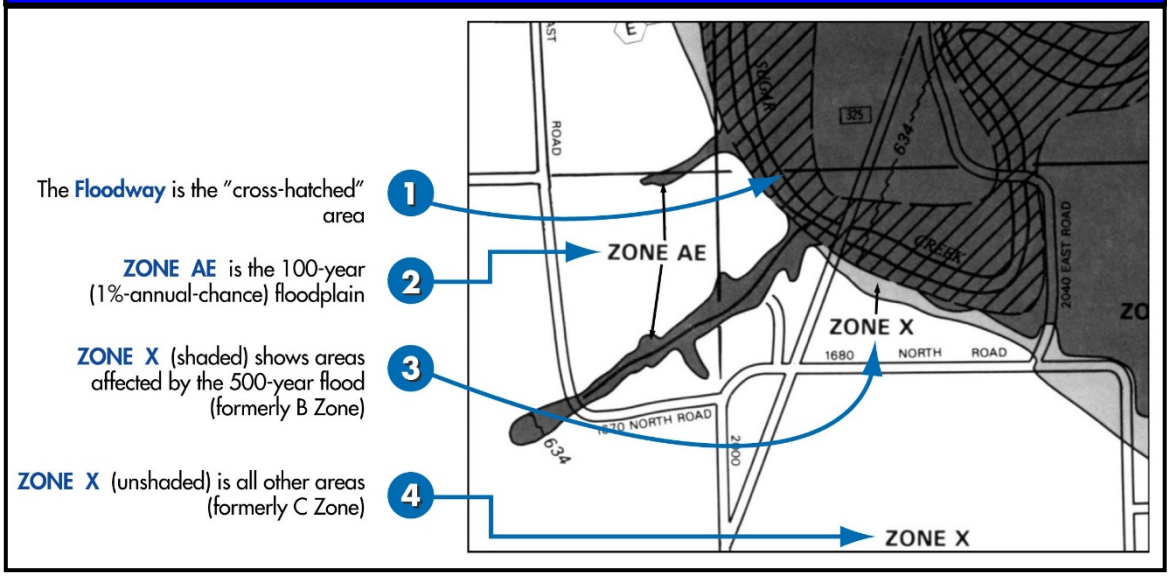
A Special Flood Hazard Area (SFHA) is the base floodplain. As discussed previously, this is the land area that is covered by the floodwaters of the base flood and has a 1% chance of flooding in any given year. The term SFHA is most commonly used when referring to the based floodplain on the Flood Insurance Rate Maps (FIRM) produced by FEMA. The SFHA is the area where floodplain regulations must be enforced by a community as a condition of participation in the NFIP and the area where mandatory flood insurance purchase requirements apply. SFHA are delineated

on the FIRMs and may be designated as Zones A, AE, A1-30, AO, AH, AR, and A99 depending on the amount of flood data available, the severity of the flood hazard or the age of the flood map.

What are Flood Insurance Rate Maps?

Flood Insurance Rate Maps (FIRMs) are maps that identify both the SFHA and the risk premium zones applicable to a community. These maps are produced by FEMA in association with the NFIP for floodplain management and insurance purposes. Digital versions of these maps are referred to as DFIRMs. **Figure F-2** shows an example of a FIRM.

Figure F-2
Example of a Flood Insurance Rate Map (FIRM)



Source: Illinois Department of Natural Resources, Quick Guide to Floodplain Management.

A FIRM will generally show a community's base flood elevations, flood zones and floodplain boundaries. The information presented on a FIRM is based on historic, meteorological, hydrologic, and hydraulic data as well as open-space conditions, flood-control projects, and development. ***These maps only define flooding that occurs when a creek or river becomes overwhelmed. They do not define overland flooding that occurs when an area receives extraordinarily intense rainfall and storm sewers, and roadside ditches are unable to handle the surface runoff.***

What are flood zones?

Flood zones are geographic areas that FEMA has defined according to varying levels of flood risk and type of flooding. These zones are depicted on a community's FIRM. The following provides a brief description of each flood zone.

- **Zone A.** Zone A, also known as the Special Flood Hazard Area (SFHA) or base floodplain, is defined as the floodplain area that has a 1% chance of flooding in any given year. There are multiple Zone A designations, including Zones A, AO, AH, A1-30, AE, AR or A99. Land areas located within Zone A are considered high-risk flood areas.

During a 30-year period, the length of many mortgages, there is at least a 1 in 4 chance that flooding will occur in a SFHA. The purchase of flood insurance is mandatory for all buildings in SFHAs receiving federal or federally-related financial assistance.

- **Zone X (shaded).** Zone X (shaded), formerly known as Zone B, is defined as the floodplain area between the limits of the base flood (Zone A) and the 0.2% chance or 500-year flood. Land areas located within Zone X (shaded) are affected by the 500-year flood and are considered at a moderate risk for flooding.

  Zone X (shaded) is also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, shallow flooding areas with average depths of less than one foot or drainage areas less than one square mile. While flood insurance is not federally required in Zone X (shaded), it is recommended for all property owners and renters.

- **Zone X (unshaded).** Zone X (unshaded), formerly known as Zone C, is defined as all other land areas outside of Zone A and Zone X (shaded). Land areas located in Zone X (unshaded) are considered to have a low or minimal risk of flooding. While flood insurance is not federally required in Zone X (unshaded), it is recommended for all property owners and renters.

What is a Repetitive Loss Structure or Property?

FEMA defines a "repetitive loss structure" as a National Flood Insurance Program-insured structure that has received two or more flood insurance claim payments of more than $1,000 each within any 10-year period since 1978. These structures/properties account for approximately one-fourth of all National Flood Insurance Program (NFIP) insurance claim payments since 1978.

Currently, repetitive loss properties make up about 2% of all NFIP policies, and account for approximately $9 billion in claims or approximately 16% of the total claims paid over the history of the Program. These structures not only increase the NFIP's annual losses, but they also drain funds needed to prepare for catastrophic events. As a result, FEMA and the NFIP are working with states and local governments to mitigate these properties.

What is floodplain management?

Floodplain management is the administration of an overall community program of corrective and preventative measures to reduce flood damage. These measures take a variety of forms and generally include zoning, subdivision or building requirements, special-purpose floodplain ordinances, flood control projects, education, and planning. Where floodplain development is permitted, floodplain management provides a framework that minimizes the risk to life and property from floods by maintaining a floodplain's natural function. Floodplain management is a key component of the National Flood Insurance Program.

What is the National Flood Insurance Program?

The National Flood Insurance Program (NFIP) is a federal program, administered by FEMA, that:

- mitigates future flood losses nationwide through community-enforced building and zoning ordinances; and

- provides access to affordable, federally-backed insurance protection against losses from flooding to property owners in participating communities.

It is designed to provide an insurance alternative to disaster assistance to meet escalating costs of repairing damage to buildings and their contents due to flooding. The U.S. Congress established the NFIP on August 1, 1968 with the passage of the National Flood Insurance Act of 1968. This Program has been broadened and modified several times over the years, most recently with the passage of the Flood Insurance Reform Act of 2004.

Prior to the creation of the NFIP, the national response to flood disasters was generally limited to constructing flood-control projects such as dams, levees, sea-walls, etc. and providing disaster relief to flood victims. While flood-control projects were able to initially reduce losses, their gains were offset by unwise and uncontrolled development practices within floodplains. In light of the continued increase in flood losses and the escalating costs of disaster relief to taxpayers, the U.S. Congress created the NFIP. The intent was to reduce future flood damage through community floodplain management ordinances and provide protection for property owners against potential losses through an insurance mechanism that requires a premium to be paid for protection.

Participation in the NFIP is voluntary and based on an agreement between local communities and the federal government. If a community agrees to adopt and enforce a floodplain management ordinance to reduce future flood risks to new construction in a SFHA (base floodplain), then the government will make flood insurance available within the community as a financial protection against flood losses.

If a community chooses not to participate in the NFIP or a participating community decides not to adopt new floodplain management regulations or amend its existing regulations to reference new flood hazard data provided by FEMA, then the following sanctions will apply.

- Property owners will not be able to purchase NFIP flood insurance policies and existing policies will not be renewed.
- Federal disaster assistance will not be provided to repair or reconstruct insurable buildings located in identified flood hazard areas for presidentially-declared disasters that occur as a result of flooding.
- Federal mortgage insurance and loan guarantees, such as those written by the Federal Housing Administration and the Department of Veteran Affairs, will not be provided for acquisition or construction purposes within an identified flood hazard area. Federally-insured or regulated lending institutions, such as banks and credit unions, are allowed to make conventional loans for insurable buildings in identified flood hazard areas of non-participating communities. However, the lender must notify applicants that the property is in an identified flood hazard area and that it is not eligible for federal disaster assistance.
- Federal grants or loans for development will not be available in identified flood hazard areas under programs administered by federal agencies such as the Environmental Protection Agency, Small Business Administration and the Department of Housing and Urban Development.

What is the NFIP's Community Rating System?

The NFIP's Community Rating System (CRS) is a voluntary program developed by FEMA to provide incentives (in the form of flood insurance premium discounts) for NFIP participating communities that have gone beyond the minimum NFIP floodplain management requirements to develop extra measures to provide protection from flooding. CRS discounts on flood insurance premiums range from 5% up to 45%. The discounts provide an incentive for communities to implement new flood protection activities that can help save lives and property when a flood occurs.

Are alerts issued for flooding?

Yes. The National Weather Service Weather Forecast Office in Chicago, Illinois is responsible for issuing ***flood watches*** and ***warnings*** for Kankakee County depending on the weather conditions. The following provides a brief description of each type of alert.

- **Flood Watch.** A flood watch is issued when atmospheric and hydrologic conditions are favorable for long duration river flooding or areal flooding (the gradual ponding or buildup of water in low-lying, flood-prone areas as well as small creeks and streams that develops gradually, usually from prolonged and persistent moderate to heavy rainfall).
- **Flash Flood Watch.** A flash flood watch is issued when atmospheric and hydrologic conditions are favorable for short duration flash flooding and/or a dam break is possible.
- **Flood Advisory.** A flood advisory is issued when thunderstorms have produced heavy rainfall that may result in ponding of water on roadways and in low-lying areas, as well as rises in small stream levels but is not expected to pose an immediate threat to life and/or property.
- **Flood Warning**. A flood warning is issued when long duration river flooding or areal flooding (the gradual ponding or buildup of water in low-lying, flood-prone areas as well as small creeks and streams) is occurring or is imminent and may result from excessive rainfall, rapid snow melt, ice jams on rivers or other similar causes.
- **Flash Flood Warning.** A flash flood warning is issued when short duration flash flooding has developed due to excessive rainfall, or a dam break has occurred.

HAZARD PROFILE

The following identifies past occurrences of floods; details the severity or extent of each event (if known); identifies the locations potentially affected; and estimates the likelihood of future occurrences.

When has flooding occurred previously? What is the extent of these previous floods?

Tables 5 and **6**, located in **Appendix J**, summarize the previous occurrences as well as the extent or magnitude of flood events recorded in Kankakee County. The flood events are separated into two categories: general floods (riverine and shallow/overland) and flash floods.

General Floods

NOAA's Storm Events Database, NWS's Advanced Hydrologic Prediction Service, and the U.S. Army Corps of Engineers' river gauge data were used to document 108 occurrences of general

flooding in Kankakee County between 1979 and 2022. The County was included in a major federal disaster declaration for flooding from June 1973.

Based on historical gauge data, the record setting Kankakee River flood at Momence occurred on March 6, 1979 when the River crested at 10.51 feet. The second and third highest crests at this location occurred in 1930 and 1928 respectively. The record setting Iroquois River flood near Chebanse occurred on March 7, 1979 when the River crested at 21.68 feet. The second and third highest crests at this location occurred in 2019 and 2008 respectively.

Flash Floods

NOAA's Storm Events Database and Iowa State University's National Weather Service Watch, Warning, and Advisories database were used to document 58 reported occurrences of flash flooding in Kankakee County between 1996 and 2022.

Flood Fast Facts – Occurrences

Number of General Floods Reported (1979 – 2022): ***108***

Number of Flash Floods Reported (1996 – 2022): ***58***

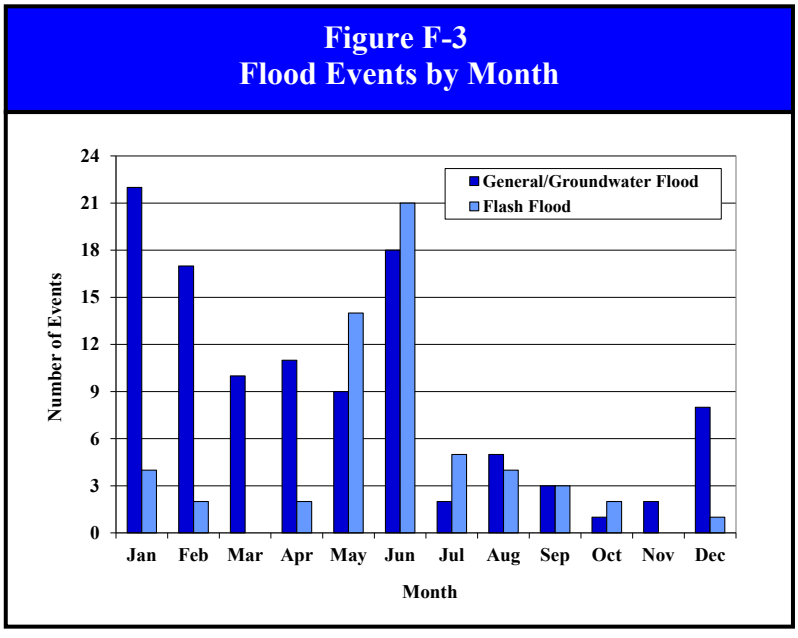
Most Likely Month for General Floods to Occur: ***January***

Most Likely Month for Flash Floods to Occur: ***June***

Number of Federal Disaster Declarations Related to General and Flash Flooding: ***1***

Figure F-3 charts the reported occurrences of flooding by month. Of the 108 general flood events, 60 (56%) began in January, February, March and April making this the peak period for general flooding. Of those 60 events, 22 (37%) began during January making this the peak month for general flooding. There were 14 events that spanned two or more months; however, for illustration purposes only the month the event started in is graphed.

Figure F-3
Flood Events by Month



In comparison, 35 of the 58 flash flood events (60%) took place between May and June making this the peak period for flash floods. Of the 35 events, 21 (60%) occurred in June making this the

peak month for flash flooding. Of the flash flood events with recorded times, 69% began during the p.m. hours.

What locations are affected by floods?

While specific locations are affected by general flooding, most areas of the County can be impacted by overland and flash flooding because of the topography and seasonally high water table of the area. In Kankakee County, approximately 7.4% of the area in the County is designated as being within the base floodplain and susceptible to riverine floods. The 2018 Illinois Natural Hazard Mitigation Plan classifies Kankakee County's hazard rating for floods as "medium."

Figure F-4 identifies the floodplains in Kankakee County as well as the participating jurisdictions. This map is based on the most current Kankakee County DFRIMs that became effective February 15, 2019. While a large portion of the area prone to riverine flooding is in unincorporated portions of the County, Aroma Park, Bourbonnais, Bradley, Chebanse, Grant Park, the City of Kankakee, Limestone, Manteno, Momence, Sammons Point, and Sun River Terrace are also susceptible to riverine flooding because of their proximity to floodplains. **Appendix K** contains maps identifying the floodplains located in each of the participating municipalities.

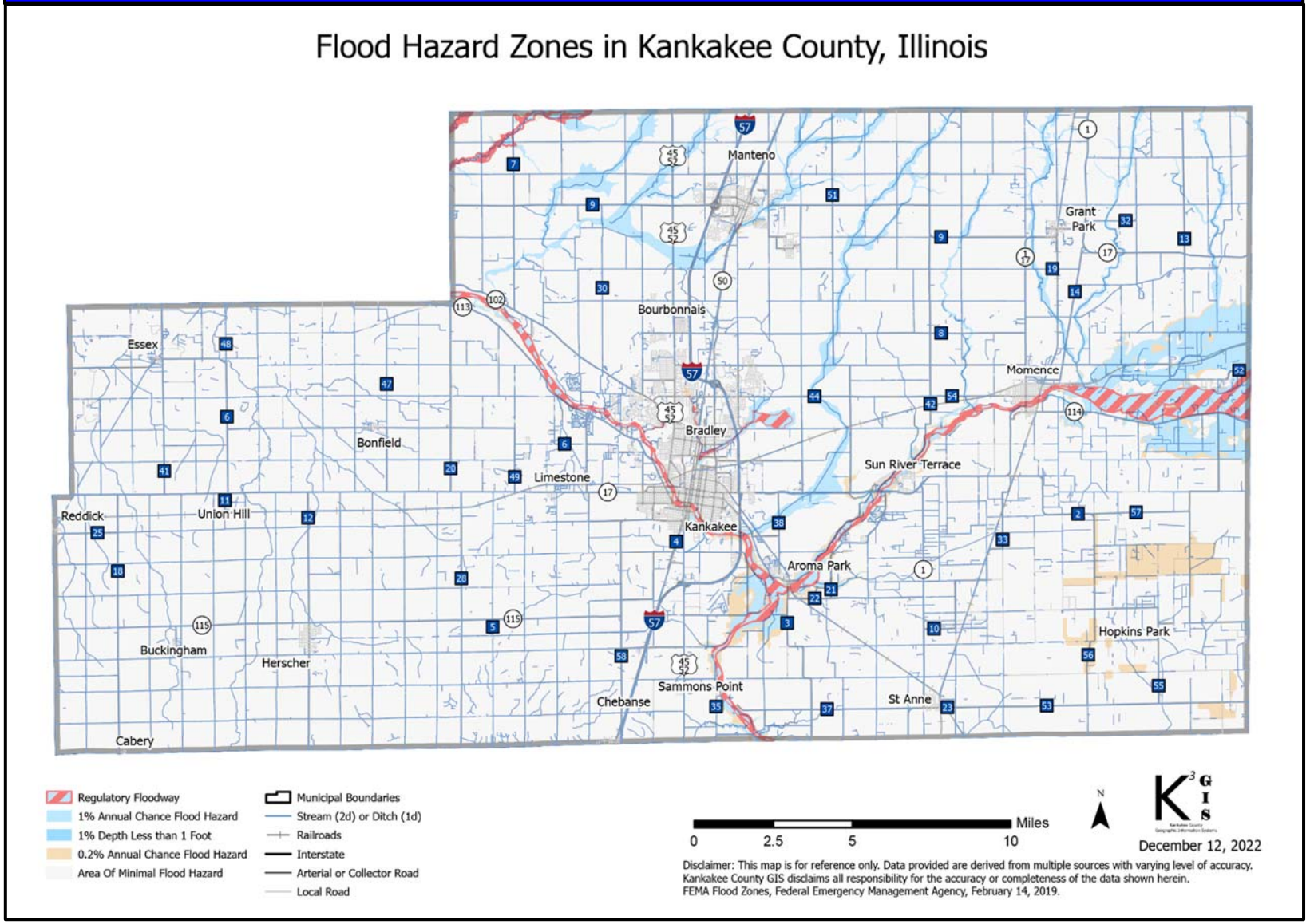
Figure F-5 identifies the bodies of water within or immediately adjacent to participating jurisdictions that are known to cause flooding or have the potential to flood. Water bodies with Special Flood Hazard Areas located within a participating jurisdiction (as identified on the DFIRMs) are identified in bold.

Figure F-5
Bodies of Water Subject to Flooding

Participating Jurisdiction	Water Bodies
Aroma Park	**Iroquois River, Kankakee River, Spring Creek**
Bourbonnais	**Kankakee River, Unnamed Tributary Kankakee River, North Branch Soldier Creek**
Bradley	**Kankakee River, Soldier Creek, Unnamed Tributary of Soldier Creek**
Grant Park	**Pike Creek, Trim Creek**
Hopkins Park	**---**
Kankakee, City of	**Gar Creek, Kankakee River, Soldier Creek,**
Manteno	**South Branch Rock Creek, Unnamed Tributary to Rock Creek**
Union Hill	**---**
Unincorporated Kankakee County	**Baker Creek,** Bertrand Branch, **Black Walnut Creek, Bull Creek, Caravan Creek, Crane Creek, Davis Creek, Deer Creek,** East Branch Horse Creek, East Branch Tower Creek, **Exline Slough, Farr Creek, Gar Creek,** Granary Creek, Horse Creek, **Iroquois River, Kankakee River,** Lehigh Raymond Run, Little Beaver Creek, **Marshall Creek, Minnie Creek, North Branch Rock Creek, Pike Creek, Rock Creek, South Branch Forked Creek, South Branch Rock Creek, Singleton Ditch,** South Bonfield Branch, **Spring Creek,** Terry Creek, **Tower Creek**, Trail Creek, **Trim Creek,** West Branch Horse Creek

Source: FEMA's DFIRMs.

Figure F-4
Floodplain Areas in Kankakee County



Municipal, Township, and County officials have reported overland flood issues outside of the base floodplain in most of the participating municipalities and many unincorporated portions of the County. This overland flooding is known to impair travel.

What jurisdictions within the County take part in the NFIP?

Participating Jurisdictions

Kankakee County, Aroma Park, Bourbonnais, Bradley, the City of Kankakee, and Manteno participate in the NFIP. **Figure F-6 *provides information on each NFIP-participating jurisdiction,*** including the date each participant joined, the date of their current effective FIRM and the year of their most recently adopted floodplain zoning ordinance. Hopkins Park and Union Hill have no identified flood hazard boundaries within their corporate limits and do not wish to participate in the NFIP at this time. While the current effective DFIRM for Grant Park (dated January 20, 2010) does identify SFHAs within its limits, the Village chose not to adopt floodplain regulations and participate in the NFIP. As a result, the Village is listed as a community not in the NFIP with a sanction date of January 20, 2011 in FEMA's Community Status Book Report for Illinois. The current Village administration does not see the need to participate since the area within the SFHA is farmland and does not contain any structures.

Figure F-6
NFIP Participating Jurisdictions

Participating Jurisdictions	Participation (Date)	Current Effective FIRM (Date)	Floodplain Zoning/FIRM Adoption Ordinance (Year)	Adoption of Minimum NFIP Criteria (Yes/No)*	Local Floodplain Management Regulations Implemented & Enforced (Yes/No)	Position Responsible for Implementation of NFIP Commitments/ Requirements	CRS Participation
Kankakee County	07/02/1979	02/15/2019	2018	Yes	Yes	Planning Director	No
Aroma Park	11/02/1977	01/20/2010	2009	Yes	Yes	Village President	No
Bourbonnais	09/29/1978	01/20/2010	2010	Yes	Yes	Building Commissioner/ Floodplain Manager	No
Bradley	03/01/1978	01/20/2010	2010	Yes	Yes	Building Standards Department	No
Kankakee, City of	04/17/1978	01/20/2010	2010	Yes	Yes	Floodplain Manager	No
Manteno	11/02/1977	02/15/2019	2019	Yes	Yes	Building & Zoning Director	No

* In Kankakee County, all the NFIP-participating jurisdictions have adopted the State of Illinois model floodplain ordinance. This ordinance goes above and beyond NFIP minimum standards and has much more restrictive floodway regulations. As a result, all of the NFIP-participating jurisdictions are in compliance with NFIP requirements.

Discussions with the individuals responsible for implementation of the NFIP commitments and requirements within their jurisdiction and a review of the participating jurisdictions floodplain ordinances indicates that each monitor flood events and, when applicable, conduct substantial damage determinations for structures within the floodplain using FEMA's Substantial Damage Estimator Tool. For structures that meet the definition of substantial damage (total cost of repairs is 50% or more of the structure's market value before the disaster occurred, regardless of the cause of damage), the owners are notified, and the structure must be brought back into compliance with local floodplain management regulations.

Participating jurisdictions will continue to comply with the NFIP by implementing mitigation projects and activities that enforce this ordinance to reduce future flood risks to new construction within the SFHA. At this time no new construction is planned within the base floodplain. Continued compliance with NFIP requirements is addressed in the Mitigation Action Tables of the participating jurisdictions found in Section 4.7.

Non-Participating Jurisdictions

Figure F-7 provides information on those incorporated municipalities within the County that chose not to participate in the planning process but take part in the NFIP. Bonfield, Buckingham, Cabery, Essex, Herscher, Irwin, Reddick, and St. Anne have no identified flood hazard boundaries within their corporate limits and have chosen not to participate in the Program. Thile the current effective DFIRM for Limestone (dated January 20, 2010) does identify a small SFHA within its limits, the Village chose not to adopt floodplain regulations and participate in the NFIP. As a result, the Village is listed as a community not in the NFIP with a sanction date of January 20, 2011 in FEMA's Community Status Book Report for Illinois. The current Village administration does not see the need to participate since the area within the SFHA, which is a natural drainage way, does not include any structures.

Figure F-7
Non-Participating Jurisdiction NFIP Status

Participating Jurisdictions	Participation Date	Current Effective FIRM Date	CRS Participation	Most Recently Adopted Floodplain Zoning Ordinance
Chebanse	05/25/1978	01/20/2010	No	2010
Momence	11/02/1977	01/20/2010	No	2010
Sammons Point	12/21/2018	01/20/2010	No	2018
Sun River Terrace	06/19/1985	01/20/2010	No	2009

Sources: FEMA, Community Status Book Report: Illinois.

What is the probability of future flood events occurring based on historical data?

General Floods

Kankakee County has had 108 verified occurrences of general flooding between 1979 and 2022. With 108 occurrences over the past 44 years, the County should expect at least two general flood events in any given year. It is important to keep in mind there are almost certainly gaps in the general flood data. More events have almost certainly occurred than are documented in this section, which means that the probability is almost certainly higher than reported.

There were 25 years over the past 44 years where two or more general flood events occurred. This indicates that the probability or likelihood that more than one general flood event may occur during any given year within the County is 57%.

Flash Floods

There have been 58 verified flash flood events between 1996 and 2022. With 58 occurrences over the past 27 years, the County should expect at least two flash flood events in any given year. There were 13 years over the past 27 years where two or more flash flood events occurred. This indicates that the probability that more than one flash flood event may occur during any given year within the County is approximately 48%.

What is the probability of future flood events occurring based on modeled future conditions?

In the last 120 years, total annual precipitation in Illinois has increased by between 12% to 15% across the State. This means, according to the Illinois State Climatologist, that we get about an additional 5 inches of yearly rainfall compared to what was expected historically.

This trend is likely to continue, and as a result, precipitation in Illinois is forecasted to increase in coming decades. In addition to changes in the overall amount of precipitation, changes in precipitation patterns indicate that future events will likely be less frequent, but larger and more severe. The Illinois State Climatologist indicates that since the beginning of the 20th Century, Illinois has seen a 40% increase in the number of days with extreme precipitation events (rainfall of 2 inches or greater) per year.

One result of more precipitation overall and an increase in heavy rain events is an increased risk of flooding. In particular, extreme precipitation events are likely to lead to flash floods along rivers and in urban areas, where impermeable surfaces such as buildings, roads, and sidewalks will make drainage systems more likely to be overwhelmed. Rural areas will face different challenges, most notably those close to rivers and in low-lying areas with little or no drainage capability.

Figures SS-8 and **SS-9**, located in Section 3.1, provide tabular and graphical projections for Kankakee County, showing estimations for average annual precipitation in the early, mid, and late 21st century with both low and high estimates for each time period. Most likely, the true value will fall between these two estimates. By midcentury, the average annual precipitation in Kankakee County is projected to increase by two inches per year, while the average number of days with precipitation per year is projected to decrease by 3 to 4 days according to the Climate Mapping for Resilience and Adaptation's Assessment Tool.

By midcentury, the annual number of days with total precipitation greater than 1 inch is projected to increase by one day. The annual number of days with total precipitation greater than 2 inches is not projected to increase significantly. This is confirmed by the Climate Explorer, which indicates that in Kankakee County the annual counts of intense rainstorms (rainfall of 2 inches or greater in once day) are not projected to increase. This is based on the findings of the 2018 National Climate Assessment and compares projections for the middle third of the century (2035-2064) with average conditions observed from 1961-1990.

Taken together, the projected increase in annual rainfall, the decrease in frequency of rain events, and the negligible threat of intense rain events in Kankakee County means that the likelihood of flooding may be slightly higher than it is today.

HAZARD VULNERABILITY

The following describes the vulnerability to participating jurisdictions, identifies the impacts on public health and property (if known) and estimates the potential impacts on public health and safety as well as buildings, infrastructure, and critical facilities from floods.

Several factors including topography, precipitation, and an abundance of rivers and streams make Illinois especially vulnerable to flooding. According to the Illinois State Water Survey's Climate Atlas of Illinois, since the 1940s Illinois climate records have shown an increase in heavy precipitation, which has led to increased flood peaks on Illinois rivers.

Are the participating jurisdictions vulnerable to flooding?

Yes. Kankakee County and the participating jurisdictions are vulnerable to the dangers presented by flooding. Precipitation levels and topography are factors that cumulatively make virtually the entire County susceptible to some form of flooding. Flooding occurs along the floodplains of all the rivers, streams, and creeks within the County as well as outside of the floodplains in low-lying areas where drainage problems occur. Since 2013, Kankakee County has experienced 25 general flood events and 25 flash flood events.

Figure F-8 details the number of *recorded* flash flood events by participating jurisdiction. Of the 108 general flood events, 96 impacted either a large portion or the entire County and were not location specific. Four of the remaining 12 events took place in Bradley, three took place in Bourbonnais, two took place in or near the City of Kankakee, and one each took place near Aroma Park, Grant Park, and Manteno.

Vulnerability to flooding can change depending on several factors, including land use. As land used primarily for agricultural and open space purposes is converted for residential and commercial/industrial uses, the number of buildings and impervious surfaces (i.e., parking lots, roads, sidewalks, etc.) increases. As the number of buildings and impervious surfaces increases, so too does the potential for flash flooding. Rather than infiltrating the ground slowly, rain and snowmelt that falls on impervious surfaces runs off and fills ditches and storm drains quickly creating drainage problems and flooding. According to the Multi-Resolution Land Characteristics (MRLC) Consortium, approximately 8.3% of the County's land cover is considered developed with 3.7% impervious surfaces. Areas with impervious surface rates approaching or exceeding 12 to 15 percent will likely experience negative impacts to water quality. Between 2013 and 2019 approximately 0.41 square miles of development and 0.68 square miles of impervious surfaces were gained.

As described in Section 1.3 Land Use and Development Trends, substantial changes in land use (from forested, open, and agricultural land to residential, commercial, and industrial) are not anticipated within the County in the immediate future. No substantial increases in residential or commercial/industrial developments are expected within the next five years.

Figure F-8 Verified Flash Flood Events by Participating Jurisdiction		
Participating Jurisdiction	**Number**	**Year**
Aroma Park	8	1999, 2000, 2001, 2007, 2010, 2011, 2015, 2020
Bourbonnais[2]	15	1999, 2000, 2001, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2013, 2015, 2017, 2020
Bradley	18	1999, 2000, 2001, 2004, 2007, 2008, 2008, 2009, 2010, 2010, 2011, 2012, 2013, 2013, 2015, 2017, 2020, 2020
Grant Park	8	1999, 2000, 2001, 2007, 2010, 2011, 2015, 2020
Hopkins Park	8	1999, 2000, 2001, 2007, 2010, 2011, 2015, 2020
Kankakee, City of[1,5,6]	17	1999, 2000, 2001, 2006, 2007, 2008, 2008, 2008, 2010, 2010, 2011, 2012, 2013, 2013, 2015, 2017, 2020
Manteno[3]	9	1999, 2000, 2001, 2007, 2010, 2011, 2015, 2019, 2020
Momence[4]	11	1999, 2000, 2001, 2007, 2010, 2011, 2012, 2014, 2015, 2020, 2020
Union Hill	8	1999, 2000, 2001, 2007, 2010, 2011, 2015, 2020
countywide	8	1999, 2000, 2001, 2007, 2010, 2011, 2015, 2020
central portion of the County	4	1996, 2010, 2016, 2019
eastern portion of the County	3	2009, 2015, 2019
southern portion of the County	2	2010, 2016
southeastern portion of the County	4	2008, 2011, 2015, 2015
southwestern portion of the County	2	2012, 2016
northern portion of the County	7	1996, 1997, 1999, 2008, 2008, 2009, 2012
northcentral portion of the County	2	2010, 2015
northeastern portion of the County	3	2011, 2021, 2021
northwestern portion of the County	3	1999, 2009, 2013
western portion of the County	3	1997, 2015, 2022

[1] Kankakee Community College [2] Bourbonnais FPD [3] Manteno Community FPD
[4] Momence FPD [5] Ascension Saint Mary Kankakee [6] Riverside Medical Center

Have any of the participating jurisdictions identified specific assets vulnerable to the impacts of flooding?

Yes. Based on responses to a Critical Facilities Vulnerability Survey distributed to the participating jurisdictions, the following jurisdictions considered specific assets within their jurisdiction vulnerable to flooding.

Aroma Park:

- Flooding along the Kankakee River has closed down roads within the Village leaving residents with no way to get in or out of their homes. In addition, sewer service has to be shut down to flooded areas.

Ascension Saint Mary Kankakee:

- The medical complex is located near the Kankakee River and a portion of the facility is located in the 500-year floodplain.

Bourbonnais:

- The greatest vulnerability to the Village's assets is flooding along the Kankakee River.

Bourbonnais Fire Protection District:
- An assisted living center has had to be sandbagged around during heavy rain events. The runoff created by the heavy rain events flows to retention ponds and other waterways that become overwhelmed by volume of water.

Bourbonnais Township:
- Flooding can impede travel on rural roads, causing adverse travel and delays in emergency response times. More specifically flooding impacts Illinois Route 50 and Larry Power Road which is a major access road into multiple municipalities and jurisdictions.

Bradley:
- The Kankakee River Metropolitan Agency (KRMA), which provides wastewater treatment for the village of Aroma Park, Bourbonnais, and Bradley and the City of Kankakee, is located along the River and portions of the facility are located in the 500-year floodplain. The facility is undersized and has on occasion released wastewater into the River during flood events.

Grant Park:
- The main road through the Village floods during heavy rain events, impeding travel.

Kankakee, City of:
- The Kankakee River floods frequently and has the potential to affect multiple bridges with the City.

Kankakee County:
- Heavy rains can cause flooding that forces the closure of roads within the County.

Manteno:
- A couple of the main roads in the Village experience flooding from Rock Creek following significant heavy rain events.

What impacts resulted from the recorded floods?

Floods as a whole have caused a minimum of $1.8 million in property damages and $40.6 million in crop damages. The following provides a breakdown by category. In comparison, the State of Illinois has averaged an estimated $257 million annually in property damage losses, making flooding the single most financially damaging natural hazard in Illinois.

Flood Fast Facts – Impacts/Risk

General Flood Impacts:
- Total Property Damage (2 events): ***$1,600,000***
- Total Crop Damage (7 events): ***$40,659,971***
- Injuries: ***n/a***
- Fatalities: ***n/a***

Flash Flood Impacts:
- Total Property Damage (3 events): ***$250,000***
- Total Crop Damage: ***n/a***
- Injuries: ***n/a***
- Fatalities: ***n/a***

Flood Risk/Vulnerability to:
- Public Health & Safety – General Flooding: ***Low***
- Public Health & Safety – Flash Flooding: ***Medium***
- Buildings/Infrastructure/Critical Facilities: ***Medium to High***

General Floods

Data obtained from NOAA's Storm Events Database indicates that between 1979 and 2022, nine of the 108 general flood events caused $1,600,000 in property damages and $40,659,971 in crop damages. Damage information was either unavailable or none was recorded for the remaining 99 reported occurrences. No injuries or fatalities were reported as a result of any of the recorded events.

Flash Floods

Data obtained from NOAA's Storm Events Database indicates that between 1996 and 2022, three of the 58 flash flood events caused $250,000 in property damages. Damage information was either unavailable or none was recorded for the remaining 55 reported occurrences. No injuries or fatalities were reported as a result of any of the recorded events.

What other impacts can result from flooding?

One of the primary threats from flooding is drowning. Nearly half of all flash flood fatalities occur in vehicles as they are swept downstream. Most of these fatalities take place when people drive into flooded roadway dips and low drainage areas. It only takes two feet of water to carry away most vehicles.

Floodwaters also pose biological and chemical risks to public health. Flooding can force untreated sewage to mix with floodwaters. The polluted floodwaters then transport the biological contaminants into buildings and basements and onto streets and public areas. If left untreated, the floodwaters can serve as breeding grounds for bacteria and other disease-causing agents. Even if floodwaters are not contaminated with biological material, basements and buildings that are not properly cleaned can grow mold and mildew, which can pose a health hazard, especially for small children, the elderly, and those with specific allergies.

Flooding can also cause chemical contaminants such as gasoline and oil to enter the floodwaters if underground storage tanks or pipelines crack and begin leaking during a flood event. Depending on the time of year, floodwaters also may carry away agricultural chemicals that have been applied to farm fields.

Structural damage, such as cracks forming in a foundation, can also result from flooding. In most cases, however, the structural damage sustained during a flood occurs to the flooring, drywall, and wood framing. In addition to structural damage, a flood can also cause serious damage to a building's content.

Infrastructure and critical facilities are also vulnerable to flooding. Roadways, culverts, and bridges can be weakened by floodwaters and have been known to collapse under the weight of a vehicle. Buried power and communication lines are also vulnerable to flooding. Water can infiltrate lines and cause disruptions in power and communication.

What is the level of vulnerability to public health and safety from floods?

While both general and flash floods occur on a regular basis within the County, the number of injuries and fatalities is low. In terms of the risk or vulnerability to public health and safety from general floods, the risk is seen as ***low***. However, one-third of the recorded flood events were the result of flash flooding. Since there is very little warning associated with flash flooding the risk to public health and safety from flash floods is elevated to ***medium***.

Are there any repetitive loss structures/properties within Kankakee County?

Yes. According to information obtained from FEMA, there are seven repetitive loss structures located Aroma Park, four in the City of Kankakee, and 77 in unincorporated Kankakee County. As described previously, FEMA defines a "repetitive loss structure" as an NFIP-insured structure

that has received two or more flood insurance claim payments of more than $1,000 each within any 10-year period since 1978.

Figure F-9 identifies the repetitive flood loss structures by jurisdiction and provides the total flood insurance claim payments. The exact location and/or address of the insured structures are not included in this Plan to protect the owners' privacy. According to FEMA, there have been 299 flood insurance claim payments totaling $5,785,859.96 for the 88 repetitive flood loss structures.

Figure F-9
Repetitive Flood Loss Structures

Jurisdiction	Structure Type	Number of Structures	Number of Claim Payments	Flood Insurance Claim Payments		Total Flood Insurance Claim Payments
				Structure	Contents	
Aroma Park	Single Family	7	27	$577,554.04	$69,279.11	$646,833.15
Kankakee, City of	Single Family	4	22	$217,779.81	$65,363.72	$283,143.53
Unincorp. County	Single Family	77	250	$4,344,203.26	$511,680.02	$4,855,883.28
Total:		**88**	**299**	**$5,139,537.11**	**$646,394.13**	**$5,785,859.96**

Source: FEMA Emergency Management Agency

Are existing buildings, infrastructure, and critical facilities vulnerable to flooding?

Yes. **Figure F-10** identifies the *estimated number* of existing structures, their total Equalized Assessed Values (EAVs), and estimated market value by participating jurisdiction located within a floodplain. **Figure F-11** identifies the *estimated number* of existing structures, their total EAVs, and estimated market value by township located within a floodplain. These counts were prepared by the Kankakee County Planning Department using building footprint data from 2010 and tax parcel data from 2021. It should be noted that some buildings are exempt from taxes and do not have an EAV. These structures include schools, churches, government buildings (including critical facilities and infrastructure), and hospitals. The estimated market value of the structures was determined by taking the total EAV for the structures and multiplying that number by three (the assessed value of a structure in Kankakee County is approximately one-third of the market value).

It should be noted that while the identified structures are located in a floodplain, the actual number impacted may vary during a real flood event.

Aside from key roads, bridges, electrical substations, and buried power and communication lines, the following provides a description those jurisdictions that have specific infrastructure/critical facilities located within a floodplain.

Kankakee County

- Portions of the County Highway Department are located in the base/500-year floodplain of the Kankakee River.

Aroma Park

- The Aroma Park FPD is located in the base floodplain of the Kankakee River.

Ascension Saint Mary Kankakee

- A portion of the hospital is located in the 500-year floodplain of the Kankakee River.

Figure F-10
Existing Structures Located within a Floodplain by Participating Jurisdiction

Participating Jurisdiction	Base (100-year) Floodplain			0.2% (500-year) Floodplain		
	Number of Structures (2010)	Total Equalized Assessed Value Structures (2021)	Total Market Value Structures (2021)	Number of Structures (2010)	Total Equalized Assessed Value Structures (2021)	Total Market Value Structures (2021)
Aroma Park	215	$3,266,840	$9,800,520	119	$1,660,404	$4,981,212
Bourbonnais[2]	250	$4,726,329	$14,178,987	238	$4,757,101	$14,271,303
Bradley	632	$8,378,217	$25,134,651	138	$1,893,000	$5,679,000
Grant Park	0	$0	$0	0	$0	$0
Hopkins Park	0	$0	$0	188	$672,156	$2,016,468
Kankakee, City Of[1,5,6]	370	$8,204,896	$24,614,688	347	$7,843,395	$23,530,185
Manteno[3]	221	$841,779	$2,525,337	184	$1,971,343	$5,914,029
Union Hill	0	$0	$0	0	$0	$0
Unincorp. County	3,794	$40,616,117	$121,848,351	1,953	$18,162,063	$54,486,189

[1] Kankakee Community College [2] Bourbonnais FPD [3] Manteno Community FPD
[4] Momence FPD [5] Ascension Saint Mary Kankakee [6] Riverside Medical Center

Bourbonnais/Bourbonnais Township/Bourbonnais FPD

- A small portion of the Bourbonnais Township Maintenance Center is located in the base floodplain of North Branch Soldier Creek.
- A portion of the Bourbonnais FPD's parking lot is located in the base floodplain of North Branch Soldier Creek.

Bradley

- Portions of Bradley East Elementary School and campus are located in the base floodplain of Soldier Creek.
- Portions of Bradley West Elementary School are located in the 500-year floodplain of North Branch Soldier Creek.

Kankakee, City of

- A small portion of the Stone Street Lift Station is location in the base floodplain of the Kankakee River.
- The Kankakee Hydroelectric Plant and utility substation are located in the base and 500-year floodplain of the Kankakee River.
- A portion of the Kankakee River Metropolitan Agency (KRMA) wastewater treatment facility is located in the base and 500-year floodplain of the Kankakee River.
- A portion of Aqua Illinois is located in the base and 500-year floodplain of the Kankakee River.
- Grace Christian Academy is located in the base and 500-year floodplain of Baker Creek.

Kankakee Community College

- Portions of the College and its campus are located in the base and 500-year floodplain of the Kankakee River.

Manteno

- Portions of the Public Works Department are located in the base floodplain of South Branch Rock Creek.

Momence Fire Protection District

- A small portion of the Momence Police Department is located in the 500-year floodplain of the Kankakee River.
- A small portion of the Momence Fire Protection District is located in the 500-year floodplain of the Kankakee River.

Riverside Medical Center

- A portion of the hospital is located in the base floodplain of the Kankakee River.

Figure F-11
Existing Structures Located within a Floodplain by Township

Township	Incorporated Municipalities Located in Township	Base (100-year) Floodplain			0.2% (500-year) Floodplain		
		Number of Structures (2010)	Total Equalized Assessed Value Structures (2021)	Total Market Value Structures (2021)	Number of Structures (2010)	Total Equalized Assessed Value Structures (2021)	Total Market Value Structures (2021)
Aroma	Aroma Park	1,105	$16,789,015	$50,367,045	716	$10,654,014	$31,962,042
Bourbonnais[2]	Bourbonnais, Bradley	992	$15,218,669	$45,656,007	414	$7,038,262	$21,114,786
Essex	Essex	0	$0	$0	0	$0	$0
Ganeer[2]	Momence, Sun River Terrace	287	$1,964,310	$5,892,930	137	$2,007,712	$6,023,136
Kankakee[1,5,6]	Kankakee, City of	547	$11,327,951	$33,983,853	360	$8,495,249	$25,485,747
Limestone	Limestone	58	$1,656,899	$4,970,697	18	$963,198	$2,889,594
Manteno[3]	Manteno	321	$2,038,899	$6,116,697	185	$2,013,485	$6,040,455
Momence[4]	Momence	1,677	$10,168,453	$30,505,359	373	$3,085,197	$9,255,591
Norton	Union Hill, Reddick, Buckingham, Cabery	0	$0	$0	0	$0	$0
Otto	Irwin, Chebanse, Sammons Point	358	$5,482,529	$16,447,587	88	$1,260,475	$3,781,425
Pembroke	Hopkins Park	0	$0	$0	994	$3,089,386	$9,268,158
Pilot	Herscher	0	$0	$0	0	$0	$0
Rockville[3]	---	168	$1,313,751	$3,941,253	1	$9,809	$29,427
Salina	Bonfield	0	$0	$0	0	$0	$0
St. Anne	St. Anne	0	$0	$0	1	$7,762	$23,286
Sumner[3]	---	29	$249,614	$748,842	0	$0	$0
Yellowhead	Grant Park	39	$449,050	$1,347,150	0	$0	$0

[1] Kankakee Community College [2] Bourbonnais FPD [3] Manteno Community FPD
[4] Momence FPD [5] Ascension Saint Mary Kankakee [6] Riverside Medical Center

While only 7.4% of the land area in Kankakee County lies within the base floodplain and is susceptible to riverine flooding, ***almost the entire County is vulnerable to flash flooding***. As a result, ***a majority of the buildings, infrastructure and critical facilities that may be impacted by flooding are located outside of the base floodplain and are not easily identifiable.***

The risk or vulnerability of existing buildings, infrastructure and critical facilities to all forms of flooding is considered to be ***medium to high*** based on: (a) the frequency and severity of recorded flood events within the County; (b) the County's proximity to the Kankakee and Iroquois Rivers and their watersheds; (c) the fact that most of the County is vulnerable to flash flooding; and (d) a majority of the buildings, infrastructure and critical facilities that may be impacted are located outside of the base floodplain.

Are future buildings, infrastructure, and critical facilities vulnerable to flooding?

The answer to this question depends on the type of flooding being discussed.

Riverine Flooding

In terms of riverine flooding, the vulnerability of future buildings, infrastructure and critical facilities located within NFIP-participating jurisdictions is low as long as the existing floodplain ordinances are enforced. Enforcement of the floodplain ordinance is the mechanism that ensures that new structures either are not built in flood-prone areas or are elevated or protected to the base flood elevation.

Flash Flooding

In terms of flash flooding, all future buildings, infrastructure, and critical facilities are still vulnerable depending on the amount of precipitation that is received, the topography, and any land use changes undertaken within the participating jurisdictions.

What are the potential dollar losses to vulnerable structures from flooding?

An estimate of the potential dollar losses to vulnerable structures located within the *participating municipalities and the townships within the County* can be calculated if several assumptions are made. These assumptions represent a probable scenario based on the reported occurrences of flooding in Kankakee County.

The purpose of providing an estimate is to help residents and local officials make informed decisions about how they can better protect themselves and their communities. These estimates are meant to provide a ***general idea*** of the magnitude of the potential damage that could occur from a flood event in each of the participating municipalities and townships.

Assumptions

To calculate the overall potential dollar losses to vulnerable structures from a flood, a set of decisions/assumptions must be made regarding:

- type of flood event;
- scope of the flood event;
- number of potentially-damaged structures;
- value of the potentially-damaged structures; and
- percent damage sustained by the potentially-damaged structures (i.e., damage scenario.)

The following provides a detailed discussion of each decision/assumption.

Type of Flood Event. The first step towards calculating the potential dollar losses to vulnerable structures is to determine the type of flood event that will be used for this scenario. While the County has experienced all forms of flooding, riverine floods have occurred with greater regularity in the County and caused more damages. In addition, identifying structures vulnerable to flash flooding is problematic because most are located outside of the base floodplain and the number of structures impacted can change with each event depending on the amount of precipitation received, the topography and the land use of the area.

Assumption #1

A riverine flood event will impact vulnerable structures.

Therefore, a riverine flood event will be used since it is (a) relatively easy to identify vulnerable structures within each participating jurisdiction (i.e., those structures located within the base floodplain or Special Flood Hazard Areas of any river, stream, or creek); and (b) the number of structures impacted is generally the same from event to event.

Scope of the Flood Event. To establish the number of vulnerable structures (potentially-damaged structures), the scope of the riverine flood event must first be determined. In this scenario, the scope refers to the number of rivers, streams and creeks that overflow their banks and the degree of flooding experienced along base floodplains for each river, stream, and creek.

Assumption #2

All base floodplains will flood and experience the same degree of flooding.

Generally speaking, a riverine flood event only affects one or two rivers or streams at a time depending on the cause of the event (i.e., precipitation, snow melt, ice jam, etc.) and usually does not produce the same degree of flooding along the entire length of the river, stream, or creek. However, for this scenario, it was decided that:

- ❖ all rivers, streams, and creeks with base floodplains would overflow their banks, and
- ❖ the base floodplains of each river, stream, and/or creek would experience the same degree of flooding.

This assumption results in the following conditions for each municipality:

- ➢ Hopkins Park and Union Hill would not experience any flooding since there are no river, stream, or creek base floodplains located within their municipal limits;
- ➢ Aroma Park: Iroquois River, Kankakee River, and Spring Creek would overflow their banks and flood portions of the Village;
- ➢ Bourbonnais: Kankakee River, North Branch Soldier Creek, and an unnamed tributary of the Kankakee River would overflow their banks and flood portions of the Village;
- ➢ Bradley: Kankakee River, North Branch Soldier Creek, and Soldier Creek would overflow their banks and flood portions of the Village;
- ➢ Grant Park: Pike Creek and Trim Creek would overflow their banks and flood small portions on the east and west sides of the Village;

- Kankakee, City of: Gar Creek, Kankakee River, and Soldier Creek would overflow their banks and flood portions of the City; and
- Manteno: South Branch Rock Creek and an unnamed tributary of Rock Creek would overflow their banks and flood portions of the Village.

Number of Potentially-Damaged Structures. Since this scenario assumes that all the base floodplains will experience the same degree of flooding, the number of existing structures located within the base floodplain(s) can be used to determine the number of potentially-damaged structures. **Figures F-10** and **F-11** identify the total number of existing structures located within the base floodplains(s) of each participating municipality and township. These counts were prepared by the Kankakee County Planning Department.

Assumption #3

The number of existing structures located within the base floodplain(s) will be used to determine the number of potentially-damaged structures.

While base floodplains are present within Grant Park, there are no structures located within their limits.

Value of Potentially-Damaged Structures. Now that the number of potentially-damaged structures has been determined, the monetary value of the structures must be calculated. Typically, when damage estimates are prepared after a natural disaster such as a flood, they are based on the market value of the structure. To calculate the market value of the potentially-damaged structures, the equalized assessed value (EAV) of the existing structures was multiplied by three (the assessed value of a structure in Kankakee County is approximately one-third of the market value). **Figures F-10** and **F-11** identify the total EAVs and estimated market value for the existing structures within the base floodplain(s) of each participating municipality and township. These estimates were prepared by the Kankakee County Planning Department.

Assumption #4

The total equalized assessed values of the structures located in the base floodplain will be used to calculate the total market value.

Damage Scenario. The final decision that must be made to calculate potential dollar losses is to determine the percent damage sustained by the structure and the structure's contents during the flood event. In order to determine the percent damage using FEMA's flood loss estimation tables, assumptions must be made regarding (a) the type of structure flooded (i.e., one story no basement, one- or two-story with basement, etc.) and (b) the flood depth. **Figure F-12** calculates the percent loss to a structure and its contents for different scenarios based on flood depth and structure type.

Assumption #5

The potentially-damaged structures are one or two-story homes with basements and the flood depth is two feet.
Structural Damage = 20%
Content Damage = 30%

It is important to note that the Flood Building Loss Estimate Table in **Figure F-12** is based on data from a wide range of building uses, including public/nonprofit, commercial, residential, and mixed buildings.

Figure F-12
FEMA Flood Loss Estimation Tables

Flood Building Loss Estimation Table

Flood Depth (feet)	One Story No Basement (% Building Damage)	Two Story No Basement (% Building damage)	One or Two Story With Basement (% Building damage)	Manufactured Home (% Building damage)
-2	0	0	4	0
-1	0	0	8	0
0	9	5	11	8
1	14	9	15	44
2	22	13	20	63
3	27	18	23	73
4	29	20	28	78
5	30	22	33	80
6	40	24	38	81
7	43	26	44	82
8	44	29	49	82
>8	45	33	51	82

Flood Content Loss Estimation Table

Flood Depth (feet)	One Story No Basement (% Contents Damage)	Two Story No Basement (% Contents damage)	One or Two Story With Basement (% Contents damage)	Manufactured Home (% Contents damage)
-2	0	0	6	0
-1	0	0	12	0
0	13.5	7.5	16.5	12
1	21	13.5	22.5	66
2	33	19.5	30	90
3	40.5	27	34.5	90
4	43.5	30	42	90
5	45	33	49.5	90
6	60	36	57	90
7	64.5	39	66	90
8	66	43.5	73.5	90
>8	67.5	49.5	76.5	90

Source: FEMA, Understanding Your Risks: Identifying Hazards and Estimating Losses

For this scenario it is assumed that the potentially-damaged structures are one- or two-story with basements and the flood depth is two feet. With these assumptions the expected percent damage sustained by the ***structure*** is estimated to be 20% and the expected percent damage sustained by the structure's ***contents*** is estimated to be 30%.

Potential Dollar Losses

Now that all of the decisions/assumptions have been made, the potential dollar losses can be calculated. First, the potential dollar losses to the ***structure*** of the potentially-damaged structures units must be determined. This is done by taking the total market value for the potentially-damaged structures and multiplying that by the percent damage (20%) to get the total structural damage.

Next, the potential dollar losses to the ***content*** of the potentially-damaged structures must be determined. Based on FEMA guidance, the value of a structures' content is approximately 50% of its market value. Therefore, take one-half the total market value for potentially-damaged structures and multiply that by the percent damage (30%) to get the total content damage.

Finally, the ***total potential dollar losses*** may be calculated by adding together the potential dollar losses to the structures and the contents. **Figures F-13 and F-14** provide a breakdown of the total potential dollar losses by participating municipality and township.

This assessment illustrates the potential dollar losses that should be considered when participating jurisdictions are deciding which mitigation projects to pursue. Potential dollar losses caused by riverine flooding to vulnerable structures within the participating municipalities would be expected to ***range from $883,868 in Manteno to $8.7 million in Bradley***. Grant Park, Hopkins Park, and Union Hill do not have any structures considered vulnerable to riverine flooding in this scenario. For the townships, potential dollar losses caused by riverine flooding to vulnerable structures

would be expected to ***range from $262,094 in Sumner Township to $17.6 million in Aroma Township***. Essex Township, Norton Township, Pembroke Township, Pilot Township, Salina Township, and St. Anne Township do not have any structures considered vulnerable to riverine flooding in this scenario.

Figure F-13
Estimated Potential Dollar Losses to Potentially-Damaged Structures from a Riverine Flood Event by Participating Municipality

Participating Jurisdiction	Number of Potentially-Damaged Structures	Total Market Value (TMV) (2021)	Potential Dollar Losses		Total Potential Dollar Losses
			Structure [TMV x 0.2]	Contents [TMV x 0.5 x 0.3]	
Aroma Park	215	$9,800,520	$1,960,104	$1,470,078	$3,430,182
Bourbonnais[2]	250	$14,178,987	$2,835,797	$2,126,848	$4,962,645
Bradley	632	$25,134,651	$5,026,930	$3,770,198	$8,797,128
Grant Park	0	$0	$0	$0	$0
Hopkins Park	0	$0	$0	$0	$0
Kankakee, City of[1,5,6]	370	$24,614,688	$4,922,938	$3,692,203	$8,615,141
Manteno[3]	221	$2,525,337	$505,067	$378,801	$883,868
Union Hill	0	$0	$0	$0	$0

[1] Kankakee Community College [2] Bourbonnais FPD [3] Manteno Community FPD
[4] Momence FPD [5] Ascension Saint Mary Kankakee [6] Riverside Medical Center

Figure F-14
Estimated Potential Dollar Losses to Potentially-Damaged Structures from a Riverine Flood Event by Township

Participating Jurisdiction	Number of Potentially-Damaged Structures	Total Market Value (TMV) (2021)	Potential Dollar Losses		Total Potential Dollar Losses
			Structure [TMV x 0.2]	Contents [TMV x 0.5 x 0.3]	
Aroma	1,105	$50,367,045	$10,073,409	$7,555,057	$17,628,466
Bourbonnais[2]	992	$45,656,007	$9,131,201	$6,848,401	$15,979,602
Essex	0	$0	$0	$0	$0
Ganeer[2]	287	$5,892,930	$1,178,586	$883,940	$2,062,526
Kankakee[1,5,6]	547	$33,983,853	$6,796,771	$5,097,578	$11,894,349
Limestone	58	$4,970,697	$994,139	$745,605	$1,739,744
Manteno[3]	321	$6,116,697	$1,223,339	$917,505	$2,140,844
Momence[4]	1,677	$30,505,359	$6,101,072	$4,575,804	$10,676,876
Norton	0	$0	$0	$0	$0
Otto	358	$16,447,587	$3,289,517	$2,467,138	$5,756,655
Pembroke	0	$0	$0	$0	$0
Pilot	0	$0	$0	$0	$0
Rockville[3]	168	$3,941,253	$788,251	$591,188	$1,379,439
Salina	0	$0	$0	$0	$0
St. Anne	0	$0	$0	$0	$0
Sumner[3]	29	$748,842	$149,768	$112,326	$262,094
Yellowhead	39	$1,347,150	$269,430	$202,073	$471,503

[1] Kankakee Community College [2] Bourbonnais FPD [3] Manteno Community FPD
[4] Momence FPD [5] Ascension Saint Mary Kankakee [6] Riverside Medical Center

Vulnerability of Infrastructure/Critical Facilities

The calculations presented above are meant to provide the reader with a sense of the scope or magnitude of a large riverine flood event in dollars. In terms of businesses, the impacts from a flood event can be physical and/or monetary. Monetary impacts can include loss of sales revenue either through temporary closure or loss of critical services (i.e., power, drinking water, and sewer). Depending on the magnitude of the flood event, the damage sustained by infrastructure and critical facilities can be extensive in nature and expensive to repair. As a result, ***the cumulative monetary impacts to businesses and infrastructure can exceed the cumulative monetary impacts to residences.*** While average dollar amounts cannot be supplied for these items at this time, they should be taken into account when discussing the overall impacts that a large-scale riverine flood event could have on the participating jurisdictions.

In terms of specific infrastructure vulnerability, all or a portion of the following are located within a base floodplain:

Kankakee County: County Highway Department;

Aroma Park: Aroma Park Fire Protection District;

Bourbonnais/Bourbonnais Township/Bourbonnais FPD: Bourbonnais Township Maintenance Center and a portion of the Bourbonnais FPD's parking lot;

Bradley: Bradley East Elementary School;

Kankakee, City of: Stone Street Lift Station, Hydroelectric Plant and utility substation, Kankakee River Metropolitan Agency (KRMA) wastewater treatment facility, Aqua Illinois, and Grace Christian Academy;

Manteno: Public Works Department; and

Riverside Medical Center: Hospital.

No other above-ground infrastructure within the participating jurisdictions, other than key roads and bridges, were identified as being vulnerable to riverine flooding.

Considerations

While the potential dollar loss scenario was only for a riverine flood event, the participating jurisdictions have been made aware through the planning process of the impacts that can result from flash flood events. Kankakee County has experienced multiple events over the last 20 years as have adjoining and nearby counties. These events illustrate the need for officials to consider the overall monetary impacts of all forms of flooding on their communities. All participants should carefully consider the types of activities and projects that can be taken to minimize their vulnerability.

3.3 SEVERE WINTER STORMS

HAZARD IDENTIFICATION

What is the definition of a severe winter storm?

A severe winter storm can range from moderate snow over a few hours to significant accumulations of sleet and/or ice to blizzard conditions with blinding, wind-driven snow that last several days. The amount of snow or ice, air temperature, wind speed and event duration all influence the severity and type of severe winter storm that results. In general, there are three types of severe winter storms: blizzards, heavy snowstorms and ice storms. The following provides a brief description of each type as defined by the National Weather Service (NWS).

- **Blizzards.** Blizzards are characterized by strong winds of at least 35 miles per hour and are accompanied by considerable falling and/or blowing snow that reduces visibility to ¼ mile or less. Blizzards are the most dangerous of all winter storms.
- **Heavy Snowstorms.** Heavy snowstorms are generally defined as producing snowfall accumulations of four inches or more in 12 hours or less or six inches or more in 24 hours or less.
- **Ice Storms.** An ice storm occurs when substantial accumulations of ice, generally ¼ inch or more, build up on the ground, trees and utility lines as a result of freezing rain.

What is snow?

Snow is precipitation in the form of ice crystals. These ice crystals are formed directly from the freezing of water vapor in wintertime clouds. As the ice crystals fall toward the ground, they cling to each other creating snowflakes. Snow will only fall if the temperature remains at or below 32°F from the cloud base to the ground.

What is sleet?

Sleet is precipitation in the form of ice pellets. These ice pellets are composed of frozen or partially frozen rain drops or refrozen partially melted snowflakes. Sleet typically forms in winter storms when snowflakes partially melt while falling through a thin layer of warm air. The partially melted snowflakes then refreeze and form ice pellets as they fall through the colder air mass closer to the ground. Sleet usually bounces after hitting the ground or other hard surfaces and does not stick to objects.

What is freezing rain?

Freezing rain is precipitation that falls in the form of a liquid (i.e., rain drops), but freezes into a glaze of ice upon contact with the ground or other hard surfaces. This occurs when snowflakes descend into a warmer layer of air and melt completely. When the rain drops that result from this melting fall through another thin layer of freezing air just above the surface they become "supercooled", but they do not have time to refreeze before reaching the ground. However, because the raindrops are "supercooled", they instantly refreeze upon contact with anything that is at or below 32°F (i.e., the ground, trees, utility lines, etc.).

Are alerts issued for severe winter storms?

Yes. The NWS Weather Forecast Office in Chicago, Illinois is responsible for issuing ***winter storm watches*** and ***warnings*** for Kankakee County depending on the weather conditions. The following provides a brief description of each type of alert.

- **Watches.** The following watches are issued when conditions are favorable for hazardous winter weather conditions but are not occurring or imminent.
  - **Winter Storm Watch.** A winter storm watch is issued when severe winter storm conditions may occur, including heavy snow, significant ice or sleet accumulations, and any of those accompanied by strong winds that may lead to significant visibility reductions.

- **Advisories.** Winter advisories are issued for winter weather events that pose a significant inconvenience, especially to motorist, but should not be life-threatening if caution is exercised. The following advisories will be issued when an event is occurring or imminent.
  - **Winter Weather Advisory.** Any one of a combination of the following winter weather elements are expected:
    - 3 to 6 inches of snow;
    - light sleet accumulations;
    - light ice accumulations; and/or
    - localized significant visibility reductions due to snow and/or blowing snow.

    A winter weather advisory may be issued for less than 3 inches of snow if significant impacts are expected.

- **Warnings.** Winter weather warnings are issued for events that can be life threatening. The following warnings will be issued when an event is occurring, is imminent, or has a high probability of occurring.

  The following winter weather warnings are issued when severe winter weather conditions are expected to cause a significant impact to life or property. Individuals are advised to avoid travel and stay indoors.
  - **Blizzard Warning.** A blizzard warning is issued when wind speeds of 35 mph or greater are accompanied by considerable falling or blowing snow that frequently reduces visibility to less than ¼ mile for three hours or more.
  - **Winter Storm Warning.** A winter storm warning is issued when:
    - snow amounts of 6 inches or more in 12 hour or 8 inches or more in 24 hours are expected; or
    - heavy sleet accumulations of ½ inch or greater are expected.

    These conditions may or may not be accompanied by wind or other phenomena. A warning may also be issued if conditions approach blizzard criteria and/or have significant impacts, even if snowfall amounts are not expected to reach the criteria above.
  - **Ice Storm Warning.** An ice storm warning is issued when ice accumulations of ¼ inch or more are expected.

HAZARD PROFILE

The following identifies past occurrences of severe winter storms; details the severity or extent of each event (if known); identifies the locations potentially affected; and estimates the likelihood of future occurrences.

When have severe winter storms occurred previously? What is the extent of these previous severe winter storm?
Table 7, located in **Appendix J**, summarize the previous occurrences as well as the extent or magnitude of severe winter storms (snow & ice) recorded in Kankakee County.

Severe Winter Storm Fast Facts – Occurrences

Number of Severe Winter Storm Events Reported (1950 -2022): ***130***
Maximum 24-Hour Snow Accumulation: ***18.5 inches (January 13, 1927)***
Most Likely Month for Severe Winter Storms to Occur: ***January***

NOAA's Storm Events Database, Midwestern Regional Climate Center's cli-MATE database, and NWS's COOP data records were used to document 130 reported occurrences of severe winter storms (snow, ice and/or a combination of both) in Kankakee County between 1950 and 2022. Of the 130 recorded occurrences there were 100 heavy snowstorms or blizzards; 26 combination events (freezing rain, sleet, ice and/or snow); and four ice or sleet storms. Included in the 130 severe winter storms are four events that contributed to two separate federal emergency declarations in Kankakee County.

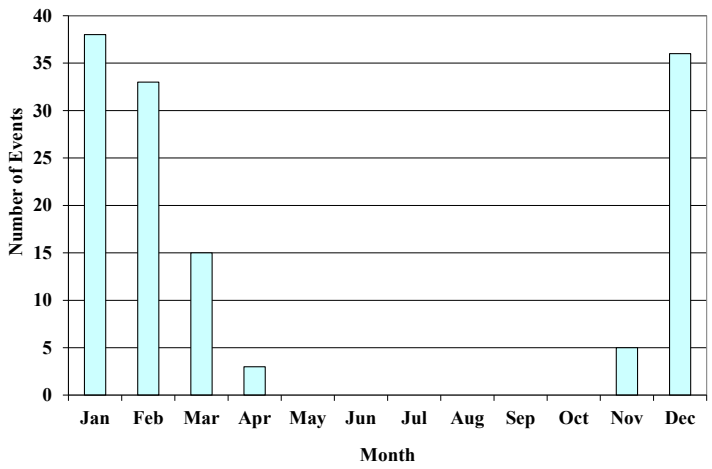
Figure SWS-1 charts the reported occurrences of severe winter storms by month. Of the 130 events, 107 (82%) took place in in December, January, and February making this the peak period for severe winter storms. Of these 107 events, 38 (36%) occurred during January, making this the peak month for severe winter storms. There was one event that spanned two months; however, for illustration purposes only the month when the event started is graphed. Of the winter storm events with recorded times, 51% began during the p.m. hours.

According to the NWS's COOP data records, the maximum 24-hour snow accumulation in Kankakee County is 18.5 inches, which occurred on January 13, 1927 at the Kankakee 3SW NWS COOP Observation Station.

What locations are affected by severe winter storms?
Severe winter storms affect the entire County. All communities in Kankakee County have been affected by severe winter storms. Severe winter storms generally extend across the entire County and affect multiple locations. The 2018 Illinois Natural Hazard Mitigation Plan prepared by IEMA classifies Kankakee County's hazard rating for severe winter storms as "high."

What is the probability of future severe winter storms occurring based on historical data?
Kankakee County has had 130 verified occurrences of severe winter storms between 1950 and 2022. With 130 occurrences over the past 73 years, Kankakee County should expect at least one severe winter storm in any given year. There were 37 years over the past 73 years where two or more severe winter storms occurred. This indicates the probability that more than one severe winter storm may occur during any given year within the County is 51%.

Figure SWS-1
Severe Winter Storms by Month
1950 – 2022



HAZARD VULNERABILITY

The following describes the vulnerability to participating jurisdictions, identifies the impacts on public health and property (if known) and estimates the potential impacts on public health and safety as well as buildings, infrastructure, and critical facilities from severe winter storms.

Are the participating jurisdictions vulnerable to severe winter storms?

Yes. All of Kankakee County, including the participating jurisdictions, is vulnerable to the dangers presented by severe winter storms. Severe winter storms are among the more frequently occurring natural hazards in Illinois. Since 2013, Kankakee County has experienced 26 severe winter storms.

Severe winter storms have immobilized portions of the County, blocking roads; downing power lines, trees, and branches; causing power outages and property damage; and contributing to vehicle accidents. In addition, the County, township, and municipalities must budget for snow removal and de-icing of roads and bridges as well as for roadway repairs.

Have any of the participating jurisdictions identified specific assets vulnerable to the impacts of severe winter storms?

Yes. Based on responses to a Critical Facilities Vulnerability Survey distributed to the participating jurisdictions, the following jurisdictions considered specific assets within their jurisdiction vulnerable to severe winter storms.

Bourbonnais Fire Protection District:

- The potential exists for a severe winter storm to take out a large ComEd electrical substation that provides power to a large number of customers and critical infrastructure in the Village and surrounding communities.

- Severe winter storms have the ability to impact numerous assets within the District such as healthcare, critical infrastructure, educational, hazardous materials and commercial and industrial operations.

Hopkins Park:
- Severe winter storms have the ability to down overhead electric lines causing power outages that could affect critical facilities such as the water treatment facility and service to residents.
- Downed electrical lines and trees can block roadways, impacting travel and access for residents.

Kankakee Community College:
- Power outages caused by severe winter storms affect the College's central boiler plant in addition to disrupting data and network servers.

Manteno:
- Severe winter storms have downed overhead electrical and communication lines causing service disruptions that affect critical services to residents.

Riverside Medical Center:
- Not all of the Center's facilities have emergency backup generators and therefore are vulnerable to power outages caused by severe winter storms.
- Severe winter storms create challenges for staff travel to and from shifts.

Union Hill:
- The Village has experienced power loss during severe winter storms impacting service to residents.

What impacts resulted from the recorded severe winter storms?

Data obtained from NOAA's Storm Events Database indicates that between 1950 and 2022, two of the 130 severe winter storms caused $450,000 in property damages. Property damage information was either unavailable or none was recorded for the remaining 128 reported occurrences.

Severe Winter Storms & Extreme Cold Events
Fast Facts – Impacts/Risk

Severe Winter Storm (Snow & Ice) Impacts:
- Total Property Damage (2 events): ***$450,000***
- Injuries: ***n/a***
- Fatalities: ***n/a***

Severe Winter Storm Risk/Vulnerability:
- Public Health & Safety: ***Low to Medium***
- Buildings/Infrastructure/Critical Facilities: ***Medium***

In comparison, the State of Illinois has averaged $102 million annually in winter storm losses according to the Illinois State Water Survey's Climate Atlas of Illinois, ranking winter storms second only to flooding in terms of economic loss in the State. While behind floods in terms of the amount of property damage caused, severe winter storms have a greater ability to immobilize larger areas, with rural areas being particularly vulnerable.

No injuries or fatalities were reported as a result of any of the recorded severe winter storm events.

What other impacts can result from severe winter storms?

In Kankakee County, vehicle accidents are the largest risk to health and safety from severe winter storms. Hazardous driving conditions (i.e., reduced visibility, icy road conditions, strong winds, etc.) contribute to the increase in accidents that result in injuries and fatalities. A majority of all severe winter storm injuries result from vehicle accidents.

Traffic accident data assembled by the Illinois Department of Transportation from 2016 through 2020 indicates that treacherous road conditions caused by snow/slush and ice were present for 6.2% to 12.9% of all crashes recorded annually in the County. **Figure SWS-2** provides a breakdown by year of the number of crashes and corresponding injuries and fatalities that occurred when treacherous road conditions caused by snow and ice were present.

Figure SWS-2
Severe Winter Weather Crash Data for Kankakee County

Year	Total # of Crashes	Presence of Treacherous Road Conditions caused by Snow/slush and Ice		
		# of Crashes	# of Injuries	# of Fatalities
2016	2,344	199	51	0
2017	2,227	139	28	0
2018	2,413	286	65	1
2019	2,352	304	82	2
2020	1,972	162	39	2
Total:	**11,308**	**1,090**	**265**	**5**

Source: Illinois Department of Transportation.

Persons who are outdoors during and immediately following severe winter storms can experience other health and safety problems. Frostbite to hands, feet, ears and nose and hypothermia are common injuries. Treacherous walking conditions also lead to falls which can result in serious injuries, including fractures and broken bones, especially in the elderly. Over exertion from shoveling driveways and walks can lead to life-threatening conditions such as heart attacks in middle-aged and older adults who are susceptible.

What is the level of risk/vulnerability to public health and safety from severe winter storms?

While severe winter storms occur regularly in Kankakee County, the number of injuries and fatalities is relatively low. Taking into consideration the potential for hazardous driving conditions, snow-removal related injuries, and power outages that could leave individuals vulnerable to hypothermia, the risk to public health and safety of the *general population* from severe winter storms safety is seen as ***low*** to ***medium***.

The level of risk or vulnerability posed by severe winter storms to the public health and safety of *socially vulnerable populations* is considered to be ***medium***. Socially vulnerable populations such as older adults (those 75 years of age and older) are more susceptible to slips and falls caused by treacherous walking conditions and therefore their risk is elevated. **Figure SWS-3** identifies the percent of socially vulnerable populations by participating municipality and the County based on the U.S. Census Bureau's 2016-2020 American Community Survey data.

Figure SWS-3
Socially Vulnerable Populations by Participating Jurisdictions

Participating Jurisdiction	% of Population 75 year of age & Older
Aroma Park	10.1%
Bourbonnais[2]	5.4%
Bradley[6]	8.7%
Grant Park	6.5%
Hopkins Park	10.0%
Kankakee, City of[1,5,6]	6.1%
Manteno[3]	8.9%
Union Hill	0.0%
Unincorp. Kankakee County	8.2%
Kankakee County	7.3%
State of Illinois	6.5%

[1]Kankakee Community College [2]Bourbonnais FPD
[3]Manteno Community FPD [4]Momence FPD
[5]Ascension Saint Mary Kankakee [6]Riverside Medical Center
Source: U.S. Census Bureau.

Are existing buildings, infrastructure, and critical facilities vulnerable to severe winter storms?
Yes. All existing buildings, infrastructure, and critical facilities located in Kankakee County and the participating jurisdictions are vulnerable to damage from severe winter storms.

Structural damage to buildings caused by severe winter storms (snow and ice) is very rare but can occur particularly to flat rooftops. Information gathered from Kankakee County residents indicates that snow and ice accumulations on communication and power lines as well as key roads presents the greatest vulnerability to infrastructure and critical facilities within the County. Snow and ice accumulations on lines often lead to disruptions in communications and create power outages. Depending on the damage, it can take anywhere from several hours to several days to restore service.

In addition to affecting communication and power lines, snow and ice accumulations on state and local roads hampers travel and can cause dangerous driving conditions. Blowing and drifting snow can lead to road closures and increases the risk of automobile accidents. Even small accumulations of ice can be extremely dangerous to motorists since bridges and overpasses freeze before other surfaces.

When transportation is disrupted, schools close, emergency, and medical services are delayed, some businesses close and government services can be affected. When a severe winter storm hits there is also an increase in cost to the County, township, and municipalities for snow removal and de-icing. Road resurfacing and pothole repairs are additional costs incurred each year as a result of severe winter storms.

Based on the frequency with which severe winter storms have occurred in Kankakee County; the damages described; the amount of property damage previously reported; and the potential for disruptions to power distribution and communication; the risk or vulnerability to buildings, infrastructure and critical facilities from severe winter storms is ***medium***.

Are future buildings, infrastructure, and critical facilities vulnerable to severe winter storms?

Yes and No. The County and all of the participating municipalities, with the exception of Union Hill, have building codes in place that will likely help lessen the vulnerability of new buildings and critical facilities to damage from severe storms. However, infrastructure such as new communication and power lines will continue to be vulnerable to severe winter storms, especially to ice accumulations, as long as they are located above ground. Rural areas of the County have experienced extended periods without power due to severe winter storms. Steps to bury all new lines would eliminate the vulnerability, but this action would be cost prohibitive in most areas. In terms of new roads and bridges, there is very little that can be done to reduce or eliminate their vulnerability to severe winter storms.

What are the potential dollar losses to vulnerable structures from severe winter storms?

Unlike other natural hazards, such as tornadoes, there are no standard loss estimation models or methodologies for severe winter storms. Since only two of the 130 recorded events listing property damage numbers for severe winter storms, it is difficult to accurately estimate future potential dollar losses. However, according to the Kankakee County Clerk the total equalized assessed values of all residential, commercial, and industrial buildings in the planning area is $1,908,485,831. Since all of the structures in the planning area are vulnerable to damage, this total represents the countywide property exposure to severe winter storms.

3.4 EXCESSIVE HEAT

HAZARD IDENTIFICATION

What is the definition of excessive heat?

Excessive heat is generally characterized by a prolonged period of summertime weather that is substantially hotter and more humid than the average for a location at that time of year. Excessive heat criteria typically shift by location and time of year. As a result, reliable fixed absolute criteria are not generally specified (i.e., a summer day with a maximum temperature of at least 90°F).

Excessive heat events are usually a result of both high temperatures and high relative humidity. (Relative humidity refers to the amount of moisture in the air.) The higher the relative humidity or the more moisture in the air, the less likely that evaporation will take place. This becomes significant when high relative humidity is coupled with soaring temperatures.

On hot days the human body relies on the evaporation of perspiration or sweat to cool and regulate the body's internal temperature. Sweating does nothing to cool the body unless the water is removed by evaporation. When the relative humidity is high, then the evaporation process is hindered, robbing the body of its ability to cool itself.

Excessive heat is a leading cause of weather-related fatalities in the U.S. According to the Centers for Disease Control and Prevention, a total of 7,415 people died from heat-related illnesses between 1999 and 2010, an average of 618 fatalities a year.

What is the Heat Index?

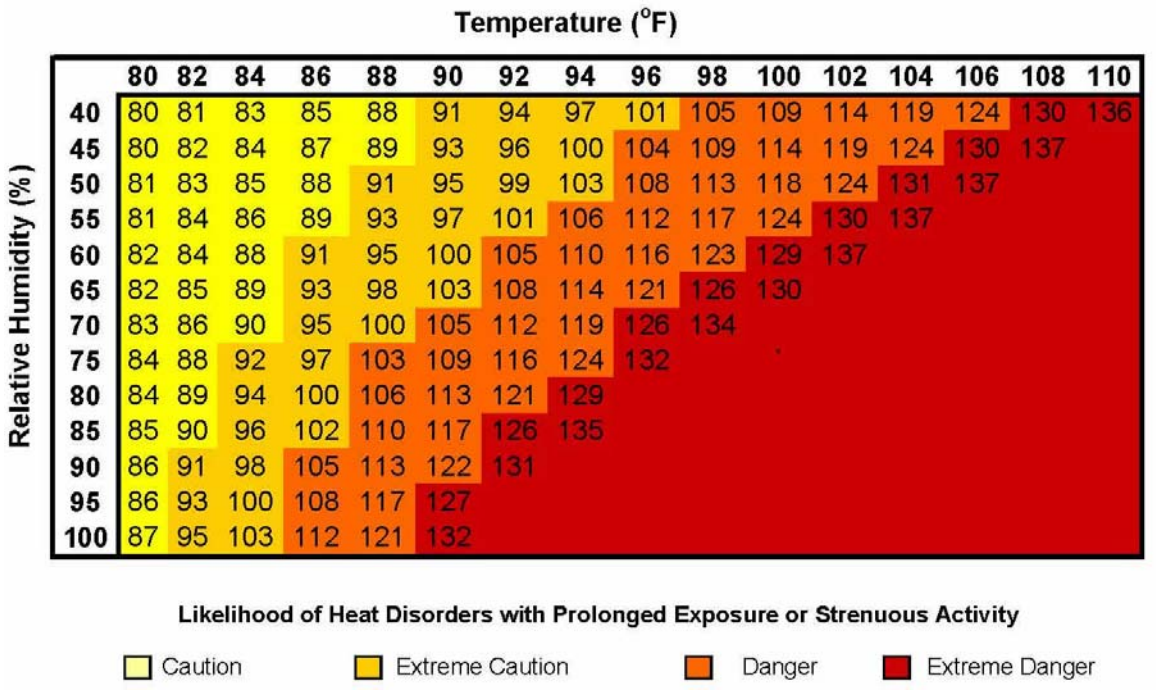
In an effort to raise the public's awareness of the hazards of excessive heat, the National Weather Service (NWS) devised the "Heat Index". The Heat Index, sometimes referred to as the "apparent temperature", is a measure of how hot it feels when relative humidity is added to the actual air temperature. **Figure EH-1** shows the Heat Index as it corresponds to various air temperatures and relative humidity.

As an example, if the air temperature is 96°F and the relative humidity is 65%, then the Heat Index would be 121°F. It should be noted that the Heat Index values were devised for shady, light wind conditions. Exposure to full sunshine can increase Heat Index values by up to 15°F. Also, strong winds, particularly with very hot, very dry air, can be extremely hazardous. When the Heat Index reaches 105°F or greater, there is an increased likelihood that continued exposure and/or physical activity will lead to individuals developing severe heat disorders.

What are heat disorders?

Heat disorders are a group of illnesses caused by prolonged exposure to hot temperatures and are characterized by the body's inability to shed excess heat. These disorders develop when the heat gain exceeds the level the body can remove or if the body cannot compensate for fluids and salt lost through perspiration. In either case the body loses its ability to regulate its internal temperature. All heat disorders share one common feature: the individual has been overexposed to heat, or over exercised for their age and physical condition on a hot day. The following describes the symptoms associated with the different heat disorders.

Figure EH-1
Heat Index



Source: NOAA, National Weather Service.

- **Heat Rash.** Heat rash is a skin irritation caused by excessive sweating during hot, humid weather and is characterized by red clusters of small blisters on the skin. It usually occurs on the neck, chest, groin or in elbow creases.
- **Sunburn.** Sunburn is characterized by redness and pain of skin exposed too long to the sun without proper protection. In severe cases it can cause swelling, blisters, fever and headaches and can significantly retard the skin's ability to shed excess heat.
- **Heat Cramps.** Heat cramps are characterized by heavy sweating and muscle pains or spasms, usually in the abdomen, arms or legs that during intense exercise. The loss of fluid through perspiration leaves the body dehydrated resulting in muscle cramps. This is usually the first sign that the body is experiencing trouble dealing with heat.
- **Heat Exhaustion.** Heat exhaustion is characterized by heavy sweating, muscle cramps, tiredness, weakness, dizziness, headache, nausea or vomiting and faintness. Breathing may become rapid and shallow and the pulse thready (weak). The skin may appear cool, moist and pale. If not treated, heat exhaustion may progress to heat stroke.
- **Heat Stroke (Sunstroke).** Heat stroke is a life-threatening condition characterized by a high body temperature (106°F or higher). The skin appears to be red, hot and dry with very little perspiration present. Other symptoms include a rapid and strong pulse, throbbing headache, dizziness, nausea and confusion. There is a possibility that the individual will become unconsciousness. If the body is not cooled quickly, then brain damage and death may result.

Studies indicate that, all things being equal, the severity of heat disorders tend to increase with age. Heat cramps in a 17-year-old may be heat exhaustion in someone 40 and heat stroke in a person over 60. Elderly persons, small children, chronic invalids, those on certain medications and persons with weight or alcohol problems are particularly susceptible to heat reactions.

Figure EH-2 below indicates the heat index at which individuals, particularly those in higher risk groups, might experience heat-related disorders. Generally, when the heat index is expected to exceed 105°F, the NWS will initiate excessive heat alert procedures.

Figure EH-2
Relationship between Heat Index and Heat Disorders

Heat Index (°F)	Heat Disorders
80°F – 90°F	Fatigue is possible with prolonged exposure and/or physical activity
90°F – 105°F	Heat cramps, heat exhaustion and heat stroke possible with prolonged exposure and/or physical activity
105°F – 130°F	Heat cramps, heat exhaustion and heat stroke likely; heat stroke possible with prolonged exposure and/or physical activity
130°F or Higher	Heat stroke highly likely with continued exposure

Source: NOAA, Heat Wave: A Major Summer Killer.

What is an excessive heat alert?

An excessive heat alert is an advisory or warning issued by the NWS when the Heat Index is expected to have a significant impact on public safety. The expected severity of the heat determines the type of alert issued. There are four types of alerts that can be issued for an extreme heat event. The following provides a brief description of each type of alert based on the ***excessive heat advisory/warning criteria*** established by NWS Weather Forecast Office in Chicago, Illinois. The Chicago Office is responsible for issuing alerts for Kankakee County.

- **Watch.** An excessive heat watch is issued when conditions are favorable for the maximum heat index to potentially reach 110°F or greater and the minimum heat index is to remain at or above 75°F for at least 48 hours.
- **Advisory.** An excessive heat advisory is issued when the maximum heat index is exceeding or expected to exceed 105°F for an event that is occurring or imminent.
- **Warning.** An excessive heat warning is issued where the maximum heat index is expected to reach 110°F or greater and the minimum heat index is expected to remain at or above 75°F for at least 48 hours for an event that is occurring or imminent.

HAZARD PROFILE

The following identifies past occurrences of excessive heat, details the severity or extent of each event (if known); identifies the locations potentially affected and estimates the likelihood of future occurrences.

When have excessive heat events occurred previously? What is the extent of these events?

Table 8, located in **Appendix J**, summarizes the previous occurrences as well as the extent or magnitude of excessive heat events recorded in Kankakee County. NOAA's Storm Events Database, Iowa State University's National Weather Service Watch, Warning, and Advisories database, Midwestern Regional Climate Center's cli-MATE database, and NWS's COOP Data records were used to document 80 occurrences of excessive heat in Kankakee County between 1995 and 2022.

Excessive Heat Fast Facts – Occurrences

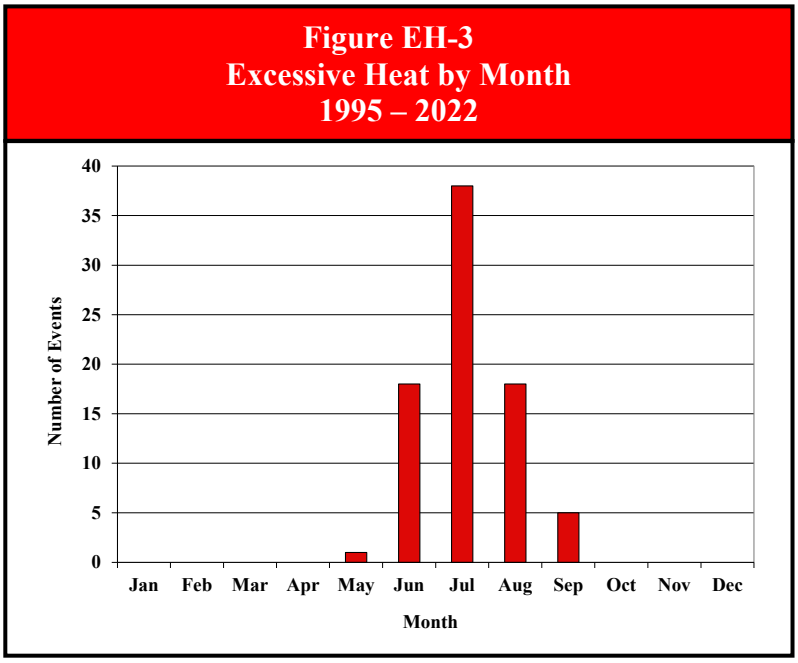
Number of Excessive Heat Events Reported (1995 – 2022): ***80***

Hottest Temperature Recorded in the County: ***109°F (July 14, 1936)***

Most Likely Month for Excessive Heat Events to Occur: ***July***

Figure EH-3 charts the reported occurrences of excessive heat by month. Thirty-eight of the 80 events (48%) began in July making this the peak month for excessive heat events in Kankakee County. There were nine events that spanned two months; however, for illustration purposes only the month the event started is graphed.

Figure EH-3
Excessive Heat by Month
1995 – 2022



According to the Midwestern Regional Climate Center, almost continuous temperature records for Kankakee County were kept from 1917 to 1973 by the Kankakee 3SW NWS COOP Observation Station and at the Kankakee Metro Wastewater NWS COOP Station from 1973 to the present. **Figure EH-4** and **EH-5** list the hottest days recorded at these Stations. Based on the available records, the hottest temperature recorded in the County was 109°F at the Kankakee 3SW COOP Observation station on July 14, 1936.

Figure EH-4
Hottest Days Recorded at the Kankakee Metro Wastewater NWS COOP Observation Station

	Date	Temperature		Date	Temperature
1	8/17/1988	107°F	7	7/31/1999	102°F
2	8/2/1988	104°F	8	7/14/1995	102°F
3	8/18/1988	103°F	9	8/19/1988	102°F
4	6/26/1988	103°F	10	7/16/1988	102°F
5	7/26/1987	103°F	11	7/7/1988	102°F
6	7/25/1987	103°F	12	7/14/1987	102°F

Source: Midwest Regional Climate Center cli-MATE

Figure EH-5
Hottest Days Recorded at the Kankakee 3SW NWS COOP Observation Station

	Date	Temperature		Date	Temperature
1	7/14/1936	109°F	7	7/21/1934	106°F
2	7/23/1934	107°F	8	7/11/1936	105°F
3	7/22/1934	107°F	9	7/8/1936	105°F
4	7/13/1936	106°F	10	7/7/1936	105°F
5	7/25/1934	106°F	11	7/9/1930	105°F
6	7/24/1934	106°F			

Source: Midwest Regional Climate Center cli-MATE

What locations are affected by excessive heat?

Excessive heat affects the entire County. Excessive heat events, like drought and severe winter storms, generally extend across an entire region and affecting multiple counties. The *2018 Illinois Natural Hazard Mitigation Plan* classifies Kankakee County's hazard rating for excessive heat as "medium."

Do any of the participating jurisdictions have designated cooling centers?

Yes. Nine of the 15 participating municipalities, townships, colleges, fire protection districts, and hospitals have designated cooling centers. A "designated" cooling center is identified as any facility that has been *formally* identified by the jurisdiction (through emergency planning, resolution, Memorandum of Agreement, etc.) as a location available for use by residents of the jurisdiction during excessive heat events.

Figure EH-6 identifies the location of each cooling center by jurisdiction. At this time Ascension Saint Mary Kankakee, Aroma Park, Bourbonnais Township, Kankakee Community College, Riverside Medical Center, and Union Hill do not have any cooling centers designated. In addition, there are no State of Illinois-designated cooling centers in Kankakee County.

What is the probability of future excessive heat events occurring based on historical data?

Kankakee County has experienced 80 verified occurrences of excessive heat between 1995 and 2022. With 80 occurrences over the past 28 years, Kankakee County should expect to experience approximately three excessive heat events a year. It is important to keep in mind that there are

almost certainly gaps in the excessive heat data. More events have almost certainly occurred than are documented in this section, which means that the probability is almost certainly higher than reported.

Figure EH-6
Designated Cooling Centers by Participating Jurisdiction

Name/Address	Name/Address
Bourbonnais	*Kankakee, City of*
Municipal Center, 700 Main St. NW	Kankakee County Building, 189 E. Court St.
Bourbonnais Fire Protection District	Libraries or Public Buildings during normal business hours
Public Library, 250 W. John Casey Rd., Bourbonnais	*Manteno*
Bradley	Leo Hassett Community Center, 211 N. Main St.
Bradley Public Library, 296 N. Fulton	Manteno High School, 443 N. Maple St.
River Valley Metro Buses	Manteno Grade School, 50 N. Poplar St.
Grant Park	Manteno Elementary School, 555 W. Cook St.
Grant Park Community Center, 209 W. Dixie Hwy.	*Manteno Community Fire Protection District*
Grant Park Public Library, 107 W. Taylor St.	Leo Hassett Community Center, 211 N. Main St., Manteno
Hopkins Park	*Momence Fire Protection District*
Village Hall, 13043 2260 South Rd.	Momence Fire Protection District, 15 N. Pine St., Momence
Pembroke Township Building, 4019 S. Wheeler Rd.	St. Pat's Church, 119 N. Market St., Momence

There were 16 years over the last 28 years where multiple (three or more) excessive heat events occurred. This indicates that the probability that multiple excessive heat events may occur during any given year within the County is 57%.

What is the probability of future excessive heat events occurring based on modeled future conditions?

Temperature in Illinois has trended upwards over the last century, with average temperatures in Illinois having increased by 1°F to 2°F in the past 120 years according to the Illinois State Climatologist. This trend is likely to continue, with conservative long-term estimates placing average temperatures by the end of the 21st century between 4° and 9° F warmer than they are today.

With increasing temperatures comes the increasing risk of extreme heat events, which are projected to continue to become more frequent and more severe than they have been historically. This is due to increases in temperatures observed during summer months, where just a few degrees difference can turn a hot day into a dangerously hot day. The number of days greater than 95° F in Illinois are forecasted to increase in the coming decades, with conservative projections predicting that even northern Illinois will see a minimum of 10 extreme heat days per year by the end of the 21st century, compared with one or two extreme heat days per year today. Even just a few additional extreme heat days a year could prove very damaging, both in terms of human health and economic costs.

Figures EH-7, EH-8, and **EH-9** provide tabular and graphical projections for Kankakee County, showing estimations for annual high temperature extremes in the early, mid, and late 21st century with both low and high estimates for each time period. Most likely, the true value will fall between these two estimates. By midcentury, the average number of days per year exceeding 90° F in Kankakee County is forecasted to increase from around 16 today to between 48 and 57, and the

single hottest temperature recorded in a year is predicted to increase by 5°F to 6° F according to the Climate Mapping for Resilience and Adaptation's Assessment Tool.

Figure EH-7
Annual High Temperature Extreme Projections Table – Kankakee County

Indicator	Modeled History (1976 - 2005)	Early Century (2015 - 2044)		Mid Century (2035 - 2064)		Late Century (2070 - 2099)	
		Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions
	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max
Temperature thresholds:							
Annual days with maximum temperature > 90°F	16 days 16 - 24	38 days 24 - 67	41 days 28 - 62	48 days 26 - 84	57 days 36 - 88	58 days 30 - 96	90 days 54 - 124
Annual days with maximum temperature > 95°F	3 days 2 - 5	12 days 5 - 31	14 days 5 - 33	19 days 7 - 48	25 days 10 - 59	26 days 9 - 69	55 days 20 - 100
Annual days with maximum temperature > 100°F	0 days 0 - 0	2 days 0 - 10	3 days 0 - 10	4 days 0 - 20	7 days 1 - 30	8 days 1 - 20	26 days 3 - 77
Annual days with maximum temperature > 105°F	0 days 0 - 0	0 days 0 - 2	0 days 0 - 2	1 days 0 - 6	1 days 0 - 7	1 days 0 - 10	9 days 0 - 47
Annual temperature:							
Annual single highest maximum temperature °F	97 °F 96 - 98	100 °F 97 - 107	101 °F 97 - 104	102 °F 98 - 111	103 °F 100 - 108	103 °F 99 - 113	108 °F 101 - 117
Annual highest maximum temperature averaged over a 5-day period °F	92 °F 91 - 93	95 °F 93 - 100	96 °F 93 - 99	97 °F 94 - 104	98 °F 95 - 104	98 °F 94 - 106	103 °F 97 - 110
Cooling degree days (CDD)	928 degree-days 886 - 1008	1,262 degree-days 1,055 - 1,640	1,305 degree-days 1,073 - 1,585	1,441 degree-days 1,107 - 1,929	1,602 degree-days 1,294 - 2,079	1,624 degree-days 1,186 - 2,361	2,278 degree-days 1,632 - 3,159

Figure EH-8
Number of Days with Maximum Temperature > 90°F Graph – Kankakee County

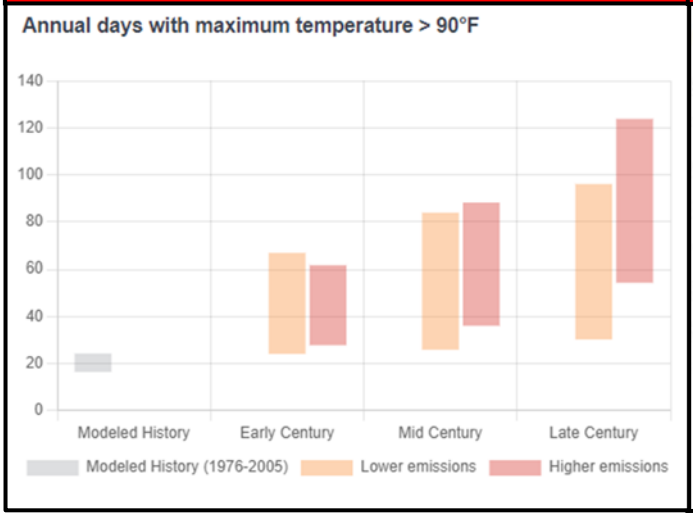
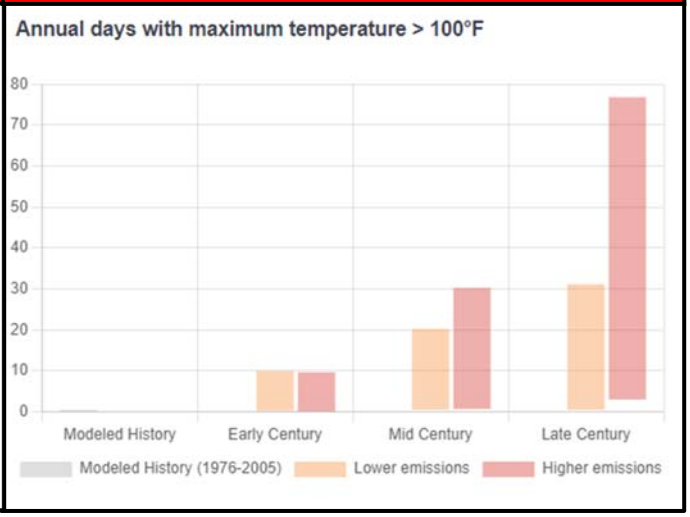


Figure EH-9
Number of Days with Maximum Temperature > 100°F Graph – Kankakee County



The Climate Explorer indicates that in Kankakee County, extreme temperatures on the hottest days of the year are projected to increase by 6°F. This is based on the findings of the 2018 National Climate Assessment and compares projections for the middle third of the century (2035-2064) with average conditions observed from 1961-1990.

Taken together, an increase in the number of days per year with temperatures greater than 90° F and an increase in extreme temperatures on the hottest days for Kankakee County indicates increased risk for extreme heat events.

HAZARD VULNERABILITY

The following describes the vulnerability to participating jurisdictions, identifies the impacts on public health and property (if known) and estimates the potential impacts on public health and safety as well as buildings, infrastructure, and critical facilities from excessive heat.

Are the participating jurisdictions vulnerable to excessive heat?

Yes. All of Kankakee County, including the participating jurisdictions, is vulnerable to the dangers presented by excessive heat. Since 2013, the County has experienced 26 excessive heat events.

Have any of the participating jurisdictions identified specific assets vulnerable to the impacts of excessive heat?

No. Based on responses to a Critical Facilities Vulnerability Survey distributed to the participating jurisdictions, none of the participating jurisdiction considered specific assets within their jurisdiction vulnerable to excessive heat.

What impacts resulted from the recorded excessive heat events?

Damage information was either unavailable or none was recorded for any of the excessive heat events. No injuries or fatalities were reported as a result of an excessive heat event. This does not mean that injuries or fatalities didn't occur; it simply means that excessive heat was not identified as the primary cause. This is especially true for fatalities. Usually, heat is not listed as the primary cause of death, but rather an underlying cause. The heat indices were sufficiently high for all the excessive heat events to produce heat cramps or heat exhaustion with the possibility of heat stroke in cases of prolonged exposure or physical activity.

Excessive Heat Fast Facts – Impacts/Risk

Excessive Heat Impacts:

- Total Property Damage: ***n/a***
- Total Crop Damage: ***n/a***
- Fatalities : ***n/a***
- Injuries: ***n/a***

Excessive Heat Risk/Vulnerability:

- Public Health & Safety – General Population: ***Low***
- Public Health & Safety – Socially Vulnerable Populations: ***Medium***
- Buildings/Infrastructure/Critical Facilities: ***Low***

In comparison, Illinois averages 74 heat-related fatalities annually according to the Illinois State Water Survey's Climate Atlas of Illinois.

What other impacts can result from excessive heat events?

Other impacts of excessive heat include road buckling, power outages, stress on livestock, early school dismissals and school closings. In addition, excessive heat events can also lead to an increase in water usage and may result in municipalities imposing water use restrictions. In Kankakee County, excessive heat has the ability to impact those residents that have surface water as their primary water source. AQUA Illinois, which supplies water to approximately 78,000 Kankakee County residents, uses the Kankakee River as its primary source. Additionally,

excessive heat may impact residents in unincorporated Kankakee County who rely on shallow private wells for their drinking water.

What is the level of vulnerability to public health and safety from excessive heat?

Even if injuries and fatalities due to excessive heat were under reported in Kankakee County, the level of risk or vulnerability posed by excessive heat to the public health and safety of the *general population* is considered to be ***low***. This assessment is based on the frequency with which excessive heat occurs within the County; the impacts associated with these events; the types of living conditions (such as older, poorly-ventilated high rise buildings and low-income neighborhoods) that tend to contribute to heat-related injuries and fatalities; as well as the fact that injuries and fatalities due to excessive heat may be under reported. For the purposes of this analysis, *general population* includes healthy, able-bodied individuals who should have the ability to physiologically acclimatize to hot conditions over a period of days to weeks. Should that prove difficult, cooling centers are available in each participating municipality, with the exception of Aroma Park and Union Hill, to provide relief during peak heat hours.

The level of risk or vulnerability posed by excessive heat to the public health and safety of *socially vulnerable populations* is considered to be ***medium***. Socially vulnerable populations such as older adults (those 75 years of age and older) and small children (those younger than 5 years of age) are more susceptible to heat-related reactions and therefore their risk is elevated. **Figure EH-10** identifies the percent of socially vulnerable populations by participating municipality and the County based on the U.S. Census Bureau's 2016-2020 American Community Survey data. In addition, individuals with chronic conditions, those on certain medications, and persons with weight or alcohol problems are also considered sensitive populations. However, demographic information is not available for these segments of the population.

Figure EH-10
Sensitive Populations by Participating Jurisdictions

Participating Jurisdiction	% of Population 75 year of age & Older	% of Population Younger than 5 years of age	Total % of Sensitive Population
Aroma Park	10.1%	7.4%	17.5%
Bourbonnais	5.4%	4.3%	9.4%
Bradley	8.7%	6.9%	15.6%
Grant Park	6.5%	10.4%	16.9%
Hopkins Park	10.0%	1.4%	11.4%
Kankakee, City of	6.1%	6.9%	13.0%
Manteno	8.9%	3.3%	12.2%
Union Hill	0.0%	8.7%	8.7%
Unincorp. Kankakee County	8.2%	6.2%	14.4%
Kankakee County	7.3%	5.9%	13.2%
State of Illinois	6.5%	6.0%	12.5%

Source: U.S. Census Bureau.

Are existing buildings, infrastructure, and critical facilities vulnerable to excessive heat?

No. In general, existing buildings, infrastructure and critical facilities located in the County and the participating jurisdictions are not vulnerable to excessive heat. The primary concern is for the health and safety of those living in the County (including all of the municipalities).

While buildings do not typically sustain damage from excessive heat, in rare cases infrastructure and critical facilities may be directly or indirectly damaged. While uncommon, excessive heat has been known to contribute to damage caused to roadways within Kankakee County. The combination of excessive heat and vehicle loads has caused pavement cracking and buckling.

Excessive heat has also been known to indirectly contribute to disruptions in the electrical grid. When the temperatures rise, the demand for energy also rises in order to operate air conditioners, fans, and other devices. This increase in demand places stress on the electrical grid components, increasing the likelihood of power outages. While not common in Kankakee County, there is the potential for this to occur. The potential may increase over the next two decades if new power sources are not built to replace the state's aging nuclear power facilities that are expected to be decommissioned.

In general, the risk or vulnerability to buildings, infrastructure and critical facilities from excessive heat is considered ***low***, even taking into consideration the potential for damage to roadways and disruptions to the electrical grid.

Are future buildings, infrastructure, and critical facilities vulnerable to excessive heat?

No. Future buildings, infrastructure and critical facilities within the County and participating jurisdictions are no more vulnerable to excessive heat events than the existing building, infrastructure, and critical facilities. As discussed above, buildings do not typically sustain damage from excessive heat. Infrastructure and critical facilities may, in rare cases, be damaged by excessive heat, but very little can be done to prevent this.

What are the potential dollar losses to vulnerable structures from excessive heat?

Unlike other natural hazards there are no standard loss estimation models or methodologies for excessive heat. With none of the recorded events listing property damage figures, there is no way to accurately estimate future potential dollar losses from excessive heat. Since excessive heat typically does not cause structure damage, it is unlikely that future dollar losses will be extreme. The primary concern associated with excessive heat is the health and safety of those living in the County and municipalities, especially socially vulnerable populations such as the elderly, infants, young children, and those with medical conditions.

3.5 EXTREME COLD

HAZARD IDENTIFICATION

What is the definition of extreme cold?

Extreme cold is generally characterized by temperatures well below what is considered normal for an area during the winter months and is often accompanied or is left in the wake of a severe winter storm. Extreme cold criteria vary from region to region. As a result, reliable fixed absolute criteria are not generally specified (i.e., a winter day with a maximum temperature of 0°F).

Whenever the temperature drops below normal and the wind speeds increase, heat can leave the body more rapidly. This can lead to dangerous situations for susceptible individuals, such as those without shelter or who are stranded, or those who live in a home that is poorly insulated or without heat.

Extreme cold is a leading cause of weather-related fatalities in Illinois. According to a 2020 study published by the University of Illinois Chicago, 1,935 individuals died from cold-related illnesses between 2011 and 2018. This is 94% of all temperature-related fatalities recorded in the State during that time period.

Extreme cold can also cause infrastructure damage, especially to residential water pipes and water distribution lines and mains. According to State Farm, in 2020 Illinois was once again the national leader in losses related to frozen pipes.

What is wind chill?

Wind chill, or wind chill factor, is a measure of the rate of heat loss from exposed skin resulting from the combined effects of wind and temperature. As the wind increases, heat is carried away from the body at a faster rate, driving down both the skin temperature and eventually the internal body temperature.

The unit of measurement used to describe the wind chill factor is known as the wind chill temperature. The wind chill temperature is calculated using a formula. **Figure EC-1** identifies the formula and calculates the wind chill temperatures for certain air temperatures and wind speeds.

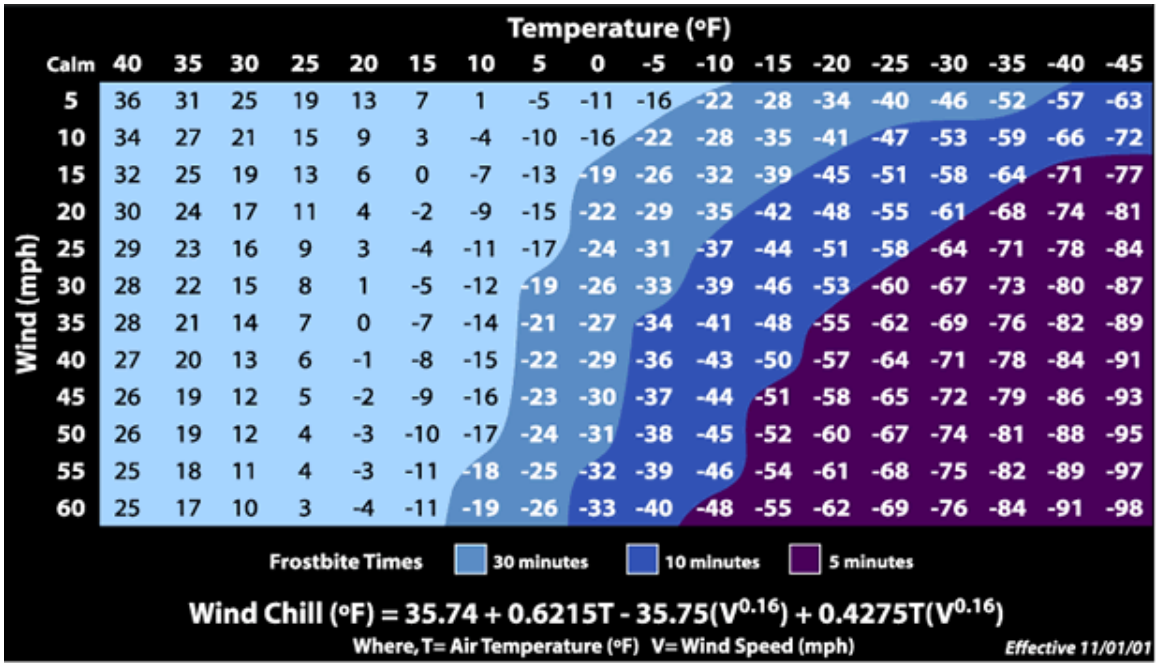
As an example, if the air temperature is 5°F and the wind speed is 20 miles per hour, then the wind chill temperature would be -15°F. The wind chill temperature is only defined for air temperatures at or below 50°F and wind speeds above three miles per hour. In addition, the wind chill temperature does not take into consideration the effects of bright sunlight which may increase the wind chill temperature by 10°F to 18°F.

Use of the current Wind Chill Temperature (WCT) index was implemented by the NWS on November 1, 2001. The new WCT index was designed to more accurately calculate how cold air feels on human skin. The new index uses advances in science, technology and computer modeling to provide an accurate, understandable and useful formula for calculating the dangers from winter

winds and freezing temperatures. The former index was based on research done in 1945 by Antarctic researchers Siple and Passel.

Exposure to extreme wind chills can be life threatening. As wind chills edge toward -19°F and below, there is an increased likelihood that exposure will lead to individuals developing cold-related illnesses.

Figure EC-1
Wind Chill Chart



Source: NOAA, National Weather Service.

What cold-related illnesses are associated with extreme cold?

Frostbite and hypothermia are both cold-related illnesses that can result when individuals are exposed to dangerously low temperatures and wind chills. The following provides a brief description of the symptoms associated with each.

- **Frostbite.** During exposure to extremely cold weather the body reduces circulation to the extremities (i.e., feet, hands, nose, cheeks, ears, etc.) in order to maintain its core temperature. If the extremities are exposed, then this reduction in circulation coupled with the cold temperatures can cause the tissue to freeze.

  Frostbite is characterized by a loss of feeling and a white or pale appearance. At a wind chill of -19°F, exposed skin can freeze in as little as 30 minutes. Seek medical attention immediately if frostbite is suspected. It can permanently damage tissue and in severe cases can lead to amputation.

- **Hypothermia.** Hypothermia occurs when the body's temperature begins to fall because it is losing heat faster than it can produce it. If an individual's body temperature falls below 95°F, then hypothermia has set in, and immediate medical attention should be sought.

  Hypothermia is characterized by uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness and exhaustion. Left untreated, hypothermia will lead to death. Hypothermia occurs most commonly at very cold temperatures but can occur at cool temperatures (above 40°F) if an individual isn't properly clothed or becomes chilled.

What is a wind chill alert?

A wind chill alert is an advisory or warning issued by the NWS when the wind chill is expected to have a significant impact on public safety. The expected severity of cold temperatures and wind speed determines the type of alert issued. There are three types of alerts that can be issued for an extreme cold event. The following provides a brief description of each type of alert based on the **wind chill criteria** established by the NWS Weather Forecast Office in Chicago, Illinois. The Lincoln Office is responsible for issuing alerts for Kankakee County.

- **Wind Chill Watch.** A wind chill watch is issued when widespread wind chill values of around -30°F or colder are possible.
- **Wind Chill Advisory.** A wind chill advisory is issued when wind chill values of around -20°F or colder are expected.
- **Wind Chill Warning.** A wind chill warning is issued when wind chill values are expected to be -30°F or below.

HAZARD PROFILE

The following identifies past occurrences of extreme cold events; details the severity or extent of each event (if known); identifies the locations potentially affected; and estimates the likelihood of future occurrences.

When have extreme cold events occurred previously? What is the extent of these events?

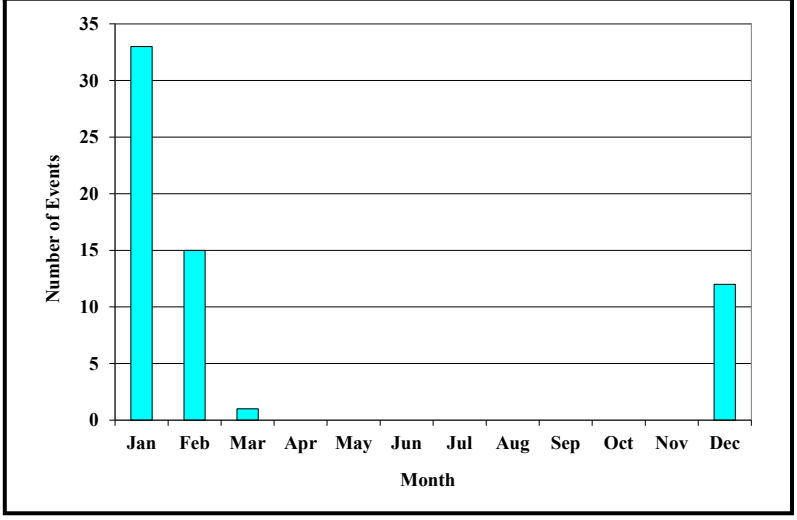
Table 9, located in **Appendix J**, summarize the previous occurrences as well as the extent or magnitude of extreme cold events recorded in Kankakee County. NOAA's Storm Events Database, Iowa State University's National Weather Service Watch, Warning, and Advisories database, Midwestern Regional Climate Center's cli-MATE database, and NWS's COOP Data records were used to document 61 occurrences of extreme cold in Kankakee County between 1995 and 2022.

Extreme Cold Fast Facts – Occurrences

Number of Extreme Cold Events Reported (1995 - 2022): ***61***
Coldest Temperature Recorded in the County: ***-29°F*** ***(January 20, 1985)***
Most Likely Months for Extreme Cold Events to Occur: ***January***

Figure EC-2 charts the reported occurrences of extreme cold by month. Thirty-three of the 61 events (54%) took place in January, making this the peak month for extreme cold events. There were three events that spanned two months; however, for illustration purposes only the month the event started in is graphed.

Figure EC-2
Extreme Cold by Month
1995 - 2022



According to the Midwestern Regional Climate Center, almost continuous temperature records for Kankakee County were kept from 1917 to 1973 by the Kankakee 3SW NWS COOP Observation Station and at the Kankakee Metro Wastewater NWS COOP Station from 1973 to the present. **Figures EC-3** and **EC-4** list the coldest days recorded at these Stations. Based on the available records, the coldest temperature recorded in Kankakee County was -29°F at the Kankakee Metro Wastewater Station on January 20, 1985.

Figure EC-3
Coldest Days Recorded at the Kankakee Metro Wastewater NWS COOP Observation Station

	Date	Temperature			Date	Temperature
1	01/20/1985	-29°F		6	01/30/2019	-22°F
2	12/24/1983	-26°F		7	01/06/1999	-22°F
3	01/10/1982	-25°F		8	01/05/1999	-22°F
4	01/21/1985	-24°F		9	01/19/1994	-22°F
5	01/31/2019	-22°F		10	01/21/1984	-22°F

Source: Midwest Regional Climate Center cli-MATE

Figure EC-4
Coldest Days Recorded at the Kankakee 3SW NWS COOP Observation Station

	Date	Temperature			Date	Temperature
1	12/28/1924	-24°F		6	02/09/1933	-21°F
2	01/23/1936	-23°F		7	01/18/1924	-21°F
3	12/15/1917	-23°F		8	01/01/1968	-20°F
4	12/25/1924	-22°F		9	12/09/1958	-20°F
5	01/28/1963	-21°F		10	01/12/1918	-20°F

Source: Midwest Regional Climate Center cli-MATE

What locations are affected by extreme cold?

Extreme cold affects the entire County. Extreme cold, like excessive heat and severe winter storms, generally extends across the entire County and affects multiple locations.

Do any of the participating jurisdictions have designated warming centers?

Yes. Ten of the 15 participating municipalities, townships, colleges, fire protection districts, and hospitals have designated warming centers. A "designated" warming center is identified as any facility that has been *formally* identified by the jurisdiction (through emergency planning, resolution, Memorandum of Agreement, etc.) as a location available for use by residents during severe winter storms and extreme cold events.

Figure EC-5 identifies the location of each warming center by jurisdiction. At this time, Ascension Saint Mary Kankakee, Bourbonnais FPD, Bourbonnais Township, Kankakee Community College, Riverside Medical Center, and Union Hill do not have any warming centers designated. In addition, there are no State of Illinois-designated warming centers in Kankakee County.

Figure EC-5
Designated Warming Centers by Participating Jurisdiction

Name/Address	Name/Address
Aroma Park	*Kankakee, City of*
Aroma Park Methodist Church, 210 W. 3rd St.	Civic Auditorium, 803 S 8th Ave.
Bourbonnais	Kankakee Public Library, 201 E. Merchant St.
Municipal Center, 700 Main St. NW	*Manteno*
Bradley	Leo Hassett Community Center, 211 N. Main St.
Bradley Public Library, 296 N. Fulton	Manteno High School, 443 N. Maple St.
River Valley Metro Buses	Manteno Grade School, 50 N. Poplar St.
Grant Park	Manteno Elementary School, 555 W. Cook St.
Grant Park Community Center, 209 W. Dixie Hwy.	*Manteno Community Fire Protection District*
Grant Park Public Library, 107 W. Taylor St.	Leo Hassett Community Center, 211 N. Main St., Manteno
Hopkins Park	*Momence Fire Protection District*
Village Hall, 13043 2260 South Rd.	Momence Fire Protection District, 15 N. Pine St.
Pembroke Township Building, 4019 S. Wheeler Rd.	St. Pat's Church, 119 N. Market St., Momence

What is the probability of future extreme cold events occurring based on historical data?

Kankakee County has experienced 61 verified occurrences of extreme cold between 1995 and 2022. With 61 occurrences over the past 28 years, Kankakee County should expect to experience at least two extreme cold events in any given year. It is important to keep in mind that there are almost certainly gaps in the early extreme cold data. More events have almost certainly occurred than are documented in this section, which means that the probability is almost certainly higher than reported.

There were 16 years over the last 28 years where multiple (two or more) extreme cold events occurred. This indicates that the probability that multiple extreme cold events may occur during any given year within the County is 57%.

What is the probability of future extreme cold events occurring based on modeled future conditions?

The warming trend observed in Illinois over the past century hasn't just meant increasingly hotter summers; it has meant milder winters. Over the past 120 years, average temperatures in Illinois have increased by 1°F to 2°F according to the Illinois State Climatologist, with the most prominent changes occurring in overnight temperatures and in increased winter and spring temperatures. As a result, extreme cold events are likely to continue to become less common and less intense than they were in the past. The number of days less than 32°F in Illinois are forecasted to decrease in the coming decades. Reductions in extreme cold events could prevent some of the damages associated with them, both in terms of human health costs and economic costs.

Figures EC-6, EC-7, and **EC-8** provide tabular and graphical projections for Kankakee County, showing estimations for number of days where high temperatures will not exceed 32°F in the early, mid, and late 21st century with both low and high estimates for each time period. Most likely, the true value will fall between these two estimates. By midcentury, the average number of days per year not exceeding 32°F in Kankakee County is forecasted to decrease from around 38 today to between 22 and 24 according to the Climate Mapping for Resilience and Adaptation's Assessment Tool.

Figure EC-6
Average Annual Precipitation Projections Table – Kankakee County

Indicator	Modeled History (1976 - 2005)	Early Century (2015 - 2044)		Mid Century (2035 - 2064)		Late Century (2070 - 2099)	
		Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions
	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max
Days with maximum temperature below 32 °F	38 days 35 - 42	28 days 17 - 36	27 days 21 - 35	24 days 14 - 33	22 days 12 - 32	21 days 11 - 32	13 days 3 - 24

Figure EC-7
Number of Days with Maximum Temperature < 32°F Graph – Kankakee County

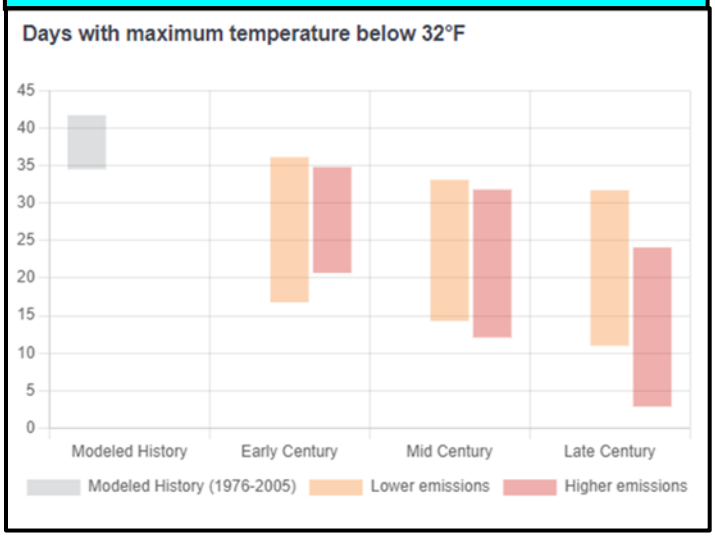
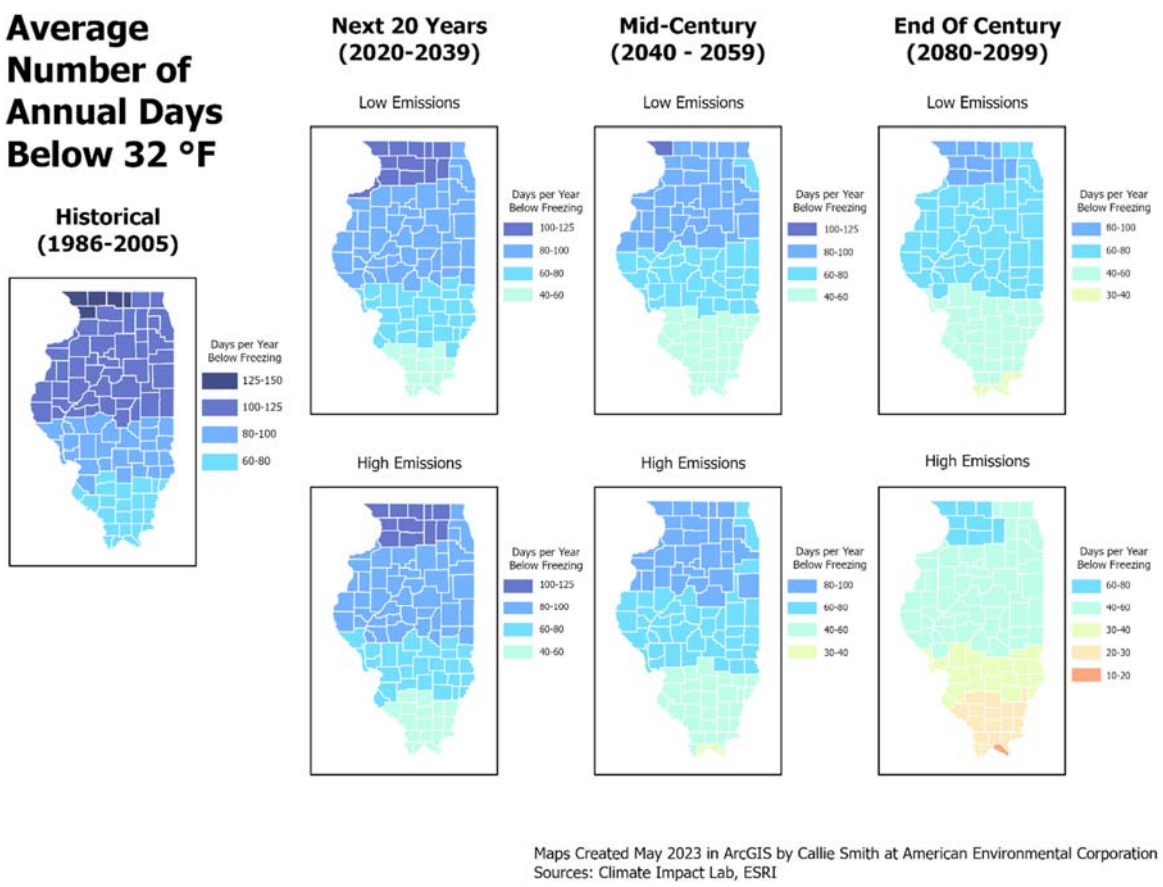


Figure EC-8
Average Number of Annual Days Below 32°F



By contrast, projections from Great Lakes Integrated Sciences + Assessments indicate that there is likely to be a change of 2 to 5 days in the number of days per year where temperatures will fall below 20° F by midcentury in Kankakee County.

HAZARD VULNERABILITY

The following describes the vulnerability to participating jurisdictions, identifies the impacts on public health and property (if known) and estimates the potential impacts on public health and safety as well as buildings, infrastructure, and critical facilities from extreme cold.

Are the participating jurisdictions vulnerable to extreme cold?

Yes. All of Kankakee County, including the participating jurisdictions, is vulnerable to the dangers presented by extreme cold. Since 2013, Kankakee County has experienced 25 extreme cold events.

Have any of the participating jurisdictions identified specific assets vulnerable to the impacts of extreme cold?

Yes. Based on responses to a Critical Facilities Vulnerability Survey distributed to the participating jurisdictions, the Manteno Community Fire Protection District considers specific assets within its jurisdiction vulnerable to extreme cold. ComEd substation equipment has failed during extreme cold events impacting service to residents and critical infrastructure

What impacts resulted from the recorded extreme cold events?

Damage information was either unavailable or none was recorded for any of the events. NOAA's Storm Events Database documented three fatalities as the result of three separate extreme cold events. The following provides a brief description of each.

Extreme Cold Fast Facts – Impacts/Risk

Extreme Cold Impacts:
- Total Property Damage: ***n/a***
- Injuries: ***n/a***
- Fatalities (3 events): ***3***

Extreme Cold Risk/Vulnerability:
- Public Health & Safety – General Population: ***Low to Medium***
- Public Health & Safety – Socially Vulnerable Populations: ***Medium***
- Buildings/Infrastructure/Critical Facilities: ***Low***

- During a February 1996 event, a City of Kankakee man was found in the cold outside his home. He later died in the hospital.
- A driver ran off the road during a January 2008 event and attempted to walk to the nearest home for help which was approximately 0.5 miles away. He was found frozen to death the next morning by the resident of the home.
- On December 28, 2009 a 27-year old man was found dead in Bourbonnais due to hypothermia.

In comparison, the State of Illinois averages 18 cold-related fatalities annually according to the Illinois State Water Survey's Climate Atlas of Illinois.

What other impacts can result from extreme cold events?

Other impacts of extreme cold include early school dismissals and school closing, power outages and frozen and ruptured water pipes and water mains. Individuals who are outdoors during and immediately following extreme cold events can experience health and safety problems. Frostbite to hands, feet, ears and nose and hypothermia are common injuries.

What is the level of risk/vulnerability to public health and safety from severe winter storms and extreme cold?

For Kankakee County the level of risk or vulnerability posed by extreme cold to public health and safety of the *general population* is considered to be ***low to medium.*** This assessment is based on the fact that while extreme cold events occur regularly, the number of injuries and fatalities reported is low and all but one of the participating municipalities have designated warming centers.

The level of risk or vulnerability posed by extreme cold to the public health and safety of *socially vulnerable populations* is considered to be ***medium***. Socially vulnerable populations such as individuals with dementia and access and functional needs populations may be more susceptible to cold-related exposures if they become disoriented outdoors during an event and therefore their

risk is elevated. However, demographic information is not available for these segments of the population.

Are existing buildings, infrastructure, and critical facilities vulnerable to extreme cold?
Yes. All existing buildings, infrastructure and critical facilities located in Kankakee County and the participating jurisdictions are vulnerable to damage from extreme cold. Individual water pipes and distribution lines and mains are especially susceptible to freezing during extreme cold events. This freezing can lead to cracks or ruptures in the pipes in buildings as well as in buried service lines and mains. As a result, flooding can occur as well as disruptions in service. Since most buried service lines and water mains are located under local streets and roads, fixing a break requires portions of the street or road to be blocked off, excavated, and eventually repaired. These activities can be costly and must be carried out under less than ideal working conditions.

Based on the frequency with which extreme cold events have occurred in Kankakee County; the damages described; the amount of property damage previously reported; and the potential for disruptions to power distribution and communication; the risk or vulnerability to buildings, infrastructure and critical facilities from extreme cold events is ***low***.

Are future buildings, infrastructure, and critical facilities vulnerable to extreme cold?
Yes and No. The County and all of the participating municipalities, with the exception of Union Hill, have building codes in place that will likely help lessen the vulnerability of new buildings and critical facilities to damage from extreme cold. However, infrastructure such as residential water pipes will continue to be vulnerable as long as they are located in areas such as outside walls, attics and crawl spaces that do not contain proper insulation.

What are the potential dollar losses to vulnerable structures from extreme cold?
Unlike other natural hazards, such as tornadoes, there are no standard loss estimation models or methodologies for extreme cold events. With none of the recorded events listing property damage figures, there is no way to accurately estimate future potential dollar losses from extreme cold. However, according to the Kankakee County Clerk the total equalized assessed values of all residential, commercial, and industrial buildings in the planning area is $1,908,485,831. Since all of the structures in the planning area are vulnerable to damage, this total represents the countywide property exposure to extreme cold.

3.6 TORNADOES

HAZARD IDENTIFICATION

What is the definition of a tornado?

A tornado is a narrow violently rotating column of air, often visible as a funnel-shaped cloud that extends from the base of a thunderstorm cloud formation to the ground. The most violent tornadoes can have wind speeds of more than 300 miles per hour and can create damage paths in excess of one mile wide and 50 miles long.

Not all tornadoes have a visible funnel cloud. Some may appear nearly transparent until dust and debris are picked up or a cloud forms within the funnel. Generally, tornadoes move from southwest to northeast, but they have been known to travel in any direction, even backtracking. A typical tornado travels at around 10 to 20 mile per hour, but this may vary from almost stationary to 60 miles per hour. Tornadoes can occur at any time of the year and happen at any time of the day or night, although most occur between 4 p.m. and 9 p.m.

About 1,200 tornadoes hit the U.S. yearly, with an average 52 tornadoes occurring annually in Illinois. The destruction caused by a tornado may range from light to catastrophic depending on the intensity, size and duration of the storm. Tornadoes cause crop and property damage, power outages, environmental degradation, injuries and fatalities. Tornadoes are known to blow roofs off buildings, flip vehicles and demolish homes. Typically, tornadoes cause the greatest damage to structures of light construction, such as residential homes. On average, tornadoes cause 60 to 65 facilities and 1,500 injuries in the U.S. annually.

How are tornadoes rated?

Originally tornadoes were rated using the Fujita Scale (F-Scale), which related the degree of damage caused by a tornado to the intensity of the tornado's wind speed. The Scale identified six categories of damage, F0 through F5. **Figure T-1** gives a brief description of each category.

Use of the original Fujita Scale was discontinued on February 1, 2007 in favor of the Enhanced Fujita Scale. The original scale had several flaws including basing a tornado's intensity and damages on wind speeds that were never scientifically tested and proven. It also did not take into consideration that a multitude of factors (i.e., structure construction, wind direction and duration, flying debris, etc.) affect the damage caused by a tornado. In addition, the process of rating the damage itself was based on the judgment of the damage assessor. In many cases, meteorologists and engineers highly experienced in damage survey techniques often came up with different F-scale ratings for the same damage.

The Enhanced Fujita Scale (EF-Scale) was created to remedy the flaws in the original scale. It continues to use the F0 through F5 categories, but it incorporates 28 different damage indicators (mainly various building types, towers/poles and trees) as calibrated by engineers and meteorologists. For each damage indicator there are eight degrees of damage ranging from barely visible damage to complete destruction of the damage indicator. The wind speeds assigned to each category are estimates, not measurements, based on the damage assessment. **Figure T-1** identifies the Enhanced Fujita Scale.

Figure T-1 Fujita & Enhanced Fujita Tornado Measurement Scales				
F-Scale		**EF-Scale**		**Description**
Category	**Wind Speed (mph)**	**Category**	**Wind Speed (mph)**	
F0	40 – 72	EF0	65 – 85	Light damage – some damage to chimneys; branches broken off trees; shallow-rooted trees pushed over; damage to sign boards
F1	73 – 112	EF1	86 – 110	Moderate damage – peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos blown off roads
F2	113 – 157	EF2	111 – 135	Considerable damage – roofs torn off frame houses; mobile homes demolished; boxcars overturned; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground
F3	158 – 207	EF3	136 – 165	Severe damage – roofs and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off ground and thrown
F4	208 – 260	EF4	166 – 200	Devastating damage – well-constructed houses leveled; structures with weak foundations blown away some distance; cars thrown, and large missiles generated
F5	261 – 318	EF5	Over 200	Incredible damage – strong frame houses lifted off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 yards; trees debarked; incredible phenomena will occur

Source: NOAA, Storm Prediction Center.

The idea behind the EF-Scale is that a tornado scale needs to take into account the typical strengths and weaknesses of different types of construction, instead of applying a "one size fits all" approach. This is due to the fact that the same wind speed can cause different degrees of damage to different kinds of structures. In a real-life application, the degree of damage to each of the 28 indicators can be mapped together to create a comprehensive damage analysis. As with the original scale, the EF-Scale rates the tornado as a whole based on the most intense damage within the tornado's path.

While the EF-Scale is currently in use, **the historical data presented in this report is based on the original F-Scale**. None of the tornadoes rated before February 1, 2007 will be re-evaluated using the EF-Scale.

Are alerts issued for tornadoes?

Yes. The National Weather Service Weather Forecast Office in Chicago, Illinois is responsible for issuing ***tornado watches*** and ***warnings*** for Kankakee County depending on the weather conditions. The following provides a brief description of each type of alert.

- **Watch.** A tornado watch is issued when atmospheric conditions are favorable for the development of severe thunderstorms potentially capable of producing tornadoes. Watches are typically large, covering numerous counties or even states.

- **Warning.** A tornado warning is issued when a tornado has been sighted or indicated by weather radar. Warnings indicate imminent danger to life and property for those who are in the path of the tornado. Individuals should see shelter immediately.

HAZARD PROFILE

The following identifies past occurrences of tornadoes; details the severity or extent of each event (if known); identifies the locations potentially affected; and estimates the likelihood of future occurrences.

When have tornadoes occurred previously? What is the extent of these previous tornadoes?

Table 10, located in **Appendix J**, summarizes the previous occurrences as well as the extent or magnitude of tornado events recorded in Kankakee County. NOAA's Storm Events Database, Storm Data Publication and Storm Prediction Center have documented 50 occurrences of tornadoes in Kankakee County between 1950 and 2022. In comparison, there have been 2,745 tornadoes statewide between 1950 and 2021 according to NOAA's Storm Prediction Center. **Figure T-2** charts the reported occurrences of tornadoes by magnitude. Of the 50 reported occurrences there were: 1 – F4, 3 – F3s, 3 – F2s, 10 – F1s, 8 – F0s, 1 – EF3, 1 – EF2, 14 – EF1s, and 9 – EF0s.

Tornado Fast Facts – Occurrences

Number of Tornadoes Reported (1950 – 2022): ***50***
Highest F-Scale Rating Recorded: ***F4 (April 17, 1963)***
Most Likely Month for Tornadoes to Occur: ***June***
Average Length of a Tornado: ***4.1 miles***
Average Width of a Tornado: ***129 yards***
Average Damage Pathway of a Tornado: ***0.3 sq. mi.***
Longest Tornado Path in the County: ***29.6 miles (April 7, 1954)***
Widest Tornado Path in the County: ***750 yards (April 2, 1982)***

Figure T-2
Tornadoes by Magnitude
1950 – 2022

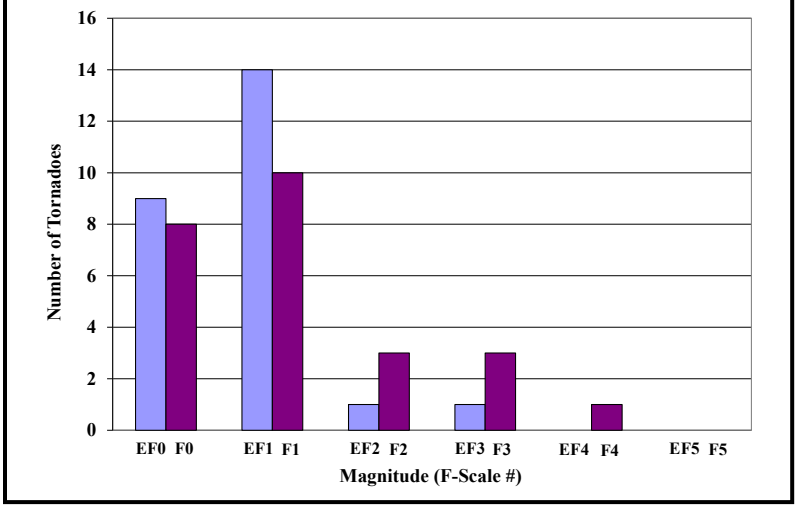
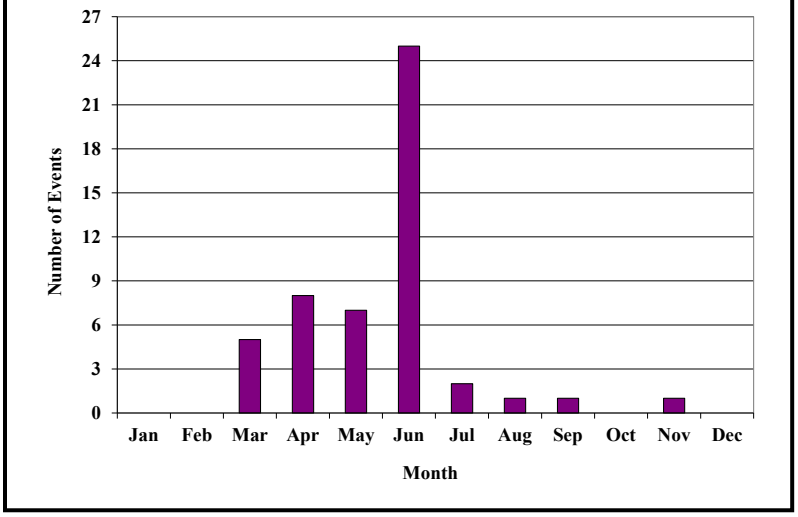


Figure T-3 charts the reported tornadoes by month. Of the 50 events, 40 (80%) took place in April, May, and June making this the peak period for tornadoes in Kankakee County. Of those 40 events, 25 (63%) occurred during June, making this the peak month for tornadoes. In comparison, 1,720 of the 2,745 tornadoes (63%) recorded in Illinois from 1950 through 2021 took place in April, May, and June.

Figure T-3
Tornadoes by Month
1950 – 2022



Approximately 94% of all tornadoes in the County occurred during the p.m. hours, with 20 of the tornado events (40%) taking place between 2 p.m. and 8 p.m. In comparison, more than half of all Illinois tornadoes occur between 2 p.m. and 8 p.m.

The tornadoes that have impacted Kankakee County have varied from 0.05 miles (88 yards) to 29.6 miles in length and from 10 yards to 750 yards in width. The average length of a tornado in Kankakee County is 4.1 miles and the average width is 129 yards (0.073 miles).

Figures T-4 and **T-5** show the pathway of each reported tornado. The numbers by each tornado correspond with the tornado description in **Table 10** located in **Appendix J.** Records indicate that most of these tornadoes generally moved from southwest to northeast across the County. Unlike other natural hazards (i.e., severe winter storms, drought, and excessive heat), tornadoes impact a relatively small area. Typically, the area impacted by a tornado is less than four square miles. In Kankakee County, the average damage pathway or area impacted by a tornado is 0.30 square miles.

The longest tornado recorded in Kankakee County occurred on April 7, 1954. This F3 tornado, measuring 400 yards in width and 29.6 miles in length, touched down near Saunemin in Livingston County and traveled northeast through Ford County and into Kankakee County before lifting off near Manteno. The total length was 42.6 miles, 29.6 in Kankakee County. The damage pathway of this tornado covered approximately 9.7 square miles, with 6.7 square miles occurring in Kankakee County.

Figure T-4
F0/EF0 & F1/EF1 Tornado Pathways in Kankakee County

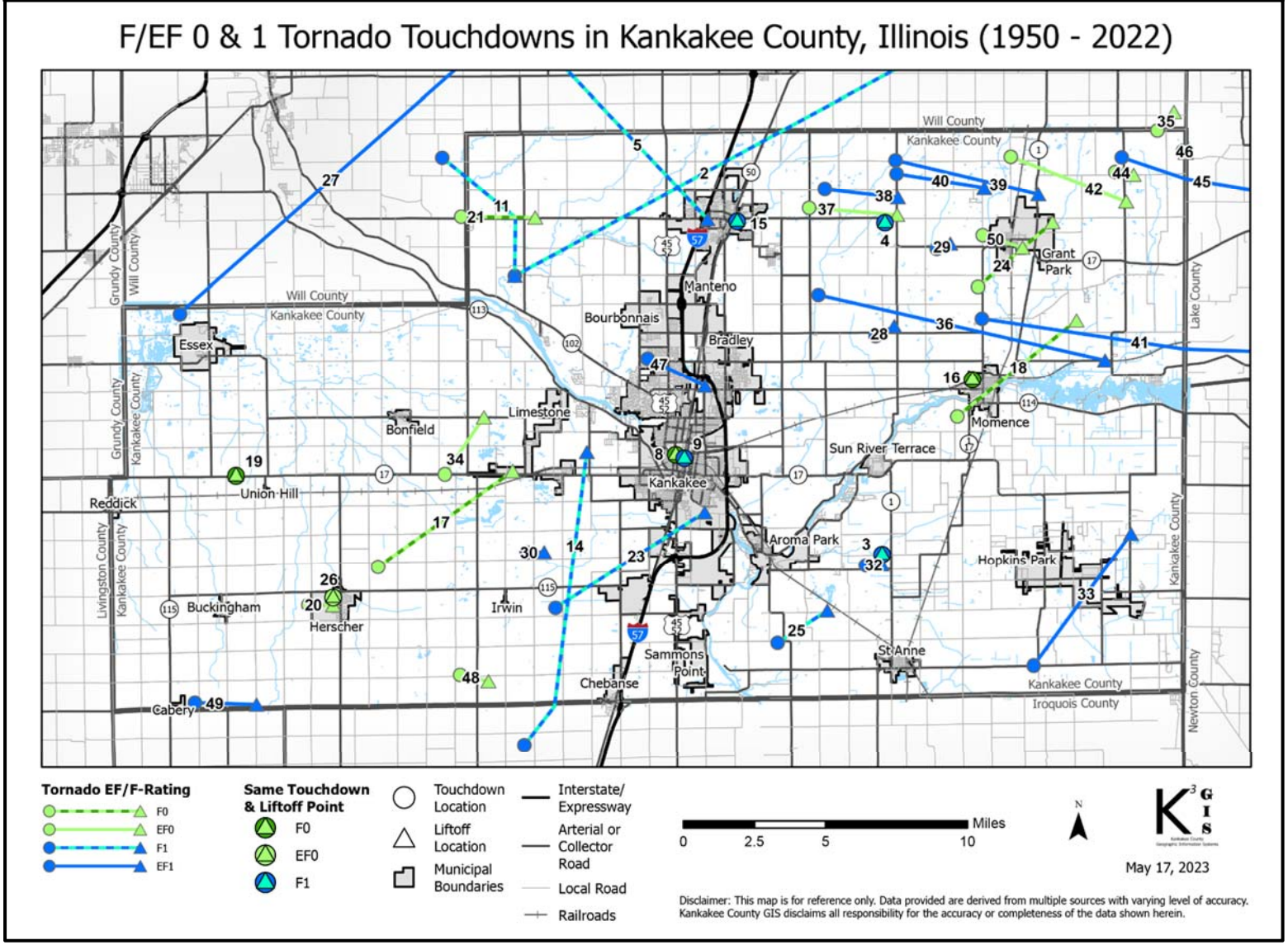
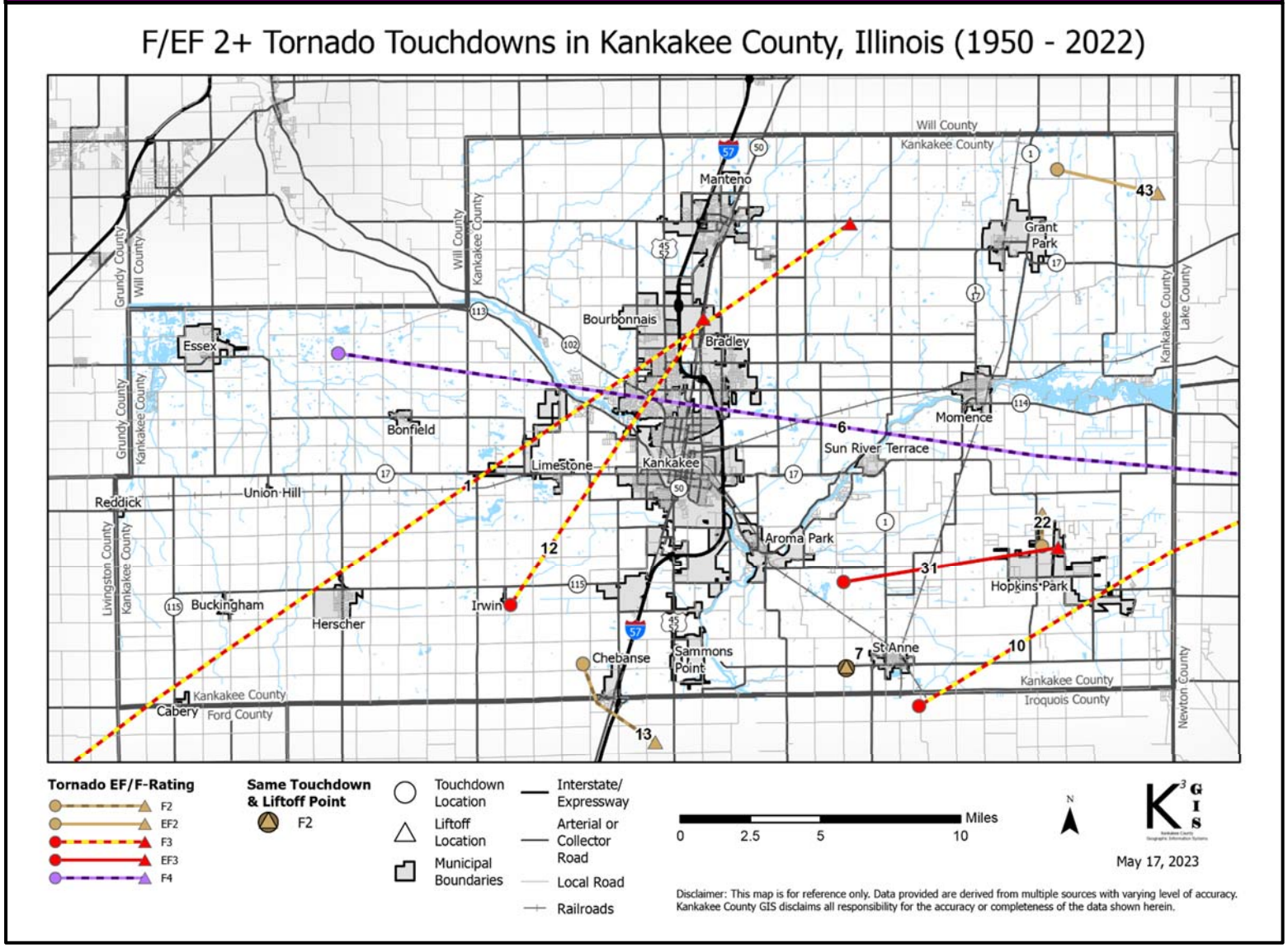


Figure T-5
F2 – F4 & EF1 – EF4 Tornado Pathways in Kankakee County



The widest tornado recorded in Kankakee County occurred on April 2, 1982. This F3 tornado, measuring 750 yards in width and 12 miles in length, touched down in Irwin and travelled eastward to Bourbonnais.

What locations are affected by tornadoes?

Tornadoes have the potential to affect the entire County. Six of the eight participating municipalities have had reported occurrences of tornadoes within their corporate limits. The 2018 Illinois Natural Hazard Mitigation Plan prepared by IEMA classifies Kankakee County's hazard rating for tornadoes as "high."

What is the probability of future tornadoes occurring based on historical data?

Kankakee County has had 50 verified occurrences of tornadoes between 1950 and 2022. With 50 tornadoes over the past 73 years, the probability or likelihood that a tornado will touchdown somewhere in the County in any given year is 68%. There were 10 years over the last 73 years where more than one tornado occurred. This indicates that the probability that more than one tornado may occur during any given year within the County is 14%.

HAZARD VULNERABILITY

The following describes the vulnerability to participating jurisdictions, identifies the impacts on public health and property (if known) and estimates the potential impacts on public health and safety as well as buildings, infrastructure, and critical facilities from tornadoes.

Are the participating jurisdictions vulnerable to tornadoes?

Yes. All of Kankakee County, including the participating jurisdictions, is vulnerable to the dangers presented by tornadoes. Since 2013, 16 tornadoes have been recorded in Kankakee County.

Six of the eight participating municipalities have had a tornado touch down or pass through their municipal boundaries. **Figure T-6** lists the verified tornadoes that have touched down in or near or passed through each participating municipality.

Figure T-6
Verified Tornadoes In or Near Participating Municipalities

Participating Municipality	Number of Verified Tornadoes	Year	
		Touched Down/Passed Through Municipality	Touched Down/Passed Near Municipality
Aroma Park	4	---	1957, 2006, 2010, 2010
Bourbonnais[2]	4	1954, 1963, 1982, 2015	---
Bradley	4	1954, 1963, 1982, 2015	---
Grant Park	12	2004, 2020	1960, 1996, 2009, 2014, 2014, 2014, 2014, 2014, 2014,
Hopkins Park	4	1976, 2004, 2010, 2011	---
Kankakee, City of[1,5,6]	6	1973, 1974, 1982, 1991, 2004	1996
Manteno[3]	7	1960, 1991	1954, 1955, 1960, 2003, 2014, 2014
Union Hill	1	---	2000

[1]Kankakee Community College [2]Bourbonnais FPD [3]Manteno Community FPD
[4]Momence FPD [5]Ascension Saint Mary Kankakee [6]Riverside Medical Center

In terms of tornadoes that were recorded in each of the fire protection districts, 11 tornadoes have touched down in or passed through the Bourbonnais FPD, seven tornadoes have touched down in or passed through the Manteno FPD, and six tornadoes touched down in or passed through the Momence FPD.

Unincorporated areas vulnerable to tornadoes include Solitt which has had eight tornadoes touch down near its vicinity. **Figure T-7** details the verified tornadoes that have touched down in or near unincorporated areas in Kankakee County.

Figure T-7
Verified Tornadoes In or Near Unincorporated Areas of Kankakee County

Unincorporated Area	Number of Verified Tornadoes	Year	
		Touched Down/Passed Through Unincorporated Area	Touched Down/Passed Near Unincorporated Area
Kankakee River State Park	2	---	1955, 1978
St. George	1	---	2014
Solitt	8	---	2013, 2014, 2014, 2014, 2014, 2014, 2014, 2014,

[1]Kankakee Community College [2]Bourbonnais FPD [3]Manteno Community FPD
[4]Momence FPD [5]Ascension Saint Mary Kankakee [6]Riverside Medical Center

Have any of the participating jurisdictions identified specific assets vulnerable to the impacts of tornadoes?

Yes. Based on responses to a Critical Facilities Vulnerability Survey distributed to the participating jurisdictions, the following jurisdictions considered specific assets within their jurisdiction vulnerable to tornadoes.

Bourbonnais Fire Protection District:

- The potential exists for a tornado to take out a large ComEd electrical substation that provides power to a large number of customers and critical infrastructure in the Village and surrounding communities.
- Tornadoes also have the ability to impact numerous assets within the District such as healthcare, critical infrastructure, educational, hazardous materials and commercial and industrial operations.

Kankakee, City of:

- Both regional hospitals are located within a mile of each other within the City and there is a strong possibility that a tornado could impact both hospitals leaving no alternate medical facility.

Manteno Community Fire Protection District:

- Residents, especially the large senior population who reside in manufactures housing units, are vulnerable to injury during a tornado because there are no community safe rooms within the District.

Riverside Medical Center:

- Not all of the Center's facilities have emergency backup generators and therefore are vulnerable to power outages caused by tornadoes.

Union Hill:

- Residents are vulnerable to injury during a tornado because there is no community safe room within the Village.

What impacts resulted from the recorded tornadoes?

Data obtained from NOAA's Storm Events Database, Storm Data Publications and Storm Prediction Center indicates that between 1950 and 2022, 27 of the 50 tornadoes caused $17,123,750 in property damages. There is $6.25 million in property damages that was incurred as the result of seven separate tornado events that represent losses sustained in two or more counties. A detailed breakdown by county was not available. The April 2, 1982 tornado caused $8 million in property damages alone. Property damage information was either unavailable or none was recorded for the remaining 23 reported occurrences.

Tornado Fast Facts – Impacts/Risk

Tornado Impacts:

- Total Property Damage (27 events): ***$17,123,750***^
- Total Crop Damage: ***n/a***
- Injuries (4 events): ***79****
- Fatalities (2 events): ***2****

Tornado Risk/Vulnerability:

- Public Health & Safety – Rural Areas: ***Low to Medium***
- Public Health & Safety – Municipalities: ***High***
- Buildings/Infrastructure/Critical Facilities – Rural Areas: ***Low to Medium***
- Buildings/Infrastructure/Critical Facilities – Municipalities/Populated Unincorp. Areas: ***High***

^ There is $6.25 million in property damages that was incurred as the result of 7 separate tornado events that represent losses sustained in two or more counties. A detailed breakdown by county was not available.

* The 13 injuries and 1 fatality sustained as a result of the April 7, 1954 event represent losses sustained in three counties (including Kankakee County). A detailed breakdown by county was not available.

NOAA's Storm Events Database documented two fatalities and 79 injuries as a result of four separate tornado events in Kankakee County. Detailed information on the fatalities and injuries was not available for any of the events. The 1 fatality and 13 injuries sustained as a result of the April 7, 1954 event represent losses sustained in three counties (including Kankakee County). A detailed breakdown by county was not available. In comparison, Illinois averages roughly four tornado fatalities annually; however, this number varies widely from year to year.

What other impacts can result from tornadoes?

In addition to causing damage to buildings and properties, tornadoes can damage infrastructure and critical facilities such as roads, bridges, railroad tracks, drinking water treatment facilities, water towers, communication towers, antennae, power substations, transformers, and poles. Depending on the damage done to the infrastructure and critical facilities, indirect impacts on individuals could range from inconvenient (i.e., adverse travel) to life-altering (i.e., loss of utilities for extended periods of time).

What is the level of risk/vulnerability to public health and safety from tornadoes?

According to the 2018 Illinois Natural Hazard Mitigation Plan, Kankakee County ***ranks 12th out of 102 counties in Illinois in terms of tornado frequency***. This fact alone suggests that the overall risk posed by tornadoes to public health and safety is medium. While frequency is important, other factors must be examined when assessing vulnerability including population distribution and density, the ratings and pathways of previously recorded tornadoes, the presence of high-risk living accommodations (such as high-rise buildings, mobile homes, etc.) and adequate access to health care for those injured following a tornado.

In terms of adequate access to health care, Ascension Saint Mary Kankakee and Riverside Medical Center in Kankakee County, as well as nearby hospitals in Watseka (Iroquois County), Pontiac (Livingston County), Morris (Grundy County), Joliet area (Will County) and hospitals in Lake County, Indiana are equipped to provide care and have sufficient capacity for the influx of additional patients from one or more counties.

Kankakee County/Townships/Fire Protection Districts

For Kankakee County, including the fire protection districts and townships with the exception of Kankakee Township, the level of risk or vulnerability posed by tornadoes to public health and safety is considered to be ***low*** to ***medium***. This assessment is based on the fact that tornadoes do not occur frequently in the County and a large majority of the tornadoes that have impacted the County have touched down in rural areas away from concentrated populations. In addition, outside Bourbonnais, Bradley, and the City of Kankakee, the County is not densely populated and there is not a large number of high-risk living accommodations present.

Participating Municipalities (including Schools & Healthcare Facilities)

In general, if a tornado were to touch down or pass through any of the participating municipalities the risk to the public health and safety would be considered ***high***. This is based on the fact that all of the participating jurisdictions have relatively dense and evenly distributed populations within their municipal boundaries. As a result, if a tornado were to touch down anywhere within the corporate limits of these municipalities it will have a greater likelihood of causing injuries or even fatalities.

Do any participating jurisdictions have community safe rooms?

No. As a result, if a tornado were to touch down or pass through any of the population centers in the County, then there would be a greater likelihood of injuries and fatalities due to the lack of structures specifically designed and constructed to provide life-safety protection. Each jurisdiction should consider whether the potential impacts to public health and safety from a tornado are considered great enough to warrant the consideration of community safe rooms as a mitigation action.

Are existing buildings, infrastructure, and critical facilities vulnerable to tornadoes?

Yes. All existing buildings, infrastructure, and critical facilities located within the County and participating municipalities are vulnerable to tornado damage. Buildings, infrastructure, and critical facilities located in the path of a tornado usually suffer extensive damage, if not complete destruction.

While some buildings adjacent to a tornado's path may remain standing with little or no damage, all are vulnerable to damage from flying debris. It is common for flying debris to cause damage to roofs, siding, and windows. In addition, mobile homes, homes on crawlspaces, and buildings with large spans (i.e., schools, barns, airport hangers, factories, etc.) are more likely to suffer damage. Most workplaces and many residential units do not provide sufficient protection from tornadoes.

The damages sustained by infrastructure and critical facilities during a tornado are similar to those experienced during a severe storm. There is a high probability that power, communication, and transportation will be disrupted in and around the affected area.

Assessing the Vulnerability of Existing Residential Structures

One way to assess the vulnerability of existing residential structures is to estimate the number of housing units that may be potentially damaged if a tornado were to touch down or pass through any of the participating municipalities, townships or the County. In order to accomplish this, a set of decisions/assumptions must be made regarding:

- the size (area impacted) by the tornado;
- the method used to estimate the area impacted by the tornado within each jurisdiction; and
- the method used to estimate the number of potentially-damaged housing units.

The following provides a brief discussion of each decision/assumption.

Assumption #1: Size of Tornado. To calculate the number of existing residential structures vulnerable to a tornado, the size (area impacted by) of the tornado must first be determined. There are several scenarios that can be used to calculate the size, including the worst case and the average. For this analysis, the area impacted by an average-sized tornado in Kankakee County will be used since it has a higher probability of recurring. In Kankakee County, the area impacted by an average-sized tornado is 0.30 square miles. This average is based on more than 70 years of data.

Assumption #1

Size of Tornado = 0.30 sq. miles

Assumption #2: Method for Estimating the Area Impacted. Next, a method for determining the area within each jurisdiction impacted by the average-sized tornado needs to be chosen. There are several methods that can be used including creating an outline of the area impacted by the average-sized tornado and overlaying it on a map of each jurisdiction (most notably the municipalities) to see if any portion of the area falls outside of the corporate limits (which would require additional calculations) or just assume that the entire area of the average-sized tornado falls within the limits of each jurisdiction. For this discussion, it is assumed that the entire area of the average-sized tornado will fall within the limits of the participating jurisdictions.

Assumption #2

The entire area impacted by the average-sized tornado falls within the limits of each participating jurisdiction.

This method is quicker, easier, and more likely to produce consistent results when the Plan is updated again. There is, however, a greater likelihood that the number of potentially-damaged housing units will be overestimated for those municipalities that have irregular shaped boundaries or occupy less than one square mile.

Assumption #3: Method for Estimating Potentially-Damaged Housing Units. With the size of the tornado selected and a method for estimating the area impacted chosen, a decision must be made on an approach for estimating the number of potentially-damaged housing units. There are several methods that can be used including overlaying the average-sized tornado on a map of each jurisdiction and counting the impacted housing units or calculating the average housing unit density to estimate the number of potentially-damaged housing units.

Assumption #3

The average housing unit density for each municipality will be used to determine the number of potentially-damaged housing units.

For this analysis, the average housing unit density will be used since it provides a realistic perspective on potential residential damages without conducting extensive counts. Using the average housing unit density also allows future updates to the Plan to be easily recalculated and provides an exact comparison to previous estimates.

Calculating Average Housing Unit Density

The average housing unit density can be calculated by taking the number of housing units in a jurisdiction and dividing that by the land area within the jurisdiction. **Figure T-8**provides a sample calculation.

Figure T-8
Calculation of Average Housing Unit Density – Kankakee County

Total Housing Units in the Jurisdiction ÷ Land Area within the Jurisdiction = Average Housing Unit Density
(Rounded Up to the Nearest Whole Number)

Kankakee County: 45,626 housing units ÷ 676.490 sq. miles = 67.445 housing units/sq. mile
(68 housing units)

Figure T-9 provides a breakdown of housing unit densities by participating municipality as well as for the unincorporated areas of the County and the County as a whole.

While the average housing unit density provides an adequate assessment of the number of housing units in areas where the housing density is fairly constant, such as municipalities, it does not provide a realistic assessment for those counties with large, sparsely populated rural areas such as Kankakee County.

In Kankakee County, as well as many other northwestern Illinois counties, there are pronounced differences in housing unit densities. Approximately 69% of all housing units and 73% of all mobile homes are located in three of the County's 17 townships (Bourbonnais, Kankakee, and Manteno). **Figure I-6**, located in Section 1.2, identifies the township boundaries. Tornado damage to buildings (especially mobile homes), infrastructure and critical facilities in these more densely populated townships is likely to be greater than in the rest of the County. While Grant Park, the City of Kankakee, and Manteno have ordinances that require anchoring systems for mobile home that would help limit the damage from lower rated tornadoes, the County and the remaining five participating municipalities do not.

Figure T-9
Average Housing Unit Density by Participating Jurisdiction

Participating Jurisdiction	Township Location	Total Housing Units (2016-2020)	Mobile Homes (2016-2020)	Land Area (Sq. Miles) (2020)	Average Housing Unit Density (Units/Sq. Mi.) (Raw)
Aroma Park	Aroma	303	0	1.882	160.999
Bourbonnais[2]	Bourbonnais	6,977	0	9.312	749.248
Bradley	Bourbonnais	6,252	23	6.932	901.904
Grant Park	Yellow Head	530	0	3.413	155.289
Hopkins Park	Pembroke	269	78	4.137	65.023
Kankakee, City of[1,5,6]	Kankakee	11,071	176	15.057	735.273
Manteno[3]	Manteno	3,705	552	5.344	693.301
Union Hill	Norton	26	0	0.046	---
Unincorp. County		10,422	1,932	609.326	17.104
County		45,626	2,852	676.490	67.445

[1]Kankakee Community College [2]Bourbonnais FPD [3]Manteno Community FPD
[4]Momence FPD [5]Ascension Saint Mary Kankakee [6]Riverside Medical Center
Source: U.S. Census Bureau.

This substantial difference in density skews the average *county* housing unit density in Kankakee County and is readily apparent when compared to the average housing unit densities for each of the townships within the County. **Figure T-10** provides a breakdown of housing unit densities by township and illustrates the differences between the various townships and the County as a whole.

For 14 of the 17 townships, the *average county* housing unit density is greater (in most cases considerably greater) than the *average township* housing unit densities. However, the *average county* housing unit density is considerably less than the housing unit densities for the three most populated townships.

Estimating the Number of Potentially-Damaged Housing Units

Before an estimate of the number of potentially-damaged housing units can be calculated for the participating municipalities, an additional factor needs to be taken into consideration: the presence of commercial/industrial developments and/or large tracts of undeveloped land. Occasionally villages and cities will annex large tracts of undeveloped land or have commercial/industrial parks/developments located within their corporate limits. In many cases these large tracts of land include very few residential structures. Consequently, including these tracts of land in the calculations to determine the number of potentially-damaged housing units skews the results, especially for very small municipalities. Therefore, to provide a more realistic assessment of the number of potentially-damaged housing units, these areas need to be subtracted from the land area figures obtained from the U.S. Census Bureau.

In Kankakee County, all of the participating municipalities have large commercial/industrial and/or undeveloped land areas within their municipal boundaries. These areas account for approximately one-third to four-fifths of the land area in these municipalities. If these areas are subtracted from the U.S. Census Bureau land area figures, then the remaining land areas have fairly

consistent housing unit densities and contain a majority of the housing units. **Figure T-11** provides a breakdown of the refined land area figures for participating municipalities. These refined land area figures will be used to update the average housing unit density calculations for these municipalities.

Figure T-10
Average Housing Unit Density by Township

Township	Incorporated Municipalities Located in Township	Total Housing Units (2016-2020)	Mobile Homes (2016-2020)	Land Area (Sq. Miles) (2020)	Average Housing Unit Density (Units/Sq. Mi.) (Raw)
Aroma	Aroma Park	2,296	24	37.088	61.907
Bourbonnais[2]	Bourbonnais, Bradley	15,106	1,010	42.238	357.640
Essex	Essex	652	107	35.653	18.287
Ganeer[2]	Momence, Sun River Terrace	1,097	18	39.918	27.481
Kankakee[1,5,6]	Kankakee, City of	11,727	298	17.954	653.169
Limestone	Limestone	1,974	43	40.382	48.883
Manteno[3]	Manteno	4,552	774	36.578	124.446
Momence[4]	Momence	1,749	80	42.453	41.199
Norton	Union Hill, Reddick, Buckingham, Cabery	403	6	49.772	8.097
Otto	Irwin, Chebanse, Sammons Point	909	134	48.229	18.848
Pembroke	Hopkins Park	1,090	251	52.343	20.824
Pilot	Herscher	929	0	49.436	18.792
Rockville[3]		263	0	36.454	7.215
Salina	Bonfield	635	55	36.587	17.356
St. Anne	St. Anne	1,012	24	30.253	33.451
Sumner[3]		299	21	37.247	8.027
Yellowhead	Grant Park	933	7	43.904	21.251
Townships - 3 most populated		31,385	2,082	96.770	324.326
Townships - 14 least populated		14,241	770	579.719	24.565

[1]Kankakee Community College [2]Bourbonnais FPD [3]Manteno Community FPD
[4]Momence FPD [5]Ascension Saint Mary Kankakee [6]Riverside Medical Center
Source: U.S. Census Bureau.

With updated average housing unit densities calculated it is relatively simple to provide an estimate of the number of existing potentially-damaged housing units. This can be done by multiplying the average housing unit density by the area impacted by the average-sized Kankakee County tornado. **Figure T-12** provides a sample calculation.

For those municipalities that cover less than one square mile, the average housing unit density cannot be used to calculate the number of potentially-damaged housing units. The average housing unit density assumes that the land area within the municipality is at least one square mile and as a result distorts the number of potentially-damaged housing units for very small municipalities.

Figure T-11
Refined Land Area Figures for Participating Municipalities with Large Tracts of Commercial/Industrial and Undeveloped Land Areas

Participating Jurisdiction	Land Area (Sq. Miles) (2020)	Estimated Open Land Area & Commercial/ Industrial Tracts (Sq. Miles)	Refined Land Area (Sq. Miles)
Aroma Park	1.882	1.210	0.672
Bourbonnais	9.312	3.690	5.622
Bradley	6.932	1.230	5.702
Grant Park	3.413	0.300	3.113
Hopkins Park	4.137	3.460	0.677
Kankakee, City of	15.057	7.310	7.747
Manteno	5.344	2.660	2.684
Union Hill	0.046	0.030	0.016

Figure T-12
Sample Calculation of Potentially-Damaged Housing Units – Kankakee County

Average Housing Unit Density x Area Impacted by the Average-Sized Kankakee County Tornado = Potentially-Damaged Housing Units
(Rounded Up to the Nearest Whole Number)

Kankakee County: 67.445 housing units/sq. mile x 0.30 sq. miles = 20.23 housing units
(21 housing units)

To calculate the number of potentially-damaged housing units for these municipalities, the area impacted by the averaged-sized Kankakee County tornado is divided by the land area within the municipality to get the impacted land area. The impacted land area is then multiplied by the total number of housing units within the municipality to get the number of potentially-damaged housing units. **Figure T-13** provides a sample calculation. Since the refined land areas in Union Hill is less than the average area impacted, it is assumed that all of the housing units within this Village will be potentially damaged.

Figure T-13
Sample Calculation of Potentially-Damaged Housing Units for Municipalities Covering Less Than One Square Mile – Aroma Park

Area Impacted by the Average-Sized Kankakee County Tornado ÷ Land Area within the Jurisdiction x Total Housing Units in the Jurisdiction = Potentially-Damaged Housing Units
(Rounded Up to the Nearest Whole Number)

Aroma Park: 0.30 sq. mile ÷ 0.672 sq. miles x 303 housing units = 135.27
(136 housing units)

Figures T-14 and **T-15** provide a breakdown of the number of potentially-damaged housing units by participating municipality, as well as by township and for the unincorporated areas of the County and the County as a whole. It is important to note that for the most densely populated townships, the estimated number of potentially-damaged housing units would only be reached if a tornado's pathway included the major municipality within the township. If the tornado remained in the rural portion of the township, then the number of potentially-damaged housing units would be considerably lower.

Figure T-14
Estimated Number of Housing Units by Participating Jurisdiction
Potentially Damaged by a Tornado

Participating Jurisdiction	Total Housing Units (2016-2020)	Land Area/Refined Land Area (Sq. Miles) (2020)	Average Housing Unit Density (Units/Sq. Mi.) (Raw)	Potentially-Damaged Housing Units (Units/0.30 Sq. Mi.) (Raw)	Potentially-Damaged Housing Units (Units/0.30 Sq. Mi.) (Rounded Up)
Aroma Park	303	0.672	---	135.27	136
Bourbonnais[2]	6,977	5.622	1,241.017	372.31	373
Bradley	6,252	5.702	1,096.457	328.94	329
Grant Park	530	3.113	170.254	51.08	52
Hopkins Park	269	0.677	---	119.20	120
Kankakee, City of[1,5,6]	11,071	7.747	1,429.069	428.72	429
Manteno[3]	3,705	2.684	1,380.402	414.12	415
Union Hill	26	0.016	---	26.00	26
Unincorp. County	10,422	609.326	17.104	5.13	6
County	45,626	676.490	67.445	20.23	21

[1]Kankakee Community College [2]Bourbonnais FPD [3]Manteno Community FPD
[4]Momence FPD [5]Ascension Saint Mary Kankakee [6]Riverside Medical Center

What is the level of risk/vulnerability to existing buildings, infrastructure, and critical facilities vulnerable from tornadoes?

There are several factors that must be examined when assessing the vulnerability of existing buildings, infrastructure, and critical facilities to tornadoes. These factors include tornado frequency, population distribution and density, the ratings and pathways of previously recorded tornadoes, and the presence of high-risk living accommodations (such as high-rise buildings, mobile homes, etc.)

Unincorporated Kankakee County/Townships/Fire Protection Districts

For Kankakee County, including the fire protection districts and townships, the level of risk or vulnerability posed by tornadoes to existing buildings, infrastructure and critical facilities is considered to be ***low*** to ***medium***, depending on the population density of the township/fire protection district. This assessment is based on the frequency with which tornadoes have occurred in the County, as well as the amount of damage that has been sustained tempered by the low population density throughout most of unincorporated Kankakee County and the relative absence of high risk living accommodations. While previously recorded tornadoes have followed largely rural pathways, they have caused significant damage on several occasions.

Participating Municipalities (including Schools and Healthcare Facilities)

In general, if a tornado were to touch down or pass through any of the participating municipalities the risk to existing buildings, infrastructure, and critical facilities would be considered ***high***. This assessment is based on the population and housing unit distribution within the municipalities where wide expanses of open spaces do not generally exist. As a result, if a tornado were to touch down within any of the municipalities it would have a greater likelihood of causing substantial property damage.

Figure T-15
Estimated Number of Housing Units by Township Potentially Damaged by a Tornado

Township	Total Housing Units (2016-2020)	Land Area (Sq. Miles) (2020)	Average Housing Unit Density (Units/Sq. Mi.) (Raw)	Potentially-Damaged Housing Units (Units/0.30 Sq. Mi.) (Raw)	Potentially-Damaged Housing Units (Units/0.30 Sq. Mi.) (Rounded Up)
Aroma	2,296	37.088	61.907	18.57	19
Bourbonnais[2]	15,106	42.238	357.640	107.29	108
Essex	652	35.653	18.287	5.49	6
Ganeer[2]	1,097	39.918	27.481	8.24	9
Kankakee[1,5,6]	11,727	17.954	653.169	195.95	196
Limestone	1,974	40.382	48.883	14.66	15
Manteno[3]	4,552	36.578	124.446	37.33	38
Momence[4]	1,749	42.453	41.199	12.36	13
Norton	403	49.772	8.097	2.43	3
Otto	909	48.229	18.848	5.65	6
Pembroke	1,090	52.343	20.824	6.25	7
Pilot	929	49.436	18.792	5.64	6
Rockville[3]	263	36.454	7.215	2.16	3
Salina	635	36.587	17.356	5.21	6
St. Anne	1,012	30.253	33.451	10.04	11
Sumner[3]	299	37.247	8.027	2.41	3
Yellowhead	933	43.904	21.251	6.38	7
Townships - 3 most populated	31,385	96.770	324.326	97.30	98
Townships - 14 least populated	14,241	579.719	24.565	7.37	8

[1]Kankakee Community College [2]Bourbonnais FPD [3]Manteno Community FPD
[4]Momence FPD [5]Ascension Saint Mary Kankakee [6]Riverside Medical Center

Are future buildings, infrastructure, and critical facilities vulnerable to tornadoes?

Yes and No. The County and all of the participating municipalities, with the exception of Union Hill, have building codes in place that will likely help lessen the vulnerability of new buildings and critical facilities to damage from tornadoes. However, even new buildings and critical facilities built to code are vulnerable to the risks posed by a higher rated tornado.

Infrastructure such as new communication and power lines will continue to be vulnerable to tornadoes as long as they are located above ground. Flying debris can disrupt power and

communication lines even if they are not directly in the path of the tornado. Steps to bury all new lines would eliminate the vulnerability, but this action would be cost prohibitive in most areas.

What are the potential dollar losses to vulnerable structures from tornadoes?

Unlike other hazards, such as flooding, there are no standard loss estimation models or methodologies for tornadoes. However, a rough estimate of potential dollar losses to the potentially-damaged housing units determined previously can be calculated if several additional decisions/assumptions are made regarding:

- the value of the potentially-damaged housing units; and
- the percent damage sustained by the potentially-damaged housing units (i.e., damage scenario).

These assumptions represent a ***probable scenario*** based on the reported historical occurrences of tornadoes in Kankakee County. The purpose of providing a rough estimate is to help residents and municipal/county officials make informed decisions to better protect themselves and their communities. These estimates are meant to provide a ***general idea*** of the magnitude of the potential damage that could occur. The following provides a brief discussion of each decision/assumption.

Assumption #4: Value of Potentially-Damaged Housing Units. In order to determine the potential dollar losses to the potentially-damaged housing units, the monetary value of the units must first be calculated. Typically, when damage estimates are prepared after a natural disaster such as a tornado, they are based on the market value of the structure. Since it would be impractical to determine the individual market value of each potentially-damaged housing unit, the average market value of residential structures in each jurisdiction will be used.

Assumption #4

The average market value for residential structures in each participating jurisdiction will be used to determine the value of potentially-damaged housing units.

To determine the average market value, the average assessed value must first be calculated. The average assessed value is calculated by taking the total assessed value of residential buildings within a jurisdiction and dividing that number by the total number of housing units within the jurisdiction. The average market value is then determined by taking the average assessed value and multiplying that number by three (the assessed value of a structure in Kankakee County is approximately one-third of the market value). **Figure T-16** provides a sample calculation. The total assessed value is based on 2021 tax assessment information provided by the Kankakee County Clerk.

Figures T-17 and **T-18** provide the average assessed value and average market value for each participating municipality as well as by township and for the unincorporated areas of the County and the County as a whole.

Figure T-16
Sample Calculation of Average Assessed Value & Average Market Value – Aroma Park

Average Assessed Value

Total Assessed Value of Residential Buildings in the Jurisdiction÷ Total Housing Units in the Jurisdiction = Average Assessed Value (Rounded to the Nearest Dollar)

Aroma Park: $9,672,477 ÷ 303 housing units = $31,922

Average Market Value

Average Assessed Value x 3 = Average Market Value

Aroma Park: $31,992 x 3 = $95,766

($95,766)

Figure T-17
Average Market Value of Housing Units by Municipality

Participating Jurisdiction	Total Assessed Value of Residential Buildings (2021)	Total Housing Units (2016-2020)	Average Assessed Values	Average Market Value (2021)
Aroma Park	$9,672,477	303	$31,922	$95,766
Bourbonnais[2]	$301,968,772	6,977	$43,281	$129,843
Bradley	$220,431,295	6,252	$35,258	$105,774
Grant Park	$19,759,448	530	$37,282	$111,846
Hopkins Park	$3,204,647	269	$11,913	$35,739
Kankakee, City of[1,5,6]	$151,873,022	11,071	$13,718	$41,154
Manteno[3]	$159,583,748	3,705	$43,073	$129,219
Union Hill	$847,130	26	$32,582	$97,746
Unincorp. County	$366,895,732	10,422	$35,204	$105,612
County	$1,428,718,193	45,626	$31,314	$93,942

[1]Kankakee Community College [2]Bourbonnais FPD [3]Manteno Community FPD
[4]Momence FPD [5]Ascension Saint Mary Kankakee [6]Riverside Medical Center
Source: Kankakee County Clerk

Assumption #5: Damage Scenario. Finally, a decision must be made regarding the percent damage sustained by the potentially-damaged housing units and their contents. For this scenario, the expected percent damage sustained by the structure and its contents is 100%; in other words, all of the potentially-damaged housing units would be completely destroyed. While it is highly unlikely that each and every housing unit would sustain the maximum percent damage, identifying and calculating different degrees of damage within the average area impacted is complex and provides an additional complication when updating the Plan.

Assumption #5

The tornado would completely destroy the potentially-damaged housing units.

Structural Damage = 100%
Content Damage = 100%

Figure T-18
Average Market Value of Housing Units by Township

Participating Jurisdiction	Total Assessed Value of Residential Buildings (2021)	Total Housing Units (2016-2020)	Average Assessed Values	Average Market Value (2021)
Aroma	$79,504,927	2,296	$34,628	$103,883
Bourbonnais[2]	$605,343,525	15,106	$40,073	$120,219
Essex	$21,737,024	652	$33,339	$100,017
Ganeer[2]	$41,950,129	1,097	$38,241	$114,722
Kankakee[1,5,6]	$168,231,948	11,727	$14,346	$43,037
Limestone	$107,133,635	1,974	$54,272	$162,817
Manteno[3]	$176,909,975	4,552	$38,864	$116,593
Momence[4]	$43,730,475	1,749	$25,003	$75,009
Norton	$9,433,683	403	$23,409	$70,226
Otto	$29,663,464	909	$32,633	$97,899
Pembroke	$13,103,617	1,090	$12,022	$36,065
Pilot	$31,105,729	929	$33,483	$100,449
Rockville[3]	$13,864,588	263	$52,717	$158,151
Salina	$17,569,163	635	$27,668	$83,004
St. Anne	$22,081,866	1,012	$21,820	$65,460
Sumner[3]	$9,591,928	299	$32,080	$96,240
Yellowhead	$37,762,517	933	$40,474	$121,423
Townships - 3 most populated	$950,485,448	31,385	$30,285	$90,854
Townships - 14 least populated	$478,232,745	14,241	$33,581	$100,744

[1]Kankakee Community College [2]Bourbonnais FPD [3]Manteno Community FPD
[4]Momence FPD [5]Ascension Saint Mary Kankakee [6]Riverside Medical Center
Source: Kankakee County Clerk

Calculating Potential Dollar Losses

With all the decisions and assumptions made, the potential dollar losses can now be calculated. First, the potential dollar losses to the ***structure*** of a potentially-damaged housing unit must be determined. This is done by taking the average market value for a residential structure and multiplying it by the percent damage (100%) to get the average structural damage per unit. Next the average structural damage per unit is multiplied by the number of potentially-damaged housing units. **Figure T-19** provides a sample calculation.

Next, the potential dollar losses to the ***content*** of a potentially-damaged housing unit must be determined. Based on FEMA guidance, the average value of a residential housing unit's content is approximately 50% of its market value. Therefore, start by taking one-half the average market value for a residential structure and multiply by the percent damage (100%) to get the average content damage per unit. Next the average content damage per unit is multiplied by the number of potentially-damaged housing units. **Figure T-20** provides a sample calculation.

Figure T-19
***Structure:* Potential Dollar Loss Sample Calculation – Aroma Park**

Average Market Value of a Housing Unit with the Jurisdiction x Percent Damage = Average Structural Damage per Housing Unit
Aroma Park: $95,766 x 100% = $95,766 per housing unit

Average Structural Damage per Housing Unit x Number of Potentially-Damaged Housing Units within the Jurisdiction = *Structure* Potential Dollar Losses
Aroma Park: $95,766 per housing unit x 136 housing units = $13,024,176
($13,024,176)

Figure T-20
***Content:* Potential Dollar Loss Sample Calculation – Aroma Park**

½ (Average Market Value of a Housing Unit) with the Jurisdiction x Percent Damage = Average Content Damage per Housing Unit
Aroma Park: ½ ($95,766) x 100% = $47,883 per housing unit

Average Content Damage per Housing Unit x Number of Potentially-Damaged Housing Units within the Jurisdiction = *Content* Potential Dollar Losses
Aroma Park: $47,883 per housing unit x 136 housing units = $6,512,088
($6,512,088)

Finally, the ***total potential dollar losses*** may be calculated by adding together the potential dollar losses to the structure and content. **Figures T-21** and **T-22** give a breakdown of the total potential dollar losses by municipality and township.

Figure T-21
Estimated Potential Dollar Losses to Potentially-Damaged Housing Units from a Tornado by Participating Jurisdiction

Participating Jurisdiction	Average Market Value (2021)	Potentially-Damaged Housing Units (Rounded Up)	Potential Dollar Losses		Total Potential Dollar Losses
			Structure	Content	
Aroma Park	$95,766	136	$13,024,176	$6,512,088	$19,536,264
Bourbonnais[2]	$129,843	373	$48,431,439	$24,215,720	$72,647,159
Bradley	$105,774	329	$34,799,646	$17,399,823	$52,199,469
Grant Park	$111,846	52	$5,815,992	$2,907,996	$8,723,988
Hopkins Park	$35,739	120	$4,288,680	$2,144,340	$6,433,020
Kankakee, City of[1,5,6]	$41,154	429	$17,655,066	$8,827,533	$26,482,599
Manteno[3]	$129,219	415	$53,625,885	$26,812,943	$80,438,828
Union Hill	$97,746	26	$2,541,396	$1,270,698	$3,812,094
Unincorp. County	$105,612	6	$633,672	$316,836	$950,508
County	$93,942	21	$1,972,782	$986,391	$2,959,173

[1]Kankakee Community College [2]Bourbonnais FPD [3]Manteno Community FPD
[4]Momence FPD [5]Ascension Saint Mary Kankakee [6]Riverside Medical Center

Figure T-22
Estimated Potential Dollar Losses to Potentially-Damaged Housing Units from a Tornado by Township

Participating Jurisdiction	Average Market Value (2021)	Potentially-Damaged Housing Units (Rounded Up)	Potential Dollar Losses		Total Potential Dollar Losses
			Structure	Content	
Aroma	$103,883	19	$1,973,777	$986,889	$2,960,666
Bourbonnais[2]	$120,219	108	$12,983,652	$6,491,826	$19,475,478
Essex	$100,017	6	$600,102	$300,051	$900,153
Ganeer[2]	$114,722	9	$1,032,498	$516,249	$1,548,747
Kankakee[1,5,6]	$43,037	196	$8,435,252	$4,217,626	$12,652,878
Limestone	$162,817	15	$2,442,255	$1,221,128	$3,663,383
Manteno[3]	$116,593	38	$4,430,534	$2,215,267	$6,645,801
Momence[4]	$75,009	13	$975,117	$487,559	$1,462,676
Norton	$70,226	3	$210,678	$105,339	$316,017
Otto	$97,899	6	$587,394	$293,697	$881,091
Pembroke	$36,065	7	$252,455	$126,228	$378,683
Pilot	$100,449	6	$602,694	$301,347	$904,041
Rockville[3]	$158,151	3	$474,453	$237,227	$711,680
Salina	$83,004	6	$498,024	$249,012	$747,036
St. Anne	$65,460	11	$720,060	$360,030	$1,080,090
Sumner[3]	$96,240	3	$288,720	$144,360	$433,080
Yellowhead	$121,423	7	$849,961	$424,981	$1,274,942
Townships - 3 most populated	$90,854	98	$8,903,692	$4,451,846	$13,355,538
Townships - 14 least populated	$100,744	8	$805,952	$402,976	$1,208,928

[1]Kankakee Community College [2]Bourbonnais FPD [3]Manteno Community FPD
[4]Momence FPD [5]Ascension Saint Mary Kankakee [6]Riverside Medical Center

This assessment illustrates why potential residential dollar losses should be considered when jurisdictions are deciding which mitigation projects to pursue. ***Potential dollar losses caused by an average tornado in Kankakee County would be expected to exceed at least $8.7 million in any of the participating municipalities, with the exception of Hopkins Park, and Union Hill.***

For comparison, an estimate of potential dollar losses was calculated for the entire County, the unincorporated portions of the County, the three most populated townships and the 14 least populated townships. As discussed previously, the estimate for the entire County is skewed because it does not take into consideration the differences in the housing density.

Vulnerability of Commercial/Industrial Businesses and Infrastructure/Critical Facilities

The calculations presented above are meant to provide the reader with a sense of the scope or magnitude of an average-sized tornado in term of residential dollar losses. These calculations do not include damages sustained by businesses or other infrastructure and critical facilities within the participating jurisdictions.

In terms of businesses, the impacts from an average-sized tornado event can be physical and/or monetary. Monetary impacts can include loss of sales revenue either through temporary closure or loss of critical services (i.e., power, drinking water, and sewer). Depending on the magnitude of the event, the damage sustained by infrastructure and critical facilities can be extensive in nature and expensive to repair. As a result, the cumulative monetary impacts to businesses and infrastructure can exceed the cumulative monetary impacts to residences. ***While average dollar amounts cannot be supplied for these items at this time, they should be taken into account*** when discussing the impacts that an average-sized tornado could have on the participating jurisdictions.

3.7 DROUGHTS

HAZARD IDENTIFICATION

What is the definition of a drought?

While difficult to define, the National Drought Mitigation Center (NDMC) considers "drought" in its most general sense to be a deficiency of precipitation over an extended period of time, usually a season or more, resulting in a water shortage.

Drought is a normal and recurrent feature of climate and can occur in all climate zones, though its characteristics and impacts vary significantly from one region to another. Unlike other natural hazards, drought does not have a clearly defined beginning or end. Droughts can be short, lasting just a few months, or they can persist for several years. There have been 28 drought events with losses exceeding $1 billion each (CPI-Adjusted) across the U.S. between 1980 and 2022. This is due in part to the sheer size of the areas affected.

What types of drought occur?

There are four main types of drought that occur: meteorological, agricultural, hydrological, and socioeconomic. They are differentiated based on the use and need for water. The following provides a brief description of each type.

- **Meteorological Drought.** Meteorological drought is defined by the degree of dryness or rainfall deficit and the duration of the dry period. Due to climate differences, what might be considered a drought in one location of the country may not be in another location.
- **Agricultural Drought.** An agricultural drought refers to a period when rainfall deficits, soil moisture deficits, reduced ground water or reservoir levels needed for irrigation impact crop development and yields.
- **Hydrological Drought.** Hydrological drought refers to a period when precipitation deficits (including snowfall) impact surface (stream flow, reservoir and lake levels) and subsurface (aquifers) water supply levels.
- **Socioeconomic Drought.** Socioeconomic drought refers to a period when the demand for an economic good (fruit, vegetables, grains, etc.) exceeds the supply as a result of weather-related shortfall in the water supply.

How are droughts measured?

There are numerous quantitative measures (indicators and indices) that have been developed to measure drought. How these indicators and indices measure drought depends on the discipline affected (i.e., agriculture, hydrology, meteorology, etc.) and the region being considered. There is no single index or indicator that can account for and be applied to all types of drought.

Although none of the major indices are inherently superior to the rest, some are better suited than others for certain uses. The first comprehensive drought index developed in the U.S. was the Palmer Drought Severity Index (PDSI). The PDSI is calculated based on precipitation and temperature data, as well as the local Available Water Content of the soil. It is most effective

measuring drought impacts on agriculture. For many years it was the only operational drought index, and it is still very popular around the world.

The Standardized Precipitation Index (SPI), developed in 1993, uses precipitation records for any location to develop a probability of precipitation for any time scale in order to reflect the impact of drought on the availability of different water resources (groundwater, reservoir storage, streamflow, snowpack, etc.) In 2009, the World Meteorological Organization recommended SPI as the main meteorological drought index that countries should use to monitor and follow drought conditions.

The first operational 'composite' approach applied in the U.S. was the U.S. Drought Monitor (USDM). The USDM utilizes five key indicators, numerous supplementary indicators, and local reports from expert observers around the country to produce a drought intensity rating that is ideal for monitoring droughts that have many impacts, especially on agriculture and water resources during all seasons over all climate types. NOAA's Storm Events Database records include USDM ratings and utilized them along with additional weather information to describe the severity of the drought conditions impacting affected counties. Therefore, this Plan will utilize USDM ratings to identify and describe previous drought events recorded within the County. The following provides a more detailed discussion of the USDM to aid the Plan's developers and the general public in understanding how droughts are identified and categorized.

U.S. Drought Monitor (USDM)

Established in 1999, the USDM is a relatively new index that combines quantitative measures with input from experts in the field. It is designed to provide the general public, media, government officials and others with an easily understandable "big picture" overview of drought conditions across the U.S. It is unique in that it combines a variety of numeric-based drought indices and indicators with local expert input to create a single composite drought indicator, the results of which are illustrated via a weekly map that depicts the current drought conditions across the U.S. The USDM is jointly produced by the National Drought Mitigation Center at the University of Nebraska-Lincoln, the U.S. Department of Agriculture (USDA), and the National Oceanic and Atmospheric Administration (NOAA).

The USDM has a scale of five intensity categories, D0 through D4, that are utilized to identify areas of drought. **Figure DR-1** provides a brief description of each category.

Because the ranges of the various indicators often don't coincide, the final drought category tends to be based on what a majority of the indictors show and on local observations. The authors also weight the indices according to how well they perform in various parts of the country and at different times of the year. It is the combination of the best available data, location observations and experts' best judgment that make the U.S. Drought Monitor more versatile than other drought indices.

In addition to identifying and categorizing general areas of drought, the USDM also identifies whether a drought's impacts are short-term (typically less than 6 months – agriculture, grasslands) or long-term (typically more than 6 months – hydrology, ecology). **Figure DR-2** shows an

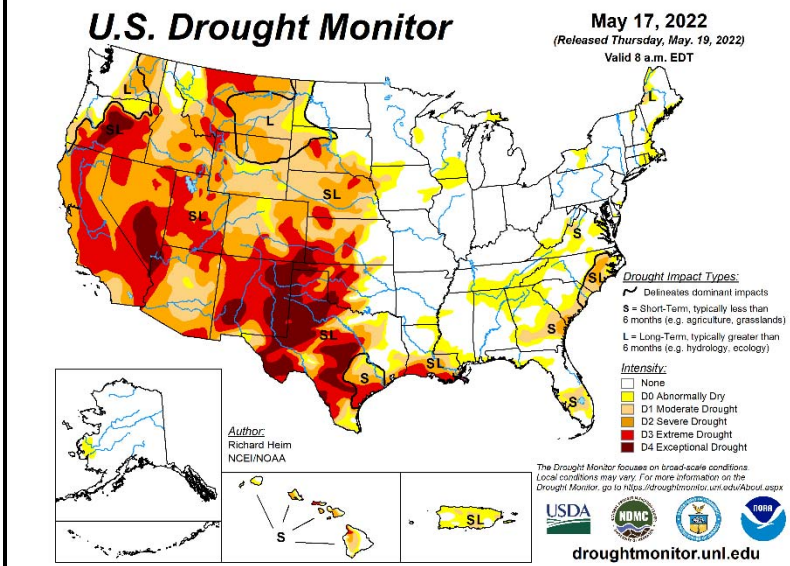
example of the USDM weekly map. The USDM is designed to provide a consistent big-picture look at drought conditions in the U.S. It is not designed to infer specifics about local conditions.

Figure DR-1
U.S. Drought Monitor – Drought Intensity Categories

Category	Possible Impacts
D0 (Abnormally Dry)	• Going into drought: - short-term dryness slowing planting, growth of crops or pastures. • Coming out of drought: - some lingering water deficits - pastures or crops not fully recovered
D1 (Moderate Drought)	• Some damage to crops, pastures • Streams, reservoirs, or wells low; some water shortages developing or imminent • Voluntary water-use restrictions requested
D2 (Severe Drought)	• Crop or pasture losses likely • Water shortages common • Water restrictions imposed
D3 (Extreme Drought)	• Major crop/pasture losses • Widespread water shortages or restrictions
D4 (Exceptional Drought)	• Exceptional and widespread crop/pasture losses • Shortages of water in reservoirs, streams, and wells creating water emergencies

Source: U.S. Drought Monitor.

Figure DR-2
U. S. Drought Monitor



The U.S. Drought Monitor is jointly produced by the National Drought Mitigation Center at the University of Nebraska-Lincoln, the U.S. Department of Agriculture, and the National Oceanic and Atmospheric Administration. Map Courtesy of NDMC.

HAZARD PROFILE

The following identifies past occurrences of drought, details the severity or extent of each event (if known); identifies the locations potentially affected and estimates the likelihood of future occurrences.

When have droughts occurred previously? What is the extent of these previous droughts?

Drought Fast Facts – Occurrences

Number of Drought Events Reported (1980 – 2021): ***4***

Table 11, located in **Appendix J**, summarizes the previous occurrences as well as the extent or magnitude of the drought events recorded in Kankakee County. NOAA's Storm Events Database, the Illinois State Water Survey, the Illinois Emergency Management Agency (IEMA), the NDMC at the University of Nebraska-Lincoln, and the USDA have documented four official droughts for Kankakee County between 1980 and 2022.

The recorded drought events ranged in length from 6.5 to 16 months. Of the three drought events with a recorded starting month, one began in May, and two began in June. Two of the drought events were assigned drought intensity category ratings by the USDM, with the 2012-2013 drought reaching D3, extreme drought.

The State of Illinois Drought Preparedness and Response Plan identified seven additional outstanding statewide droughts since 1900 based on statewide summer values of the PDSI provided by NOAA's National Center for Environmental Information. Those seven droughts occurred in 1902, 1915, 1931, 1934, 1936, 1954 and 1964; however, the extent to which Kankakee County was impacted was unavailable.

What locations are affected by drought?

Drought events affect the entire County. Droughts, like excessive heat and severe winter storms, tend to impact large areas, extending across an entire region and affecting multiple counties. The 2018 Illinois Natural Hazard Mitigation Plan classifies Kankakee County's hazard rating for drought as "low."

What is the probability of future drought events occurring based on historical data?

Kankakee County, including the participating jurisdictions, has experienced four droughts between 1980 and 2022. With four occurrences over 43 years, the probability or likelihood that the County may experience a drought in any given year is 9.3%. However, if earlier recorded droughts are factored in, then the probability that Kankakee County may experience a drought in any given year decreases to 9.0%.

What is the probability of future drought events occurring based on modeled future conditions?

Despite precipitation trending upwards in Illinois in recent decades, drought conditions are likely to be more problematic in the future than they have been in the recent past, due to a combination of changes in precipitation patterns and an increase in summer temperatures.

In terms of predicting the likelihood of drought conditions, the amount of precipitation received is important, but even more critical is the timing of precipitation events. More frequent precipitation events maintain soil in a spongy, porous state that readily absorbs moisture; alternatively, more infrequent precipitation events tend to lead to dry, hardened earth, which is more effective at repelling water than absorbing it. When a precipitation event does occur over this drought-stricken soil, most of the water runs off and pools in bottomlands, leaving most land 'high and dry' while simultaneously flooding the lowest-lying areas.

Another factor making this outcome more likely is the trend of increasing temperatures in Illinois, particularly during the summer when rain events are already more sporadic. Over the past 120 years, average temperatures in Illinois have increased by 1°F and 2°F according to the Illinois State Climatologist, a trend that is likely to continue. In the future, hotter summer temperatures are likely to lead to more evaporation that will exacerbate dry conditions, causing droughts to intensify more rapidly and become more intense.

Figures SS-8 and **SS-9,** located in Section 3.1, and **Figures EH-6, EH-7,** and **EH-8,** located in Section 3.4, provide tabular and graphical projections for Kankakee County showing average annual estimates for temperature and precipitation in the early, mid, and late century, with both low and high estimates for each time period. Most likely, the true values will fall between these two estimates. According to the Climate Mapping for Resilience and Adaptation's Assessment Tool, the number of days over 90°F in Kankakee County are projected to double, while days exceeding 100°F are likely to increase from an average of zero a year today to 4 to 7 days by midcentury. It also forecasts that the average annual precipitation in Kankakee County is likely to increase by two inches per year, while the average number of days per year without precipitation is projected to increase by 3 to 4 days.

The Climate Explorer indicates that in Kankakee County, the average number of dry spells (a period of consecutive days without precipitation) is projected to increase by one. Extreme temperatures on the hottest days of the year are projected to increase by 6°F. This is based on the findings of the 2018 National Climate Assessment and compares projections for the middle third of the century (2035-2064) with average conditions observed from 1961-1990.

In combination, a decrease in the frequency of precipitation and a significant increase in the number of days with extreme heat in Kankakee County would create conditions that will be more likely to produce droughts than today.

HAZARD VULNERABILITY

The following describes the vulnerability to participating jurisdictions, identifies the impacts on public health and property (if known) and estimates the potential impacts on public health and safety as well as buildings, infrastructure, and critical facilities from drought.

Are the participating jurisdictions vulnerable to drought?

Yes. All of Kankakee County, including the participating jurisdictions, is vulnerable to drought. Neither the amount nor the distribution of precipitation; soil types; topography; or water table conditions provides protection for any area within the County.

Have any of the participating jurisdictions identified specific assets vulnerable to the impacts of drought?

Yes. Based on responses to a Critical Facilities Vulnerability Survey distributed to the participating jurisdictions, Kankakee County considers specific assets within its jurisdiction vulnerable to drought. A large portion of the County's population obtains its drinking water from the Kankakee River through Aqua Illinois. A prolonged drought has the ability to disrupt service to these residents.

What impacts resulted from the recorded drought events?

Data obtained from the USDA Risk Management Agency, indicates that between 1980 and 2022, two of the four droughts (2005 & 2012) caused an estimated $29,125,922 in damages to insured crops in Kankakee County. Damage information was either unavailable or none was recorded for the remaining two reported occurrences.

Drought Fast Facts – Impacts/Risk

Drought Impacts:
- Total Property Damage: ***n/a***
- Total Crop Damage: ***$29.1 million (insured crops only)***

Drought Risk/Vulnerability:
- Public Health & Safety: ***Low***
- Buildings/Infrastructure/Critical Facilities: ***Low***

Of the four drought events, disaster relief payment information was only available for one of the events. In 1988, landowners and farmers in Illinois were paid in excess of $382 million in relief payments; however, a breakdown by county was unavailable.

What other impacts can result from drought events?

Based on statewide drought records available from the Illinois State Water Survey, the most common impacts that result from drought events in Illinois include reductions in crop yields and drinking water shortages.

Crop Yield Reductions

Agriculture is an important industry in Kankakee County. Farmland accounts for approximately 72.3% of all the land in the County. According to the 2017 Census of Agriculture, there were 756 farms in Kankakee County occupying 312,904 acres. Approximately 6.1% of the land in crop production is irrigated. In comparison, there were 818 farms occupying 79.1% (342,637 acres) of the total land area in the County in 2012. Of the land in farms in 2017, 96% or approximately 300,400 acres are in crop production.

According to the 2017 Census of Agriculture, total crop and livestock sales accounted for $221.1 million in revenue. This is a 23.1% decrease in revenue from the 2012 Census of Agriculture when total crop and livestock sales accounted for $287.5 million. Kankakee County ranks 19th in Illinois in crop cash receipts and 53rd in Illinois for livestock cash receipts. A severe drought would have a major financial impact on the large agricultural community, particularly if it occurred during the growing season. Dry weather conditions, particularly when accompanied by excessive heat, can result in diminished crop yields and place stress on livestock.

A reduction in crop yields was seen as a result of the 1983, 1988, 2005, and 2012 droughts. **Figure DR-3** illustrates the reduction yields seen for corn and soybeans during the four recorded drought events. The USDA's National Agricultural Statistics Service records show that yield reductions for corn and soybeans were most severe for the 1988 drought when there was a 63.6% reduction in corn yields and a 55.7% reduction in soybean yields.

Figure DR-3
Crop Yield Reductions Due to Drought – Kankakee County

Year	Corn		Soybeans	
	Yield (bushel)	% Reduction Previous Year	Yield (bushel)	% Reduction Previous Year
1982	136.0	---	39.5	---
1983	88.0	**35.3%**	38.0	**3.8%**
1984	109.0	---	29.0	---
1987	129.0	---	39.5	---
1988	47.0	**63.6%**	17.5	**55.7%**
1989	138.0	---	42.5	---
2004	179.0	---	49.0	---
2005	137.0	**23.5%**	44.0	**10.2%**
2006	167.0	---	47.0	---
2011	153.3	---	48.1	---
2012	119.2	**22.2%**	43.8	**8.9%**
2013	172.1	---	47.0	---

Source: USDA, National Agricultural Statistics Service.

Drinking Water Shortages

Municipalities that rely on surface water sources for their drinking water supplies are more vulnerable to shortages as a result of drought. In Kankakee County, ***six of the eight participating municipalities rely exclusively on surface water sources*** for their drinking water supply including Aroma Park, Bourbonnais, Bradley, Grant Park, the City of Kankakee, and Manteno. All six obtain drinking water from Aqua Illinois, which obtains its water from the Kankakee River. According to Illinois State Water Survey (ISWS) the Aqua Illinois water supply is classified as "Adequate". The ISWS indicates that there is greater than a 90% probability that the water supply would not experience any water shortages or threat thereof during a severe drought similar to the drought of record.

Hopkins Park obtains it drinking water from two wells in shallow bedrock at depths of 450 feet. Residents of Union Hill do not have a community water supply and instead rely on private wells of varying depth in the shallow sand and gravel aquifers for their drinking water.

While some of the participating municipalities are less vulnerable to drinking water shortages, a prolonged drought or a series of droughts in close succession do have the potential to impact water levels in aquifers used for individual drinking water wells in rural areas. This is because individual (private) water wells tend to be shallower than municipal (public) water wells.

What is the level of vulnerability to public health and safety from drought?

Unlike other natural hazards that affect the County, drought events do not typically cause injuries or fatalities. The primary concern centers on the financial impacts that result from loss of crop yields and livestock and potential drinking water shortages. Even taking into consideration the potential impacts that a water shortage may have on the general public, the risk or vulnerability to public health and safety from drought is ***low***.

Are existing buildings, infrastructure, and critical facilities vulnerable to drought?

No. In general, existing buildings, infrastructure and critical facilities located in Kankakee County and the participating jurisdictions are not vulnerable to drought. The primary concern centers on the financial impacts that result from loss of crop yields and livestock.

While buildings do not typically sustain damage from drought events, in rare cases infrastructure and critical facilities may be directly or indirectly impacted. While uncommon, droughts can contribute to roadway damage. Severe soil shrinkage can compromise the foundation of a roadway and lead to cracking and buckling.

Prolonged heat associated with drought can also increase the demand for energy to operate air conditioners, fans, and other devices. This increase in demand places stress on the electrical grid, which increases the likelihood of power outages.

Additionally, droughts have impacted drinking water supplies. Reductions in aquifer water levels can cause water shortages that jeopardize the supply of water needed to provide drinking water and fight fires. While water use restrictions can be enacted in an effort to maintain a sufficient supply of water, they are only temporary and do not address long-term viability issues. Drinking water supplies vulnerable to drought, such as those that rely solely on surface water or shallow wells, need to consider mitigation measures that will provide long-term stability before a severe drought, or a series of droughts occur. Effective mitigation measures include drilling additional wells, preferably deep wells, securing agreements with alternative water sources and constructing water lines to provide a backup water supply.

In general, the risk or vulnerability to buildings, infrastructure and critical facilities from drought is ***low***, even taking into consideration the potential impact a drought may have on drinking water supplies and the stress that prolonged heat may place on the electrical grid.

Are future buildings, infrastructure, and critical facilities vulnerable to drought?

No. Future buildings, infrastructure and critical facilities within the County are no more vulnerable to drought than the existing building, infrastructure, and critical facilities. As discussed above, buildings do not typically sustain damage from drought. Infrastructure and critical facilities may, in rare cases, be damaged by drought, but very little can be done to prevent this damage.

What are the potential dollar losses to vulnerable structures from drought?

Unlike other natural hazards there are no standard loss estimation models or methodologies for drought. Since drought typically does not cause structure damage, it is unlikely that future dollar losses will be excessive. The primary concern associated with drought is the financial impacts that result from loss of crop yields and the potential impacts to drinking water supplies. Since a large

part of the County is involved in farming activities, it is likely that there will be future dollar losses to drought. In addition, reduced water levels and the water conservation measures that typically accompany a drought will most likely impact consumers as well as businesses and industries that are water-dependent (i.e., car washes, landscapers, etc.).

3.8 WILDFIRES

HAZARD IDENTIFICATION

What is the definition of a wildfire?

A wildfire is an unplanned fire that spreads through vegetation and natural areas such as forests, grasslands, or prairies. They can happen anytime and anywhere. These dangerous fires spread quickly and can devastate not only wildlife and natural areas, but also communities.

What causes wildfires?

Between 2017 and 2022, approximately 89% of wildfires in the U.S. were caused by humans. Human-caused fires result from campfires left unattended, burning debris, equipment use and malfunctions, negligently discarded cigarettes, and intentional acts of arson. Wildfires can also be caused by nature – mostly due to lightning strikes. Wildfires ignited by lightning tend to be slightly larger and burn more acreage than human-caused wildfires.

Wildfire behavior is influenced by many factors including terrain, climate, weather, and types of fuel. The terrain or topography of an area can help or hinder the spread of a wildfire. Fires burn faster up hillsides than they do on flat ground. Though wildfires can happen anytime conditions are right, the climate (time of year) influences the effects of fire. During some seasons more moisture is present than in others, thus reducing fire threat. Wildfire season in the western U.S. is June through October while March through May is wildfire season in the southeastern U.S. Weather conditions such as wind, temperature, and humidity can affect the severity and duration of a fire. Areas that have experienced prolonged droughts are at the highest risk of wildfires. In terms of fuel, the type and amount as well as its burning qualities and moisture level affect wildfire potential and behavior.

How big a threat are wildfires and where do they occur?

Every year, wildfires burn millions of acres across the country. In 2022, wildfires occurred in every state according to the National Interagency Coordination Center (NICC). A total of 68,988 wildfires burned 7.5 million acres and more than 2,700 structures in 2022. For comparison, between 2013 and 2022 there were an average of 61,410 wildfires annually and an average of 7.2 million acres impacted annually. While more wildfires occur in the eastern U.S. (including the central states), wildfires in the West are larger and burn more acreage. In 2022, just over 20,000 wildfires burned approximately 5.8 million acres in the West, compared with the over 48,000 wildfires that burned just over 1.8 million acres in the East. According to the National Interagency Fire Center, fire suppression costs on federal lands alone totaled approximately $4.3 billion in 2021, the most recent year for which data was available.

While only a small fraction of wildfires become catastrophic, that small percentage accounts for the vast majority of acres burned. In 2022, less than 2% (1,289 wildfires) of the total wildfires reported nationally were classified as large or significant with 28 exceeding 40,000 acres in size and 17 exceeding 100,000 acres. **Figures WF-1** and **WF-2** illustrate the total number of wildfires and acres impacted in the U.S. and Illinois between 2017 and 2022.

Figure WF-1
U.S. Wildfire Frequency & Acres Impacted
2017 – 2022

Year	# of Wildfires Human	Acres Impacted Human	# of Wildfires Lightning	Acres Impacted Lightning	Total # of Wildfires	Total Acres Impacted
2017	63,546	4,830,476	7,953	5,195,610	71,499	10,026,086
2018	51,576	5,640,489	6,507	3,127,003	58,083	8,767,492
2019	44,115	1,217,324	6,362	3,447,038	50,477	4,664,362
2020	53,563	5,998,813	5,387	4,123,523	58,950	10,122,336
2021	52,641	3,023,759	6,344	4,101,884	58,985	7,125,643
2022	61,429	3,370,169	7,467	4,206,960	68,988	7,577,183
Total:	**326,870**	**24,081,030**	**40,020**	**24,202,018**	**366,982**	**48,283,102**

Source: National Interagency Coordination Center.

Figure WF-2
Illinois Wildfire Frequency & Acres Impacted
2017 – 2022

Year	# of Wildfires Human	Acres Impacted Human	# of Wildfires Lightning	Acres Impacted Lightning	Total # of Wildfires	Total Acres Impacted
2017	n/a	n/a	n/a	n/a	n/a	n/a
2018	6	120	0	0	6	120
2019	2	41	0	0	2	41
2020	19	240	0	0	19	240
2021	29	219	0	0	29	219
2022	32	298	0	0	32	298
Total:	**88**	**918**	**0**	**0**	**88**	**918**

Source: National Interagency Coordination Center.

HAZARD PROFILE

The following identifies past occurrences of wildfires, details the severity or extent of each event (if known), identifies the locations potentially affected, and estimates the likelihood of future occurrences.

When have wildfires occurred previously? What is the extent of these previous wildfires?

Wildfire Fast Facts – Occurrences

Number of Wildfire (Brushfire) Incidents Reported (2009-2021): ***3,848***

No comprehensive, publicly-accessible database detailing wildfire occurrences currently exists in Illinois. NOAA's Storm Events Database does not contain any records for wildfires in Kankakee County. A review of local records provided by the Manteno Community Fire Protection District documented 3,848 wildfire (brushfire) incidents in Kankakee County between 2009 and 2021. Information on the extent or total acres impacted by incident was not available for a majority of the incidents. A review of local news articles indicated that a February 20, 2017 wildfire in Pembroke Township impacted about one square mile of overgrowth and woodlands between 5000S and 6000S Roads east of County Road 56 while a May 1, 2018 wildfire in Pembroke Township scorched four square miles near Central and New York Roads.

Figure WF-3 charts the reported incidents of wildfires by year. Based on available data, 2012 was the record setting year for wildfires with 460 incidents. In comparison, there were 231 wildfire incidents in Kankakee County in 2021.

Figure WF-3
Wildfires by Year
2009 – 2021

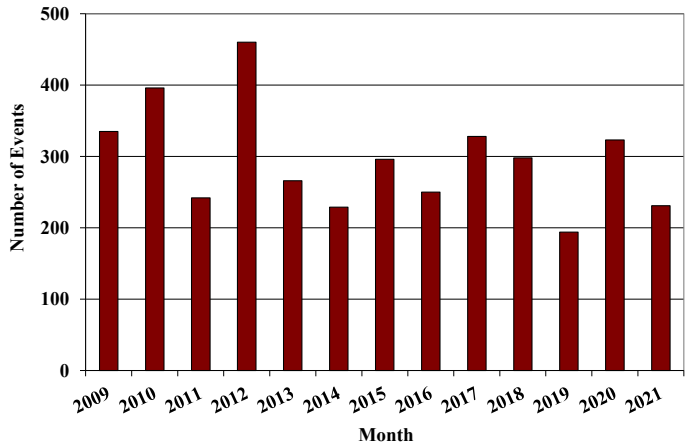
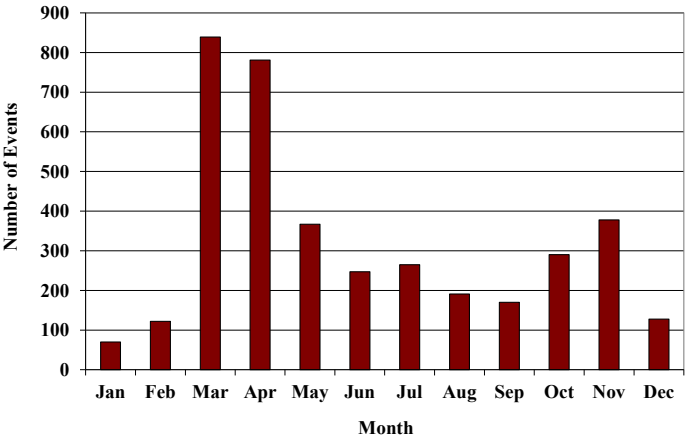


Figure WF-4 charts the reported incidents of wildfires by month. Of the 3,848 incidents, 1,620 (42%) took place in March and April, making this the peak period for wildfires in Kankakee County. Of these 1,620 incidents, 839 (52%) occurred during March, making this the peak month for wildfires. Of the 3,848 incidents, 85% of all wildfires began during the p.m. hours.

Figure WF-4
Wildfires by Month
2009 – 2021



What locations are affected by wildfires?

Wildfires have the potential to affect the entire County. According to the Multi-Resolution Land Characteristics (MRLC) Consortium approximately 90% of the County's land cover is vegetation, including developed open spaces, cultivated crop land, pasture/hay, and deciduous/mixed forest.

Figure WF-5 provides a breakdown of incident location by nearest city within Kankakee County. Of the 3,848 incidents, 1,097 (29%) occurred near Hopkins Park (Pembroke Township) and 764 (20%) occurred near the City of Kankakee.

Figure WF-5
Verified Wildfires Incident Locations by Nearest City within Kankakee County

Municipality	Number of Incidents	Municipality	Number of Incidents
Aroma Park	13	Herscher	65
Bonfield	128	Hopkins Park (Pembroke Township)	1,097
Bourbonnais[2]	246	Kankakee, City of[1,5,6]	764
Bradley[6]	95	Manteno[3,6]	218
Buckingham	30	Momence	280
Cabery	6	Reddick	81
Chebanse	132	St. Anne	354
Essex	103	Union Hill	2
Grant Park	142		

[1]Kankakee Community College [2]Bourbonnais FPD [3]Manteno Community FPD
[4]Momence FPD [5]Ascension Saint Mary Kankakee [6]Riverside Medical Center

What is the probability of future wildfires occurring based on historical data?

Kankakee County has had 4,094 verified occurrences of wildfires between 2009 and 2021. With 3,848 occurrences over the past 13 years, Kankakee County would expect to experience at least 296 wildfires in any given year.

What is the probability of future wildfires occurring based on modeled future conditions?

Despite precipitation trending upwards in Illinois in recent decades, wildfire conditions are likely to be more problematic in the future than they have been in the recent past, due to a combination of changes in precipitation patterns and an increase in summer temperatures.

In terms of predicting the likelihood of wildfire conditions, the amount of precipitation received is important, but even more critical is the timing of precipitation events. More frequent precipitation events maintain soil in a spongy, porous state that readily absorbs moisture; alternatively, more infrequent precipitation events tend to lead to dry, hardened earth, which is more effective at repelling water than absorbing it. When a precipitation event does occur over this hardened soil, most of the water runs off and pools in bottomlands, leaving most land "high and dry" while simultaneously flooding the lowest-lying areas.

Another factor making this outcome more likely is the trend of increasing temperatures in Illinois, particularly during the summer when rain events are already more sporadic. Over the past 120 years, average temperatures in Illinois have increased by 1°F and 2°F according to the Illinois

State Climatologist, a trend that is likely to continue. In the future, hotter summer temperatures are likely to lead to more evaporation that will exacerbate dry conditions.

Figures WF-6 and **WF-7**, and **Figures EH-7,** and **EH-8,** located in Section 3.4, provide tabular and graphical projections for Kankakee County showing days per year with no precipitation (dry days) and average annual estimates for temperature in the early, mid, and late 21st century with both low and high estimates for each time period. Most likely, the true value will fall between these two estimates. By midcentury, the number of days per year with no precipitation is projected to increase by 3 to 4 days while the average annual precipitation in Kankakee County is likely to increase by two inches per year according to the Climate Mapping for Resilience and Adaptation's Assessment Tool.

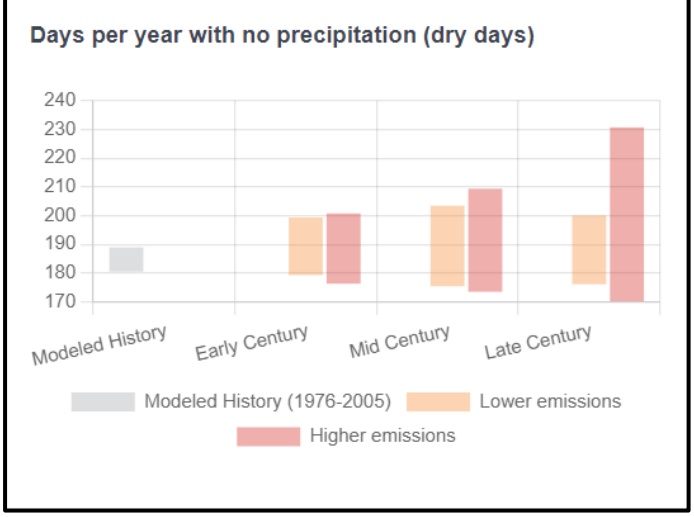
Figure WF-6
Precipitation Projections Table – Kankakee County

Indicator	Modeled History (1976 - 2005)	Early Century (2015 - 2044)		Mid Century (2035 - 2064)		Late Century (2070 - 2099)	
		Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions
	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max
Precipitation:							
Days per year with no precipitation (dry days)	184 days 181 - 189	187 days 179 - 199	187 days 176 - 201	187 days 176 - 203	188 days 174 - 209	188 days 176 - 200	192 days 170 - 231
Maximum number of consecutive dry days	13 days 11 - 14	13 days 11 - 15	13 days 12 - 16	13 days 11 - 16	14 days 12 - 18	14 days 12 - 18	14 days 11 - 19
Days per year with precipitation (wet days)	181 days 176 - 185	179 days 166 - 186	178 days 164 - 189	178 days 162 - 190	177 days 156 - 191	177 days 165 - 189	173 days 134 - 195
Temperature thresholds:							
Annual days with maximum temperature > 90°F	16 days 16 - 24	38 days 24 - 67	41 days 28 - 62	48 days 26 - 84	57 days 36 - 88	58 days 30 - 96	90 days 54 - 124
Annual days with maximum temperature > 100°F	0 days 0 - 0	2 days 0 - 10	3 days 0 - 10	4 days 0 - 20	7 days 1 - 30	8 days 1 - 20	26 days 3 - 77

The number of days over 90°F in Kankakee County are projected to double, while days exceeding 100°F are likely to increase from an average of zero a year today to 4 to 7 days by midcentury according to the Climate Mapping for Resilience and Adaptation's Assessment Tool. The Climate Explorer indicates that in Kankakee County, the average number of dry spells (a period of consecutive days without precipitation) is projected to increase by one. Extreme temperatures on the hottest days of the year are projected to increase by 6°F. This is based on the findings of the 2018 National Climate Assessment and compares projections for the middle third of the century (2035-2064) with average conditions observed from 1961-1990.

In combination, a decrease in the frequency of precipitation and a significant increase in the number of days with extreme heat in Kankakee County would create conditions that will be more conducive to wildfires than today.

Figure WF-7
Days per Year with No Precipitation (Dry Days) Graph – Kankakee County



HAZARD VULNERABILITY

The following describes the vulnerability to participating jurisdictions, identifies the impacts on public health and property (if known), and estimates the potential impacts on public health and safety, as well as buildings, infrastructure, and critical facilities from wildfire.

Are the participating jurisdictions vulnerable to wildfires?

Yes. All of Kankakee County is vulnerable to the dangers presented by wildfires. **Figure WF-8** provides a breakdown of incidents by responding fire department/fire protection district. **Figure I-7**, located in Section 1.2, illustrates the fire department/fire protection district boundaries.

Have any of the participating jurisdictions identified specific assets vulnerable to the impacts of wildfires?

No. Based on responses to a Critical Facilities Vulnerability Survey distributed to the participating jurisdictions, none of the participating jurisdiction considered specific assets within their jurisdiction vulnerable to wildfires.

What impacts resulted from the recorded wildfires?

Damage information was either unavailable or none was recorded for a majority of the wildfire incidents between 2009 and 2021. A review of local news articles indicated that a March 9, 2021 wildfire in Pembroke Township required the evacuation of residents in the fire area and

Wildfire Fast Facts – Impacts/Risk

Wildfire Impacts
- Total Property/Crop Damage: ***n/a***
- Total Crop Damage: ***n/a***
- Injuries: ***n/a***
- Fatalities: ***n/a***

Wildfire Risk/Vulnerability:
- Public Health & Safety – General Population: ***Low***
- Public Health & Safety – Socially Vulnerable Populations: ***Medium***
- Buildings/Infrastructure/Critical Facilities: ***Low to Medium***

destroyed several homes. No injuries or fatalities were reported as a result of any of the wildfire incidents.

Figure WF-8
Verified Wildfires Incident by Responding Fire Department/Fire Protection District

Fire Department (FD)/ Fire Protection District (FPD)	Jurisdiction(s) Falling within Department/District	Number of Incidents	% of Incidents
Aroma Park FPD	Aroma Park, Sun River Terrace, Aroma Park Township	196	5.1
Bourbonnais FPD	Bourbonnais, Bourbonnais Township, Ganeer Township	273	7.1
Bradley FD	Bradley, Bourbonnais Township	131	3.4
Cabery FPD	Cabery, Norton Township	13	0.3
Essex FPD	Essex, Essex Township, Salina Township	132	3.4
Grant Park FPD	Grant Park, Sumner Township, Yellowhead Township	157	4.1
Kankakee FD	Kankakee**, City of**, Kankakee Township	214	5.6
Kankakee Township FPD	Kankakee Township	171	4.4
Limestone FPD	Limestone, Limestone Township	235	6.1
Manteno Community FPD	Manteno, Manteno Township, Rockville Township, Sumner Township	270	7.0
Momence FPD	Momence, Sun River Terrace, Ganeer Township, Momence Township, Pembroke Township	468	12.2
Otto Township FPD	Chebanse, Sammons Point, Otto Township	161	4.2
Pembroke Township FPD	Hopkins Park, Pembroke Township	667	17.3
Pilot Township FPD	Buckingham, Herscher, Irwin, Union Hill, Essex Township, Herscher Township, Norton Township, Otto Township, Pilot Township	144	3.7
Reddick FPD	Reddick, Norton Township	66	1.7
Salina FPD	Bonfield, Salina Township	170	4.4
St. Anne FPD	St. Anne, Pembroke Township, St. Anne Township	380	9.9

What other impacts can result from wildfires?

Wildfires can disrupt transportation, communications, and utility service. They can also lead to a deterioration in air quality and loss of property, crops, resources, animals, and people. Wildfires also simultaneously impact weather and the climate by releasing large quantities of carbon dioxide, carbon monoxide, and fine particulate matter into the atmosphere. The resulting air pollution can cause a range of health issues, ranging from eye and respiratory tract irritation to more serious disorders, including reduced lung function, bronchitis, exacerbation of asthma and heart failure, and premature death. Another significant health effect of wildfires is on the mental health of affected individuals.

What is the level of vulnerability to public health and safety from wildfires?

The risk or vulnerability to public health and safety from a wildfire is dependent on the intensity and location of the incident. While wildfires have occurred previously, the number of injuries and fatalities is low. Taking into consideration the various conditions, the risk or vulnerability posed by wildfires to public health and safety of the *general population* is considered to be ***low***. The level of risk or vulnerability posed by wildfires to the public health and safety of *socially*

vulnerable populations is considered to be ***medium***. Socially vulnerable populations such as very small children and individuals with chronic conditions are more susceptible to respiratory effects and therefore their risk is elevated. However, demographic information is not available for these segments of the population.

Are existing buildings, infrastructure, and critical facilities vulnerable to wildfires?

Yes. All existing buildings, infrastructure, and critical facilities located in Kankakee County and the participating jurisdictions are vulnerable to damage from wildfires. In addition to impacting structures, wildfires can damage infrastructure such as roads and utilities. Roadways, culverts, and bridges can be weakened by wildfire and overhead power and communication lines can be rendered inoperable by wildfires. All three of the participating fire protection districts have burn ordinances in place that may lessen the number of incidents.

As with public health and safety, the risk or vulnerability to buildings, infrastructure, and critical facilities is dependent on several factors including the severity of the incident and the extent and type of development and infrastructure located in the vicinity of the wildfire. When these factors are taken into consideration, the overall risk posed by a wildfire in Kankakee County is considered to be ***low*** to ***medium***.

Are future buildings, infrastructure, and critical facilities vulnerable to wildfires?

Yes. All future buildings, infrastructure and critical facilities located within the Kankakee County are vulnerable to damage from wildfires. As a result, future buildings, infrastructure, and critical facilities face the same vulnerabilities as those of existing buildings, infrastructure, and critical facilities described previously. **Figure R-5** lists the number of each type of critical infrastructure by jurisdiction.

What are the potential dollar losses to vulnerable structures from wildfires?

Unlike other natural hazards, such as tornadoes, there are no standard loss estimation models or methodologies for wildfire incidents. Since damage figures were not available for any of recorded wildfire incidents, there is no way to accurately estimate future potential dollar losses to vulnerable structures. However, according to the Kankakee County Clerk the total equalized assessed values of buildings in the planning area is $1,908,485,831. Since all of the structures in the planning area are susceptible to wildfire impacts to varying degrees, this total represents the countywide property exposure to wildfires.

3.9 DAM FAILURES

HAZARD IDENTIFICATION

What is the definition of a dam?

A dam is an artificial barrier constructed across a stream channel or a man-made basin for the purpose of storing, controlling or diverting water. Dams typically are constructed of earth, rock, concrete or mine tailings. The area directly behind the dam where water is impounded or stored is referred to as a reservoir.

According to the U.S. Army Corps of Engineers' National Inventory of Dams (NID), there are approximately 91,785 dams in the U.S. and Puerto Rico, with 1,639 dams located in Illinois. (The NID is maintained by the U.S. Army Corps of Engineers and is updated approximately every two years.) Of the 1,639 dams in Illinois, approximately 93.5% are constructed of earth.

What is the definition of a dam failure?

A dam failure is the partial or total collapse, breach or other failure of a dam that causes flooding downstream. In the event of a dam failure, the people, property and infrastructure downstream could be subject to devastating damages. The potential severity of a full or partial dam failure is influenced by two factors:

- the capacity of the reservoir and
- the density, type and value of development/infrastructure located downstream.

There are two categories of dam failures, "flood" or "rainy day" failures and "sunny day" failures. A "flood" or "rainy day" failure usually results when excess precipitation and runoff cause overtopping or a buildup of pressure behind a dam which leads to a breach. Even normal storm events can lead to "flood" failures if debris plugs the water outlets. Given the conditions that lead to a "flood" failure (i.e., rainfall over a period of hours or days), there is usually a sufficient amount of time to warn and evacuate residents downstream.

Unlike a "flood" failure, there is generally no warning associated with a "sunny day" failure. A "sunny day" failure is usually the result of improper or poor dam maintenance, internal erosion, vandalism or an earthquake. This unexpected failure can be catastrophic because it may not allow enough time to warn and evacuate residents downstream.

No one knows precisely how many dam failures have occurred in the U.S.; however, it's estimated that hundreds have taken place over the last century. Some of the worst failures have caused catastrophic property and environmental damage and have taken hundreds of lives. The worst dam failure in the last 50 years occurred on February 26, 1972 in Buffalo Creek, West Virginia. A tailings dam owned by the Buffalo Mining Company failed, taking 125 lives, injuring 1,100 individuals, destroying approximately 550 homes and causing property damage in excess of $50 million (approximately $298.6 million in 2017 based on the Bureau of Labor Statistics Consumer Price Index Inflation Calculator.)

Dam failures have been documented in every state, including Illinois. According to the Dam Incident Database compiled by the National Performance of Dams Program, there have been 10 reported dam failures with uncontrolled releases of the reservoir in Illinois since 1950.

What causes a dam failure?

Dam failures can result from one or more of the following:

- ***prolonged periods of rainfall and flooding*** (the cause of most failures);
- ***inadequate spillway capacity*** resulting in excess flow overtopping the dam;
- ***internal erosion*** caused by embankment or foundation leakage;
- ***improper maintenance*** (including failure to remove trees, repair internal seepage problems, maintain gates, valves and other operational components, etc.);
- ***improper design*** (including use of improper construction materials and practices);
- ***negligent operation*** (including failure to remove or open gates or valves during high flow periods);
- ***failure of an upstream dam on the same waterway***;
- ***landslides into reservoirs*** which cause surges that result in overtopping of the dam;
- ***high winds*** which can cause significant wave action and result in substantial erosion; and
- ***earthquakes*** which can cause longitudinal cracks at the tops of embankments that can weaken entire structures.

How are dams classified?

Each dam listed on the National Inventory of Dams is assigned a hazard potential classification rating per the "Federal Guidelines for Dam Safety: Hazard Potential Classification System for Dams." The classification system is based on the potential for loss of life and damage to property in the event of a dam failure. There are three classifications: High, Significant and Low. **Figure DF-1** provides a brief description of each hazard potential classification. It is important to note that the hazard potential classification assigned is not an indicator of the adequacy of the dam or its physical integrity and in no way reflects the current condition of the dam.

Figure DF-1
Dam Hazard Classification System

Hazard Potential Classification	Description
High	Those dams where failure or mis-operation result in probable loss of human life, regardless of the magnitude of other losses. The probable loss of human life is defined to signify one or more lives lost.
Significant	Those dams where failure or mis-operation result in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities or can impact other concerns. Significant hazard potential classification dams are often located in predominately rural or agricultural areas but could be located in areas with population and significant infrastructure.
Low	Those dams where failure or mis-operation results in no probable loss of human life and low economic and/or or environmental losses. Losses are principally limited to the dam owner's property.

Sources: Federal Emergency Management Agency
U.S. Army Corps of Engineers

HAZARD PROFILE

According to the USACE National Inventory of Dams, there are two classified dams located in Kankakee County. One has a hazard potential classification of "High" and the other has a hazard potential classification of "Low". The following details the location of the classified dams; identifies past occurrences of dam failures; details the severity or extent of future potential failures (if known); identifies the locations potentially affected; and estimates the likelihood of future occurrences.

Dam Failure Fast Facts – Occurrences

Number of Classified Dams Located in the County: ***2***

Number of Classified Dams owned by Participating Jurisdictions: ***2***

Number of Dam Failures Reported: ***None***

Probability of Future Dam Failure Events: ***Low***

Do any of the participating jurisdictions own classified dams?

Yes. The Village of Bradley owns the North Branch Soldier Creek Reservoir Dam while the City of Kankakee owns the Kankakee Dam. **Figure DF-2** provides a brief description of each dam.

Are there any other publicly or privately-owned classified dams within the County?

No. There are no other publicly or privately-owned classified dams within the County.

When have dam failures occurred previously? What is the extent of these previous dam failures?

According to data from Stanford University's National Performance of Dams Incident Database and discussions with Task Force members, there are no known recorded dam failures associated with the classified dam in Kankakee County.

What is the extent of future potential dam failures?

An Emergency Action Plan (EAP) defining the extent or magnitude of a potential dam failure (water depth, area of impact) was developed for North Branch Soldier Creek Reservoir Dam and made available to the Consultant. An EAP has not been developed for the Kankakee Dam and is not required to be developed based on its hazard classification. A review of the North Branch Soldier Creek Reservoir Dam EAP found that it did not contain a detailed breach analysis. As a result, a data deficiency exists in terms of estimating inundation times for various distances downstream.

What locations are affected by dam failure?

Figure DF-3 shows the locations of the classified dams in Kankakee County. Dam failures have the potential to impact residential areas in Bradley and shoreline along the Kankakee River within the City of Kankakee.

What is the probability of future dam failure events occurring?

Since neither of the dams have experienced a dam failure, it is difficult to specifically establish the probability of a future failure. However, based on the capacity of the reservoirs and the scope and type of development and infrastructure located downstream, the probability is estimated to be ***low***. For the purposes of this analysis "low" is defined as having a less than 10% chance of occurring in any given year.

Figure DF-2
Classified Dams Located in Kankakee County

Dam Name	Hazard Classification	Associated Waterway	Owner	Type	Primary Purpose	Completion Year	Height (feet)	Length (feet)	Maximum Storage (acre-feet)	Impoundment Surface Area (acres)	Drainage Area (square miles)	Emergency Action Plan
Publicly-Owned												
North Branch Soldier Creek Reservoir Dam	High	North Branch Soldier Creek	Village of Bradley	Earth	Flood Risk Reduction	1990	13	3,720	95	0	0.9	Yes
Kankakee Dam	Low	Kankakee River	City of Kankakee	Concrete Gravity	Recreation, Hydroelectric	1915	10	440	2,400	300	4,400	Not Required

Sources: Stanford University, National Performance of Dams Program, NPDP Dams Database.
U.S. Army Corps of Engineers, National Inventory of Dams Interactive Report.

HAZARD VULNERABILITY

The following describes the vulnerability to participating jurisdictions, identifies the impacts on public health and property (if known) and estimates the potential impacts on public health and safety as well as buildings, infrastructure, and critical facilities from dam failures.

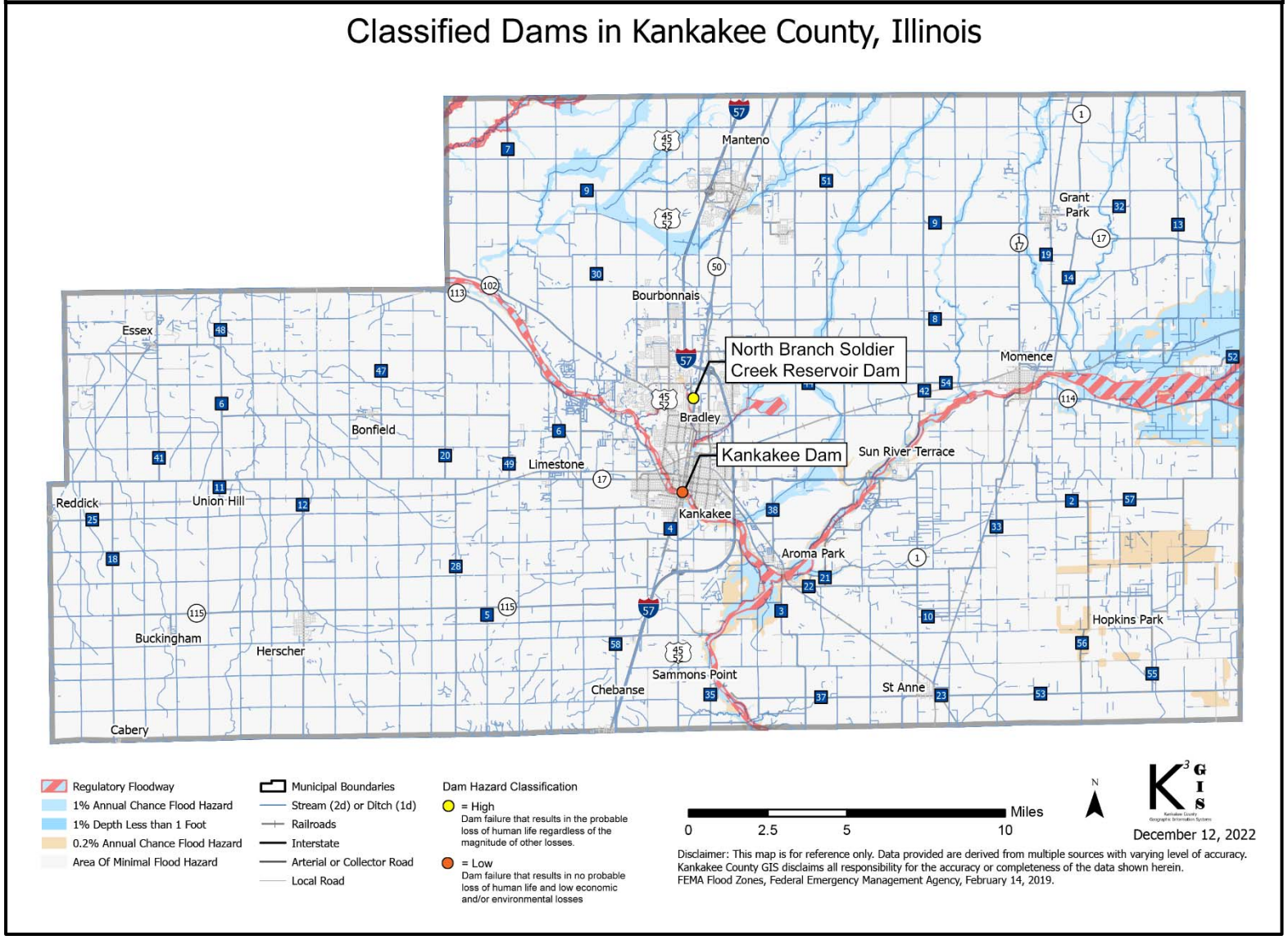
Are the participating jurisdictions vulnerable to dam failures?

Yes. Portions of Bradley and the City of Kankakee are vulnerable to the dangers presented by dam failures. While these areas are vulnerable, most residents would not be impacted by a dam failure. None of the participating jurisdictions or the remainder of the County are considered vulnerable.

Have any of the participating jurisdictions identified specific assets vulnerable to the impacts of dam failures?

No. Based on responses to a Critical Facilities Vulnerability Survey distributed to the participating jurisdictions, none of the participating jurisdictions considered specific assets within their jurisdiction vulnerable to dam failures.

Figure DF-3
Location of Classified Dams in Kankakee County



What impacts resulted from the recorded dam failures?

Since there have been no *recorded* dam failures associated with the classified dams in Kankakee County, there are no recorded impacts to report.

Dam Failure Fast Facts – Risk

Dam Failure Risk/Vulnerability:

- Public Health & Safety: North Branch Soldier Creek Reservoir Dam – ***Low to Medium***
- Public Health & Safety: Kankakee Dam – ***Low***
- Buildings/Infrastructure/Critical Facilities: North Branch Soldier Creek Reservoir Dam – ***Low to Medium***
- Buildings/Infrastructure/Critical Facilities: North Branch Soldier Creek Reservoir Dam – ***Low***

What other impacts can result from dam failures?

The impacts from a dam failure are similar to those of a flood. There is the potential for injuries, loss of life, property damage, and crop damage. Depending on the type of dam failure, there may be little, if any warning that an event is about to occur, similar to flash flooding. As a result, one of the primary threats to individuals is from drowning. Motorists who choose to drive over flooded roadways run the risk of having their vehicles swept off the road and downstream. Flooding of roadways is also a major concern for emergency response personnel who would have to find alternative routes around any section of road that becomes flooded due to a dam failure.

In addition to concerns about injuries and death, the water released by a dam failure poses the same biological and chemical risks to public health as floodwaters. The flooding that results from a dam failure has the potential to force untreated sewage to mix with floodwaters. The polluted floodwaters then transport the biological contaminants into buildings and basements and onto roads and public areas. If left untreated, the floodwaters can serve as breeding grounds for bacteria and other disease-causing agents. Even if floodwaters are not contaminated with biological material, basements and buildings that are not properly cleaned can grow mold and mildew, which can pose a health hazard, especially for small children, the elderly, and those with specific allergies.

Flooding from dam failures also can cause chemical contaminants such as gasoline and oil to enter floodwaters if underground storage tanks or pipelines crack and begin leaking during a dam failure event. Depending on the time of year, the water released by a dam failure also may carry away agricultural chemicals that have been applied to farm fields and cause damage to or loss of crops.

What is the level of vulnerability to public health and safety from dam failures?

In terms of the risk or vulnerability to public health and safety from a dam failure, there are several factors that must be taken into consideration including the severity of the event, the capacity of the reservoir and the extent and type of development and infrastructure located downstream. When these factors are taken into consideration, the overall risk to public health and safety posed by a dam failure at the North Branch Soldier Creek Reservoir Dam is ***low*** to ***medium*** while the risk to public health and safety posed by a dam failure at the Kankakee Dam is ***low***.

Are existing buildings, infrastructure, and critical facilities vulnerable to dam failures?

Yes. **Figure DF-4**, located at the end of this section, provides an ***estimate*** of the buildings, infrastructure, and critical facilities vulnerable to a dam failure from classified dams in Kankakee County.

Figure DF-4
Buildings, Infrastructure & Critical Facilities Vulnerable to a Dam Failure

Dam Name	Location	Number of Vulnerable Buildings/Infrastructure					
		Residential	Multi-Family	Business	Unit-Unit Commercial	Infrastructure	Critical Facilities
North Branch Soldier Creek Reservoir Dam	Bradley (north of Pfitzer Drive)	115	17	2	1	- North Street - Pfitzer Drive - Juniper Lane - Ivy Lane - Ponderosa Drive - Hemlock Lane - Washington Avenue	None
Kankakee Dam	Kankakee, City of (on the Kankakee River west of CN rail line & east of McMullen Drive between River Street & Water Street)	0	0	0	0	- McMullen Drive	None

The EAP for North Branch Soldier Creek Reservoir Dam included an impact area/evacuation map and narrative that identified potentially-impacted buildings and infrastructure. As discussed previously, no EAP was developed, nor was it required for the Kankakee Dam. As a result, a data deficiency exists in terms of comprehensively identifying existing buildings, infrastructure, and critical facilities vulnerable to dam failures for this dam. While detailed information was not available for the Kankakee Dam, the Consultant conducted a visual inspection of the areas surrounding the Dam in order to provide an estimate of the number of potentially-impacted buildings, infrastructure, and critical facilities that are vulnerable to a dam failure.

Depending on whether there is a full or partial dam failure, all of the vulnerable buildings, infrastructure, and critical facilities may be inundated by water and structural damage may result. Because some reservoirs are not immense in size, the damage sustained from dam failure flooding may not be to the structure, but to the contents of the buildings or nearby infrastructure and critical facilities.

A majority of the existing buildings, infrastructure, and critical facilities vulnerable to a dam failure from the North Brank Soldier Creek Reservoir Dam are the same existing buildings, infrastructure, and critical buildings located in the floodway/base floodplain of North Branch Soldier Creek, and thus vulnerable to riverine flood events as well. Therefore, existing buildings are required to have flood insurance and any improvements must comply with the Village's flood ordinance. ***The Village does not consider the North Branch Soldier Creek Reservoir Dam to be a significant risk that needs to be mitigated since it was built as a flood control project.***

In addition to impacting structures, a dam failure can damage roads and utilities. Roadways, culverts, and bridges can be weakened by dam failure floodwaters and may collapse under the weight of a vehicle. Power and communication lines, both above and below ground, are also vulnerable to dam failure flooding. Depending on their location and the velocity of the water as it escapes the dam, power poles may be snapped causing disruptions to power and communication. Water may also get into any buried lines causing damage and disruptions.

As with public health and safety, the risk or vulnerability to buildings, infrastructure, and critical facilities is dependent on several factors including the severity of the event, the capacity of the reservoir, and the extent and type of development and infrastructure located downstream. When these factors are taken into consideration, the overall risk to existing buildings, infrastructure, and critical facilities posed by a dam failure at the North Branch Soldier Creek Reservoir Dam is ***low*** to ***medium*** while the risk to existing buildings, infrastructure, and critical facilities posed by a dam failure at the Kankakee Dam is ***low***.

Are future buildings, infrastructure, and critical facilities vulnerable to dam failures?

Yes. Any future buildings, infrastructure, and critical facilities located within the flood path of a classified dam are vulnerable to damage from a dam failure. As a result, future buildings, infrastructure, and critical facilities face the same vulnerabilities as those of existing buildings, infrastructure, and critical facilities described previously.

What are the potential dollar losses to vulnerable structures from dam failures?

Unlike other hazards, there are no standard loss estimation models or methodologies for dam failures. Given that there have been no recorded dam failures in Kankakee County, sufficient information was not available to prepare a reasonable estimate of future potential dollar losses to vulnerable structure from a dam failure.

3.10 EARTHQUAKES

HAZARD IDENTIFICATION

What is the definition of an earthquake?

An earthquake is a sudden shaking of the ground caused when rocks forming the earth's crust slip or move past each other along a fault (a fracture in the rocks). Most earthquakes occur along the boundaries of the earth's tectonic plates. These slow-moving plates are being pulled and dragged in different directions, sliding over, under and past each other. Occasionally, as the plates move past each other, their jagged edges will catch or stick causing a gradual buildup of pressure (energy).

Eventually, the force exerted by the moving plates overcomes the resistance at the edges and the plates snap into a new position. This abrupt shift releases the pent-up energy, producing vibrations or seismic waves that travel outward from the earthquake's point of origin. The location below the earth's surface where the earthquake starts is known as the hypocenter or focus. The point on the earth's surface directly above the focus is the epicenter.

The destruction caused by an earthquake may range from light to catastrophic depending on a number of factors including the magnitude of the earthquake, the distance from the epicenter, the local geologic conditions as well as construction standards and time of day (i.e., rush hour). Earthquake damage may include power outages, general property damage, road, and bridge failure, collapsed buildings and utility damage (ruptured gas lines, broken water mains, etc.).

Most of the damage done by an earthquake is caused by its secondary or indirect effects. These secondary effects result from the seismic waves released by the earthquake and include ground shaking, surface faulting, liquefaction, landslides and, in rare cases, tsunamis.

According to the U.S. Geological Survey, more than 143 million Americans in the contiguous U.S. are exposed to potentially damaging ground shaking from earthquakes. More than 44 million of those Americans, located in 18 states, are exposed to very strong ground shaking from earthquakes. Illinois ranks 10th in terms of the number of individuals exposed to very strong ground shaking. The Federal Emergency Management Agency's Hazus analysis indicates that the annualized earthquake losses to the national building stock is $6.1 billion per year. A majority of the average annual loss is concentrated in California ($3.7 million). The central U.S. (including Illinois) ranks third in annualized earthquake losses at $480 billion, behind the pacific northwest (Washington and Oregon) with annualized earthquake losses at $710 billion.

What is a fault?

A fault is a fracture or zone of fractures in the earth's crust between two blocks of rock. They may range in length from a few millimeters to thousands of kilometers. Many faults form along tectonic plate boundaries. Faults are classified based on the angle of the fault with respect to the surface (known as the dip) and the direction of slip or movement along the fault. There are three main groups of faults: normal, reverse (thrust) and strike-slip (lateral).

Normal faults occur in response to pulling or tension along the two blocks of rock causing the overlying block to move down the dip of the fault plane. Most of the faults in Illinois are normal faults. Reverse or thrust faults occur in response to squeezing or compression of the two blocks of rock causing the overlying block to move up the dip of the fault plane. Strike-slip or lateral faults can occur in response to either pulling/tension or squeezing/compression causing the blocks to move horizontally past each other.

Geologists have found that earthquakes tend to recur along faults, which reflect zones of weakness in the earth's crust. Even if a fault zone has recently experienced an earthquake, there is no guarantee that all the stress has been relieved. Another earthquake could still occur.

What are tectonic plates?

Tectonic plates are large, irregularly-shaped, relatively rigid sections of the earth's crust that float on the top, fluid layer of the earth's mantle. There are about a dozen tectonic plates that make up the surface of the planet. These plates are approximately 50 to 60 miles thick and the largest are millions of square miles in size.

How are earthquakes measured?

The severity of an earthquake is measured in terms of its magnitude and intensity. A brief description of both terms and the scales used to measure each are provided below.

Magnitude

Magnitude refers to the amount of seismic energy released at the hypocenter of an earthquake. The magnitude of an earthquake is determined from measurements of ground vibrations recorded by seismographs. As a result, magnitude is represented as a single, instrumentally determined value. A loose network of seismographs has been installed all over the world to help record and verify earthquake events.

There are several scales that measure the magnitude of an earthquake. The most well-known is the Richter Scale. This logarithmic scale provides a numeric representation of the magnitude of an earthquake through the use of whole numbers and decimal fractions. Because of the logarithmic basis of the scale, each whole number increase in magnitude represents a tenfold increase in ground vibrations measured. In addition, each whole number increase corresponds to the release of about 31 times more energy than the amount associated with the preceding whole number. It is important to note that the Richter Scale is used only to determine the magnitude of an earthquake, it does not assess the damage that results.

Once an earthquake's magnitude has been confirmed, it can be classified. **Figure EQ-1** categorizes earthquakes by class based on their magnitude (i.e., Richter Scale value). Any earthquake with a magnitude less than 3.0 on the Richter Scale is classified as a micro earthquake while any earthquake with a magnitude of 8.0 or greater on the Richter Scale is considered a "great" earthquake. Earthquakes with a magnitude of 2.0 or less are not commonly felt by individuals. The largest earthquake to occur in the U.S. since 1900 took place off the coast of Alaska in Prince William Sound on March 28, 1964 and registered a 9.2 on the Richter Scale.

Intensity

Intensity refers to the effect an earthquake has on a particular location. The intensity of an earthquake is determined from observations made of the damage inflicted on individuals, structures, and the environment. As a result, intensity does not have a mathematical basis; instead, it is an arbitrary ranking of observed effects. In addition, intensity generally diminishes with distance. There may be multiple intensity recordings for a region depending on a location's distance from the epicenter.

Figure EQ-1
Earthquake Magnitude Classes

Class	Magnitude (Richter Scale)
micro	smaller than 3.0
minor	3.0 – 3.9
light	4.0 – 4.9
moderate	5.0 – 5.9
strong	6.0 – 6.9
major	7.0 – 7.9
great	8.0 or larger

Source: Michigan Technological University, UPSeis

Although numerous intensity scales have been developed over the years, the one currently used in the U.S. is the Modified Mercalli Intensity Scale. This scale, composed of 12 increasing levels of intensity that range from imperceptible shaking to catastrophic destruction, is designated by Roman numerals. The lower numbers of the intensity scale are based on human observations (i.e., felt only by a few people at rest, felt quite noticeably by persons indoors, etc.).

The higher numbers of the scale are based on observed structural damage (i.e., broken windows, general damage to foundations etc.). Structural engineers usually contribute information when assigning intensity values of VIII or greater. **Figure EQ-2** provides a description of the damages associated with each level of intensity as well as comparing Richter Scales values to Modified Mercalli Intensity Scale values.

Generally, the Modified Mercalli Intensity value assigned to a specific site after an earthquake is a more meaningful measure of severity to the general public than magnitude because intensity refers to the effects actually experienced at that location.

When and where do earthquakes occur?

Earthquakes can strike any location at any time. However, history has shown that most earthquakes occur in the same general areas year after year, principally in three large zones around the globe. The world's greatest earthquake belt, the circum-Pacific seismic belt (nicknamed the "Ring of Fire"), is found along the rim of the Pacific Ocean, where about 81 percent of the world's largest earthquakes occur.

The second prominent belt is the Alpide, which extends from Java to Sumatra and through the Himalayan Mountains, the Mediterranean Sea and out into the Atlantic Ocean. It accounts for about 17 percent of the world's largest earthquakes, including those in Iran, Turkey, and Pakistan. The third belt follows the submerged mid-Atlantic Ridge, the longest mountain range in the world, nearly splitting the entire Atlantic Ocean north to south.

While most earthquakes occur along plate boundaries some are known to occur within the interior of a plate. (As the plates continue to move and plate boundaries change over time, weakened boundary regions become part of the interiors of the plates.) Earthquakes can occur along zones

of weakness within a plate in response to stresses that originate at the edges of the plate or from deep within the earth's crust. The New Madrid earthquakes of 1811 and 1812 occurred within the North American plate.

Figure EQ-2
Comparison of Richter Scale and Modified Mercalli Intensity Scale

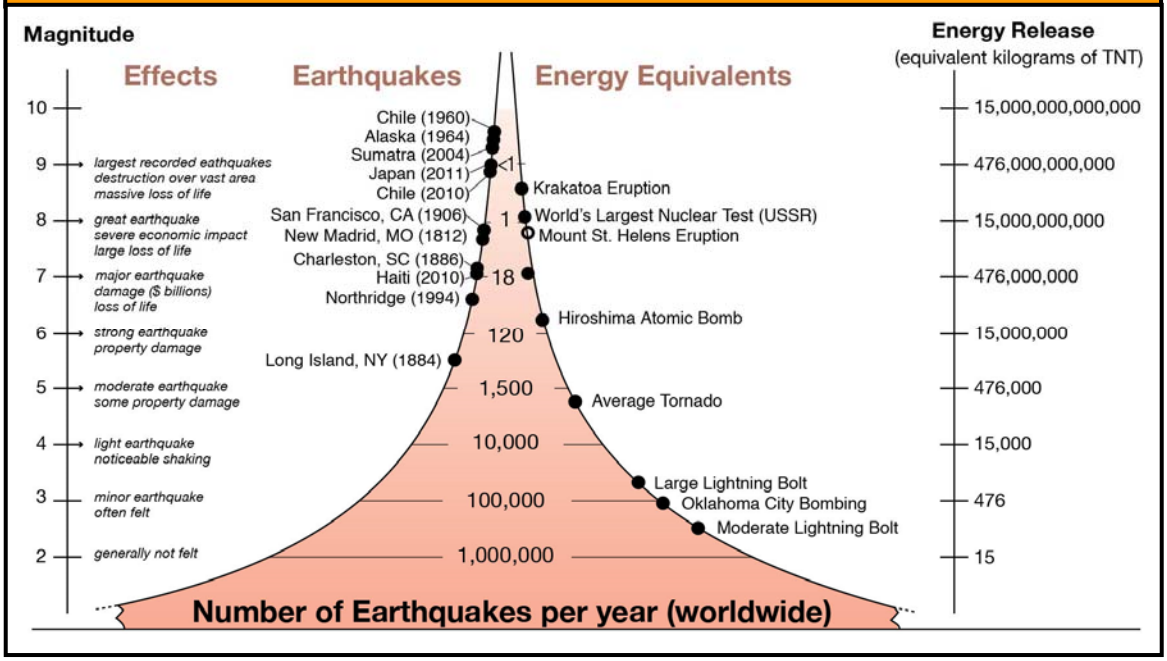
Richter Scale	Modified Mercalli Scale	Observations
1.0 – 1.9	I	Felt by very few people; barely noticeable. No damage.
2.0 – 2.9	II	Felt by a few people, especially on the upper floors of buildings. No damage.
3.0 – 3.9	III	Noticeable indoors, especially on the upper floors of buildings, but may not be recognized as an earthquake. Standing cars may rock slightly; vibrations similar to the passing of a truck. No damage.
4.0	IV	Felt by many indoors and a few outdoors. Dishes, windows, and doors disturbed. Standing cars rocked noticeably. No damage.
4.1 – 4.9	V	Felt by nearly everyone. Small, unstable objects displaced or upset; some dishes and glassware broken. Negligible damage.
5.0 – 5.9	VI	Felt by everyone. Difficult to stand. Some heavy furniture moved. Weak plaster may fall and some masonry, such as chimneys, may be slightly damaged. Slight damage.
6.0	VII	Slight to moderate damage to well-built ordinary structures. Considerable damage to poorly-built structures. Some chimneys may break. Some walls may fall.
6.1 – 6.9	VIII	Considerable damage to ordinary buildings. Severe damage to poorly built buildings. Some walls collapse. Chimneys, monuments, factory stacks, columns fall.
7.0	IX	Severe structural damage in substantial buildings, with partial collapses. Buildings shifted off foundations. Ground cracks noticeable.
7.1 – 7.9	X	Most masonry and frame structures and their foundations destroyed. Some well-built wooden structures destroyed. Train tracks bent. Ground badly cracked. Landslides.
8.0	XI	Few, if any structures remain standing. Bridges destroyed. Wide cracks in ground. Train tracks bent greatly. Wholesale destruction.
> 8.0	XII	Total damage. Lines of sight and level are distorted. Waves seen on the ground. Objects thrown up into the air.

Sources: Michigan Technological University, Department of Geological and Mining Engineering and Sciences, UPSeis.
U.S. Geological Survey.

How often do earthquakes occur?

Earthquakes occur every day. Magnitude 2 and smaller earthquakes occur several hundred times a day worldwide. These earthquakes are known as micro earthquakes and are generally not felt by humans. Major earthquakes, greater than magnitude 7, generally occur at least once a month. **Figure EQ-3** illustrates the approximate number of earthquakes that occur worldwide per year based on magnitude. This figure also identifies manmade and natural events that release approximately the same amount of energy for comparison.

Figure EQ-3
Approximate Number of Earthquakes Recorded Annually



Source: Incorporated Research Institutions for Seismology, Education and Outreach Series, "How Often Do Earthquakes Occur?"

HAZARD PROFILE

The following details the location of known fault zones and geologic structures, identifies past occurrences of earthquakes, details the severity or extent of each event (if known); identifies the locations potentially affected and estimates the likelihood of future occurrences.

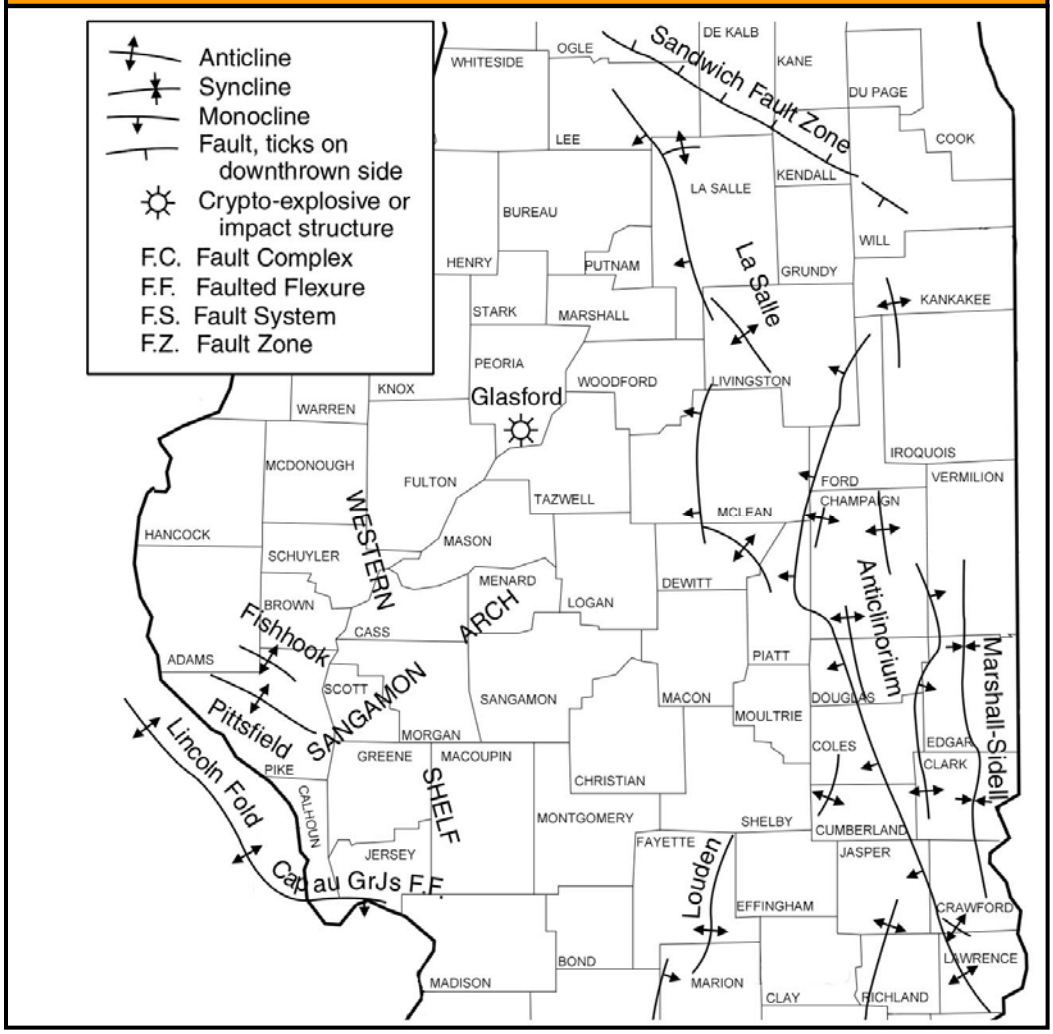
Are there any faults located within the County?

No, there are no known faults located in Kankakee County. However, there are two geological structures, the Herscher-Northwest Anticline and the Herscher Anticline both of which are part of the La Salle Anticlinorium. The following provides a brief description of each while **Figure EQ-4** illustrates the location of these geologic structures.

Herscher-Northwest Anticline: The Herscher-Northwest Anticline generally trends north-northwest in the western portion of Kankakee County. This anticline's axis is approximately 6 miles long and with the southern portion of the axis lying parallel more or less with the Herscher Anticline with approximately 2 miles of offset.

Herscher Anticline: The Herscher Anticline generally trends north to north-northwest from Iroquois County into the southwest portion of Kankakee County. This anticline's axis is approximately 18 miles long.

Figure EQ-4
Geological Structures in Northeastern Illinois



Source: Illinois State Geological Survey.

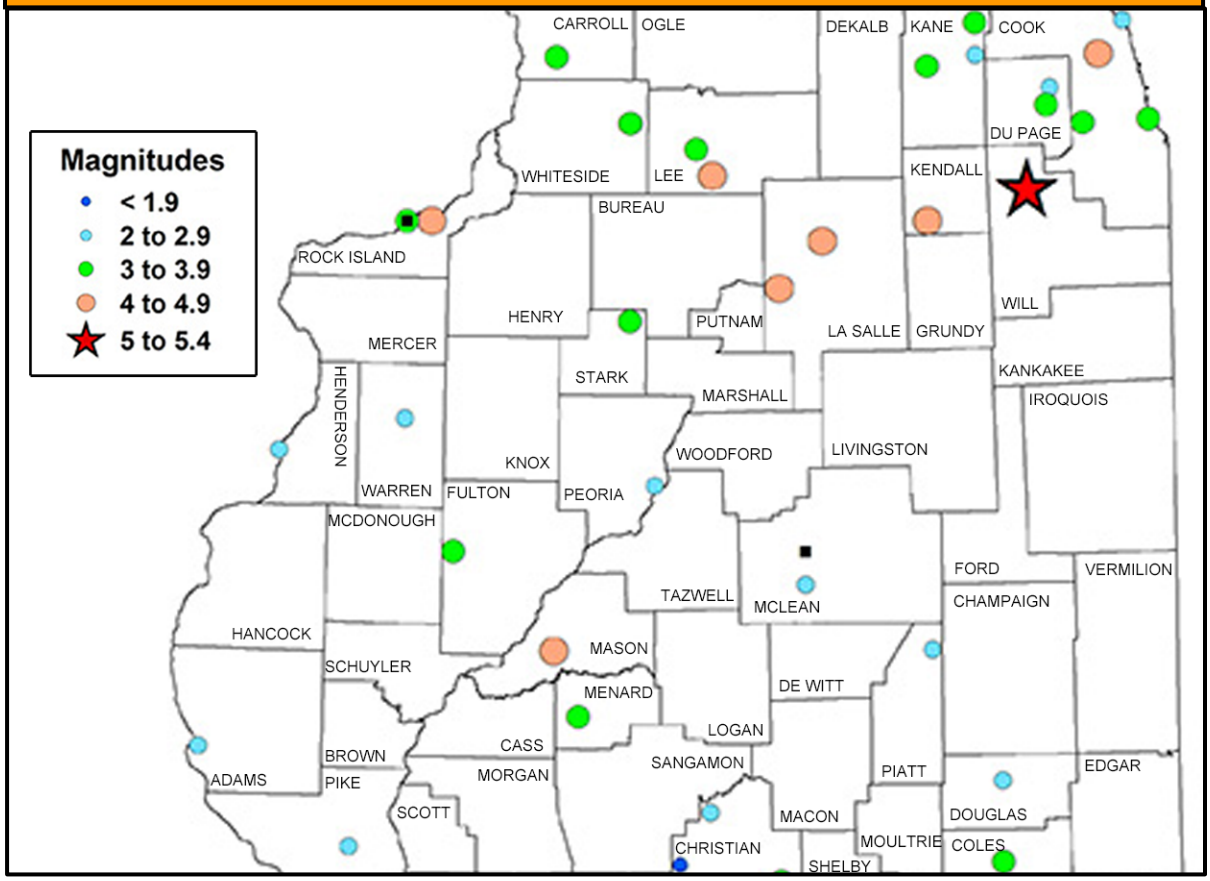
When have earthquakes occurred previously? What is the extent of these previous quakes?

Earthquake Fast Facts – Occurrences

Earthquakes Originating in the County (1795 – 2022): ***None***
Fault Zones Located within the County: ***None***
Geological Structures Located within the County: ***2***
Earthquakes Originating in Adjacent Counties (1795-2022): ***1***
Fault Zones Located in Nearby Counties: ***1***
Geologic Structures Located in Adjacent Counties: ***4***

According to the Illinois State Geological Survey, the U.S. Geological Survey, and Center for Earthquake Research and Information (CERI) at the University of Memphis, no earthquakes have originated in Kankakee County during the last 200 years. While no earthquakes have originated in the County, residents have felt ground shaking caused by earthquakes that have originated outside of the County. The following provides a brief description of these events while **Figure EQ-5** illustrates the epicenters this and nearby earthquakes.

Figure EQ-5
Earthquakes Originating in Kankakee Illinois



Source: Illinois State Geological Survey.

Northeastern Illinois

One earthquake has originated in nearby Will County. The largest earthquake to take place in northern Illinois in the past several hundred years occurred on May 26, 1909. The exact location of this magnitude 5.1 earthquake isn't known, but was near where Will, Kendall, Kane, and DuPage Counties meet. The greatest damage occurred in and near Aurora where many chimneys fell, and gas lines were ruptured. Minor structural damage was reported across northern and central Illinois and southern Wisconsin. Ground shaking was felt over seven states.

Northern Illinois

In addition to the above referenced event, there have been approximately two dozen other earthquakes that have occurred in northern Illinois in the last century, though none of them were greater than a magnitude 5.1. These earthquakes generally caused minor damage within 10 to 20 miles of the epicenter and were felt over several counties. Earthquakes greater than a magnitude 5 are generally not expected in this region. The following highlights a few of the other recent earthquakes that have taken place in northern Illinois.

- On March 25, 2015 a magnitude 2.9 earthquake took place at Lake in the Hills in McHenry County. This earthquake was felt over several counties. Damage information was unavailable for this event.
- A magnitude 3.2 earthquake took place on November 4, 2013 on the east side of McCook in Cook County. This earthquake was felt mainly in the Chicago metro area. Damage information was unavailable for this event.
- On February 10, 2010 a magnitude 3.8 earthquake took place approximately two miles northeast of Virgil in Kane County. This earthquake was felt over much of Illinois, Indiana and central and southern Wisconsin. Some minor structural damage was reported.

Southern Illinois

In addition to the above referenced events, Kankakee County residents also felt ground shaking caused by several earthquakes that have originated in southern Illinois. The following provides a brief description of a few of the larger events that have occurred.

- On April 18, 2008, a magnitude 5.2 earthquake was reported in southeastern Illinois near Bellmont in Wabash County. The earthquake was located along the Wabash Valley seismic zone. Minor structural damage was reported in several towns in Illinois and Kentucky. Ground shaking was felt over all or parts of 18 states in the central U.S. and southern Ontario, Canada.
- A magnitude 5.2 earthquake took place on June 10, 1987, in southeastern Illinois near Olney in Richland County. This earthquake was also located along the Wabash Valley seismic zone. Only minor structural damage was reported in several towns in Illinois and Indiana. Ground shaking was felt over all or parts of 17 states in the central and eastern U.S. and southern Ontario, Canada.
- The strongest earthquake in the central U.S. during the 20th century occurred along the Wabash Valley seismic zone in southeastern Illinois near Dale in Hamilton County. This magnitude 5.4 earthquake occurred on November 9, 1968, with an intensity estimated at VII for the area surrounding the epicenter. Moderate structural damage was reported in several towns in south-central Illinois, southwest Indiana, and northwest Kentucky. Ground shaking was felt over all or parts of 23 states in the central and eastern U.S. and southern Ontario, Canada.

Three of the ten largest earthquakes ever recorded within the continental U.S. took place in 1811 and 1812 along the New Madrid seismic zone. This zone lies within the central Mississippi Valley and extends from northeast Arkansas through southeast Missouri, western Tennessee, western Kentucky, and southern Illinois. These magnitude 7.5 and 7.3 major earthquakes were centered near the town of New Madrid, Missouri and caused widespread devastation to the surrounding region and were felt by people in cities as far away as Pittsburgh, Pennsylvania and Norfolk, Virginia.

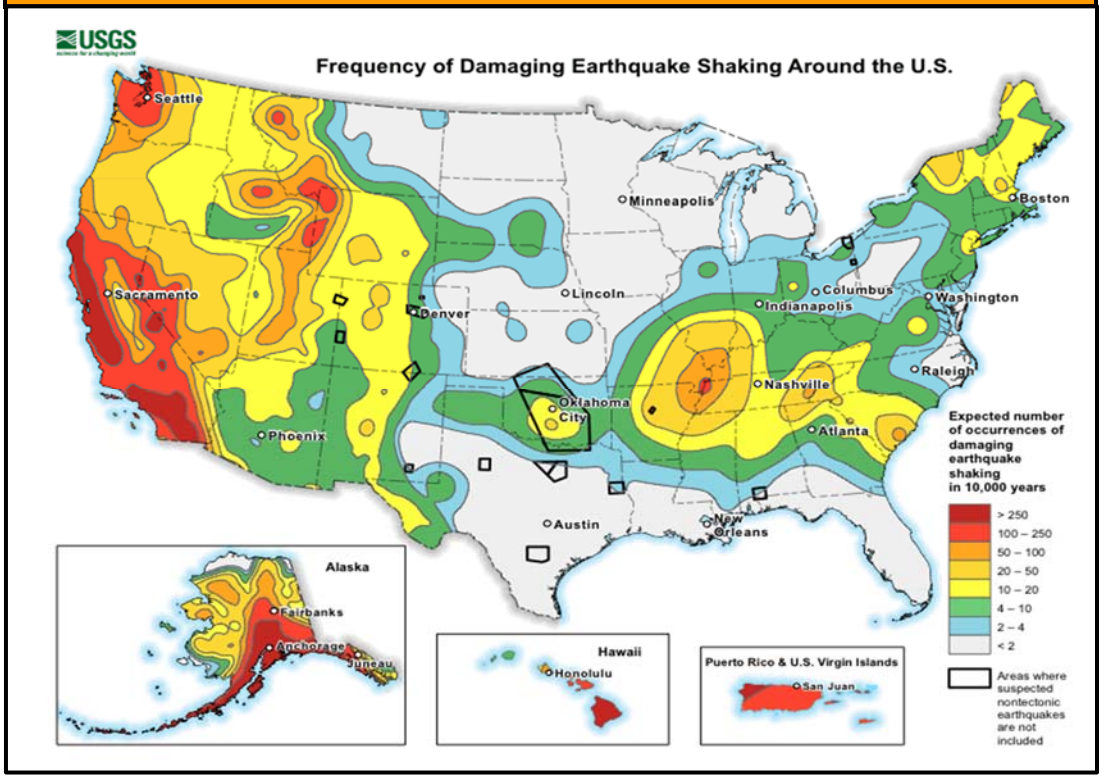
The quakes locally changed the course of the Mississippi River creating Reelfoot Lake in northwestern Tennessee. These earthquakes were not an isolated incident. The New Madrid seismic zone is one of the most seismically active areas of the U.S. east of the Rockies. Since 1974 more than 4,000 earthquakes have been recorded within this seismic zone, most of which were too small to be felt.

What locations are affected by earthquakes? What is the extent of future potential earthquakes?

Earthquake events generally affect the entire County. Earthquakes, like drought, impact large areas extending across an entire region and affecting multiple counties. Kankakee County's proximity to multiple fault zones, both large and small, makes the entire area likely to be affected by an earthquake if these faults become seismically active. The 2018 Illinois Natural Hazard Mitigation Plan classifies Kankakee County's hazard rating for earthquakes as "low."

According to the USGS, Kankakee County can expect 2 to 4 occurrences of damaging earthquake shaking over a 10,000-year period. **Figure EQ-6** illustrates the frequency of damaging earthquake shaking around the U.S.

Figure EQ-6
Frequency of Damaging Earthquake Shaking Around the U.S.



Source: U.S. Geological Survey.

What is the probability of future earthquake events occurring based on historical data?

As with flooding, calculating the probability of future earthquakes changes depending on the magnitude of the event. According to the ISGS, Illinois is expected to experience a magnitude 3.0 earthquake every year, a magnitude 4.0 earthquake every four years and a magnitude 5.0 earthquake every 20 years. The likelihood of an earthquake with a magnitude of 6.3 or greater occurring somewhere in the central U.S. within the next 50 years is between 86% and 97%.

While the major earthquakes of 1811 and 1812 do not occur often along the New Madrid fault, they are not isolated events. In recent decades, scientists have collected evidence that earthquakes

similar in size and location to those felt in 1811 and 1812 have occurred several times before within the central Mississippi Valley around 1450 A.D., 900 A.D. and 2350 B.C.

The general consensus among scientists is that earthquakes similar to the 1811-1812 earthquakes are expected to recur on average every 500 years. The U.S. Geological Survey and the Center for Earthquake Research and Information (CERI) at the University of Memphis estimates that for a 50-year period the probability of a repeat of the 1811-1812 earthquakes is between 7% and 10% and the probability of an earthquake with a magnitude of 6.0 or larger is between 25% and 40%.

HAZARD VULNERABILITY

The following describes the vulnerability to participating jurisdictions, identifies the impacts on public health and property (if known) and estimates the potential impacts on public health and safety as well as buildings, infrastructure, and critical facilities from earthquakes.

Are the participating jurisdictions vulnerable to earthquakes?

Yes. All of Kankakee County is vulnerable to earthquakes. The unique geological formations topped with glacial drift soils found in the central U.S. conduct an earthquake's energy farther than in other parts of the Nation. Consequently, earthquakes that originate in the Midwest tend to be felt at greater distances than earthquakes with similar magnitudes that originate on the West Coast.

Earthquake Fast Facts – Risk

Earthquake Risk/Vulnerability:

- Public Health & Safety – Light/Moderate Quake within the County or immediate region: ***Low***
- Public Health & Safety – Strong Quake in the region: ***Low to Medium***
- Buildings/Infrastructure/Critical Facilities – Light/ Moderate Quake within the County or immediate region: ***Low***
- Buildings/Infrastructure/Critical Facilities – Strong Quake in the region: ***Low to Medium***

This vulnerability, found throughout most of Illinois and all of Kankakee County, is compounded by relatively high water tables within the region. When earthquake shaking mixes the groundwater and soil, ground support is further weakened thus adding to the potential structural damages experienced by buildings, roads, bridges, electrical lines, and natural gas pipelines.

Extrapolating from the *Projected Earthquake Intensities Map* prepared by the Missouri State Emergency Management Agency, if a magnitude 6.7 earthquake were to take place anywhere along the New Madrid seismic zone, then the highest projected intensity felt in Kankakee County would be a V on the Modified Mercalli Intensity Scale. If a magnitude 8.6 earthquake were to occur, then the highest projected intensity felt would be a VII.

The infrequency of major earthquakes, coupled with relatively low magnitude/intensity of past events, has led the public to perceive that Kankakee County is not vulnerable to damaging earthquakes. This perception has allowed the County and participating municipalities to develop largely without regard to earthquake safety.

Have any of the participating jurisdictions identified specific assets vulnerable to the impacts of earthquakes?

Yes. Based on responses to a Critical Facilities Vulnerability Survey distributed to the participating jurisdictions, the City of Kankakee considers specific assets within its jurisdiction vulnerable to earthquakes. Both regional hospitals are located within a mile of each other within the City and there is a strong possibility that an earthquake would impact both hospitals leaving no alternate medical facility.

What impacts resulted from the recorded earthquake events?

While Kankakee County residents felt the earthquakes that have occurred in Illinois, no damages were reported as a result of these events. Given the magnitude of the great earthquakes of 1811 and 1812, it is almost certain that individuals in what is now Kankakee County felt those quakes; however, historical records do not indicate the intensity or impacts that these quakes had on the County.

What other impacts can result from earthquakes?

Earthquakes can impact human life, health, and public safety. **Figure EQ-7** details the potential impacts that may be experienced by the County should a magnitude 6.0 or greater earthquake occur in the region.

What is the level of vulnerability to public health and safety from earthquakes?

The risk or vulnerability to public health and safety from an earthquake is dependent on the intensity and location of the event. Since there are no known faults in Kankakee County, the likelihood that an earthquake will originate in the County is very small, decreasing the changes for catastrophic damages. However, if a light earthquake originates within the County or from the structures in the immediate region, the risk or vulnerability to public health and safety is considered ***low***. This risk is elevated to ***low/medium*** for a strong earthquake originating along seismic zones in the region (i.e., Sandwich Fault Zone or Wabash Valley).

Are existing buildings, infrastructure, and critical facilities vulnerable to earthquakes?

Yes. All existing buildings, infrastructure and critical facilities located in Kankakee County and the participating jurisdictions are vulnerable to damage from earthquakes. However, given the County's size (about 107,000 individuals), its population density, the fact that there are few buildings higher than two stories (with the exception of grain elevators and multi-story buildings in Bourbonnais and the City of Kankakee) tempered by the low potential for magnitude 5.0 and above earthquakes to occur in the immediate region, the damage is anticipated to be slight with only superficial structure damage such as broken windows and cracks in weak plaster and masonry.

If a strong earthquake (6.0 – 6.9) were to occur in the region, then unreinforced masonry buildings are most at risk during an earthquake because the walls are prone to collapse outward. Steel and wood buildings have more ability to absorb the energy from an earthquake while wood buildings with proper foundation ties have rarely collapsed in earthquakes. In this scenario building damage in Kankakee County would range from moderate to considerable for well-built ordinary structures and considerable to severe for poorly-built structures. **Figure EQ-8**, located at the end of this section, identifies the number of unreinforced masonry buildings that serve as critical facilities within the participating jurisdictions.

Figure EQ-7
Potential Earthquake Impacts

Direct	Indirect
Buildings • Temporary displacement of businesses, households, schools, and other critical services where heat, water and power are disrupted • Long-term displacement of businesses, households, schools, and other critical services due to structural damage or fires *Transportation* • Damages to bridges (i.e., cracking of abutments, subsidence of piers/supports, etc.) • Cracks in the pavement of critical roadways • Increased traffic on Interstate, U.S., and State Routes (especially if the quake originates along the Sandwich Fault Zone) as residents move out of the area to seek shelter and medical care and as emergency response, support services and supplies move south to aid in recovery • Misalignment of rail lines due to landslides (most likely near stream crossings), fissures and/or heaving *Utilities* • Downed power and communication lines • Breaks in drinking water and sanitary sewer lines resulting in the temporary loss of service • Disruptions in the supply of natural gas due to cracking and breaking of pipelines *Health* • Injuries/deaths due to falling debris and fires *Other* • Cracks in the earthen dams of the lakes and reservoirs within the County which could lead to dam failures	*Health* • Use of County health facilities (especially if the quake originates along the New Madrid Fault) to treat individuals injured closer to the epicenter • Emergency services (ambulance, fire, law enforcement) may be needed to provide aid in areas where damage was greater *Other* • Disruptions in land line telephone service throughout an entire region (i.e., central and southern Illinois) • Depending on the seasonal conditions present, more displacements may be expected as those who may not have enough water and food supplies seek alternate shelter due to temperature extremes that make their current housing uninhabitable

If the epicenter of a magnitude 7.6 earthquake were to originate anywhere along the New Madrid seismic zone, the highest projected Modified Mercalli intensity felt in Kankakee County would be a VI based on extrapolations from the *Projected Earthquake Intensities Map* prepared by the Missouri State Emergency Management Agency.

An earthquake also has the ability to damage infrastructure and critical facilities such as roads and utilities. In the event of a major earthquake, bridges are expected to experience moderate damage such as cracking in the abutments and subsidence of piers and supports. The structural integrity may be compromised to the degree where safe passage is not possible, resulting in adverse travel times as alternate routes are taken. Some rural families may become isolated where alternate paved routes do not exist. In addition, cracks may form in the pavement of key roadways. **Figure R-5** lists the number of each type of critical infrastructure by jurisdiction.

An earthquake may also down overhead power and communication lines causing power outages and disruptions in communications. Cracks or breaks may form in natural gas pipelines and drinking water and sewage lines resulting in temporary loss of service. In addition, an earthquake could cause cracks to form in the earthen dams located within the County, increasing the likelihood of a dam failure.

As with public health and safety, the risk or vulnerability to buildings, infrastructure and critical facilities is dependent on the intensity and location of the event. The risk to buildings, infrastructure and critical facilities is considered to be ***low*** for a light to moderate earthquake that originates within the County or immediate region. This risk is elevated to ***low/medium*** for a strong earthquake originating along seismic zones in the region (i.e., Sandwich Fault Zone or Wabash Valley.)

Are future buildings, infrastructure, and critical facilities vulnerable to earthquakes?

Yes. All future buildings, infrastructure and critical facilities located in Kankakee County and the participating jurisdictions are vulnerable to damage from earthquakes. While the County and all of the participating municipalities, with the exception of Union Hill, have building codes in place, these codes do not contain seismic provisions that address structural vulnerability for earthquakes. As a result, there is the potential for future buildings, infrastructure, and critical facilities to face the same vulnerabilities as those of existing buildings, infrastructure, and critical facilities described previously.

What are the potential dollar losses to vulnerable structures from earthquakes?

Since property damage information was either unavailable or none was recorded for the documented earthquakes that impacted Kankakee County, there is no way to accurately estimate future potential dollar losses to vulnerable structures. However, according to the Kankakee County Clerk the total equalized assessed values of all residential, commercial, and industrial buildings in the planning area is $1,908,485,831. Since all of the structures in the planning area are susceptible to earthquake impacts to varying degrees, this total represents the countywide property exposure to earthquake events.

Given Kankakee County's proximity to geologic structures and fault zones, both large and small, and the fact that all structures within the County are vulnerable to damage, it is likely that there will be future dollar losses from any earthquake ranging from strong to great. As a result, participating jurisdictions were asked to consider mitigation projects that could provide wide ranging benefits for reducing the impacts or damages associated with earthquakes.

Figure EQ-8
Number of Unreinforced Masonry Buildings Serving as Critical Facilities by Jurisdiction

Participating Jurisdiction	Government[1]	Law Enforcement	Fire Stations	Ambulance Service	Schools	Drinking Water	Wastewater Treatment	Medical[2]	Healthcare Facilities[3]
Kankakee County	---	1	---	---	---	---	---	---	---
Aroma Park	---	---	---	---	1	---	---	---	---
Bourbonnais	---	---	---	---	1	---	---	---	---
Bradley	2	1	1	---	4	---	1	---	1
Grant Park	2	1	---	---	---	---	---	---	---
Hopkins Park	---	---	---	---	1	1	---	---	---
Kankakee, City of	---	1	6	---	7	---	---	2	---
Manteno	1	---	---	---	---	---	---	3	---
Union Hill	---	---	---	---	---	---	---	---	---
Bourbonnais Township	---	---	---	---	---	---	---	---	---
Kankakee Community College	---	---	---	---	---	---	---	---	---
Bourbonnais FPD	---	---	---	---	---	---	---	---	---
Manteno Community FPD	1	---	---	---	---	---	---	3	---
Momence FPD	1	1	---	1	3	---	1	1	---
Ascension Saint Mary Kankakee	---	---	---	---	---	---	---	1	---
Riverside Medical Center	---	---	---	---	---	---	---	---	---

[1] Government includes: courthouses, city/village halls, township buildings, highway/road maintenance centers, etc.
[2] Medical includes: public health departments, hospitals, urgent/prompt care, and medical clinics.
[3] Healthcare Facilities include: nursing homes, skilled care facilities, memory care facilities, residential group homes, etc.
--- Indicates jurisdiction does not own/maintain any critical facilities within that category.

4.0 MITIGATION STRATEGY

The mitigation strategy identifies how participating jurisdictions are going to reduce or eliminate the potential loss of life and property damage that results from the natural hazards identified in the Risk Assessment section of this Plan. The strategy includes:

- Reviewing, re-evaluating, and updating the mitigation goals. Mitigation goals describe the objective(s) or desired outcome(s) that the participants would like to accomplish in terms of hazard and loss prevention. These goals are intended to reduce or eliminate long-term vulnerabilities to natural hazards.
- Evaluating the status of the existing mitigation actions and identifying a comprehensive range of jurisdiction-specific mitigation actions including those related to continued compliance with the National Flood Insurance Program (NFIP). Mitigation actions are projects, plans, activities, or programs that achieve at least one of the mitigation goals identified.
- Analyzing the existing and new mitigation actions identified for each jurisdiction. This analysis ensures each action will reduce or eliminate future losses associated with the hazards identified in the Risk Assessment section.
- Reviewing, re-evaluating, and updating the mitigation actions prioritization methodology. The prioritization methodology outlines the approach used to prioritize the implementation of each identified mitigation action.
- Identifying the entity(s) responsible for implementation and administration. For each mitigation action, the entity(s) responsible for implementing and administering that action is identified as well as the timeframes for completing the actions and potential funding sources.
- Conducting a preliminary cost/benefit analysis of each mitigation action. The qualitative cost/benefit analysis provides participants a general idea of which actions are likely to provide the greatest benefit based on the financial cost and staffing efforts needed.

As part of the Plan update, the mitigation strategy was reviewed and revised. A detailed discussion of each aspect of the mitigation strategy and any updates made is provided below.

4.1 MITIGATION GOALS REVIEW

As part of the Plan update process, the mitigation goals developed in the previous Plan were reviewed and re-evaluated. The Task Force chose to update the five existing goals and add three new goals in order to address a more comprehensive range of mitigation activities and projects.

The previous list of mitigation goals as well as potential updates to the list were distributed to the Task Force members at the first meeting on May 26, 2022. Members were asked to review the potential updates before the second meeting and consider whether any changes needed to be made or if additional goals should be included. At the Task Force's August 3, 2022 meeting the group discussed the updated goals and approved them with no changes. **Figure MIT-1** lists the approved mitigation goals.

Figure MIT-1 Mitigation Goals	
Goal 1	Protect the lives, health, safety, and welfare of the individuals living in Kankakee County from the dangers caused by natural hazards.
Goal 2	Place a priority on protecting public services (i.e., critical facilities & infrastructure such as utilities and roads), schools, and community lifelines (i.e., safety and security; food, water and shelter; health and medical; energy; communication; and transportation.)
Goal 3	Develop long-term strategies to educate residents and businesses about the hazards affecting Kankakee County and the actions they can take before a hazard event occurs to protect themselves, their homes, and businesses in an effort to promote community resilience.
Goal 4	Ensure future development does not increase the vulnerability of hazard-prone areas within Kankakee County or create unintended exposures to natural hazards.
Goal 5	Preserve and protect the rivers, creeks, and floodplains in the County.
Goal 6	Lessen the impacts of hazards on new and existing infrastructure (buildings, roads, bridges, utilities, water supplies, sanitary sewer systems, etc.) in order to promote hazard-resilient communities.
Goal 7	Incorporate hazard mitigation strategies into existing and new community plans and regulations.
Goal 8	Protect historic, cultural, and natural resources from the effects of natural hazards.

4.2 EXISTING MITIGATION ACTIONS REVIEW

The Plan update process included a review and evaluation of the ***existing hazard mitigation actions*** listed in the previous Plan. A copy of these actions is included in **Appendix L**. A review of the existing hazard mitigation actions revealed the following shortcomings:

- ❖ Actions were not jurisdiction-specific. Most of the action were applied to every participating jurisdiction no matter their level of interest, ability to implement or relevant to their jurisdiction.
- ❖ Actions did not identify specific entities responsible for implementation. This created a situation in which the participating jurisdictions did not have a clear understanding of which department within their own jurisdiction was tasked with implementing the action and therefore no sense of responsibility or ownership of the action was taken.
- ❖ Actions focused on emergency preparedness or response and not mitigation. Several of the actions identified were aimed at addressing emergency preparedness or response and not mitigation needs and therefore were eliminated.

As a result of these findings, the Task Force agreed to the creation of individual, jurisdiction-specific mitigation action lists for each participant. In addition, those actions identified as completed or emergency preparedness/response in the previous Plan, Mitigation Actions 7, 8, 15, 16, and 17, were eliminated. The remaining existing mitigation actions were evaluated, assigned to the appropriate participating jurisdiction(s), and presented to the Task Force members for their review and evaluation at the second meeting held on August 3, 2022. Each participating jurisdiction was asked to identify those actions that were either in progress or that had been completed since the previous Plan was prepared in 2013. Because jurisdictional priorities change over time, they were also given the opportunity to eliminate any action on their specific list that they did not deem currently relevant, viable, and/or practical for implementation.

Figures MIT-2 through **MIT-10**, located at the end of this section, summarize the results of this evaluation by jurisdiction. Each action listed includes a reference number to the original mitigation action list found in **Appendix L**. None of the participants identified changes in priorities since the previous Plan was approved.

Ascension Saint Mary Kankakee, Bourbonnais Township, Grant Park, Hopkins Park, Momence Fire Protection District, Riverside Medical Center, and Union Hill did not participate in the previous Plan update and therefore are not included in the summary. While Momence and Sun River Terrace participated in the previous Plan, they chose not to participate in the Plan update process and are not included in the summary.

While not specifically listed in the 2013 Plan, Bourbonnais continued its floodway buyout program by acquiring one flood-prone property since the previously Plan was completed.

4.3 NEW MITIGATION ACTION IDENTIFICATION

Following the review and evaluation of the existing mitigation actions, the Task Force members were asked to consult with their respective jurisdictions to identify ***new, jurisdiction-specific mitigation actions***. Instead of focusing on all-inclusive actions covering multiple jurisdictions, participants were asked to identify mitigation actions that met the specific needs and risks associated with their jurisdiction.

Representatives of Kankakee County, Aroma Park, Bourbonnais, Bradley, the City of Kankakee, and Manteno were also asked to identify mitigation actions that would ensure their continued compliance with the National Flood Insurance Program. The compiled lists of new mitigation actions were then reviewed to assure the appropriateness and suitability of each action. Those actions that were not deemed appropriate and/or suitable were either reworded or eliminated.

4.4 MITIGATION ACTION ANALYSIS

Next, those existing mitigation actions retained, and the new mitigation actions identified were assigned to one of four broad mitigation activity categories that allowed Task Force members to compare and consolidate similar actions. **Figure MIT-11** identifies each mitigation activity category and provides a brief description.

Each mitigation action was then analyzed to determine:

- the hazard or hazards being mitigated;
- the general size of the population affected (i.e., small, medium, or large), the participant's Social Vulnerability Index (SVI) ranking, as well as the participant's status as an Economically Disadvantaged Rural Community (EDRC);
- the goal or goals fulfilled;
- whether the action would reduce the effects on new or existing buildings and infrastructure; and
- whether the action would ensure continued compliance with the National Flood Insurance Program.

Each mitigation action was also evaluated to determine whether it would mitigate risk to one or more of FEMA's seven Community Lifelines. Community Lifelines are the most fundamental services in the community that, when stabilized, enable all aspects of society to function. These fundamental services enable the continuous operation of critical government and business functions essential to human health and safety or economic security. The Community Lifelines include Safety & Security; Food, Water, Shelter; Health & Medical; Energy (Power & Fuel); Communications; Transportation; and Hazardous Materials. **Figure MIT-12** provides a brief description of each Community Lifeline.

Figure MIT-11
Types of Mitigation Activities

Category	Description
Local Plans & Regulations (LP&R)	Local Plans & Regulations include actions that influence the way land and buildings are being developed and built. Examples include stormwater management plans, floodplain regulations, capital improvement projects, participation in the NFIP Community Rating System, comprehensive plans, and local ordinances (i.e., building codes, etc.)
Structure & Infrastructure Projects (S&IP)	Structure & Infrastructure Projects include actions that protect infrastructure and structures from a hazard or remove them from a hazard area. Examples include acquisition and elevation of structures in flood prone areas, burying utility lines to critical facilities, construction of community safe rooms, install "hardening" materials (i.e., impact resistant window film, hail resistant shingles/doors, etc.) and detention/retention structures.
Natural System Protection (NSP)	Natural System Protection includes actions that minimize damage and losses and also preserve or restore natural systems. Examples include sediment and erosion control, stream restoration and watershed management.
Education & Awareness Programs (E&A)	Education & Awareness Programs include actions to inform and educate citizens, elected officials and property owners about hazards and the potential ways to mitigate them. Examples include outreach/school programs, brochures, and handout materials, becoming a StormReady community, evacuation planning and drills, and volunteer activities (i.e., culvert cleanout days, initiatives to check in on the elderly/disabled during hazard events such as storms and extreme heat events, etc.)

4.5 MITIGATION ACTION PRIORITIZATION METHODOLOGY & COST/BENEFIT ANALYSIS REVIEW

The methodology developed to prioritize mitigation actions in the previous Plan was reviewed by the Task Force as part of the Plan update process. The previous prioritization methodology was based on five factors including those hazards that presented the greatest threats; the appropriateness of the actions for the type of threats; the costs and relative benefits of the actions; the affordability of the actions given the participants' available resources and staffing; and the impacts of the actions on both the natural and human environment.

To better characterize the benefits of the identified actions, clarify the hazard impacts, and simplify the prioritization process, the Task Force decided to replace the previous prioritization methodology with one focused on just two key factors: 1) the frequency of the hazard and 2) the degree of mitigation attained. This updated prioritization methodology was presented to the Task Force members at the third meeting held on November 2, 2022. The group reviewed and discussed the methodology and chose to approve it with no changes.

Figure MIT-13 identifies and describes the four-tiered prioritization methodology adopted by the Task Force. The methodology developed provides a means of objectively determining which actions have a greater likelihood of eliminating or reducing the long-term vulnerabilities associated with the most frequently-occurring natural hazards.

Figure MIT-12
Community Lifelines

Category	Components/Subcomponents
Safety & Security	- Law Enforcement/Security (police stations, law enforcement, site security, correctional facilities) - Fire Service (fire stations, firefighting resources) - Search & Rescue (local search & rescue) - Government Service (emergency operation centers, essential government functions, government offices, schools, public records, historic/cultural resources) - Community Safety (flood control, other hazards, protective actions)
Food, Water, Shelter	- Food [commercial food distribution, commercial food supply chain, food distribution programs (e.g., food banks)] - Water [drinking water utilities (intake, treatment, storage & distribution), wastewater systems, commercial water supply chain]; - Shelter [housing (e.g., homes, shelters), commercial facilities (e.g., hotels)]; - Agriculture (animals & agriculture)
Health & Medical	- Medical Care (hospitals, dialysis, pharmacies, long-term care facilities, VA health system, veterinary services, home care) - Patient Movement (emergency medical services) - Fatality Management (mortuary and post-mortuary services) - Public Health (epidemiological surveillance, laboratory, clinical guidance, assessment/interventions/treatments, human services, behavioral health) - Medical Supply Chain [blood/blood products, manufacturing (e.g., pharmaceutical, device, medical gases), distribution, critical clinical research, sterilization, raw materials]
Energy	- Power Grid (generation systems, transmission systems, distribution systems) - Fuel [refineries/fuel processing, fuel storage, pipelines, fuel distribution (e.g., gas stations, fuel points), off-shore oil platforms]
Communications	- Infrastructure [wireless, cable systems and wireline, broadcast (e.g., TV and radio), satellite, data centers/internet] - Alerts, Warnings, & Messages (local alert/warning ability, access to IPAWS, NAWAS terminals) - 911 & Dispatch (public safety answering points, dispatch) - Responder Communications (LMR networks) - Finance (banking services, electronic payment processing)
Transportation	- Highway/Roadway/Motor Vehicle (roads, bridges) - Mass Transit (bus, rail, ferry) - Railway (freight, passenger) - Aviation [commercial (e.g., cargo/passenger), general, military] - Maritime (waterways, ports and port facilities)
Hazardous Materials	- Facilities [oil/hazmat facilities (e.g., chemical, nuclear), oil/hazmat/toxic incidents from facilities] - Hazmat, Pollutants, Contaminants (oil/hazmat/toxic incidents from non-fixed facilities, radiological or nuclear incidents)

While prioritizing the actions is useful and provides participants with additional information, it is important to keep in mind that implementing any the mitigation actions is desirable regardless of which prioritization category an action falls under.

Figure MIT-13
Mitigation Action Prioritization Methodology

		Hazard	
		Most Frequent Hazard **(M)** (i.e., severe storms, floods, severe winter storms, excessive heat, wildfires)	Less Frequent Hazard **(L)** (i.e., extreme cold, tornadoes, drought, dam failures, earthquakes)
Mitigation Action	Mitigation Action with the Potential to Virtually Eliminate or Significantly Reduce Impacts **(H)**	**HM** mitigation action will virtually eliminate damages and/or significantly reduce the probability of fatalities and injuries from the most frequent hazards	**HL** mitigation action will virtually eliminate damages and/or significantly reduce the probability of fatalities and injuries from less frequent hazards
	Mitigation Action with the Potential to Reduce Impacts **(L)**	**LM** mitigation action has the potential to reduce damages, fatalities and/or injuries from the most frequent hazards	**LL** mitigation action has the potential to reduce damages, fatalities and/or injuries from less frequent hazards

While this methodology does not take cost into consideration, it is a factor that may affect the order in which projects are implemented. As a result, a preliminary qualitative cost/benefit analysis was conducted to demonstrate each action's monetary and non-monetary benefits and provide additional information that can be considered in each participant's decision-making process. The costs and benefits were analyzed in terms of the general overall cost to complete an action as well as the staffing efforted needed and the action's likelihood of permanently eliminating or significantly reducing the risk associated with a specific hazard. The general descriptors of high, medium, and low were used. These terms are not meant to translate into a specific dollar amount, but rather to provide a relative comparison between the actions identified by each jurisdiction.

This analysis is only meant to give the participants a starting point to compare which actions are likely to provide the greatest benefit. It was repeatedly communicated to the Planning Committee members that when a grant application is submitted to IEMA/FEMA for a specific action, a detailed cost/benefit analysis will be required to receive funding.

4.6 Mitigation Action Implementation & Administration

Finally, each participating jurisdiction was asked to identify how the mitigation actions will be implemented and administered. This included:

- identifying the party or parties responsible for oversight and administration;
- determining what funding source(s) are available or will be pursued; and
- describing the time frame for completion.

Oversight & Administration

It is important to keep in mind that some of the participating jurisdictions have limited capabilities related to organization and staffing for oversight and administration of the identified mitigation actions. Four of the eight participating municipalities are small in size, with populations of less than 1,700 individuals. In most cases these jurisdictions have minimal staff. Their organizational structure is such that most have very few offices and/or departments, generally limited to public works and water/sewer. Those in charge of the offices/departments often lack the technical expertise needed to individually oversee and administer the identified mitigation actions. As a result, most of the participating jurisdictions identified their governing body (i.e., village board, city council or board of trustees) as the entity responsible for oversight and administration simply because it is the only practical option given their organizational constraints. Other participants felt that oversight and administration fell under the purview of the entity's governing body (board/council) and not individual departments.

Funding Sources

While the Kankakee County Planning Department/Regional Planning Commission has the ability to assist with grant writing services, most of the participating jurisdictions do not have staff with grant writing capabilities. As a result, assistance was needed in identifying possible funding sources for the identified mitigation actions. The consultant provided written information to the participants about FEMA and non-FEMA funding opportunities that have been used previously to finance mitigation actions. In addition, funding information was discussed with participants during Task Force meetings and in one-on-one contacts so that an appropriate funding source could be identified for each mitigation action.

A handout was prepared and distributed that provided specific information on the non-FEMA grant sources available including the grant name, the government agency responsible for administering the grant, grant ceiling, contact person and application period among other key points. Specific grants from the following agencies were identified: U.S. Department of Agricultural – Rural Development (USDA – RD), Illinois Department of Agriculture (IDOA), Illinois Department of Commerce and Economic Opportunity (DCEO), Illinois Environmental Protection Agency (IEPA), Illinois Department of Natural Resources (IDNR) and Illinois Department of Transportation (IDOT).

The funding source identified for each action is the most likely source to be pursued; however, if grant funding is unavailable through the most likely or other suggested sources, then implementation of medium and large-scale projects and activities is unlikely due to the budgetary constraints experienced by most, if not all, of the participants due to their size, projected population growth and limited revenue streams. It is important to remember that the population for the entire County is approximately 110,000 individuals. Four of the eight participating municipalities are small in size, with populations of less than 1,700 individuals. Some of the jurisdictions struggle to maintain and provide the most critical of services to their residents. Additional funding is necessary if implementation is to be achieved.

Time Frame for Completion

The time frame for completion identified for each action is the timespan in which participants would like to see the action successfully completed. In most cases, however, the time frame identified is dependent on obtaining the necessary funding. As a result, a time range has been identified for many of the mitigation actions to allow for unpredictability in securing funds.

4.7 RESULTS OF MITIGATION STRATEGY

Figures MIT-14 through **MIT-29**, located at the end of this section, summarize the results of the mitigation strategy. The mitigation actions are arranged alphabetically by participating jurisdiction following the County and include both existing and new actions.

Figure MIT-2
Kankakee County – Status of Existing Mitigation Actions
(Sheet 1 of 8)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Plan Adoption. Adopt the 2013 Kankakee County Natural Hazards Mitigation Plan by resolution. (Action Item No. 1)			✓	2013	County Board adopted plan by resolution.		
Monitoring & Reporting. The Kankakee County Regional Planning Commission will monitor the implementation of the 2013 Kankakee County Natural Hazards Mitigation Plan, report to the County Board and municipalities on its progress and recommend revisions to the Plan as needed. (Action Item No. 2)			✓	2022	The RPC has regularly monitored the Plan since its adoption.		
Community Rating System. The Kankakee County Planning Department will develop an abbreviated Community Rating System (CRS) application and host a workshop for County and municipal officials to review the application and determine whether to apply to the CRS for flood insurance premium rate discounts. (Action Item No. 3)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the County's vulnerability since the 2013 Plan was approved. The County did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Kankakee County has one infrastructure improvement project in progress (Kankakee River sedimentation removal) that has the potential to decrease the vulnerability of flood prone areas and four administrative activities completed that decrease the overall vulnerability hazard prone areas in the County (adoption of updated building codes and enforcement of these codes; adoption of the 2013 Hazard Mitigation Plan and continued monitoring and evaluation of the Plan.) There is one infrastructure improvement project in progress that has the potential to decrease vulnerability to Communications Community Lifelines. This project however will not significantly change the vulnerability of hazard prone areas in the County.

Figure MIT-2
Kankakee County – Status of Existing Mitigation Actions
(Sheet 2 of 8)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Develop Regulations. As comprehensive plans, zoning ordinances, and subdivision ordinances are being revised the following specific hazard mitigation provisions should be incorporated into them: - setting aside floodplains and wetland as open spaces, - requiring utility lines to be buried, - requiring drainage ways to have maintenance easements or be set aside from development, - identifying who is responsible for maintenance activities in easements, - requiring new manufactured housing communities to have storm shelters, - requiring developers to contribute to a fund that will pay for appropriate hazard protection measures, such as rain gauges and outdoor warning systems. (Action Item No. 4)	✓					✓	
Building Code Improvements. Update building codes (I-Codes) at least every five years. (Action Item No. 5)			✓	2018	The County adopted the 2015 code in 2018. The process is ongoing.		

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

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Figure MIT-2
Kankakee County – Status of Existing Mitigation Actions
(Sheet 3 of 8)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Regulation Administration. Ensure newly installed manufactured homes, especially those in manufactured housing communities, are being property installed to protect them from wind damage and that all floodplain management requirement provisions are being enforced. (Action Item No. 6)			✓	Ongoing	This is an ongoing normal activity of our permitting process.		
Property Evaluation. Assess critical facilities and publicly-owned buildings to identify their exposure to damage from natural hazards such as flooding, high winds, lightning, hail, and power losses from downed lines. Identify the appropriate protection measures that could be undertaken to reduce exposures. (Action Item No. 9)	✓					✓	
Repetitive Loss Evaluations. Apply for funds to support an evaluation of all 124 properties in 16 repetitive loss areas. (Action Item No. 10)	✓					✓	

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the County's vulnerability since the 2013 Plan was approved. The County did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Kankakee County has one infrastructure improvement project in progress (Kankakee River sedimentation removal) that has the potential to decrease the vulnerability of flood prone areas and four administrative activities completed that decrease the overall vulnerability hazard prone areas in the County (adoption of updated building codes and enforcement of these codes; adoption of the 2013 Hazard Mitigation Plan and continued monitoring and evaluation of the Plan.) There is one infrastructure improvement project in progress that has the potential to decrease vulnerability to Communications Community Lifelines. This project however will not significantly change the vulnerability of hazard prone areas in the County.

Figure MIT-2
Kankakee County – Status of Existing Mitigation Actions
(Sheet 4 of 8)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Property Protection Assistance. Based on the findings of the repetitive loss evaluation, design a program of technical assistance and financial incentives to encourage the implementation of low cost property protection measures on private property. (Action Item No. 11)	✓					✓	
Flood Warning & Response. Review what is needed to install new gauges or otherwise improve the County's flood threat recognition system. Explore preparing a flood stage forecast map for one or more stretches of the major rivers in the County. (Action Item No. 13)		✓			The County is currently evaluating additional river gauges.	✓	
Outdoor Warning Sirens. Establish a program to continue to install or upgrade outdoor warning sirens. Priority will be given to communities with no outdoor warning sirens or minimal warning sirens. (Action Item No. 14)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the County's vulnerability since the 2013 Plan was approved. The County did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Kankakee County has one infrastructure improvement project in progress (Kankakee River sedimentation removal) that has the potential to decrease the vulnerability of flood prone areas and four administrative activities completed that decrease the overall vulnerability hazard prone areas in the County (adoption of updated building codes and enforcement of these codes; adoption of the 2013 Hazard Mitigation Plan and continued monitoring and evaluation of the Plan.) There is one infrastructure improvement project in progress that has the potential to decrease vulnerability to Communications Community Lifelines. This project however will not significantly change the vulnerability of hazard prone areas in the County.

Figure MIT-2
Kankakee County – Status of Existing Mitigation Actions
(Sheet 5 of 8)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Small Flood Control Projects: Adopt the following guidelines for use with drainage improvement, flood control, or bridge and culvert repair projects: - wherever possible, flood and drainage protection measure will be incorporated into road, street, bridge and culvert improvement projects; - each project's study should look beyond the immediate project site to ensure that no other properties will be adversely impacted; - each project's study should consider protecting and improving the natural functions of the stream and floodplain, in addition to flood protection; - the design and construction should be certified by a licensed professional engineer; - all relevant federal, state and local permits must be obtained; and - communities and property owners that may be affected by the project should be notified. (Action Item No. 18)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the County's vulnerability since the 2013 Plan was approved. The County did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Kankakee County has one infrastructure improvement project in progress (Kankakee River sedimentation removal) that has the potential to decrease the vulnerability of flood prone areas and four administrative activities completed that decrease the overall vulnerability hazard prone areas in the County (adoption of updated building codes and enforcement of these codes; adoption of the 2013 Hazard Mitigation Plan and continued monitoring and evaluation of the Plan.) There is one infrastructure improvement project in progress that has the potential to decrease vulnerability to Communications Community Lifelines. This project however will not significantly change the vulnerability of hazard prone areas in the County.

Figure MIT-2
Kankakee County – Status of Existing Mitigation Actions
(Sheet 6 of 8)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
River Restoration Projects: Encourage the Corps of Engineers to implement planned projects to remove sediment and restore habitat at Six-Mile Pool and the State line. (Action Item No. 19)		✓			Funds and projects are in progress to begin sedimentation removal projects.	✓	
Drainage System Maintenance: Prepare model procedures based on Community Rating System and IDNR program guidance to be used by municipalities implementing a formal and regular drainage system maintenance program. (Action Item No. 20)	✓						✓
Water Use Management: Prepare a report on the long-term potential for a water supply shortage and diversion of water to other areas. The report will summarize the potential problems, analyze alternative solutions, and make recommendations to the County Board, city councils and village boards. (Action Item No. 21)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the County's vulnerability since the 2013 Plan was approved. The County did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Kankakee County has one infrastructure improvement project in progress (Kankakee River sedimentation removal) that has the potential to decrease the vulnerability of flood prone areas and four administrative activities completed that decrease the overall vulnerability hazard prone areas in the County (adoption of updated building codes and enforcement of these codes; adoption of the 2013 Hazard Mitigation Plan and continued monitoring and evaluation of the Plan.) There is one infrastructure improvement project in progress that has the potential to decrease vulnerability to Communications Community Lifelines. This project however will not significantly change the vulnerability of hazard prone areas in the County.

Figure MIT-2
Kankakee County – Status of Existing Mitigation Actions
(Sheet 7 of 8)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Public Information – Messages and Templates: Prepare background information, articles, templates and other materials that can be used to communicate hazard mitigation topics to the public, including: - the natural hazards that threaten Kankakee County; - what the sirens and warnings mean; - safety and health precautions for all types of hazards; - emergency and permanent property protection measures; - floodplain management and flood insurance information; - the benefits of preventative measures and the need for all projects to get permits; - what government agencies are doing and how they can help; and - protecting streams, water quality, wetlands and open spaces. (Action Item No. 22)	✓					✓	

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the County's vulnerability since the 2013 Plan was approved. The County did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Kankakee County has one infrastructure improvement project in progress (Kankakee River sedimentation removal) that has the potential to decrease the vulnerability of flood prone areas and four administrative activities completed that decrease the overall vulnerability hazard prone areas in the County (adoption of updated building codes and enforcement of these codes; adoption of the 2013 Hazard Mitigation Plan and continued monitoring and evaluation of the Plan.) There is one infrastructure improvement project in progress that has the potential to decrease vulnerability to Communications Community Lifelines. This project however will not significantly change the vulnerability of hazard prone areas in the County.

Figure MIT-2
Kankakee County – Status of Existing Mitigation Actions
(Sheet 8 of 8)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Public Information – County-Wide Activities: The following public information activities will be implemented on a county-wide basis: - brochures and handouts on the hazards, safety precautions, and simple property protection measures; - playing videos and short programs on the public access cable channel; - putting more information on the County's website and adding links to other site with relevant information; and - an order form for free references that can be put in municipal offices and local school libraries. (Action Item No. 23)	✓					✓	
Public Information – Real Estate Disclosure: Meet with the Association of Realtors to review ways to inform people of the natural hazards that properties are exposed to, with a special effort being made to advise people to review a site's flood hazard before committing to a purchase. (Action Item No. 25)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the County's vulnerability since the 2013 Plan was approved. The County did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Kankakee County has one infrastructure improvement project in progress (Kankakee River sedimentation removal) that has the potential to decrease the vulnerability of flood prone areas and four administrative activities completed that decrease the overall vulnerability hazard prone areas in the County (adoption of updated building codes and enforcement of these codes; adoption of the 2013 Hazard Mitigation Plan and continued monitoring and evaluation of the Plan.) There is one infrastructure improvement project in progress that has the potential to decrease vulnerability to Communications Community Lifelines. This project however will not significantly change the vulnerability of hazard prone areas in the County.

Figure MIT-3
Aroma Park – Status of Existing Mitigation Actions
(Sheet 1 of 5)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Plan Adoption. Adopt the 2013 Kankakee County Natural Hazards Mitigation Plan by resolution. (Action Item No. 1)			✓				
Develop Regulations. As comprehensive plans, zoning ordinances, and subdivision ordinances are being revised the following specific hazard mitigation provisions should be incorporated into them: - setting aside floodplains and wetland as open spaces, - requiring utility lines to be buried, - requiring drainage ways to have maintenance easements or be set aside from development, - identifying who is responsible for maintenance activities in easements, - requiring new manufactured housing communities to have storm shelters, - requiring developers to contribute to a fund that will pay for appropriate hazard protection measures, such as rain gauges and outdoor warning systems. (Action Item No. 4)	✓					✓	

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Aroma Park has four administrative activities (guidelines for drainage improvements & flood control projects, adoption of updated building codes and enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-3
Aroma Park – Status of Existing Mitigation Actions
(Sheet 2 of 5)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Building Code Improvements. Update building codes (I-Codes) at least every five years. (Action Item No. 5)		✓				✓	
Regulation Administration. Ensure newly installed manufactured homes, especially those in manufactured housing communities, are being property installed to protect them from wind damage and that all floodplain management requirement provisions are being enforced. (Action Item No. 6)	✓	✓			very few new homes have been built		✓
Regulation Administration. Ensure that at least one regulatory staff member becomes a Certified Floodplain Manager (CFM). (Action Item No. 6)	✓						✓
Property Evaluation. Assess critical facilities and publicly-owned buildings to identify their exposure to damage from natural hazards such as flooding, high winds, lightning, hail, and power losses from downed lines. Identify the appropriate protection measures that could be undertaken to reduce exposures. (Action Item No. 9)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Aroma Park has four administrative activities (guidelines for drainage improvements & flood control projects, adoption of updated building codes and enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-3
Aroma Park – Status of Existing Mitigation Actions
(Sheet 3 of 5)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Tree City USA. Implement an urban forestry program that qualifies the municipality to become a Tree City, USA. (Action Item No. 12)	✓					✓	
Small Flood Control Projects: Adopt the following guidelines for use with drainage improvement, flood control, or bridge and culvert repair projects: - wherever possible, flood and drainage protection measure will be incorporated into road, street, bridge and culvert improvement projects; - each project's study should look beyond the immediate project site to ensure that no other properties will be adversely impacted; - each project's study should consider protecting & improving the natural functions of the stream and floodplain, in addition to flood protection; - the design and construction should be certified by a licensed professional engineer; - all relevant federal, state and local permits must be obtained; and - communities and property owners that may be affected by the project should be notified. (Action Item No. 18)		✓				✓	

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Aroma Park has four administrative activities (guidelines for drainage improvements & flood control projects, adoption of updated building codes and enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-3
Aroma Park – Status of Existing Mitigation Actions
(Sheet 4 of 5)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Drainage System Maintenance: In coordination with the appropriate active drainage district(s), implement a formal and regular drainage system maintenance program. This would involve: - mapping the local drainage system; - determining which areas can be accessed for inspection and maintenance; - implementing procedures prepared by Kankakee County Planning Department that are modeled on Community Rating System and IDNR program guidance; - conducting an annual inspection; - removing debris as needed; and - educating and working with homeowner associations and other non-governmental entities responsible for maintenance on their own properties. (Action Item No. 20)	✓					✓	

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Aroma Park has four administrative activities (guidelines for drainage improvements & flood control projects, adoption of updated building codes and enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-3
Aroma Park – Status of Existing Mitigation Actions
(Sheet 5 of 5)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Public Information – Municipal Activities: Following application & acceptance into the Community Rating System program, review needs, resources, and interest in CRS credits and determine which public information activities to implement for credit. Municipalities will be supported with materials and templates provided by the County Planning Department that will help with the following: - articles in newsletters about simple property protection measures individuals can implement; - sending out an annual mailing on flood protection to all residents in the floodplain; - making reference materials about the hazards and property protection measures available at the local public library; - providing hazard mitigation information and links on city/village website; - making Flood Insurance Rate Maps available and help individuals obtain information from them; & - participating in annual Arbor Day celebrations pursuant to being a Tree City USA community. (Action Item No. 24)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Aroma Park has four administrative activities (guidelines for drainage improvements & flood control projects, adoption of updated building codes and enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-4
Bourbonnais – Status of Existing Mitigation Actions
(Sheet 1 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Plan Adoption. Adopt the 2013 Kankakee County Natural Hazards Mitigation Plan by resolution. (Action Item No. 1)			✓	2013	Village Board adopted by resolution		
Develop Regulations. As comprehensive plans, zoning ordinances, and subdivision ordinances are being revised the following specific hazard mitigation provisions should be incorporated into them: - setting aside floodplains and wetland as open spaces, - requiring utility lines to be buried, - requiring drainage ways to have maintenance easements or be set aside from development, - identifying who is responsible for maintenance activities in easements, - requiring new manufactured housing communities to have storm shelters, - requiring developers to contribute to a fund that will pay for appropriate hazard protection measures, such as rain gauges and outdoor warning systems. (Action Item No. 4)			✓	2019	Minor updates were completed on the 2013 Comprehensive Plan following the update of the Village's Zoning Ordinance to address changing trends in real estate markets, opening of the I-57 interchange, and the in-depth considerations of Village land use	✓	

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Bourbonnais has one infrastructure project (drainage system maintenance) and five administrative activities (guidelines for drainage improvements & flood control projects, critical facilities exposure analysis, adoption of updated building codes and enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-4
Bourbonnais – Status of Existing Mitigation Actions
(Sheet 2 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Building Code Improvements. Update building codes (I-Codes) at least every five years. (Action Item No. 5)			✓	2020	Adopted 2018 IBC/IRC codes	✓	
Regulation Administration. Ensure newly installed manufactured homes, especially those in manufactured housing communities, are being property installed to protect them from wind damage and that all floodplain management requirement provisions are being enforced. (Action Item No. 6)	✓	✓		Ongoing	Ensuring floodplain management requirement provisions are enforced is an ongoing normal activity of the code enforcement process.		✓
Regulation Administration. Ensure that at least one regulatory staff member becomes a Certified Floodplain Manager (CFM). (Action Item No. 6)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Bourbonnais has one infrastructure project (drainage system maintenance) and five administrative activities (guidelines for drainage improvements & flood control projects, critical facilities exposure analysis, adoption of updated building codes and enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-4
Bourbonnais – Status of Existing Mitigation Actions
(Sheet 3 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Property Evaluation. Assess critical facilities and publicly-owned buildings to identify their exposure to damage from natural hazards such as flooding, high winds, lightning, hail, and power losses from downed lines. Identify the appropriate protection measures that could be undertaken to reduce exposures. (Action Item No. 9)		✓				✓	
Tree City USA. Implement an urban forestry program that qualifies the municipality to become a Tree City, USA. (Action Item No. 12)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Bourbonnais has one infrastructure project (drainage system maintenance) and five administrative activities (guidelines for drainage improvements & flood control projects, critical facilities exposure analysis, adoption of updated building codes and enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-4
Bourbonnais – Status of Existing Mitigation Actions
(Sheet 4 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Small Flood Control Projects: Adopt the following guidelines for use with drainage improvement, flood control, or bridge and culvert repair projects: - wherever possible, flood & drainage protection measure will be incorporated into road, street, bridge and culvert improvement projects; - each project's study should look beyond the immediate project site to ensure that no other properties will be adversely impacted; - each project's study should consider protecting & improving the natural functions of the stream and floodplain, in addition to flood protection; - the design and construction should be certified by a licensed professional engineer; - all relevant federal, state and local permits must be obtained; and - communities and property owners that may be affected by the project should be notified. (Action Item No. 18)		✓				✓	

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Bourbonnais has one infrastructure project (drainage system maintenance) and five administrative activities (guidelines for drainage improvements & flood control projects, critical facilities exposure analysis, adoption of updated building codes and enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-4
Bourbonnais – Status of Existing Mitigation Actions
(Sheet 5 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Drainage System Maintenance: In coordination with the appropriate active drainage district(s), implement a formal and regular drainage system maintenance program. This would involve: - mapping the local drainage system; - determining which areas can be accessed for inspection and maintenance; - implementing procedures prepared by Kankakee Co. Planning Dept. that are modeled on Community Rating System & IDNR program guidance; - conducting an annual inspection; - removing debris as needed; and - educating & working with homeowner associations and other non-governmental entities responsible for maintenance on their own properties. (Action Item No. 20)		✓				✓	
Public Information – Municipal Activities: Following application & acceptance into the Community Rating System program, review needs, resources & interest in CRS credits & determine which public information activities to implement. (Action Item No. 24)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Bourbonnais has one infrastructure project (drainage system maintenance) and five administrative activities (guidelines for drainage improvements & flood control projects, critical facilities exposure analysis, adoption of updated building codes and enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-4
Bourbonnais – Status of Existing Mitigation Actions
(Sheet 6 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Public Information – Municipal Activities: Implement public information activities: - include articles about the hazards and simple property protection measures individuals can implement in newsletters; - send out an annual mailing on flood protection to all residents in the floodplain; - make reference materials about the hazards and property protection measures available at the local public library; - provide hazard mitigation information and links on city/village website; - make Flood Insurance Rate Maps available and help individuals obtain information from them; & - participate in annual Arbor Day celebrations pursuant to being a Tree City USA community. (Action Item No. 24)	✓					✓	

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Bourbonnais has one infrastructure project (drainage system maintenance) and five administrative activities (guidelines for drainage improvements & flood control projects, critical facilities exposure analysis, adoption of updated building codes and enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-5
Bourbonnais Fire Protection District – Status of Existing Mitigation Actions

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Plan Adoption. Adopt the 2013 Kankakee County Natural Hazards Mitigation Plan by resolution. (Action Item No. 1)			✓	2013			

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the District's vulnerability since the 2013 Plan was approved. The District did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, the Bourbonnais Fire Protection District adopted the 2013 Hazard Mitigation Plan. This activity has the potential to decrease the vulnerability of hazard prone areas in the District.

Figure MIT-6
Bradley – Status of Existing Mitigation Actions
(Sheet 1 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Plan Adoption. Adopt the 2013 Kankakee County Natural Hazards Mitigation Plan by resolution. (Action Item No. 1)			✓				
Develop Regulations. As comprehensive plans, zoning ordinances, and subdivision ordinances are being revised the following specific hazard mitigation provisions should be incorporated into them: - setting aside floodplains and wetland as open spaces, - requiring utility lines to be buried, - requiring drainage ways to have maintenance easements or be set aside from development, - identifying who is responsible for maintenance activities in easements, - requiring new manufactured housing communities to have storm shelters, - requiring developers to contribute to a fund that will pay for appropriate hazard protection measures, such as rain gauges and outdoor warning systems. (Action Item No. 4)	n/a ✓		✓ ✓ ✓ ✓		The completed items are covered by existing Village ordinances.		✓ ✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Bradley has one infrastructure project (drainage system maintenance) and six administrative activities (guidelines for drainage improvements & flood control projects, regulation development & administration, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-6
Bradley – Status of Existing Mitigation Actions
(Sheet 2 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Building Code Improvements. Request a Building Code Effectiveness Grading Schedule (BCEGS) survey. (Action Item No. 5)	✓						✓
Building Code Improvements. Update building codes (I-Codes) at least every five years. (Action Item No. 5)			✓	2022	The Village updated their building codes to the latest ICC codes 2021		
Regulation Administration. Ensure newly installed manufactured homes, especially those in manufactured housing communities, are being property installed to protect them from wind damage and that all floodplain management requirement provisions are being enforced. (Action Item No. 6)	✓	✓		Ongoing	Ensuring floodplain management requirement provisions are enforced is an ongoing normal activity of the code enforcement process.		✓
Regulation Administration. Ensure that at least one regulatory staff member becomes a Certified Floodplain Manager (CFM). (Action Item No. 6)			✓		The Village uses an outside agency for its floodplain management		

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Bradley has one infrastructure project (drainage system maintenance) and six administrative activities (guidelines for drainage improvements & flood control projects, regulation development & administration, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-6
Bradley – Status of Existing Mitigation Actions
(Sheet 3 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Property Evaluation. Assess critical facilities and publicly-owned buildings to identify their exposure to damage from natural hazards such as flooding, high winds, lightning, hail, and power losses from downed lines. Identify the appropriate protection measures that could be undertaken to reduce exposures. (Action Item No. 9)	✓						✓
Tree City USA. Implement an urban forestry program that qualifies the municipality to become a Tree City, USA. (Action Item No. 12)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Bradley has one infrastructure project (drainage system maintenance) and six administrative activities (guidelines for drainage improvements & flood control projects, regulation development & administration, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-6
Bradley – Status of Existing Mitigation Actions
(Sheet 4 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Small Flood Control Projects: Adopt the following guidelines for use with drainage improvement, flood control, or bridge and culvert repair projects: - wherever possible, flood & drainage protection measure will be incorporated into road, street, bridge and culvert improvement projects; - each project's study should look beyond the immediate project site to ensure that no other properties will be adversely impacted; - each project's study should consider protecting & improving the natural functions of the stream and floodplain, in addition to flood protection; - the design and construction should be certified by a licensed professional engineer; - all relevant federal, state and local permits must be obtained; and - communities and property owners that may be affected by the project should be notified. (Action Item No. 18)			✓	Ongoing	The Village contracts with a local civil engineering group to monitor these items and work with appropriate department superintendents.		✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Bradley has one infrastructure project (drainage system maintenance) and six administrative activities (guidelines for drainage improvements & flood control projects, regulation development & administration, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-6
Bradley – Status of Existing Mitigation Actions
(Sheet 5 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Drainage System Maintenance: In coordination with the appropriate active drainage district(s), implement a formal and regular drainage system maintenance program. This would involve: - mapping the local drainage system; - determining which areas can be accessed for inspection and maintenance; - implementing procedures prepared by Kankakee County Planning Department that are modeled on CRS & IDNR program guidance; - conducting an annual inspection; - removing debris as needed; and - educating & working with homeowner associations and other non-governmental entities responsible for maintenance on their own properties. (Action Item No. 20)		✓			The Village contracts with a local civil engineering group is compliant with all State and Federal requirements. All Village outfalls are inspected twice a year by contracted local engineering group who provides educational materials for residents when requested.		✓
Public Information – Municipal Activities: Following application & acceptance into the Community Rating System program, review needs, resources & interest in CRS credits & determine which public information activities to implement. (Action Item No. 24)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Bradley has one infrastructure project (drainage system maintenance) and six administrative activities (guidelines for drainage improvements & flood control projects, regulation development & administration, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-6
Bradley – Status of Existing Mitigation Actions
(Sheet 6 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Public Information – Municipal Activities: Implement public information activities: - include articles about the hazards and simple property protection measures individuals can implement in newsletters; - send out an annual mailing on flood protection to all residents in the floodplain; - make reference materials about the hazards and property protection measures available at the local public library; - provide hazard mitigation information and links on city/village website; - make Flood Insurance Rate Maps available and help individuals obtain information from them; & - participate in annual Arbor Day celebrations pursuant to being a Tree City USA community. (Action Item No. 24)	✓					✓	

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Bradley has one infrastructure project (drainage system maintenance) and six administrative activities (guidelines for drainage improvements & flood control projects, regulation development & administration, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-7
Kankakee, City of – Status of Existing Mitigation Actions
(Sheet 1 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Plan Adoption. Adopt the 2013 Kankakee County Natural Hazards Mitigation Plan by resolution. (Action Item No. 1)			✓	11/18/2013	Resolution #2013-18		
Develop Regulations. As comprehensive plans, zoning ordinances, and subdivision ordinances are being revised the following specific hazard mitigation provisions should be incorporated into them: - setting aside floodplains/wetland as open spaces, - requiring utility lines to be buried, - requiring drainage ways to have maintenance easements or be set aside from development, - identifying who is responsible for maintenance activities in easements, - requiring new manufactured housing communities to have storm shelters, - requiring developers to contribute to a fund that will pay for appropriate hazard protection measures, such as rain gauges and outdoor warning systems. (Action Item No. 4)		✓				✓	

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the City's vulnerability since the 2013 Plan was approved. The City did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Kankakee has one infrastructure project (drainage system maintenance) and seven administrative activities (guidelines for drainage improvements & flood control projects, critical facilities exposure analysis, regulation development & administration, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-7
Kankakee, City of – Status of Existing Mitigation Actions
(Sheet 2 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Building Code Improvements. Update building codes (I-Codes) at least every five years. (Action Item No. 5)			✓	2020	Adopted 2018 IBC	✓	
Regulation Administration. Ensure newly installed manufactured homes, especially those in manufactured housing communities, are being property installed to protect them from wind damage and that all floodplain management requirement provisions are being enforced. (Action Item No. 6)	✓		✓	Ongoing	Ensuring floodplain management requirement provisions are enforced is an ongoing normal activity of the code enforcement process.	✓	
Regulation Administration. Ensure that at least one regulatory staff member becomes a Certified Floodplain Manager (CFM). (Action Item No. 6)			✓		The contracted city engineer is a CFM		✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the City's vulnerability since the 2013 Plan was approved. The City did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Kankakee has one infrastructure project (drainage system maintenance) and seven administrative activities (guidelines for drainage improvements & flood control projects, critical facilities exposure analysis, regulation development & administration, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-7
Kankakee, City of – Status of Existing Mitigation Actions
(Sheet 3 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Property Evaluation. Assess critical facilities and publicly-owned buildings to identify their exposure to damage from natural hazards such as flooding, high winds, lightning, hail, and power losses from downed lines. Identify the appropriate protection measures that could be undertaken to reduce exposures. (Action Item No. 9)		✓				✓	
Tree City USA. Implement an urban forestry program that qualifies the municipality to become a Tree City, USA. (Action Item No. 12)	✓				The City no longer has Tree City USA designation		✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the City's vulnerability since the 2013 Plan was approved. The City did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Kankakee has one infrastructure project (drainage system maintenance) and seven administrative activities (guidelines for drainage improvements & flood control projects, critical facilities exposure analysis, regulation development & administration, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-7
Kankakee, City of – Status of Existing Mitigation Actions
(Sheet 4 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Small Flood Control Projects: Adopt the following guidelines for use with drainage improvement, flood control, or bridge and culvert repair projects: - wherever possible, flood & drainage protection measure will be incorporated into road, street, bridge and culvert improvement projects; - each project's study should look beyond the immediate project site to ensure that no other properties will be adversely impacted; - each project's study should consider protecting & improving the natural functions of the stream and floodplain, in addition to flood protection; - the design and construction should be certified by a licensed professional engineer; - all relevant federal, state and local permits must be obtained; and - communities and property owners that may be affected by the project should be notified. (Action Item No. 18)		✓				✓	

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the City's vulnerability since the 2013 Plan was approved. The City did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Kankakee has one infrastructure project (drainage system maintenance) and seven administrative activities (guidelines for drainage improvements & flood control projects, critical facilities exposure analysis, regulation development & administration, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-7
Kankakee, City of – Status of Existing Mitigation Actions
(Sheet 5 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Drainage System Maintenance: In coordination with the appropriate active drainage district(s), implement a formal and regular drainage system maintenance program. This would involve: - mapping the local drainage system; - determining which areas can be accessed for inspection and maintenance; - implementing procedures prepared by Kankakee County Planning Department that are modeled on CRS and IDNR program guidance; - conducting an annual inspection; - removing debris as needed; and - educating & working with homeowner associations and other non-governmental entities responsible for maintenance on their own properties. (Action Item No. 20)		✓				✓	
Public Information – Municipal Activities: Following application & acceptance into the Community Rating System program, review needs, resources & interest in CRS credits & determine which public information activities to implement. (Action Item No. 24)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the City's vulnerability since the 2013 Plan was approved. The City did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Kankakee has one infrastructure project (drainage system maintenance) and seven administrative activities (guidelines for drainage improvements & flood control projects, critical facilities exposure analysis, regulation development & administration, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-7
Kankakee, City of – Status of Existing Mitigation Actions
(Sheet 6 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Public Information – Municipal Activities: Implement public information activities: - include articles about the hazards and simple property protection measures individuals can implement in newsletters; - send out an annual mailing on flood protection to all residents in the floodplain; - make reference materials about the hazards and property protection measures available at the local public library; - provide hazard mitigation information and links on city/village website; - make Flood Insurance Rate Maps available and help individuals obtain information from them; & - participate in annual Arbor Day celebrations pursuant to being a Tree City USA community. (Action Item No. 24)	✓					✓	

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the City's vulnerability since the 2013 Plan was approved. The City did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Kankakee has one infrastructure project (drainage system maintenance) and seven administrative activities (guidelines for drainage improvements & flood control projects, critical facilities exposure analysis, regulation development & administration, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-8
Kankakee Community College – Status of Existing Mitigation Actions
(Sheet 1 of 2)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Plan Adoption. Adopt the 2013 Kankakee County Natural Hazards Mitigation Plan by resolution. (Action Item No. 1)	✓						✓
Building Code Improvements. Require all construction projects receive a building permit from the City of Kankakee, thereby assuring that the latest building code (I-Code) standards will be met. (Action Item No. 5)	✓				The College does these improvements but does not pull permits through the City. The College is governed by the Illinois Community College Board.		✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the College's vulnerability since the 2013 Plan was approved. The College did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Kankakee Community College did not begin or complete any of the identified mitigation actions due to the budgetary and personnel constraints experienced by a small community college. As a result, there has been no changes in the vulnerability of hazard prone areas at the College.

Figure MIT-8
Kankakee Community College – Status of Existing Mitigation Actions
(Sheet 2 of 2)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Drainage System Maintenance: In coordination with the appropriate active drainage district(s), implement a formal and regular drainage system maintenance program. This would involve: - mapping the local drainage system; - determining which areas can be accessed for inspection and maintenance; - implementing procedures prepared by Kankakee County Planning Department that are modeled on Community Rating System and IDNR program guidance; - conducting an annual inspection; - removing debris as needed; and - educating and working with homeowner associations and other non-governmental entities responsible for maintenance on their own properties. (Action Item No. 20)	✓					✓	

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the College's vulnerability since the 2013 Plan was approved. The College did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Kankakee Community College did not begin or complete any of the identified mitigation actions due to the budgetary and personnel constraints experienced by a small community college. As a result, there has been no changes in the vulnerability of hazard prone areas at the College.

Figure MIT-9
Manteno – Status of Existing Mitigation Actions
(Sheet 1 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Plan Adoption. Adopt the 2013 Kankakee County Natural Hazards Mitigation Plan by resolution. (Action Item No. 1)			✓	2013			
Develop Regulations. As comprehensive plans, zoning ordinances, and subdivision ordinances are being revised the following specific hazard mitigation provisions should be incorporated into them: - setting aside floodplains/wetland as open spaces, - requiring utility lines to be buried, - requiring drainage ways to have maintenance easements or be set aside from development, - identifying who is responsible for maintenance activities in easements, - requiring new manufactured housing communities to have storm shelters, - requiring developers to contribute to a fund that will pay for appropriate hazard protection measures, such as rain gauges and outdoor warning systems. (Action Item No. 4)		✓				✓	

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Manteno has one infrastructure project (drainage system maintenance) and five administrative activities (critical facilities exposure analysis, regulation development, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-9
Manteno – Status of Existing Mitigation Actions
(Sheet 2 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Building Code Improvements. Update building codes (I-Codes) at least every five years. (Action Item No. 5)			✓	2017	Adopted 2015 IBC/IRC	✓	
Regulation Administration. Ensure newly installed manufactured homes, especially those in manufactured housing communities, are being property installed to protect them from wind damage and that all floodplain management requirement provisions are being enforced. (Action Item No. 6)	✓	✓		Ongoing	Ensuring floodplain management requirement provisions are enforced is an ongoing normal activity of the code enforcement process.		✓
Regulation Administration. Ensure that at least one regulatory staff member becomes a Certified Floodplain Manager (CFM). (Action Item No. 6)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Manteno has one infrastructure project (drainage system maintenance) and five administrative activities (critical facilities exposure analysis, regulation development, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-9
Manteno – Status of Existing Mitigation Actions
(Sheet 3 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Property Evaluation. Assess critical facilities and publicly-owned buildings to identify their exposure to damage from natural hazards such as flooding, high winds, lightning, hail, and power losses from downed lines. Identify the appropriate protection measures that could be undertaken to reduce exposures. (Action Item No. 9)			✓	2013-2022		✓	
Tree City USA. Implement an urban forestry program that qualifies the municipality to become a Tree City, USA. (Action Item No. 12)	✓						✓
Tree City USA. Maintain Tree City, USA designation. (Action Item No. 12)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Manteno has one infrastructure project (drainage system maintenance) and five administrative activities (critical facilities exposure analysis, regulation development, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-9
Manteno – Status of Existing Mitigation Actions
(Sheet 4 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Small Flood Control Projects: Adopt the following guidelines for use with drainage improvement, flood control, or bridge and culvert repair projects: - wherever possible, flood & drainage protection measure will be incorporated into road, street, bridge and culvert improvement projects; - each project's study should look beyond the immediate project site to ensure that no other properties will be adversely impacted; - each project's study should consider protecting & improving the natural functions of the stream and floodplain, in addition to flood protection; - the design and construction should be certified by a licensed professional engineer; - all relevant federal, state and local permits must be obtained; and - communities and property owners that may be affected by the project should be notified. (Action Item No. 18)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Manteno has one infrastructure project (drainage system maintenance) and five administrative activities (critical facilities exposure analysis, regulation development, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-9
Manteno – Status of Existing Mitigation Actions
(Sheet 5 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Drainage System Maintenance: In coordination with the appropriate active drainage district(s), implement a formal and regular drainage system maintenance program. This would involve: - mapping the local drainage system; - determining which areas can be accessed for inspection and maintenance; - implementing procedures prepared by Kankakee County Planning Department that are modeled on CRS and IDNR program guidance; - conducting an annual inspection; - removing debris as needed; and - educating & working with homeowner associations and other non-governmental entities responsible for maintenance on their own properties. (Action Item No. 20)			✓	2013-2022		✓	
Public Information – Municipal Activities: Following application & acceptance into the Community Rating System program, review needs, resources & interest in CRS credits & determine which public information activities to implement. (Action Item No. 24)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Manteno has one infrastructure project (drainage system maintenance) and five administrative activities (critical facilities exposure analysis, regulation development, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-9
Manteno – Status of Existing Mitigation Actions
(Sheet 6 of 6)

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Public Information – Municipal Activities: Implement public information activities: - include articles about the hazards and simple property protection measures individuals can implement in newsletters; - send out an annual mailing on flood protection to all residents in the floodplain; - make reference materials about the hazards and property protection measures available at the local public library; - provide hazard mitigation information and links on city/village website; - make Flood Insurance Rate Maps available and help individuals obtain information from them; & - participate in annual Arbor Day celebrations pursuant to being a Tree City USA community. (Action Item No. 24)	✓						✓

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the Village's vulnerability since the 2013 Plan was approved. The Village did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, Manteno has one infrastructure project (drainage system maintenance) and five administrative activities (critical facilities exposure analysis, regulation development, adoption of updated building codes & enforce of these codes, and adoption of the 2013 Hazard Mitigation Plan) in progress or completed that have the potential to decrease vulnerability of hazard prone areas with the Village. It is still too early to tell the degree of reduction that will be experienced from the implementation of these actions.

Figure MIT-10
Manteno Community Fire Protection District – Status of Existing Mitigation Actions

Mitigation Action Description	Status of Mitigation Action			Year Completed	Summary/Details of Completed Action (i.e., location, scope, etc.)	Status of No/In Progress Actions	
	No Progress (✓)	In Progress (✓)	Completed (✓)			Included in Updated Action Plan (✓)	No Longer Relevant (✓)
Plan Adoption. Adopt the 2013 Kankakee County Natural Hazards Mitigation Plan by resolution. (Action Item No. 1)			✓	2013			

(Action Item "No.") refers to the action item by number detailed in the 2013 Mitigation Strategy located Appendix L.

No substantial changes in development have occurred in hazard prone areas that would increase or decrease the District's vulnerability since the 2013 Plan was approved. The District did not identify any changes in priorities since the previous Plan was approved.

In terms of changes in vulnerability associated with mitigation actions in progress or completed, the Manteno Community Fire Protection District adopted the 2013 Hazard Mitigation Plan. This activity has the potential to decrease the vulnerability of hazard prone areas in the District.

Figure MIT-14
Kankakee County Hazard Mitigation Actions
(Sheet 1 of 14)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Planning Department													
Acquire flood-prone properties and remove existing structures. Special emphasis will be given to properties that are classified as repetitive loss properties and/or severe repetitive loss properties.	F	S&S	S&IP NSP	Small County SVI: 0.7816	---	Yes	1	HM	Medium/High	Director / Planning Department	3-5 years	County / FEMA BRIC HMGP / IDNR FHMP	New
Purchase undeveloped floodway properties to prevent development and maintain open spaces.	F	S&S	NSP	Small County SVI: 0.7816	---	---	4, 5	HM	Medium/High	Director / Planning Department	3-5 years	County / IDNR OSLAD	New
Review and update the County's development codes including Building Codes, Floodplain Ordinance, Stormwater Ordinance, Erosion Control Ordinance, and Zoning Ordinance to ensure compliance with accepted practices and modernize these codes with the latest code requirements. In addition, ensure these codes are collaborative and work in sync with each other.	EC, EQ, F, SS, SWS, T	S&S	LP&R NSP	Large County SVI: 0.7816	Yes	Yes	1, 4, 5, 6, 7	LM	Medium/High	Director / Planning Department	2-3 years	County / FEMA BRIC	New
Evaluate the feasibility of adopting a manufactured home tie-down ordinance.	T	S&S	LP&R	Small County SVI: 0.7816	Yes	---	1	LM	Low/Medium	Director / Planning Department	2-5 years	County	New

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the County's size (almost 26,000 individuals in unincorporated areas), projected population growth and budgetary constraints. The County works hard to maintain critical services to its residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfires
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-14
Kankakee County Hazard Mitigation Actions
(Sheet 2 of 14)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Planning Department Continued…													
Create an interactive GIS dashboard for data collection, information distribution, and situation status reports during and after natural hazard events.	DR, EC, EH, EQ, F, SS, SWS, T, WF	C	E&A	Large County SVI: 0.7816	---	---	1, 3	LM	Low/Medium	Director / Planning Department	1 year	County	New
Update the 2030 Kankakee County Comprehensive Plan. The Comprehensive Plan is the guide for all of the County's land use policies and the basis for many of the development codes.	DR, EC, EH, EQ, F, SS, SWS, T, WF	S&S	LP&R E&A	Large County SVI: 0.7816	---	---	4, 7	LM	Medium/High	Director Planning Department / Regional Planning Commission	2 years	County	New
Assess county-owned critical facilities and buildings to identify their exposure/ vulnerability to damage from natural hazards such as flooding, high winds, lightning, hail, and power losses from downed lines. Identify the appropriate protective measures that could be undertaken to harden these facilities.	EQ, F, SS, SWS, T, WF	C H&M S&S	E&A	Medium County SVI: 0.7816	---	---	2, 6, 8	LM	Low/Medium	Director / Planning Department	5 years	County	Existing (2013) Action Item 9

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the County's size (almost 26,000 individuals in unincorporated areas), projected population growth and budgetary constraints. The County works hard to maintain critical services to its residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfires
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-14
Kankakee County Hazard Mitigation Actions
(Sheet 3 of 14)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Planning Department Continued…													
Conduct a repetitive loss evaluation of flood-prone properties (approx. 125) in 16 repetitive loss areas to collect more data on each property in order to address data deficiencies and offer recommendations to property owners on actions that could be taken to reduce structure exposure to repetitive flooding.	F, SS	S&S	E&A	Small County SVI: 0.7816	---	Yes	1, 3	LM	Low/Medium	Director / Planning Department	3-5 years	County	Existing (2013) Action Item 10
Based on the findings of the repetitive loss evaluation, design a program of technical assistance and financial incentives to encourage the implementation of low cost property protection measures for flood-prone properties.	F, SS	S&S	E&A	Small County SVI: 0.7816	---	Yes	1, 3	LM	Low/Medium	Director / Planning Department	5 years	County	Existing (2013) Action Item 11

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the County's size (almost 26,000 individuals in unincorporated areas), projected population growth and budgetary constraints. The County works hard to maintain critical services to its residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

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LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
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LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfires
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-14
Kankakee County Hazard Mitigation Actions
(Sheet 4 of 14)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Planning Department Continued…													
As the comprehensive plan, zoning ordinance, and subdivision ordinance are being revised the following specific hazard mitigation provisions should be incorporated into them: - set aside floodplains and wetlands as open spaces, - require utility lines to be buried, - require drainage ways to have maintenance easements or be set aside from development, - identify who is responsible for maintenance activities in easements, - require new manufactured housing communities to have storm shelters, - require developers contribute to a fund that will pay for appropriate hazard protection measures, such as rain gauges and outdoor warning systems.	F, SS, SWS, T	E FWS S&S	LP&R NSP	Large County SVI: 0.7816	Yes	Yes	1, 4, 5, 6, 7	LM	Low/Medium	Director Planning Department / County Board Chair County Board	2-5 years	County	Existing (2013) Action Item 4

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† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the County's size (almost 26,000 individuals in unincorporated areas), projected population growth and budgetary constraints. The County works hard to maintain critical services to its residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

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Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfires
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-14
Kankakee County Hazard Mitigation Actions
(Sheet 5 of 14)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
Planning Department Continued…													
Evaluate the need for new gauges or otherwise improve the County's flood threat recognition system. Determine the feasibility of preparing a flood stage forecast map for one or more stretches of the major rivers in the County.	F, SS	S&S	E&A	Medium County SVI: 0.7816	---	Yes	1, 3	LM	Low/Medium	Director Planning Department / Director EMA	1-3 years	County	Existing (2013) Action Item 13
Install additional river gauges/warning sensors along the Kankakee River to accurately monitor river levels and alert County officials to potential flood events.	F, SS	S&S	E&A	Medium County SVI: 0.7816	---	---	1, 2, 6	HM	Low/Medium	Director / Planning Department	2 years	County	New
Encourage the Corps of Engineers to implement planned projects to remove sediment and restore habitat at Six-Mile Pool and the State line.	F	S&S	NSP	Small County SVI: 0.7816	---	---	1, 5, 8	LM	Low/Medium	Director / Planning Department	1-5 years	County	Existing (2013) Action Item 19

§ Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the County's size (almost 26,000 individuals in unincorporated areas), projected population growth and budgetary constraints. The County works hard to maintain critical services to its residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
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LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfires
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-14
Kankakee County Hazard Mitigation Actions
(Sheet 6 of 14)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
Planning Department Continued…													
Prepare background information, articles, templates and other materials that can be used to communicate hazard mitigation topics to residents, business owners, and schools via websites, social media, pamphlets, and other distribution methods, including: - the natural hazards that threaten Kankakee County; - what the sirens and warnings mean; - safety and health precautions for all types of hazards; - emergency & permanent property protection measures that can be taken to reduce the risk from the natural hazards that impact the County; - floodplain management & flood insurance information; - the benefits of preventative measures and the need for all projects to get permits; - the role of government agencies in hazard mitigation; and - protecting streams, water quality, wetlands and open spaces.	DR, EC, EH, EQ, F, SS, SWS, T, WF	S&S	E&A	Large County SVI: 0.7816	---	---	1, 3	LM	Low/Medium	Director Planning Department / Director EMA	1-5 years	County	Existing (2013) Action Item 22

§ Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the County's size (almost 26,000 individuals in unincorporated areas), projected population growth and budgetary constraints. The County works hard to maintain critical services to its residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfires
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-14
Kankakee County Hazard Mitigation Actions
(Sheet 7 of 14)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
Planning Department Continued…													
Implement the following public information activities on a county-wide basis: - distribute brochures and handouts on the hazards, safety precautions, and simple property protection measures; - play videos and short programs on the public access cable channel; - add additional natural hazard content to the County's website and links to other sites with relevant information; and - prepare an order form for free references that can be placed in municipal offices and local school libraries.	DR, EC, EH, EQ, F, SS, SWS, T, WF	---	E&A	Large County SVI: 0.7816	---	---	1, 3	LM	Low/Medium	Director Planning Department / Director EMA	1-5 years	County	Existing (2013) Action Item 23
Review new Flood Insurance Rate Maps (FIRMs) when they become available. Update the flood ordinance to reflect the revised FIRMs and exceed federal standards and present both for adoption. Enforce flood ordinance to ensure new development does not increase flood vulnerability or create unintended exposures to flooding.*	F	S&S	LP&R	Small County SVI: 0.7816	Yes	Yes	1, 3, 4, 5, 7	HM	Low/Medium	Director Planning Department / County Board Chair County Board	1-5 years	County	New

§ Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the County's size (almost 26,000 individuals in unincorporated areas), projected population growth and budgetary constraints. The County works hard to maintain critical services to its residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

* Mitigation action to ensure continued compliance with NFIP.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfires
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-14
Kankakee County Hazard Mitigation Actions
(Sheet 8 of 14)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
Planning Department Continued…													
Continue to make the most recent Flood Insurance Rate Maps available at the Planning Department Office to assist the public in considering where to construct new buildings.*	F	S&S	E&A	Small County SVI: 0.7816	Yes	---	1, 3, 4, 5	LM	Low/Medium	Director / Planning Department	1-3 years	County	New
Continue to make County officials aware of the most recent Flood Insurance Rate Maps and issues related to construction in a floodplain.*	F	S&S	E&A	Small County SVI: 0.7816	Yes	---	1, 3, 4, 5	LM	Low/Medium	Director / Planning Department	1-5 years	County	New
Purchase and install grounding systems at critical County-owned buildings & infrastructure to address potential electromagnetic pulse (EMP) damage from natural hazard events (i.e., lightning strikes, etc.), improve infrastructure resilience, and ensure continued operations of Community Lifelines.	SS	C H&M S&S T	S&IP	Medium County SVI: 0.7816	---	Yes	2, 6	HM	Medium/Medium	Director Planning Department / Regional Planning Commission	5 years	County	New
Maintenance Department													
Purchase and install an emergency backup generator at the Kankakee County Courthouse to establish a resilient and reliable power supply, maintain continuity of government/operations and mitigate risk to Community Lifelines.	EC, EH, EQ, F, SS, SWS, T	S&S	S&IP	Medium County SVI: 0.7816	---	Yes	1, 2, 6, 8	HM	Medium/Medium	Director / Maintenance Department	1 year	County	New

§ Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the County's size (almost 26,000 individuals in unincorporated areas), projected population growth and budgetary constraints. The County works hard to maintain critical services to its residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

* Mitigation action to ensure continued compliance with NFIP.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
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LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfires
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-14
Kankakee County Hazard Mitigation Actions
(Sheet 9 of 14)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Emergency Management Agency													
Continue participation in National Weather Service's StormReady Program.	DR, EC, EH, EQ, F, SS, SWS, T, WF	S&S	S&IP	Large County SVI: 0.7816	---	---	1	LM	Low/Medium	Director / EMA	2-5 years	County	New
Purchase and distribute NOAA weather radios to vulnerable County residents as well as critical facilities and infrastructure to establish a Communications Community Lifeline that notifies residents of natural hazard event information.	EC, EH, EQ, F, SS, SWS, T, WF	C	E&A	Medium County SVI: 0.7816	---	---	1	LM	Low/High	Director / EMA	1-5 years	County	New
Evaluate the feasibility of designating publicly-owned buildings as warming/cooling centers and emergency shelters for use by County residents.	EH, EC, EQ, F, SS, SWS, T, WF	FWS	E&A	Large County SVI: 0.7816	---	---	1, 2	LM	Low/Medium	Director / EMA	1-4 years	County	New
Establish digital data sets for all critical facilities and infrastructure and vulnerable populations within the County for use in GIS mapping applications. This information could be used to determine the potential threats each faces.	EQ, F, SS, SWS, T, WF	C E FWS H&M S&S T	E&A	Large County SVI: 0.7816	---	---	2, 6	LM	Low/Medium	Director EMA / Director Planning Department	3-5 years	County	New

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the County's size (almost 26,000 individuals in unincorporated areas), projected population growth and budgetary constraints. The County works hard to maintain critical services to its residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfires
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-14
Kankakee County Hazard Mitigation Actions
(Sheet 10 of 14)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Emergency Management Agency Continued…													
Purchase and install warning siren systems in areas without alert coverage within County to establish Communications Community Lifelines essential to human health and safety.	SS, T	C	E&A	Small County SVI: 0.7816	---	---	1	HM	Medium/High	Director / EMA	1-3 years	County / Municipalities / USDA – RD Critical Facilities Programs	New
Subscribe to an automated mass emergency notification system (i.e., reverse 911) to establish a Communications Community Lifeline	EC, EH, EQ, F, SS, SWS, T, WF	C	E&A	Large County SVI: 0.7816	---	---	1	HM	Low/High	Director EMA / KanComm	1-3 years	County	New
Develop a database of access and functional needs populations within the County in order to identify the best method(s) to alert these individuals to upcoming hazard events.	EC, EH, EQ, F, SS, SWS, T, WF	C	E&A	Small County SVI: 0.7816	---	---	1, 3	LM	Low/High	Director / EMA Administrator Health Department	1.-3 years	County	New
Purchase portable emergency backup generators for use at designated critical facilities (i.e., nursing homes, designated shelters, etc.) to maintain operations during prolonged power outages.	EC, EH, F, SS, SWS, T	FWS H&M	S&IP	Small County SVI: 0.7816	---	Yes	1, 2, 6	HM	Medium/High	Director EMA / County Board Chair / County Board	2-4 years	County	New

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the County's size (almost 26,000 individuals in unincorporated areas), projected population growth and budgetary constraints. The County works hard to maintain critical services to its residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
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Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfires
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-14
Kankakee County Hazard Mitigation Actions
(Sheet 11 of 14)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Emergency Management Agency Continued…													
Determine if designated warming/cooling centers and shelters have emergency backup generators and if the generators are adequate to service the facilities.	EC, EH, F, SS, SWS, T	FWS	E&A	Medium County SVI: 0.7816	---	---	1, 2, 6	LM	Low/Medium	Director / EMA	2-3 years	County	New
Secure Memorandums of Agreement with designated critical facilities (i.e., nursing homes, designated shelters, etc.) to install electrical hookups (pigtails) for use with portable emergency backup generators to maintain operations during prolonged power outages.	EC, EH, F, SS, SWS, T	FWS H&M	LP&R	Small County SVI: 0.7816	---	---	1, 2, 6	LM	Low/Medium	Director EMA / County Board Chair / County Board	2-4 years	County	New
Purchase and install electrical hookups (pigtails) at designated critical facilities (i.e., nursing homes, designated shelters, etc.) for use with portable emergency backup generators to maintain operations during prolonged power outages.	EC, EH, F, SS, SWS, T	FWS H&M	S&IP	Small County SVI: 0.7816	---	---	1, 2, 6	HM	Medium/High	Director EMA / County Board Chair / County Board	2-4 years	County	New
Improve coordination between the municipalities, townships, and the County in an effort to increase implementation of hazard mitigation actions as well as other emergency management projects and activities aimed at reducing or eliminating the risk associated with natural hazard events.	EC, EH, EQ, F, SS, SWS, T, WF	S&S	E&A	Large County SVI: 0.7816	Yes	Yes	1, 2, 6	LM	Low/Medium	Director / EMA	2-5 years	County	New

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

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Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfires
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-14
Kankakee County Hazard Mitigation Actions
(Sheet 12 of 14)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Emergency Management Agency Continued…													
Organize outreach to vulnerable populations, including but not limited to establishing and promoting accessible warming & cooling centers in communities.	EC, EH, F, SS, SWS, T	FWS S&S	E&A	Small County SVI: 0.7816	---	---	1, 3	LM	Low/Medium	Director / EMA	3-5 years	County	New
County Board													
Based on the recommendations of the 2019 Kankakee River Flood and Sediment Management Work Plan prepared for the County, improve access points on the upstream side of the following bridges along the Kankakee River to promote better and more permanent access for removal of logjams and debris that threaten the channel's stability and capacity: - I-57 at River Mile 35.2 - Bridge Street at River Mile 36.1 - State Road 17 at River Mile 42.8 - State Road 17 at River Mile 49.0	F, SS	S&S T	NSP S&IP	Medium County SVI: 0.7816	---	Yes	1, 2, 5, 6, 7	HM	Medium/Medium	County Board Chair County Board / Highway Engineer Highway Department	5 years	County / IDOT	New

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F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
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Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-14
Kankakee County Hazard Mitigation Actions
(Sheet 13 of 14)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
County Board Continued…													
Based on the recommendations of the 2019 Kankakee River Flood and Sediment Management Work Plan prepared for the County, stabilize 2.1 miles of eroded and unstable slopes at the following locations along the Kankakee River to reduce sedimentation of the River: - Stabilize approx. 2,400 feet of unstable slope between River Mile 43.0 and 43.4 - Stabilize approx. 2,100 feet of unstable slope between River Mile 45.7 and 46.1 - Stabilize approx. 1,100 feet of unstable slope between River Mile 46.6 and 46.8 - Stabilize approx. 1,400 feet of unstable slope between River Mile 47.1 and 47.3	F, SS	S&S T	NSP S&IP	Small County SVI: 0.7816	---	Yes	5, 8	HM	Medium/Medium	County Board Chair / County Board	5 years	County / FEMA BRIC HMGP / IDOA Streambank Stabilization & Restoration Program	New

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EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfires
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-14
Kankakee County Hazard Mitigation Actions
(Sheet 14 of 14)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
ETSB/Kankakee County Combined Communication Center (KanComm)													
Engage in a public awareness campaign to promote participation in the County's CodeRed automated emergency notification system.	EC, EH, EQ, F, SS, SWS, T, WF	C	E&A	Large County SVI: 0.7816	---	---	1	LM	Low/High	Director / ETSB	1-2 years	County	New
Purchase and install a storm siren system (controller, server, repeater & radio) to allow for activation of storm warning sirens remotely to ensure resilient and reliable alert capabilities and continued operations of Community Lifelines.	SS, T	C	S&IP E&A	Large County SVI: 0.7816	---	---	1	HM	Medium/High	Director / ETSB	1-3 years	County	New

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Acronyms

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Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfires
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-15
Aroma Park Hazard Mitigation Actions
(Sheet 1 of 6)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Design and construct community safe rooms (built to high wind standards and equipped with an emergency backup generator and HVAC system) at strategic locations within the Village, including location such as the Campground, to establish Shelter Community Lifelines.	SS, T	FWS	S&IP	Small SVI: 0.1650 – 0.2191 EDRC: Yes	---	---	1	HM	High/High	President / Village Board	5 years	Village / FEMA HMGP	New
Purchase and install an automatic emergency backup generator at the Aroma Park Methodist Church, a designated warming/cooling center & emergency shelter for Village residents, to establish a resilient and reliable power supply, ensure continuity of operations and mitigate risk to a Community Lifeline.	EC, EH, EQ, F, SS, SWS, T	FWS	S&IP	Medium 112/113 SVI: 0.1650 – 0.2191 EDRC: Yes	---	Yes	1, 2, 6	HM	High/High	President / Village Board	1 year	Village / USDA – RD Critical Facilities Programs	New
Install river gauge/warning sensors along the Kankakee River to accurately monitor river levels and alert Village officials to potential flood events.	F, SS	---	E&A	Medium SVI: 0.1650 – 0.2191 EDRC: Yes	---	---	1, 2, 6	LM	Low/Medium	President / Village Board	1-3 years	Village	New

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Acronyms

Priority

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LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
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LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-15
Aroma Park Hazard Mitigation Actions
(Sheet 2 of 6)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
As a comprehensive plan, zoning ordinance, and/or subdivision ordinance are being developed/revised the following specific hazard mitigation provisions should be incorporated into them: - set aside floodplains & wetlands as open spaces, - require utility lines to be buried, - require drainage ways to have maintenance easements or be set aside from development, - identify who is responsible for maintenance activities in easements, - require new manufactured housing communities to have storm shelters, - require developers to contribute to a fund that will pay for appropriate hazard protection measures, such as outdoor warning systems.	F, SS, SWS, T	E FWS S&S	LP&R NSP	Large SVI: 0.1650 – 0.2191 EDRC: Yes	Yes	Yes	1, 4, 5, 6, 7	LM	Low/Medium	President / Village Board	5 years	Village	Existing (2013) Action Item 4

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Type of Mitigation Activity:

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Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-15
Aroma Park Hazard Mitigation Actions
(Sheet 3 of 6)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Adopt updated building codes (I-Codes) to ensure community resilience and reduce structure vulnerability to natural hazards.	EC, EQ, F, SS, SWS, T	---	LP&R	Large SVI: 0.1650 – 0.2191 EDRC: Yes	Yes	Yes	4, 6, 7	LM	Low/Medium	President / Village Board	5 years	Village / FEMA BRIC	Existing (2013) Action Item 5
Implement an urban forestry program that qualifies the municipality to become a Tree City, USA.	EH	---	NSP	Large SVI: 0.1650 – 0.2191 EDRC: Yes	---	---	1, 7	LM	Low/Medium	President / Village Board	3-5 years	Village	Existing (2013) Action Item 12

§ Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a village of this size (approx. 700 individuals). The Village works hard to provide even the most critical of services to its residents, but it's a struggle. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-15
Aroma Park Hazard Mitigation Actions
(Sheet 4 of 6)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Adopt the following guidelines for use with drainage improvement, flood control, or bridge and culvert repair projects: - wherever possible, flood & drainage protection measures will be incorporated into road, street, bridge, & culvert improvement projects; - each project's study should look beyond the immediate project site to ensure that no other properties will be adversely impacted; - each project's study should consider protecting & improving the natural functions of the stream and floodplain, in addition to flood protection; - the design & construction should be certified by a licensed professional engineer; - all relevant federal, state, and local permits must be obtained; and - communities and property owners that may be affected by the project should be notified.	F, SS	S&S T	LP&R NSP	Medium 112/113 SVI: 0.1650 – 0.2191 EDRC: Yes	Yes	Yes	2, 4, 5, 6, 7, 8	LM	Low/Medium	President / Village Board	5 years	Village	Existing (2013) Action Item 18

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

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Acronyms

Priority

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Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
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Type of Mitigation Activity:

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LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-15
Aroma Park Hazard Mitigation Actions
(Sheet 5 of 6)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
In coordination with the appropriate active drainage district(s), implement a formal and regular drainage system maintenance program. This would involve: - mapping the local drainage system; - determining which areas can be accessed for inspection and maintenance; - implementing procedures prepared by Kankakee County Planning Department that are modeled on Community Rating System and IDNR program guidance; - conducting an annual inspection; - removing debris as needed; and - educating & working with homeowner associations & other non-governmental entities responsible for maintenance on their own properties.	F, SS	S&S T	S&IP	Medium 112/113 SVI: 0.1650 – 0.2191 EDRC: Yes	Yes	Yes	1, 2, 6	HM	Low/Medium	President / Village Board	5 years	Village	Existing (2013) Action Item 20

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† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a village of this size (approx. 700 individuals). The Village works hard to provide even the most critical of services to its residents, but it's a struggle. Additional funding is necessary if implementation is to be achieved within the time frames specified.

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Hazard(s) to be Mitigated:

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EC	Extreme Cold	SS	Severe Storms
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Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
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Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-15
Aroma Park Hazard Mitigation Actions
(Sheet 6 of 6)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
Review new Flood Insurance Rate Maps (FIRMs) when they become available. Update the flood ordinance to exceed federal standards and reflect the revised FIRMs and present both for adoption. Enforce flood ordinance to ensure new development does not increase flood vulnerability or create unintended exposures to flooding.*	F	S&S	LP&R	Small 112/113 SVI: 0.1650 – 0.2191 EDRC: Yes	Yes	Yes	1, 3, 4, 5, 7	HM	Low/Medium	President / Village Board	2-5 years	Village	New
Continue to make the most recent Flood Insurance Rate Maps available at the Village Clerk's Office to assist the public in considering where to construct new buildings.*	F	S&S	E&A	Small SVI: 0.1650 – 0.2191 EDRC: Yes	Yes	---	1, 3, 4, 5	LM	Low/Medium	President / Village Clerk	2-5 years	Village	New
Continue to make Village officials aware of the most recent Flood Insurance Rate Maps and issues related to construction in a floodplain.*	F	S&S	E&A	Small SVI: 0.1650 – 0.2191 EDRC: Yes	Yes	---	1, 3, 4, 5	LM	Low/Medium	President / Village Clerk	2-5 years	Village	New

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* Mitigation action to ensure continued compliance with NFIP.

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Hazard(s) to be Mitigated:

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EC	Extreme Cold	SS	Severe Storms
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EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
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FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-16
Ascension Saint Mary Kankakee Hazard Mitigation Actions
(Sheet 1 of 3)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Obtain engineering specifications on the Hospital's communication antennas to determine tolerances and vulnerability to natural hazards such as high winds, heavy snow, etc. and, if necessary, harden the structures to ensure communications continuity, survivability, and resiliency and continued functionality of a Community Lifeline.	SS, SWS, T	C H&M	E&A S&IP	Large County SVI: 0.7816	---	Yes	1, 2, 6	LM	Low/Medium	Hospital EMS Director	1 year	Ascension Saint Mary	New
Identify alternate locations for secondary & tertiary Emergency Operations Centers (EOC) and retrofit/structurally harden the designated secondary/tertiary EOCs to maintain continuity of operations in the event the primary EOC is damaged by a natural hazard event and ensure continued functionality of multiple Community Lifelines.	EC, EH, EQ, F, SS, SWS, T	C H&M S&S	E&A S&IP	Large County SVI: 0.7816	---	Yes	1, 2, 6	LM	Medium/High	Hospital EMS Director	1 year	Ascension Saint Mary / FEMA HMGP	New
Conduct an electrical grid study of the two different inbound supply systems to the Hospital to address loss of function experienced by both supplies in 2022. Failure of either or both supply systems will severely impact the Hospital's ability to maintain continuity of operations. Based on the study's findings, implement the appropriate remedy(s) to harden the electrical supply to reduce the potential for future failures.	EC, EH, EQ, F, SS, SWS, T	H&M	E&A S&IP	Large County SVI: 0.7816	---	Yes	1,2, 6	LM	Medium/High	Hospital EMS Director	2-5 years	Ascension Saint Mary / ComEd / FEMA HMGP	New

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Type of Mitigation Activity:

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Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
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FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-16
Ascension Saint Mary Kankakee Hazard Mitigation Actions
(Sheet 2 of 3)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Conduct a study to identify options for a backup potable water supply to serve the Hospital in order to ensure a constant and reliable water supply and mitigate risk to a Community Lifeline in the event Aqua Illinois experiences a natural hazard related outage. Based on the study's findings, implement the best option to provide the Hospital with a backup potable water supply.	EC, EH, F, SS, SWS, T	H&M	E&A S&IP	Large County SVI: 0.7816	---	Yes	1, 2, 6	LM	Low/High	Hospital EMS Director	1 year	Ascension Saint Mary	New
Work with Kankakee City officials to identify and designate warming/cooling centers at the Hospital/affiliated buildings for use by area residents to establish Community Lifelines.	EC, EH	FWS	LP&R	Small County SVI: 0.7816	---	---	1	LM	Low/High	Hospital EMS Director	1-2 years	Ascension Saint Mary	New
Conduct a high wind structural engineering assessment of the Hospital and affiliated buildings to determine their vulnerability and identify hardening techniques that could be implemented to increase building resilience to natural hazards, ensure continuity of operations, and continued functionality of a Community Lifeline.	SS, T	H&M	E&A	Large County SVI: 0.7816	---	Yes	1, 2, 6	LM	Low/Medium	Hospital EMS Director	1-2 years	Ascension Saint Mary / FEMA HMGP	New
Educate staff about the water conservation measures that can be taken to reduce drought impacts.	DR	---	E&A	Large County SVI: 0.7816	---	---	2, 6	LL	Low/Low	Hospital EMS Director	1-5 years	Ascension Saint Mary	New

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Community Lifelines to be Mitigated:

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Figure MIT-16
Ascension Saint Mary Kankakee Hazard Mitigation Actions
(Sheet 3 of 3)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Conduct a hydrologic and hydraulic (H&H) study to determine the Hospital's vulnerability of Kankakee River flooding associated with ice dam and debris blockages upstream. Ice dam flooding has occurred in the past at the Warner Bridge Road bridge near the Will/Kankakee County Line and the Wilmington Bridge in Wilmington causing water to backup along the Kankakee River into the City of Kankakee. Since a portion of the Hospital is located in the 500-year floodplain of the Kankakee River it is important to determine what, if any, impacts could result from this type of flooding.	SS, F	H&M	E&A	Large County SVI: 0.7816	---	Yes	1, 2, 6	LM	Low/Medium	Hospital EMS Director	2-5 years	Ascension Saint Mary / County / ISWS Coordinated Hazard Assessment & Mapping Program	New

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Figure MIT-17
Bourbonnais Hazard Mitigation Actions
(Sheet 1 of 8)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Continue the Village's floodway buyout program by acquiring properties in flood-prone area and removing existing structures.	F, SS	S&S	S&IP NSP	Small SVI: 0.0289 – 0.6749 EDRC: No	---	Yes	1	HM	Medium/High	President / Village Board	3-5 years	Village / FEMA BRIC HMGP / IDNR FHMP	New
Purchase and install emergency backup generators at City-owned facilities and infrastructure systems (i.e., Police Department, Administration, etc.) to establish resilient and reliable power supplies in order to maintain continuity of government/operations and mitigate risk to Community Lifelines.	EC, EH, EQ, F, SS, SWS, T	C FWS S&S	S&IP	Large SVI: 0.0289 – 0.6749 EDRC: No	---	Yes	1, 2, 6	HM	Medium/High	President / Village Board	3-5 years	Village / FEMA HMGP BRIC	New
Implement permanent bank stabilization measure to reduce erosion along Bourbonnais Creek, Mohawk, Meadowbrook Lane, and various unnamed tributaries.	F, SS	T	NSP	Small SVI: 0.0289 – 0.6749 EDRC: No	---	Yes	1, 2, 6	HM	Medium/Medium	Director / Public Works	3-5 years	Village / FEMA BRIC / IDOA Streambank Stabilization & Restoration Program	New

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E&A	Education & Awareness	NSP	Natural Systems Protection
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Community Lifelines to be Mitigated:

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FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-17
Bourbonnais Hazard Mitigation Actions
(Sheet 2 of 8)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Upgrade emergency warning sirens within the Village to ensure continued operations of Communications Community Lifelines essential to human health and safety.	SS, T	C	S&IP E&A	Large SVI: 0.0289 – 0.6749 EDRC: No	---	---	1	HM	Medium/High	Police Chief / Police Department	3-5 years	Village / USDA – RD Critical Facilities Programs	New
Design and construct community safe rooms, equipped with an emergency backup generator and HVAC system that can also serve as a warming/cooling center, for Village residents to establish a Community Lifeline essential to human health and safety.	EC, EH, SS, T	FWS	S&IP	Medium SVI: 0.0289 – 0.6749 EDRC: No	---	---	1	HM	High/High	President / Village Board	3-5 years	Village / FEMA HMGP	New
Install hardening materials (shatter-resistant/ shatter-proof windows, hail resistant doors/ shingles, etc.) at Village-owned critical facilities and infrastructure systems to increase building resilience to natural hazards, maintain continuity of government/operations, protect staff and residents, and mitigate risk to Community Lifelines.	EQ, F, SS, SWS, T	S&S	S&IP	Medium SVI: 0.0289 – 0.6749 EDRC: No	---	Yes	1, 2, 6	HM	High/High	President / Village Board	3-5 years	Village / FEMA HMGP	New

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Figure MIT-17
Bourbonnais Hazard Mitigation Actions
(Sheet 3 of 8)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Identify and designate additional warming and cooling centers, equipped with emergency backup generators, for use by Village residents.	EC, EH	FWS	E&A LP&R	Medium SVI: 0.0289 – 0.6749 EDRC: No	---	---	1	LM	Low/High	President / Village Board	3-5 years	Village	New
Identify and publicize an app to provide mass emergency notifications to disseminate time sensitive alerts and warnings about natural hazard events to residents that also allows citizen reporting.	EC, EH, EQ, F, SS, SWS, T	C	E&A	Large SVI: 0.0289 – 0.6749 EDRC: No	---	---	1	HM	Low/High	Marketing & Public Engagement Department	2-5 years	Village	New
Incorporate updated digital data sets of hazard data into GIS maps as well as establish digital data sets for all utilities (drainage, water, gas, electric, etc.) within the Village for use in GIS mapping applications. This information can be used to determine which utilities have the potential to be impacted by hazard events.	EC, EH, EQ, F, SS, SWS, T	C E FWS T	E&A	Large SVI: 0.0289 – 0.6749 EDRC: No	Yes	Yes	2, 5	LM	Low/Medium	GIS Department	2-5 years	Village	New

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a village of this size (just over 19,600 individuals). The Village works hard to maintain critical services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-17
Bourbonnais Hazard Mitigation Actions
(Sheet 4 of 8)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
As the comprehensive plan, zoning ordinance, and subdivision ordinance are being revised the following specific hazard mitigation provisions should be incorporated into them: - set aside floodplains and wetlands as open spaces, - require utility lines to be buried, - require drainage ways to have maintenance easements or be set aside from development, - identify who is responsible for maintenance activities in easements, - require new manufactured housing communities to have storm shelters, - require developers to contribute to a fund that will pay for appropriate hazard protection measures, such as outdoor warning systems.	F, SS, SWS, T	E FWS S&S	LP&R NSP	Large SVI: 0.0289 – 0.6749 EDRC: No	Yes	Yes	1, 4, 5, 6, 7	LM	Low/Medium	Administrator / Planning & Zoning	1-5 years	Village	Existing (2013) Action Item 4
Adopt updated building codes (I-Codes) to ensure community resilience and reduce structure vulnerability to natural hazards.	EC, EQ, F, SS, SWS, T	---	LP&R	Large SVI: 0.0289 – 0.6749 EDRC: No	Yes	Yes	4, 6, 7	LM	Low/Medium	Administrator Planning & Zoning / President Village Board	1-3 years	Village / FEMA BRIC	Existing (2013) Action Item 5

§ Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a village of this size (just over 19,600 individuals). The Village works hard to maintain critical services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

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Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-17
Bourbonnais Hazard Mitigation Actions
(Sheet 5 of 8)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Adopt the following guidelines for use with drainage improvement, flood control, or bridge and culvert repair projects: - wherever possible, flood & drainage protection measures will be incorporated into road, street, bridge, & culvert improvement projects; - each project's study should look beyond the immediate project site to ensure that no other properties will be adversely impacted; - each project's study should consider protecting & improving the natural functions of the stream and floodplain, in addition to flood protection; - the design & construction should be certified by a licensed professional engineer; - all relevant federal, state, and local permits must be obtained; and - communities and property owners that may be affected by the project should be notified.	F, SS	S&S T	LP&R NSP	Medium SVI: 0.0289 – 0.6749 EDRC: No	Yes	Yes	2, 4, 5, 6, 7, 8	LM	Low/Medium	Village Engineer / President Village Board	5 years	Village	Existing (2013) Action Item 18

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a village of this size (just over 19,600 individuals). The Village works hard to maintain critical services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

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LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-17
Bourbonnais Hazard Mitigation Actions
(Sheet 6 of 8)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
In coordination with the appropriate active drainage district(s), implement a formal and regular drainage system maintenance program. This would involve: - mapping the local drainage system; - determining which areas can be accessed for inspection and maintenance; - implementing procedures prepared by Kankakee County Planning Department that are modeled on CRS & IDNR program guidance; - conducting an annual inspection; - removing debris as needed; and - educating & working with homeowner associations & other non-governmental entities responsible for maintenance on their own properties.	F, SS	S&S T	S&IP	Medium SVI: 0.0289 – 0.6749 EDRC: No	Yes	Yes	1, 2, 6	HM	Low/Medium	Director / Public Works	5 years	Village	Existing (2013) Action Item 20
Assess village-owned critical facilities and buildings to identify their exposure/ vulnerability to damage from natural hazards such as flooding, high winds, lightning, hail, and power losses from downed lines. Identify the appropriate protection measures that could be undertaken to reduce exposure/ vulnerability.	EQ, F, SS, SWS, T, WF	C H&M S&S	E&A	Medium SVI: 0.0289 – 0.6749 EDRC: No	---	---	2, 6, 8	LM	Low/Medium	Village Engineer / Administrator Planning & Zoning / Director Public Works	5 years	Village	Existing (2013) Action Item 9

§ Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a village of this size (just over 19,600 individuals). The Village works hard to maintain critical services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

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Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-17
Bourbonnais Hazard Mitigation Actions
(Sheet 7 of 8)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Implement the following public information activities: - include articles about the hazards and simple property protection measures individuals can implement in newsletters; - send out an annual mailing on flood protection to all residents in the floodplain; - make reference materials about the hazards and property protection measures available at the local public library; - provide hazard mitigation information and links on city/village website; and - make Flood Insurance Rate Maps available and help individuals obtain information from them.	DR, EC, EH, EQ, F, SS, SWS, T	---	E&A	Large SVI: 0.0289 – 0.6749 EDRC: No	---	---	1, 3	LM	Low/Medium	Administrator Planning & Zoning / President Village Board	3-5 years	Village	Existing (2013) Action Item 24

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† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a village of this size (just over 19,600 individuals). The Village works hard to maintain critical services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

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Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-17
Bourbonnais Hazard Mitigation Actions
(Sheet 8 of 8)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
Review new Flood Insurance Rate Maps (FIRMs) when they become available. Update the flood ordinance to exceed federal standards and reflect the revised FIRMs and present both for adoption. Enforce flood ordinance to ensure new development does not increase flood vulnerability or create unintended exposures to flooding.*	F	S&S	LP&R	Small SVI: 0.0289 – 0.6749 EDRC: No	Yes	Yes	1, 3, 4, 5, 7	HM	Low/Medium	Administrator Planning & Zoning / President Village Board	1-5 years	Village	New
Continue to make the most recent Flood Insurance Rate Maps available at the Planning & Zoning Office to assist the public in considering where to construct new buildings.*	F	S&S	E&A	Small SVI: 0.0289 – 0.6749 EDRC: No	Yes	---	1, 3, 4, 5	LM	Low/Medium	Administrator / Planning & Zoning	1-3 years	Village	New
Continue to make Village officials aware of the most recent Flood Insurance Rate Maps and issues related to construction in a floodplain.*	F	S&S	E&A	Small SVI: 0.0289 – 0.6749 EDRC: No	Yes	---	1, 3, 4, 5	LM	Low/Medium	Administrator / Planning & Zoning	1-5 years	Village	New

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† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a village of this size (just over 19,600 individuals). The Village works hard to maintain critical services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

* Mitigation action to ensure continued compliance with NFIP.

Acronyms

Priority

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LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-18
Bourbonnais Fire Protection District Hazard Mitigation Actions

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
Purchase and install an automatic emergency backup generator at the District's only Fire Station to establish a resilient and reliable power supply, ensure sustained functionality during extended power outages, maintain continuity of operations and mitigate risk to a Community Lifeline that serves approximately 32,000 individuals in a 35 square mile area.	EC, EH, F, SS, SWS, T	S&S	S&IP	Large SVI: 0.0289 – 0.8296 EDRC: No	---	Yes	1, 2, 6	HM	Medium/High	Fire Chief / Board of Trustees	1-3 years	FPD / FEMA HMPG	New
Make public information materials available to District residents that detail the risks to life and property associated with the natural hazards that impact the District and the proactive approaches they can take to reduce their risk.	DR, EC, EH, EQ, F, SS, SWS, T, WF	---	E&A	Large SVI: 0.0289 – 0.8296 EDRC: No	---	---	3	LM	Low/Medium	Fire Chief / Board of Trustees	1-3 years	FPD	New

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† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a combination fire protection district of this size (serving approx. 32,000 individuals in a service area of 35 square miles.) Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

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HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfire
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-19
Bourbonnais Township Hazard Mitigation Actions
(Sheet 1 of 2)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Replace bridge over Davis Creek to increase carrying capacity to alleviate flood/drainage problems and ensure system resiliency and functionality.	F, SS	T	S&IP	Small SVI: 0.1914 – 0.6749 EDRC: No	---	Yes	1, 2, 6	HM	Medium/High	Highway Commissioner	5 years	Township / IDOT Local Roads	New
Trim trees to minimize service disruptions, improve resiliency, and mitigate risk to Community Lifelines.	SS, SWS, T	C E T	S&IP	Small SVI: 0.1914 – 0.6749 EDRC: No	Yes	Yes	1, 2, 6	HM	Medium/Medium	Highway Commissioner	1-5 years	Township / Com Ed	New
Make public information materials available to township residents about the risks to life and property associated with the natural hazards that impact the Township and the proactive actions they can take to reduce their risk.	DR, EC, EH, EQ, F, SS, SWS, T, WF	---	E&A	Large SVI: 0.1914 – 0.6749 EDRC: No	---	---	1	LM	Low/Medium	Highway Commissioner / Supervisor	1-5 years	Township	New

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† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a township of this size (approx. 40,000 individuals.) The Township works hard to maintain critical services to its residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

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LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
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LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfire
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-19
Bourbonnais Township Hazard Mitigation Actions
(Sheet 2 of 2)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
Develop mutual aid agreements with local government entities (County, Bourbonnais, and Bradley) to improve coordination/ communication and enhance emergency preparedness, response, recovery and mitigation activities within the Township.	EC, EH, EQ, F, SS, SWS, T, WF	S&S	E&A	Large SVI: 0.1914 – 0.6749 EDRC: No	Yes	Yes	1, 2, 6	LM	Low/Medium	Supervisor	1-3 years	Township	New
Assess township-owned critical facilities and buildings to identify their exposure/ vulnerability to damage from natural hazards such as flooding, high winds, lightning, hail, and power losses from downed lines. Identify the appropriate protective measures that could be undertaken to harden these facilities.	EQ, F, SS, SWS, T, WF	C H&M S&S	E&A	Medium SVI: 0.1914 – 0.6749 EDRC: No	---	---	2, 6, 8	LM	Low/Medium	Highway Commissioner / Supervisor / Assessor	1-2 years	Township	New

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Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfire
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-20
Bradley Hazard Mitigation Actions
(Sheet 1 of 3)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Conduct inflow and infiltration study of the Village's sewer system on the south side to identify remedies to improve capacity, function and reliability of the Village's sewer system.	F, SS	FWS	E&A	Medium SVI: 0.2247 – 0.6749 EDRC: No	---	---	2, 6	LM	Medium/Medium	Superintendent / Sewer Service	3-5 year	Village	New
Slip line sanitary sewer sections where stormwater infiltration is occurring to improve capacity and prevent sewage backups.	F, SS	FWS	S&IP	Medium SVI: 0.2247 – 0.6749 EDRC: No	---	Yes	2, 6	HM	High/High	Superintendent / Sewer Service	5 years	Village / IEPA SRF – WPCLP	New
Assist the Bradley-Bourbonnais Community High School District #307 and Bradley School District #61 in constructing community safe rooms (equipped with emergency backup generators) at the High School, Bradley East Elementary School, and Bradley West Elementary School for use by students, spectators, and area residents to establish a Community Lifeline essential to human health and safety.	SS, T	FWS	S&IP	Small SVI: 0.2247 – 0.6749 EDRC: No	Yes	---	1, 2, 6	LM	High/High	President Village Board / Superintendents	5 years	Village / School Districts / USDA – RD Community Facilities Programs	New

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† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a village of this size (approx. 15,300 individuals). The Village works hard to maintain critical services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
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LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DF	Dam Failure	F	Flood
DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-20
Bradley Hazard Mitigation Actions
(Sheet 2 of 3)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
Update the Emergency Action Plan (EAP) for North Branch Soldier Creek Reservoir Dam to include the extent (water depth, speed of onset, warning times, etc.) of a potential dam failure to address data deficiencies.	DF	---	E&A	Small SVI: 0.5621 – 0.6122 EDRC: No	---	---	1, 2, 6	LL	Low/Medium	Director Community Development / President Village Board	5 years	Village	New
Implement the following public information activities: - include articles about the hazards and simple property protection measures individuals can implement in newsletters; - send out an annual mailing on flood protection to all residents in the floodplain; - make reference materials about the hazards and property protection measures available at the local public library; - provide hazard mitigation information and links on city/village website; and - make Flood Insurance Rate Maps available and help individuals obtain information from them.	DR, EC, EH, EQ, F, SS, SWS, T	---	E&A	Large SVI: 0.2247 – 0.6749 EDRC: No	---	---	1, 3	LM	Low/Medium	Director Community Development / President Village Board	1-5 years	Village	Existing (2013) Action Item 24

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Hazard(s) to be Mitigated:

DF	Dam Failure	F	Flood
DR	Drought	SS	Severe Storms
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Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
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Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-20
Bradley Hazard Mitigation Actions
(Sheet 3 of 3)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
Review new Flood Insurance Rate Maps (FIRMs) when they become available. Update the flood ordinance to exceed federal standards and reflect the revised FIRMs and present both for adoption. Enforce flood ordinance to ensure new development does not increase flood vulnerability or create unintended exposures to flooding.*	F	S&S	LP&R	Small SVI: 0.2247 – 0.6749 EDRC: No	Yes	Yes	1, 3, 4, 5, 7	HM	Low/Medium	Director Community Development / President Village Board	1-5 years	Village	New
Continue to make the most recent Flood Insurance Rate Maps available at the Community Development Office to assist the public in considering where to construct new buildings.*	F	S&S	E&A	Small SVI: 0.2247 – 0.6749 EDRC: No	Yes	---	1, 3, 4, 5	LM	Low/Medium	Director / Community Development	1-3 years	Village	New
Continue to make Village officials aware of the most recent Flood Insurance Rate Maps and issues related to construction in a floodplain.*	F	S&S	E&A	Small SVI: 0.2247 – 0.6749 EDRC: No	Yes	---	1, 3, 4, 5	LM	Low/Medium	Director / Community Development	1-5 years	Village	New

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* Mitigation action to ensure continued compliance with NFIP.

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Hazard(s) to be Mitigated:

DF	Dam Failure	F	Flood
DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
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EQ	Earthquake		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-21
Grant Park Hazard Mitigation Actions
(Sheet 1 of 2)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Install landscape (living snow fences) along strategic village-owned streets to increase system resilience, ensure continued functionality of Community Lifelines, and ease hazardous driving conditions.	SWS	T	S&IP	Medium SVI: 0.4014 – 0.6047 EDRC: Yes	---	Yes	1, 2, 6	HM	Low/Medium	President / Village Board	1 year	Village	New
Upgrade/retrofit the storm sewer system to increase storage and draining capacity, better manage stormwater runoff, and ensure system resilience and functionality in an effort to address recurring heavy rain events that overwhelm the system.	F, SS	FWS	S&IP	Large SVI: 0.4014 – 0.6047 EDRC: Yes	Yes	Yes	1, 2, 6	HM	High/High	President / Village Board	2-5 years	Village / USDA – RD Water & Waste Disposal Program / IEMA SRF – WPCLP	New
Design and construct a community safe room equipped with an emergency backup generator and HVAC system that can also serve as a warming/cooling center for Village residents to establish a Community Lifeline essential to human health and safety.	EC, EH, SS, T	FWS	S&IP	Medium SVI: 0.4014 – 0.6047 EDRC: Yes	---	---	1	HM	High/High	President / Village Board	5-8 years	Village / FEMA HMGP	New

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Acronyms

Priority

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Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-21
Grant Park Hazard Mitigation Actions
(Sheet 2 of 2)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Purchase and install an automatic emergency backup generator at the Public Library, a designated warming/cooling center for Village residents, to establish a resilient and reliable power supply, ensure continuity of operations and mitigate risk to a Community Lifeline.	EC, EH	FWS	S&IP	Small SVI: 0.4014 – 0.6047 EDRC: Yes	---	Yes	1, 2, 6	HM	High/High	President / Village Board	2-5 years	Village / USDA – RD Critical Facilities Program	New
Make public information materials available online and distribute paper materials to residents that detail the risk to life and property associated with the natural hazards that impact the Village and the proactive approaches they can take to reduce their risk.	DR, EC, EH, EQ, F, SS, SWS, T	---	E&A	Large SVI: 0.4014 – 0.6047 EDRC: Yes	---	---	1, 3	LM	Low/Medium	President / Village Board	2-5 years	Village	New

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Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-22
Hopkins Park Hazard Mitigation Actions
(Sheet 1 of 4)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Secure a memorandum of Agreement with Pembroke Township to construct community safe rooms within the Township that can also serve as warming/cooling centers for Village and Township residents to establish Shelter Community Lifelines.	EC, EH, SS, T	FWS	LP&R	Large SVI: 0.9270 EDRC: Yes	---	---	1	LM	Low/Medium	President / Village Board	1-2 years	Village / Township	New
Design and construct community safe rooms, equipped with an emergency backup generators and HVAC systems that can also serve as a warming/cooling centers at strategic locations within the Village and Township to establish Shelter Community Lifelines.	EC, EH, SS, T	FWS	S&IP	Large SVI: 0.9270 EDRC: Yes	Yes	---	1	HM	High/High	President Village Board / Township Supervisor	2-5 years	Village / Township / FEMA HMGP	New
Secure a memorandum of Agreement with Pembroke Township Fire Protection District (FPD) to install an emergency backup generator at the Fire Station to establish and ensure continued operations of a Community Lifeline essential to human health and safety.	EC, EH, EQ, F, SS, SWS, T	S&S	LP&R	Large SVI: 0.9270 EDRC: Yes	---	---	1, 2, 6	LM	Low/Medium	President Village Board / FPD	1-2 year	Village / FPD	New

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Hazard(s) to be Mitigated:

EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-22
Hopkins Park Hazard Mitigation Actions
(Sheet 2 of 4)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Purchase and install an automatic emergency backup generator at the Pembroke Township Fire Protection District to establish a resilient and reliable power supply, ensure continuity of operations and mitigate risk to a Community Lifeline.	EC, EH, EQ, F, SS, SWS, T	FWS	S&IP	Large SVI: 0.9270 EDRC: Yes	---	Yes	1, 2, 6	HM	High/High	President Village Board / FPD	2-5 years	Village / FPD / FEMA HMGP / USDA – RD Critical Facilities Programs	New
Purchase and install automatic emergency backup generators at the Village lift stations to establish a resilient and reliable power supply in order to maintain continuity of operations and mitigate risk to a Community Lifeline.	EC, EH, EQ, F, SS, SWS, T	FWS	S&IP	Medium SVI: 0.9270 EDRC: Yes	Yes	Yes	1, 2, 6	HM	High/High	President / Village Board	3-5 years	Village / FEMA HMGP / USDA – RD Critical Facilities Programs	New
Secure a memorandum of Agreement with Pembroke Community Consolidated School District #259 to install an emergency backup generator at Lorenzo R. Smith Elementary School to establish and ensure continued operations of a Community Lifeline.	EC, EH, EQ, F, SS, SWS, T	S&S	LP&R	Large SVI: 0.9270 EDRC: Yes	---	---	1, 2, 6	LM	Low/Medium	President Village Board / Superintendent CCSD #259	1-2 year	Village / CCSD #259 / USDA – RD Critical Facilities Programs	New

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Hazard(s) to be Mitigated:

EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-22
Hopkins Park Hazard Mitigation Actions
(Sheet 3 of 4)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Purchase and install an automatic emergency backup generator at Lorenzo R. Smith Elementary School to establish a resilient and reliable power supply, ensure continuity of operations and mitigate risk to a Community Lifeline.	EC, EH, EQ, F, SS, SWS, T	FWS	S&IP	Large SVI: 0.9270 EDRC: Yes	---	Yes	1, 2, 6	HM	High/High	President Village Board / Superintendent CCSD #259	2-5 years	Village / CCSD #259 / USDA – RD Critical Facilities Programs	New
Clean debris/obstructions out of roadway culverts and drainage structures within the Village to maximize carrying capacity, reduce/prevent drainage problems, and mitigate risk to Transportation Community Lifelines.	F, SS	T	S&IP	Large SVI: 0.9270 EDRC: Yes	---	Yes	2, 6	HM	Low/Medium	President / Village Board	1-5 years	Village	New
Replace/upsize select roadway culverts and drainage structures to increase carrying capacity, alleviate recurring drainage/flooding problems, and ensure system resilience and functionality.	F, SS	T	S&IP	Large SVI: 0.9270 EDRC: Yes	---	Yes	2, 6	HM	High/High	President / Village Board	1-5 years	Village / IDOT Local Roads	New

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EQ	Earthquake	T	Tornado
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
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FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-22
Hopkins Park Hazard Mitigation Actions
(Sheet 4 of 4)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Conduct hydrologic/hydraulic analysis to determine the cause and identify design solutions to address recurring roadway flooding and alleviate damage caused by water overtopping the roadway at various locations within the Village including but not limited to: S. King St./15000 Rd.; intersection of 3000 Rd/13799 E. Rd.; 3000 Rd.; 5000 Rd./Wheeler Rd.; intersection of 15500 Rd./4750 Rd.; Main & Central; Karim & 4000 Rd.; Hill, Carver, Colonial, and Manor Dr.	F, SS	T	E&A	Medium SVI: 0.9270 EDRC: Yes	---	---	2, 6	LM	Medium/High	President / Village Board	1-5 years	Village	New
Construct the identified design solutions to alleviate recurring roadway flooding at various locations within the Village including but not limited to: S. King St./15000 Rd.; intersection of 3000 Rd/13799 E. Rd.; 3000 Rd.; 5000 Rd./Wheeler Rd.; intersection of 15500 Rd./4750 Rd.; Main & Central; Karim & 4000 Rd.; Hill, Carver, Colonial, and Manor Dr.	F, SS	T	S&IP	Medium SVI: 0.9270 EDRC: Yes	---	Yes	1, 2, 6	HM	High/High	President / Village Board	5 years	Village / IDOT Local Roads	New

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Hazard(s) to be Mitigated:

EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-23
Kankakee, City of Hazard Mitigation Actions
(Sheet 1 of 7)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Retrofit the Training Room at the Public Safety Building to serve as an alternate Emergency Operations Center (EOC) functioning as the central command and control facility for carrying out emergency management and ensure continuity of government/operations in the event the City's primary EOC is damaged by a hazard event and is rendered inoperable.	DF, EC, EH, EQ, F, SS, SWS, T	S&S	S&IP	Large SVI: 0.0832 – 0.9892 EDRC: No	---	Yes	1, 2, 6	HM	Medium/High	Fire Chief / Fire Department	5-10 years	City	New
Develop and implement a Natural Hazard Mitigation outreach program as part of the Fire Department's Public Education Program that informs residents about the risks to life and property associated with the natural hazards that impact the County and the proactive actions they can take to reduce their risks.	DF, DR, EC, EH, EQ, F, SS, SWS, T	---	E&A	Large SVI: 0.0832 – 0.9892 EDRC: No	---	---	1	LM	Low/Medium	Fire Chief / Fire Prevention Division	3-5 years	City	New
Purchase and install emergency backup generators at all City-owned facilities and infrastructure systems to establish resilient and reliable power supplies in order to maintain continuity of government/operations and mitigate risk to Community Lifelines.	EC, EH, EQ, F, SS, SWS, T	C S&S	S&IP	Large SVI: 0.0832 – 0.9892 EDRC: No	---	Yes	1, 2, 6	HM	Medium/High	Superintendent / Environmental Services Utility	10-15 years	City / FEMA HMGP / BRIC	New

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of some medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a city of this size (approx. 25,800 individuals). The City works hard to maintain critical services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DF	Dam Failure	F	Flood
DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-23
Kankakee, City of Hazard Mitigation Actions
(Sheet 2 of 7)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
As the comprehensive plan, zoning ordinance, and subdivision ordinance are being revised the following specific hazard mitigation provisions should be incorporated into them: - set aside floodplains and wetlands as open spaces, - require utility lines to be buried, - require drainage ways to have maintenance easements or be set aside from development, - identify who is responsible for maintenance activities in easements, - require new manufactured housing communities to have storm shelters, - require developers to contribute to a fund that will pay for appropriate hazard protection measures, such as outdoor warning systems.	F, SS, SWS, T	E FWS S&S	LP&R NSP	Large SVI: 0.0832 – 0.9892 EDRC: No	Yes	Yes	1, 4, 5, 6, 7	LM	Low/Medium	Director / Community Development	1-5 years	City	Existing (2013) Action Item 4
Adopt updated building codes (I-Codes) at least every five years to ensure community resilience and reduce structure vulnerability to natural hazards.	EC, EQ, F, SS, SWS, T	---	LP&R	Large SVI: 0.0832 – 0.9892 EDRC: No	Yes	Yes	4, 6, 7	LM	Low/Medium	Director Community Development / Mayor City Council	1-3 years	City / FEMA BRIC	Existing (2013) Action Item 5

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of some medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a city of this size (approx. 25,800 individuals). The City works hard to maintain critical services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
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Hazard(s) to be Mitigated:

DF	Dam Failure	F	Flood
DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-23
Kankakee, City of Hazard Mitigation Actions
(Sheet 3 of 7)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Adopt the following guidelines for use with drainage improvement, flood control, or bridge and culvert repair projects: - wherever possible, flood & drainage protection measures will be incorporated into road, street, bridge, & culvert improvement projects; - each project's study should look beyond the immediate project site to ensure that no other properties will be adversely impacted; - each project's study should consider protecting & improving the natural functions of the stream and floodplain, in addition to flood protection; - the design & construction should be certified by a licensed professional engineer; - all relevant federal, state and local permits must be obtained; and - communities and property owners that may be affected by the project should be notified.	F, SS	S&S T	LP&R NSP	Medium SVI: 0.0832 – 0.9892 EDRC: No	Yes	Yes	2, 4, 5, 6, 7, 8	LM	Low/Medium	City Engineer / Mayor City Council	5 years	City	Existing (2013) Action Item 18

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of some medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a city of this size (approx. 25,800 individuals). The City works hard to maintain critical services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
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LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DF	Dam Failure	F	Flood
DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-23
Kankakee, City of Hazard Mitigation Actions
(Sheet 4 of 7)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
In coordination with the appropriate active drainage district(s), implement a formal and regular drainage system maintenance program. This would involve: - mapping the local drainage system; - determining which areas can be accessed for inspection and maintenance; - implementing procedures prepared by Kankakee County Planning Department that are modeled on Community Rating System and IDNR program guidance; - conducting an annual inspection; - removing debris as needed; and - educating & working with homeowner associations & other non-governmental entities responsible for maintenance on their own properties.	F, SS	S&S T	S&IP	Medium SVI: 0.0832 – 0.9892 EDRC: No	Yes	Yes	1, 2, 6	HM	Low/Medium	Director / Public Works	1-5 years	City	Existing (2013) Action Item 20
Ensure newly installed manufactured homes, especially those in manufactured housing communities, are being property installed to protect them from wind damage and that all floodplain management requirement provisions are being enforced.	F, T	---	LP&R	Small SVI: 0.0832 – 0.9892 EDRC: No	Yes	---	1	HM	Low/High	Director / Community Development	1-5 years	City	Existing (2013) Action Item 6

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† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of some medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a city of this size (approx. 25,800 individuals). The City works hard to maintain critical services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

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LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DF	Dam Failure	F	Flood
DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-23
Kankakee, City of Hazard Mitigation Actions
(Sheet 5 of 7)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
Implement the following public information activities: - include articles about the hazards and simple property protection measures individuals can implement in newsletters; - send out an annual mailing on flood protection to all residents in the floodplain; - make reference materials about the hazards and property protection measures available at the local public library; - provide hazard mitigation information and links on city/village website; and make Flood Insurance Rate Maps available and help individuals obtain information from them.	DR, EC, EH, EQ, F, SS, SWS, T	---	E&A	Large SVI: 0.0832 – 0.9892 EDRC: No	---	---	1, 3	LM	Low/Medium	Director Community Development / Mayor City Council	1-5 years	City	Existing (2013) Action Item 24
Assess city-owned critical facilities and buildings to identify their exposure/ vulnerability to damage from natural hazards such as flooding, high winds, lightning, hail, and power losses from downed lines. Identify the appropriate protection measures that could be undertaken to reduce exposure/vulnerability.	EQ, F, SS, SWS, T, WF	C H&M S&S	E&A	Medium SVI: 0.0832 – 0.9892 EDRC: No	---	---	2, 6, 8	LM	Low/Medium	City Engineer / Director Community Development / Director Public Works	3-5 years	City	Existing (2013) Action Item 9

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Acronyms

Priority

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Hazard(s) to be Mitigated:

DF	Dam Failure	F	Flood
DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
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EQ	Earthquake		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-23
Kankakee, City of Hazard Mitigation Actions
(Sheet 6 of 7)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Develop an Emergency Action Plan (EAP) for Kankakee Dam that identifies the extent (water depth, speed of onset, warning times, etc.) and location (inundation areas) of a potential dam failure to address data deficiencies.	DF	---	E&A	Small SVI: 0.8979 EDRC: No	---	---	1, 2, 6	LL	Low/Medium	Director / Community Development	5 years	City	New
Review new Flood Insurance Rate Maps (FIRMs) when they become available. Update the flood ordinance to exceed federal standards and reflect the revised FIRMs and present both for adoption. Enforce flood ordinance to ensure new development does not increase flood vulnerability or create unintended exposures to flooding.*	F	S&S	LP&R	Small SVI: 0.0832 – 0.9892 EDRC: No	Yes	Yes	1, 3, 4, 5, 7	HM	Low/Medium	Director Community Development / Mayor City Council	1-5 years	City	New
Continue to make the most recent Flood Insurance Rate Maps available at Planning & Zoning Office to assist the public in considering where to construct new buildings.*	F	S&S	E&A	Small SVI: 0.0832 – 0.9892 EDRC: No	Yes	---	1, 3, 4, 5	LM	Low/Medium	Director / Community Development	1-3 years	City	New

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* Mitigation action to ensure continued compliance with NFIP.

Acronyms

Priority

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Hazard(s) to be Mitigated:

DF	Dam Failure	F	Flood
DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-23
Kankakee, City of Hazard Mitigation Actions
(Sheet 7 of 7)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Continue to make Village officials aware of the most recent Flood Insurance Rate Maps and issues related to construction in a floodplain.*	F	S&S	E&A	Small SVI: 0.0832 – 0.9892 EDRC: No	Yes	---	1, 3, 4, 5	LM	Low/Medium	Director / Community Development	1-5 years	City	New

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† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of some medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a city of this size (approx. 25,800 individuals). The City works hard to maintain critical services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

* Mitigation action to ensure continued compliance with NFIP.

Acronyms

Priority

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Hazard(s) to be Mitigated:

DF	Dam Failure	F	Flood
DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-24
Kankakee Community College Hazard Mitigation Actions

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
In coordination with the appropriate active drainage district, implement a formal and regular drainage system maintenance program on the College campus. This would involve: - mapping the local drainage system; - determining which areas can be accessed for inspection and maintenance; - implementing procedures prepared by Kankakee County Planning Department that are modeled on Community Rating System and IDNR program guidance; - conducting an annual inspection; and - removing debris as needed.	F, SS	S&S T	S&IP	Large County SVI: 0.7816	---	Yes	1, 2, 6	HM	Low/Medium	Director of Facilities	2-5 years	College	Existing (2013)
Educated faculty and students about the natural hazards that have the potential to impact their community and the proactive actions they can take to reduce their risk.	DR, EC, EH, EQ, F, SS, SWS, T	---	E&A	Large County SVI: 0.7816	---	---	1, 3	LM	Low/Medium	Director of Facilities	1-5 years	College	New

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a small college (enrollment of approx. 2,300 students.) Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-25
Manteno Hazard Mitigation Actions
(Sheet 1 of 4)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Assist the Manteno Community Fire Protection District in developing and implementing a plan to utilize a mass emergency notification system (Code Red) to disseminate time sensitive alerts and warning about natural hazard events to District residents, including those located within the Village.	EC, EH, EQ, F, SS, SWS, T, WF	C	E&A	Large SVI: 0.0289 – 0.6579 EDRC: No	---	---	1	HM	Low/High	Director Building & Zoning / Fire Chief Board of Trustees	1 year	FPD	New
With assistance from the Manteno Community Fire Protection District, identify and designate additional warming and cooling centers, equipped with emergency backup generators, for use by Village and District residents.	EC, EH	FWS	E&A LP&R	Medium SVI: 0.0289 – 0.6579 EDRC: No	---	---	1	LM	Low/High	President Village Board / Fire Chief Board of Trustees	5 years	City	New
Assist the Manteno Community Fire Protection District in making public information materials available to District residents, including those located within the Village, that detail the risks to life and property associated with the natural hazards that impact the District and the proactive approaches they can take to reduce their risk.	DR, EC, EH, EQ, F, SS, SWS, T, WF	---	E&A	Large SVI: 0.0289 – 0.6579 EDRC: No	---	---	3	LM	Low/Medium	Director Building & Zoning / Fire Chief Board of Trustees	1-2 years	FPD	New

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a village of this size (approx. 8,500 individuals). The Village works hard to maintain critical services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-25
Manteno Hazard Mitigation Actions
(Sheet 2 of 4)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
As a comprehensive plan, zoning ordinance, and/or subdivision ordinance are being developed/revised the following specific hazard mitigation provisions should be incorporated into them: - set aside floodplains and wetland as open spaces, - require utility lines to be buried, - require drainage ways to have maintenance easements or be set aside from development, - identify who is responsible for maintenance activities in easements, - require new manufactured housing communities to have storm shelters, - require developers to contribute to a fund that will pay for appropriate hazard protection measures, such as outdoor warning systems.	F, SS, SWS, T	E FWS S&S	LP&R NSP	Large SVI: 0.0289 – 0.6579 EDRC: No	Yes	Yes	1, 4, 5, 6, 7	LM	Low/Medium	Director Building & Zoning / President Village Board	5 years	Village	Existing (2013) Action Item 4
Adopt updated building codes (I-Codes) to ensure community resilience and reduce structure vulnerability to natural hazards.	EC, EQ, F, SS, SWS, T	---	LP&R	Large SVI: 0.0289 – 0.6579 EDRC: No	Yes	Yes	4, 6, 7	LM	Low/Medium	Director Building & Zoning / President Village Board	3-5 years	Village / FEMA BRIC	Existing (2013) Action Item 5

§ Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a village of this size (approx. 8,500 individuals). The Village works hard to maintain critical services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-25
Manteno Hazard Mitigation Actions
(Sheet 3 of 4)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Assess village-owned critical facilities and buildings to identify their exposure/ vulnerability to damage from natural hazards such as flooding, high winds, lightning, hail, and power losses from downed lines. Identify the appropriate protection measures that could be undertaken to reduce exposure/vulnerability.	EQ, F, SS, SWS, T, WF	C H&M S&S	E&A	Medium SVI: 0.0289 – 0.6579 EDRC: No	---	---	2, 6, 8	LM	Low/Medium	Village Engineer / Director Building & Zoning / Superintendent Public Works	5 years	Village	Existing (2013) Action Item 9
In coordination with the appropriate active drainage district(s), implement a formal and regular drainage system maintenance program. This would involve: - mapping the local drainage system; - determining which areas can be accessed for inspection and maintenance; - implementing procedures prepared by Kankakee County Planning Department that are modeled on Community Rating System and IDNR program guidance; - conducting an annual inspection; - removing debris as needed; and - educating & working with homeowner associations & other non-governmental entities responsible for maintenance on their own properties.	F, SS	S&S T	S&IP	Medium SVI: 0.0289 – 0.6579 EDRC: No	Yes	Yes	1, 2, 6	HM	Low/Medium	Superintendent / Public Works	3-5 years	Village	Existing (2013) Action Item 20

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a village of this size (approx. 8,500 individuals). The Village works hard to maintain critical services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-25
Manteno Hazard Mitigation Actions
(Sheet 4 of 4)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Review new Flood Insurance Rate Maps (FIRMs) when they become available. Update the flood ordinance to exceed federal standards and reflect the revised FIRMs and present both for adoption. Enforce flood ordinance to ensure new development does not increase flood vulnerability or create unintended exposures to flooding.*	F	S&S	LP&R	Small SVI: 0.0289 – 0.6579 EDRC: No	Yes	Yes	1, 3, 4, 5, 7	HM	Low/Medium	Director Building & Zoning / President Village Board	1-5 years	Village	New
Continue to make the most recent Flood Insurance Rate Maps available at the Building & Zoning Office to assist the public in considering where to construct new buildings.*	F	S&S	E&A	Small SVI: 0.0289 – 0.6579 EDRC: No	Yes	---	1, 3, 4, 5	LM	Low/Medium	Director / Building & Zoning	1-3 years	Village	New
Continue to make Village officials aware of the most recent Flood Insurance Rate Maps and issues related to construction in a floodplain.*	F	S&S	E&A	Small SVI: 0.0289 – 0.6579 EDRC: No	Yes	---	1, 3, 4, 5	LM	Low/Medium	Director / Building & Zoning	1-5 years	Village	New

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a village of this size (approx. 8,500 individuals). The Village works hard to maintain critical services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

* Mitigation action to ensure continued compliance with NFIP.

Acronyms

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LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-26
Manteno Community Fire Protection District Hazard Mitigation Actions
(Sheet 1 of 2)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Develop and implement a plan to utilize a mass emergency notification system (Code Red) to disseminate time sensitive alerts and warning about natural hazard events to District residents.	EC, EH, EQ, F, SS, SWS, T, WF	C	E&A	Large SVI: 0.0289 – 0.4014 EDRC: No	---	---	1	HM	Low/High	Fire Chief / Board of Trustees	1 year	FPD	New
Assist the Village of Manteno in identifying and designating additional warming and cooling centers, equipped with emergency backup generators, for use by Village and District residents.	EC, EH	FWS	E&A LP&R	Medium SVI: 0.0289 – 0.4014 EDRC: No	---	---	1	LM	Low/High	Fire Chief Board of Trustees / President Village Board	5 years	FPD / City	New
Install additional dry hydrants with the District that can be used as filling stations to supply an uninterrupted flow of water to aid in fire suppression as necessary during natural hazard events.	DR, EH, EQ, SS, T	S&S	S&IP	Large SVI: 0.0289 – 0.4014 EDRC: No	Yes	Yes	1, 2, 6	HM	Low/High	Fire Chief / Board of Trustees	5 years	FPD	New

§ Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a career fire protection district of this size (serving approx. 14,000 individuals in a service area of 93 square miles.) Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfires
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-26
Manteno Community Fire Protection District Hazard Mitigation Actions
(Sheet 2 of 2)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Construct community safe rooms (equipped with emergency backup generator) at the District's two fire stations for use by first responders to mitigation risk to Safety & Security Community Lifeline personnel.	SS, T	S&S	S&IP	Small SVI: 0.0289 – 0.4014 EDRC: No	---	Yes	1	HM	Medium/High	Fire Chief / Board of Trustees	5years	FPD / FEMA HMGP / USDA – RD Critical Facilities Programs	New
Identify alternate location for District apparatus, equipment, gear, etc. in the event a natural hazard incident impacts the fire station to ensure continued functionality of a Safety & Security Community Lifeline service.	EQ, F, SS, SWS, T	S&S	LP&R	Large SVI: 0.0289 – 0.4014 EDRC: No	---	---	1, 2, 6	LM	Low/Medium	Fire Chief / Board of Trustees	3 years	FPD	New
Make public information materials available to District residents that detail the risks to life and property associated with the natural hazards that impact the District and the proactive approaches they can take to reduce their risk.	DR, EC, EH, EQ, F, SS, SWS, T, WF	---	E&A	Large SVI: 0.0289 – 0.4014 EDRC: No	---	---	3	LM	Low/Medium	Fire Chief / Board of Trustees	1-2 years	FPD	New

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a career fire protection district of this size (serving approx. 14,000 individuals in a service area of 93 square miles.) Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfires
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-27
Momence Fire Protection District Hazard Mitigation Actions

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
Develop and implement a plan to utilize a mass emergency notification system (Code Red) to disseminate time sensitive alerts and warning about natural hazard events to District residents.	EC, EH, EQ, F, SS, SWS, T, WF	C	E&A	Large SVI: 0.4014 – 0.9270 EDRC: No	---	---	1	HM	Low/High	Fire Chief / Board of Trustees	2 years	FPD	New
Assist the City of Momence in identifying and designating additional warming and cooling centers, equipped with emergency backup generators, for use by City and District residents.	EC, EH	FWS	E&A LP&R	Medium SVI: 0.4014 – 0.9270 EDRC: No	---	---	1	LM	Low/High	Fire Chief Board of Trustees / Mayor City Council	5 years	FPD / City	New
Install additional dry hydrants with the District that can be used as filling stations to supply an uninterrupted flow of water to aid in fire suppression as necessary during natural hazard events.	DR, EH, EQ, SS, T	S&S	S&IP	Large SVI: 0.4014 – 0.9270 EDRC: No	Yes	Yes	1, 2, 6	HM	Low/High	Fire Chief / Board of Trustees	5 years	FPD	New
Identify alternate location for District apparatus, equipment, gear, etc. in the event a natural hazard incident impacts the fire station to ensure continued functionality of a Safety & Security Community Lifeline service.	EQ, F, SS, SWS, T	S&S	LP&R	Large SVI: 0.4014 – 0.9270 EDRC: No	---	---	1, 2, 6	LM	Low/Medium	Fire Chief / Board of Trustees	3 years	FPD	New

§ Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by an all-volunteer fire protection district of this size (serving approx. 12,000 individuals in a service area of 92 square miles.) Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

HM	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the most frequent hazards
LM	Mitigation action with the potential to reduce impacts from the most frequent hazards
HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	SS	Severe Storms
EC	Extreme Cold	SWS	Severe Winter Storm
EH	Excessive Heat	T	Tornado
EQ	Earthquake	WF	Wildfires
F	Flood		

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-28
Riverside Medical Center Hazard Mitigation Actions

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)§	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)†	Status
					New	Existing							
Identify an alternate location for a secondary Emergency Operations Center (EOC) and retrofit/structurally harden the designated secondary EOC to maintain continuity of operations in the event the primary EOC is damaged by a natural hazard event and ensure continued functionality of multiple Community Lifelines.	EC, EH, EQ, F, SS, SWS, T	C H&M S&S	E&A S&IP	Large County SVI: 0.7816	---	Yes	1, 2, 6	LM	Medium/High	Emergency Preparedness Coordinator	1-2 years	Riverside Medical / FEMA HMGP	New
Educate staff about the water conservation measures that can be taken to reduce drought impacts.	DR	---	E&A	Large County SVI: 0.7816	---	---	2, 6	LL	Low/Low	Emergency Preparedness Coordinator	1-5 years	Riverside Medical	New

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† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a medium-sized Levell II trauma hospital. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

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HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-29
Union Hill Hazard Mitigation Actions
(Sheet 1 of 2)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Purchase and install electrical hookups (pigtails) at Union Hill Building for use with portable emergency backup generator to establish a resilient and reliable power supply, ensure the continued operation of Community Lifelines, and maintain continuity of operations/ government during extended power outages.	EC, EH, EQ, F, SS, SWS, T	S&S	S&IP	Large SVI: 0.1162 EDRC: Yes	---	Yes	1, 2, 6	HM	Medium/High	President / Village Board	3-5 years	Village / USDA – RD Critical Facilities Programs	New
Purchase and install an automatic emergency backup generator at the Union Hill Building to establish a resilient and reliable power supply, ensure the continued operation of Community Lifelines, and maintain continuity of operations/ government during extended power outages.	EC, EH, EQ, F, SS, SWS, T	S&S	S&IP	Large SVI: 0.1162 EDRC: Yes	---	Yes	1, 2, 6	HM	Medium/High	President / Village Board	5 years	Village / USDA – RD Critical Facilities Programs	New
Design and construct a community safe room equipped with an emergency backup generator and HVAC system that can also serve as an emergency shelter and warming/cooling center for Village residents to establish a Community Lifeline essential to human health and safety.	EC, EH, EQ, F, SS, SWS, T	FWS	S&IP	Large SVI: 0.1162 EDRC: Yes	Yes	---	1	HM	High/High	President / Village Board	5 years	Village / FEMA HMGP / USDA – RD Critical Facilities Programs	New

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a village of this size (less than 70 individuals). The Village struggles to provide even the most critical of services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

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Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

Figure MIT-29
Union Hill Hazard Mitigation Actions
(Sheet 2 of 2)

Activity/Project Description	Hazard(s) to be Mitigated	Community Lifeline(s) to be Mitigated	Type of Mitigation Activity	Population Affected (Size, SVI, and/or EDRC)[§]	Reduce Effects of Hazard(s) on Buildings & Infrastructure		Goal(s) Met	Priority	Cost/Benefit Analysis	Organization / Department Responsible for Implementation & Administration	Time Frame to Complete Activity	Funding Source(s)[†]	Status
					New	Existing							
Improve drainage characteristics (re-grade/ contour areas, install culverts, ditches, etc.) within the Village to alleviate drainage/flooding problems that occur at the result of heavy rain events, better manage stormwater runoff and increase community resilience.	F, SS	T	S&IP	Large SVI: 0.1162 EDRC: Yes	---	Yes	1, 2, 6	HM	High/High	President / Village Board	5 years	Village / USDA – RD Water & Waste Disposal Program	New
Make public information materials available to residents that detail the risk to life and property associated with the natural hazards that impact the Village and the proactive approaches they can take to reduce their risk.	DR, EC, EH, EQ, F, SS, SWS, T	---	E&A	Large SVI: 0.1162 EDRC: Yes	---	---	1, 3	LM	Low/Medium	President / Village Board	2-5 years	Village	New
Purchase and install a storm warning siren to establish Communications Community Lifelines essential to human health and safety.	SS, T	C	E&A	Large SVI: 0.1162 EDRC: Yes	---	---	1	HM	Medium/High	President / Village Board	1-3 years	Village / USDA – RD Critical Facilities Programs	New

[§] Size refers to the general size of the population affected (i.e., small, medium, or large, while a Social Vulnerability Index (SVI) ranking of 0.6 or greater and/or an Economically Disadvantaged Rural Community (EDRC) designation of "Yes" identifies potentially underserved communities and/or socially vulnerable populations using the SVI and EDRC as described in Section 1.2.

† Identifies the most likely funding source to be pursued for the activity/project described. However, if funding is unavailable through the most likely or other suggested sources, then implementation of medium to large-scale activities/projects is unlikely due to the budgetary constraints experienced by a village of this size (less than 70 individuals). The Village struggles to provide even the most critical of services to residents. Additional funding is necessary if implementation is to be achieved within the time frames specified.

Acronyms

Priority

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HL	Mitigation action with the potential to virtually eliminate or significantly reduce impacts from the less frequent hazards
LL	Mitigation action with the potential to reduce impacts from the less frequent hazards

Hazard(s) to be Mitigated:

DR	Drought	F	Flood
EC	Extreme Cold	SS	Severe Storms
EH	Excessive Heat	SWS	Severe Winter Storm
EQ	Earthquake	T	Tornado

Type of Mitigation Activity:

E&A	Education & Awareness	NSP	Natural Systems Protection
LP&R	Local Plans & Regulations	S&IP	Structure & Infrastructure Projects

Community Lifelines to be Mitigated:

C	Communications	H&M	Health & Medical
E	Energy (Power & Fuel)	S&S	Safety & Security
FWS	Food, Water, Shelter	T	Transportation
HM	Hazardous Material		

5.0 PLAN MAINTENANCE

This section focuses on the Federal Emergency Management Agency (FEMA) requirements for maintaining and updating the Plan once it has been approved by FEMA and adopted by the participating jurisdictions. These requirements include:

- establishing the method and schedule for monitoring, evaluating and updating the Plan;
- describing how the requirements of the Plan will be incorporated into existing planning mechanisms; and
- detailing how continued public input will be obtained during the plan maintenance process.

These requirements ensure that the Plan remains an effective and relevant document. The following provides a detailed discussion of each requirement.

5.1 MONITORING, EVALUATING & UPDATING THE PLAN

Outlined below is a method and schedule for monitoring, evaluating, and updating the Plan. This method allows the participating jurisdictions to make necessary changes and updates to the Plan and track the implementation and results of the mitigation actions that have been undertaken.

5.1.1 Monitoring and Evaluating the Plan

The Plan update will be monitored and evaluated by a Plan Maintenance Subcommittee on an annual basis. The Plan Maintenance Subcommittee will be composed of the participating jurisdictions who sought Plan approval, the Kankakee County Regional Planning Commission, and other key members of the Task Force. The Kankakee County Planning Department will chair the Plan Maintenance Subcommittee.

The Kankakee County Planning Department will assume lead responsibility for monitoring and tracking the implementation status of the mitigation actions identified in the Plan update. It will be the responsibility of each Plan participant to provide the Kankakee County Planning Department with an annual progress report on the status of their existing mitigation actions and identify whether any actions need to be modified. New mitigation actions may be added to the Plan during the annual monitoring and evaluation period or at any time during the plan maintenance cycle by contacting the Kankakee County Planning Department Director and providing the appropriate information.

Monitoring & Evaluating

- A Plan Maintenance Subcommittee will be formed to monitor and evaluate the Plan update.
- The ***Plan update will be monitored and evaluated*** on an ***annual basis***.
- Each Plan participant will be responsible for providing an annual progress report on the status of their mitigation actions.
- Plan participants can add ***new mitigation actions*** to the Plan ***during the annual monitoring phase or by contacting*** the Kankakee County Planning Department Director.

The Kankakee County Planning Department together with the Plan Maintenance Subcommittee and the Kankakee County Regional Planning Commission will also evaluate the Plan update on an annual basis to determine the effectiveness of the Plan at achieving its stated purpose and goals. In order to evaluate the effectiveness of the Plan update, the Subcommittee will review the mitigation actions that have been successfully implemented and determine whether the action

achieved the identified goal(s) and had the intended result (i.e., losses were avoided, or the vulnerability of hazard-prone areas were reduced).

The Subcommittee will also ask each Plan participant to identify any significant changes in development or priorities that have occurred within the previous 12 months; whether any new plans, policies, regulations, or reports have been adopted; and if any hazard-related damages to critical facilities and infrastructure have been sustained.

In order to streamline the plan maintenance process, the Kankakee County Planning Department will provide each Plan participant with a Plan Maintenance Checklist along with the necessary forms to complete and return. **Appendix M** contains a copy of Checklist and associated forms.

The Kankakee County Planning Department will then prepare a progress report detailing the results of the annual Plan monitoring and evaluation period and provide copies to the Subcommittee. The annual progress report will include:

- information on any hazard-related damages sustained by critical facilities and infrastructure within the planning area during the previous year.
- implementation status of the mitigation actions identified in the Mitigation Strategy.
- identification of any new mitigation actions proposed by the Plan participants.
- information on changes in development, priorities, and planning and regulatory capabilities for the Plan participants.
- identification of how information will be disseminated to stakeholders and constituents on the Plan and its progress in effort to seek continued public participation.

If any existing mitigation actions are modified or new mitigation actions are identified for the Plan participants, then Section 4.7 of the Mitigation Strategy will be updated, and the Plan update resubmitted to the Illinois Emergency Management Agency (IEMA) and FEMA for reference.

On an as needed basis the Kankakee County Planning Department, in consultation with the Subcommittee, will evaluate requests from non-participating jurisdictions to "join" the Plan before the five-year update. Consideration will be given if certain conditions are met as outlined in Appendix D of *FEMA's Local Mitigation Planning Policy Guide.*

Updating the Plan

- The Kankakee County Planning Department, with assistance from the Kankakee County Regional Planning Commission and the Plan Maintenance Subcommittee, will be responsible for updating the Plan.
- The Plan ***must be updated within 5 years*** of the ***date of the final approval letter*** provided by FEMA.
- Once the Plan update has received FEMA/IEMA approval, each participating jurisdiction ***must adopt the Plan to remain eligible to receive federal mitigation funds.***

5.1.2 Updating the Plan

The Plan must be updated within five years of the of the Plan approval date indicated on the signed FEMA final approval letter. (This date can be found in Section 6, Plan Adoption.) This ensures that all the participating jurisdictions will remain eligible to receive federal grant funds to implement those mitigation actions identified in this Plan.

The Kankakee County Planning Department, with assistance from the Kankakee County Regional Planning Commission and the Plan Maintenance Subcommittee, will be responsible for updating the Plan. The update will incorporate all of the information gathered during the monitoring and evaluation phase and will also include:

- a review of the Mitigation Strategy, including potential updates to the mitigation goals and prioritization methodology;
- an evaluation of whether additional natural or man-made hazards need to be addressed or included in the Plan;
- a review of new hazard data that may affect the Risk Assessment Section;
- identification of any changes in priorities within each participating jurisdiction; and
- identification of any changes in development that have occurred in hazard prone areas that would increase or decrease the participating jurisdictions' vulnerability.

A Mitigation Advisory Task Force will be reformed to update the Plan and a public involvement strategy similar to the one employed for this Plan update will be implemented to ensure that the public and stakeholders have ample opportunities to become engaged and provide input during the development of the Plan update. In addition, any jurisdictions that did not take part in the previous Plan update may do so at this time. It will be the responsibility of these jurisdictions to provide all of the information needed to be integrated into the Plan update.

A public forum will be held to present the Plan update to the public for review and comment. The comments received at the public forum will be reviewed and incorporated into the Plan update. The Plan update will then be submitted to IEMA and FEMA for review and approval. ***Once the Plan update has received state and federal approval, FEMA requires that each of the participating jurisdictions adopt the Plan to remain eligible to receive federal funds to implement identified mitigation actions.***

5.2 INCORPORATING THE MITIGATION STRATEGY INTO EXISTING PLANNING MECHANISMS

As part of the planning process, the Task Force identified each participating jurisdiction's existing capabilities (i.e., existing authorities, policies, programs, technical information, etc.) and resources available to support or accomplish mitigation and reduce long-term vulnerability. **Figures PP-3** through **PP-14** identify the existing authorities, policies, programs, technical information, and resources available by capability type by jurisdiction. ***It will be the responsibility of each participating jurisdiction to incorporate, where applicable, the mitigation strategy and other information contained in the Plan update into the planning mechanisms identified for their jurisdiction.***

Adoption of this Plan update will trigger each participating jurisdiction to review and, where appropriate, integrate the Plan into other available planning mechanisms. The Plan Maintenance Subcommittee's annual review will help maintain awareness of the Plan among the participating jurisdictions and encourage active integration of the Plan into their day-to-day operations and planning mechanisms. Any time a mitigation action is slated for implementation by a participating jurisdiction, it will be integrated into their capital improvement plan/budget.

Several of the participating jurisdictions, including the County, Aroma Park, Bourbonnais, City of Kankakee, and Manteno, have identified the need to adopt, review, and/or strengthen current policies or programs in the near future. Several of the participating jurisdictions (Bourbonnais Township, Hopkins Park, and Union Hill) have limited capabilities to integrate the mitigation strategy and other information contained in the Plan update into existing planning mechanisms. These jurisdictions are small in size and may not have the financial resources or trained personnel to develop planning mechanisms such as comprehensive plans or building and zoning ordinances.

5.3 CONTINUED PUBLIC INVOLVEMENT

The County and participating jurisdictions understand the importance of continued public involvement and will seek public input on the Plan update throughout the plan maintenance cycle. Any meetings held by the Plan Maintenance Subcommittee will be noticed and open to the public. Stakeholders and public will be encouraged to participate and provide feedback. Following distribution of the annual progress report, each participating jurisdiction will be encouraged to discuss the findings at their monthly board/council meetings to help maintain awareness of the Plan and encourage integration of the Plan in day-to-day operations.

Participating jurisdictions will also be encouraged to make the annual progress report available via social media and on their websites, as available, and at their offices. As the lead organization responsible for maintaining the Plan update, The Kankakee County Planning Department will also periodically post mitigation-related topics to social media including where to access the approved Plan, information on the hazards that have the potential to impact the County, interesting facts about each hazard, locations of warming/cooling centers, and no or low-cost actions that residents can take to reduce their risk from natural hazards.

A copy of the approved Plan will be maintained and available for review at the Kankakee County Planning Department's Office and on the County's website. Individuals will be encouraged to provide feedback and submit comments for the next Plan update to the Kankakee County Planning Department's Director or the Kankakee County Regional Planning Commission. The comments received will be compiled and included in the annual progress report and considered for incorporation into the next Plan update. Separate Task Force meetings and a public forum will be held prior to the next Plan update submittal to ensure that the public and stakeholders have ample opportunity to become engaged, provide input during the development of the Plan update, and comment on the proposed revision to the Plan update.

6.0 PLAN ADOPTION

The final step in the planning process is the adoption of the approved Plan update by each participating jurisdiction. Each jurisdiction must formally adopt the Plan to become or remain eligible for federal grant funds to implement mitigation actions identified in this Plan.

6.1 PLAN ADOPTION PROCESS

Before the Plan update could be adopted by the participating jurisdictions, it was made available for public review and comment through a public forum and comment period. Comments received were incorporated into the Plan update and the Plan was then submitted to the Illinois Emergency Management Agency (IEMA) and the Federal Emergency Management Agency (FEMA) for their review and approval.

Upon receipt of the Approval Pending Adoption (APA) letter from FEMA, the Plan update was presented to the County and participating jurisdictions for adoption. ***Each participating jurisdiction was required to formally adopt*** the Plan to become or remain eligible to receive federal grant funds to implement the mitigation actions identified in this Plan. Any jurisdiction that chose not to adopt the Plan update did not affect the eligibility of those who did.

Figure PA-1 identifies the participating jurisdictions and the date each formally adopted the Plan update. Signed copies of the adoption resolutions are located in **Appendix N**. FEMA signed the final approval letter on September 19, 2023 which began the five-year approval period and set the expiration date of September 19, 2028 for the Plan.

Figure PA-1
Plan Adoption Dates

Participating Jurisdiction	Plan Adoption Date
Kankakee County	09/12/2023
Aroma Park, Village of	09/12/2023
Ascension Saint Mary Kankakee	11/03/2023
Bourbonnais, Village of	09/05/2023
Bourbonnais Fire Protection District	08/22/2023
Bourbonnais Township	09/18/2023
Bradley, Village of	08/14/2023
Grant Park, Village of	08/21/2023
Hopkins Park, Village of	11/16/2023
Kankakee, City of	10/03/2023
Kankakee Community College	10/10/2023
Manteno, Village of	09/18/2023
Manteno Community Fire Protection District	09/11/2023
Momence Fire Protection District	08/26/2023
Riverside Medical Center	11/15/2023
Union Hill, Village of	09/13/2023

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4.0 MITIGATION STRATEGY

1. Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Advisory Task Force. Existing Mitigation Project/Activity Status. Form.
2. Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Advisory Task Force. Hazard Mitigation Projects. Form.

APPENDIX A

Attendance Sheet

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force Meeting

May 26, 2022

	Name (Please Print)	Representing (Jurisdiction/Organization)	Title
1.	Rob Kenney	Kankakee Community College	Director of Facilities
2.	Ben Detloff	Village of Grant Park	Public Works
3.	Ken Runkle	AEC	Environmental Toxicologist
4.	Steve Marcion	Kankakee County Planning	Building Official
5.	Frank Petkunas	Regional office of Education	Assistant Regional Superintendent
6.	Jamie Posing	Bourbonnais Township	Office Administrator
7.	Leary Keelstra	KCB #21 (county board)	Member
8.	Bruce Paarlberg	K³ Co	KCRPC
9.	Jack Kowalis	Kankakee County GIS Dept	GIS Technician II
10.	Rob VanVoorst	Village of Bonfield	Pres. Village Board
11.	Ryan Marion	Village of Manteno	Manteno Building Official
12.	Jim Keener	Bourbonnais Fire Prot. Dist.	Fire Chief
13.	Becky Powell	Kankakee Co EMA	Director
14.	Crystal Sanders	Kankakee Co. Soil + Water Cons. District	Resource Conservationist
15.	Luke Shepherd	Aroma Fire	Fire Chief
16.	Adam Heid	Kankakee Fire Dept	Deputy Chief

Attendance Sheet

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force Meeting

May 26, 2022

	Name (Please Print)	Representing (Jurisdiction/Organization)	Title
1.	Andrea Bostwick Campbell	AEC	EMS Manager
2.	Michelle Sadler	K3 County Planning	Office Manager
3.	Delbert SKimerhorn	K3 County Planning	Director of Planning + GIS
4.	GREG HELDEN	KANKAKEE COUNTY HIGHWAY	COUNTY ENGINEER
5.	Gerald Cavanaugh	Otto Township	Supervisor
6.	Kevin Bernard	Ascension Saint Marys	Director
7.	Thomas P. Peterson	Planning Commission	Farmer
8.	Rick Manuel	Planning Comm	Educator
9.	Thomas Sutrain	K3 County planning	Resident
10.	Heather Meredith	Village of Herscher	Clerk
11.	Dana Washington	K3 Planning	member
12.	Kathleen Slavin	Village of Aroma Park	Trustee
13.	Kayla Pacton	KCHD	EPC
14.	Jeff Jarvis	KCRPC	—
15.	Erich Blair	K3 County Superv. of assess	Superv. of assessment
16.	Wes Andrews	K3 County Maintenance	Director

Attendance Sheet

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force Meeting

May 26, 2022

	Name (Please Print)	Representing (Jurisdiction/Organization)	Title
1.	Michael Maloney	Regional Planning Commission	member
2.	DON KADERABEK	BRADLEY	FIRE CHIEF
3.			
4.			
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Attendance Sheet – Virtual

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force Meeting

May 26, 2022

Due to the COVID-19 outbreak, the 1st meeting was held as a hybrid meeting with individuals attending in-person and virtually or via teleconference. For those attending virtually attendance was taken during the meeting by the Consultant and recorded below.

	Name (Please Print)	***Representing (Jurisdiction/Organization)***	***Title***
1.	Julie Pasel	Village of Chebanse, Village of Aroma Park, Village of Sammons Point	Clerk
2.	Chad Miller	Kankakee County Board, KCRPC, Kankakee County Farm Bureau	Member, Chair, Manager
3.	Brian McDaniel	Red Cross	Executive Director
4.	Geoff Olson	Kankakee County GIS	GIS Coordinator
5.	Katan Winterroth	Riverside Medical Center	EMA Officer
6.	Rob Fischer	Kankakee County Planning	Transportation Planner
7.	David Bergdahl	KCRPC	Member
8.	Grant Van Voorst	Village of Union Hill	Mayor
9.	Scott O'Brien	Manteno Community Fire District	Chief
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11.			
12.			
13.			
14.			

Attendance Sheet

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force Meeting

August 3, 2022

	Name (Please Print)	Representing (Jurisdiction/Organization)	Title
1.	KEN RUNKLE	AEC	RISK ASSESSOR
2.	Ryan Marion	Village of Manteno	Building Official
3.	Scott O'Brien	Manteno Comm. Fire Prot. Dist.	Fire Chief
4.	Jamie Posing	Bourbonnais Township	Office Administrator
5.	GREG HEIDEN	K³ COUNTY HIGHWAY	COUNTY ENGINEER
6.	Steve Wilder	Sorensen, Wilder + Assoc	CEO
7.	Steve Marion	K³ Co. Planning	Bldg official
8.	Paul Schore	Village of Bourbonnais	Mayor
9.	Kayla Pacton	Kankakee Co. Health Dept.	ERC
10.	Kathleen Slavin	Village of Aroma Park	Trustee
11.	Dana Washington	KCCSI / Retired	Retired
12.	Mike VanWell	Village of Bourbonnais	Administrator
13.	Bill Cavanagh	Otto Township	Supervisor
14.	Becky Rowell	K³ Co EMA	Director
15.	Don KADERABEK	BRADLEY	FIRE CHIEF
16.	Mark Hodge	Village of Hopkinspark	MAYOR

Attendance Sheet

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force Meeting

August 3, 2022

	Name (Please Print)	Representing (Jurisdiction/Organization)	Title
* Send 1.	Thomas P. Peterson	Planning Commission	
2.	Kevin Bennett	Ascension Saint Mary	
3.	Frank Petkunas	I-KAN ROE	Regional Superintendent
4.	Angela Buzas	KSCo EMA	Office Manager
5.	Adam Heid	City of Kankakee	Deputy Chief
6.	Luke Shepherd	Aroma Fire	Fire Chief
7.	Jeff Jarvis	KCRPC	Member -
8.	Karen Smietanski	County VAC	
9.	Abby Smith	Planning Commission	
10.	Geoff Olsen	Kankakee County GIS	GIS Coordinator
11.	DAVID BERIDAHL	KCRPC	MEMBER
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Attendance Sheet

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force Meeting

August 3, 2022

	Name (Please Print)	Representing (Jurisdiction/Organization)	Title
1.	Delbert Skimerhorn	K3 County Planning	Director
2.	Michelle Sadler	K3 County Planning	Office Mgr.
3.	Andrea Bostwick-Campbell	AEC	EMS Manager
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Attendance Sheet – Virtual

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force Meeting

August 3, 2022

Due to the COVID-19 outbreak, the 2nd meeting was held as a hybrid meeting with individuals attending in-person and virtually or via teleconference. For those attending virtually attendance was taken during the meeting by the Consultant and recorded below.

	Name (Please Print)	***Representing (Jurisdiction/Organization)***	***Title***
1.	Jim Keener	Bourbonnais Fire Protection District	Fire Chief
2.	Grant Van Voorst	Village of Union Hill	Mayor
3.	Dondi Maricle	Kankakee County Regional Planning Commission	Member
4.	Katan Winterroth	Riverside Medical Center	EMA Officer
5.	Rob Fischer	Kankakee County Planning Department	Transportation Planner
6.	Matt Raymond	Kankakee County Soil & Water Conservation District	Conservation Coordinator
7.	Michael Maloney	Kankakee County Regional Planning Commission	Member
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Attendance Sheet

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force Meeting

November 2, 2022

	Name (Please Print)	Representing (Jurisdiction/Organization)	Title
1.	Chris Wakeley	Union Hill	
2.	Jamie Posing	Bourbonnais Township	
3.	Steve Maram	K3 County Planning Dept	Building Official
4.	Thomas Sutton	Citizen	
5.	Ryan Marion	Village of Manteno	Building Official
6.	Michelle L Sadler	Kankakee County	Office Mgr.
7.	Delbert SKimerhorn	Kankakee County	Director
8.	Bruce Paarlberg	KPC	
9.	Kathleen Slavin	Aroma Park	Trustee
10.	RICK MANUEL	BOURBONNAIS	
11.	ADAM HEID	CITY OF KANKAKEE - KFD	DEPUTY CHIEF
12.	Andrea Bostwick	American Environmental	EMS Manager
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Attendance Sheet

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force Meeting

November 2, 2022

	Name (Please Print)	Representing (Jurisdiction/Organization)	Title
1.	KEN RUNKLE	AEC	RISK ASSESSOR
2.	Bill CAVANAUGH	OTTO TWP	Supervisor
3.	Sylvia Donahey	Grant Park	Village Trustee
4.	Dondi Mariek	Realtors	
5.	Kayla Pacton	KCHD	ERC
6.	Don KADERABEK	BRADLEY	FIRE CHIEF
7.	Angela BUZAS	Kankakee Co. EMA	Office Manager
8.	Mark Baines	Pembroke Fire	Fire Chief
9.	MARK Hodge	Village of Hopkins Park	MAYOR
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Attendance Sheet – Virtual

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force Meeting

November 2, 2022

The 3rd meeting was held as a hybrid meeting with individuals attending in-person and virtually or via teleconference. For those attending virtually attendance was taken during the meeting by the Consultant and recorded below.

	Name (Please Print)	***Representing (Jurisdiction/Organization)***	***Title***
1.	Callie Smith	American Environmental Corporation	Environmental Analyst
2.	Greg Heiden	Kankakee County Highway Department	County Engineer
3.	Rob Kenney	Kankakee Community College	Director of Facilities
4.	Katan Winterroth	Riverside Medical Center	EMA Officer
5.	Scott O'Brien	Manteno Community Fire Protection District	Fire Chief
6.	Jim Keener	Bourbonnais Fire Protection District	Fire Chief
7.	Michael Maloney	Kankakee County Regional Planning Commission	Member
8.	Tammy Peterson	Kankakee County ETSB	Director
9.	Frank Petkunas	Iroquois-Kankakee Regional Office of Education	Regional Superintendent
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Attendance Sheet

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force Meeting

March 1, 2023

	Name (Please Print)	Representing (Jurisdiction/Organization)	Title
1.	Chris Wakeley	Union Hill	
2.	Michelle Sadler	Kankakee County	Planner II
3.	Jamie Posing	Bourbonnais Township	Office Admin.
4.	Steve Marion	K3 County Planning Dept.	Mgr of Building Dept.
5.	Kevin Bernard	Ascension Saint Mary Hospital	Dir Trauma / Emergency Ops
6.	Delbert Skimerhorn	Kankakee County	Director of Planning
7.	Andrea Bostwick-Campbell	AEC	EMS Manager
8.	JAY KINDLE	RIVERSIDE HEALTHCARE	EMERGENCY PREP. COOR.
9.	DON KADERABEK	BRADLEY	FIRE CHIEF
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Attendance Sheet

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force Meeting

March 1, 2023

	Name (Please Print)	Representing (Jurisdiction/Organization)	Title
1.	Ken Runkle	AEC	Risk Assessor
2.	Bruce Paarlberg	RPC	
3.	Luke Shepherd	Aroma Fire	Fire Chief
4.	Mike Van Mill	Vill of Bourbonnais	Administrator
5.	Becky Powell	KSCo EMA	Director
6.	Angela Buzas	KSCo EMA	Office Mgr
7.	Thomas Sutrina	Committee	
8.	Adam Heid	City of Kankakee	Deputy Chief
9.	Frank Petkunas	Regional Office of Education	Superintendent
10.	Kathleen Slavin	Village of Aroma Park	Trustee
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Attendance Sheet – Virtual

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force Meeting

March 1, 2023

The 4th meeting was held as a hybrid meeting with individuals attending in-person and virtually or via teleconference. For those attending virtually attendance was taken during the meeting by the Consultant and recorded below.

	Name (Please Print)	***Representing (Jurisdiction/Organization)***	***Title***
1.	Sylvia Danahey	Village of Grant Park	Village Trustee
2.	Greg Heiden	Kankakee County Highway Department	County Engineer
3.	Jim Keener	Bourbonnais Fire Protection District	Fire Chief
4.	Rob Kenney	Kankakee Community College	Director of Facilities
5.	Scott O'Brien	Manteno Community Fire Protection District	Fire Chief
6.	Kayla Pacton	Kankakee County Health Department	Emergency Response Coordinator
7.	Tammy Peterson	Kankakee County KanComm 911	Director
8.	Jim Spoon	Momence Fire Protection District	Fire Chief
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Attendance Sheet

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force Meeting

May 31, 2023

	Name (Please Print)	Representing (Jurisdiction/Organization)	Title
1.	KEN RUNKLE	AEC	RISK ASSESSOR
2.	Chris Wakeley	Union Hill	
3.	Michelle Vana	Union Hill	
4.	Thomas SaTrina	Public Member	
5.	GREG HEIDEN	K3 COUNTY HIGHWAY	COUNTY ENGINEER
6.	DAVID BERNDAHL	K3 Regional Planning	
7.	Mark Hodge	Village of Hopkins Park	MAYOR
8.	ADAM HEID	CITY OF KANKAKEE	DEPUTY FIRE CHIEF
9.	Brian Stump	Aroma Park	Mayor
10.	RICK MANUEL	BOURBONNAIS	RETIRED
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Attendance Sheet

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force Meeting

May 31, 2023

	Name (Please Print)	Representing (Jurisdiction/Organization)	Title
1.	Delbert Stimenhorn	K3 County	Planning Director
2.	Andrea Bostwick-Campbell	American Environmental	EMS Manager
3.	Michelle Sadler	K3 County	Planner II
4.	Sylvia Danahey	Grant Park	Trustee
5.	Bruce Paarlberg	RPC	Member
6.	Grant VanVoorst	Union Hill	President
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APPENDIX B

Meeting Minutes

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force

May 26, 2022
9 a.m.
In-Person/Virtual
County Board Room, 4th Floor
Kankakee County Administration Building
189 E. Court St., Kankakee, IL

Task Force Members

American Red Cross
AMITA Health St. Mary's Hospital
Aroma Park Fire Protection District (FPD)
Aroma Park, Village of
Bonfield, Village of
Bourbonnais FPD
Bourbonnais Township
Bradley, Village of
Chebanse, Village of
Grant Park, Village of
Herscher, Village of
Iroquois-Kankakee ROE
Kankakee Community College
Kankakee County
- Board
- EMA
- GIS
- Health
- Highway
- Maintenance
- Planning
- Supervisor of Assessments

Kankakee Co. Farm Bureau
Kankakee Co. Reg. Planning Comm.
Kankakee Co. Soil & Water Cons. Dist.
Kankakee, City of
Manteno Community FPD
Manteno, Village of
Otto Township
Riverside Medical Center
Union Hill, Village of
American Environmental Corporation

Welcome and Introductions

Delbert Skimmerhorn, Chairman of the Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Advisory Task Force, welcomed attendees. He indicated that the purpose of this Task Force is to update the Kankakee County Natural Hazards Mitigation Plan. He introduced Andrea Bostwick-Campbell and Ken Runkle of American Environmental Corporation (AEC), who the County selected to assist in the Plan update process.

Handout materials were distributed to each member. For persons attending virtually, handout materials were distributed digitally via email to each member prior to the meeting. A link to a citizen questionnaire was provided to potential members via email as well. The questionnaire will help gauge residents and Task Force member understanding of the natural hazards that impact the County and also identifies communication preferences.

Before discussing the plan development, Andrea, began the discussion by providing background on the grant and the planning process. Kankakee County Planning Department applied for and received a planning grant from FEMA to update the County's hazard mitigation plan. This grant is administered through the Illinois Emergency Management Agency (IEMA) and pays for 75% of the planning costs. The remaining 25% will be met through in-kind services. The goal of the grant is to obtain a FEMA-approved hazard mitigation plan. The process generally takes 16 to 18 months from start to finish.

What is Mitigation?

Andrea explained that for the purpose of this process, mitigation is any sustained action that reduces the long-term risk to people and property from natural hazards and their impacts. Sustained actions can include projects and activities such as building a community safe room or establishing warming and cooling centers. Mitigation is one of the phases of emergency management and is an important component in creating hazard-resistant communities.

What is a Natural Hazards Mitigation Plan?

Andrea then explained that a Natural Hazards Mitigation Plan details the natural hazard events that have previously impacted the County and identifies activities and projects that reduce the risk to people and property from these hazards before an event occurs. A hazard mitigation plan is different from the County's Emergency Operations Plan (EOP) because it identifies actions that can be taken before a disaster strikes, whereas the EOP identifies how the County will respond during and immediately after an event occurs.

The natural hazards that will be included in the Plan are: floods; tornadoes; severe summer storms (including thunderstorms, hail, and lightning events); severe winter storms (including ice and snow storms); extreme cold; excessive heat; drought; and earthquakes.

Andrea indicated that the Task Force can also include additional hazards it feels have a significant impact on the County and then discussed mine subsidence, wild fires, landslides, and dam failures. Of these hazards, none appear to have the potential to significantly impact the County; however, AEC will send out a survey in the next week to poll the Task Force on whether to include any of these hazards.

Why Update the County's Natural Hazards Mitigation Plan?

Since the early 1990s, damages caused by weather extremes have risen substantially. In 2021, the U.S. experienced $141 billion in severe storm damages from 20 severe weather and natural hazard events. 2021 had the second highest total number of annual billion-dollar events, only behind 2020. In addition, the losses experienced in 2021 were the 3rd highest only behind 2017 and 2005. In the last decade, the U.S. has experienced the top three years with the highest total number of billion-dollar events and two of the top three years with the highest total losses ever recorded. Consequently, the Federal Emergency Management Agency (FEMA) continues to encourage counties throughout the U.S. to prepare and update hazard mitigation plans because they've found that for every dollar spent on mitigation, $6 dollars can be reaped in savings.

Updating this plan provides several major benefits:

1.) Access to the federal mitigation assistance funds. Specific projects and activities will be developed through the planning process to help each participating jurisdiction reduce damages. By including these actions in this Plan, the participating jurisdictions will become eligible to receive state and federal funds to implement the actions.

2.) Increased awareness of the impacts associated with natural hazards. Verifiable information about the natural hazards that occur in Kankakee County will be gathered to help participants in municipal and county meetings make decisions about how to better protect citizens and property from severe weather.

The Planning Process

The goal of the Advisory Task Force meetings is to update the Plan to meet state and federal requirements. The Task Force is an integral part of the planning process and ensures that the Plan is tailored to the needs of the County and participating jurisdictions.

A five-meeting process has been developed to achieve this goal. Specific activities for the Task Force meetings include:

1st Task Force meeting	Orientation to the Planning Process Required Information Needed to Participate
2nd Task Force meeting	Discuss the Risk Assessment Approve Mission Statement & Goals Participants Return Required Forms Begin discussing Mitigation Projects and Activities
3rd Task Force meeting	Discuss and approve Mitigation Strategy Task Force returns draft list of Mitigation Projects and Activities
4th Task Force meeting	Finish discussing Mitigation Projects and Activities Task Force discusses approval/adoption of the Plan
5th Task Force meeting (Public Forum)	Present the Plan for public review Task Force helps answer questions from the public

Jurisdictions who wish to be part of the Plan must meet certain participation requirements that include:

- ❖ Participating in the task force meetings and public forum;
- ❖ Completing the required forms;
- ❖ Coordinating with their constituents and the public; and
- ❖ Adopting the Plan once it's completed.

Information Needed from the Participating Jurisdictions

As part of the Plan update, Ken shared that there is information that will be needed from each participating jurisdiction. The information provided will be used to meet FEMA plan

requirements. He then talked about each of the forms that must be completed at the beginning of the planning process. These Include:

Critical Facilities. Completed lists of Critical Facilities will be used to identify facilities vulnerable to natural hazards and will be provided to IEMA and FEMA as a separate supplement. Copies of the Plan made available to the public will not include these lists for security reasons.

Capability Assessment: Each jurisdiction has a unique set of capabilities and resources available to accomplish hazard mitigation and reduce long-term vulnerabilities to hazard events. As part of the Plan update, the existing capabilities of each jurisdiction need to be identified and described.

Shelter Surveys: The locations of designated as severe weather shelters within each jurisdiction including warming centers, cooling centers, and community safe rooms needs to be identified.

Drinking Water Supply Worksheet: Information on the drinking water supplies that serve the participating communities needs to be gathered to assist in assessing drought vulnerability.

Ken asked participants to complete the forms and return them by the next meeting if possible and to let him or Andrea know if they had any questions.

Severe Weather Events

Andrea told the Task Force that, while AEC will review multiple data sources, including NOAA, NWS, and state and federal databases, these sources don't always include every event nor do they always include damage information, especially dollar amounts. In many cases, individuals at the local level are her best resource for this kind of information.

She then asked Task Force members to share their memories of hazardous events that have occurred in the County including any damages to critical infrastructure and facilities. Straight-line winds, tornadoes and heavy rain were mentioned.

Hazard events related include:

- A severe thunderstorm on May 25, 2022, that took down trees and powerlines in and near Grant Park, eliciting a response from police, fire, and ComEd.
- In 2018, flooding occurred in Aroma Park and other parts of the County.
- The wind turbine at Kankakee Community College was struck by lightning a couple years ago resulting in extensive damage.
- The County paging system was disabled by a lightning strike a couple year ago.

She asked participants to identify any hazard events that have impacted their jurisdiction by completing the form titled, "Hazard Event Questionnaire". The information provided will help supplement the information included in the risk assessment. Ken will send this form out tomorrow via email to all the participants.

Andrea also asked Task Force members if they would be willing to provide any photos of storm damages for inclusion in the Plan update.

Community Participation

Ken stressed the importance of attending each task force meeting and indicated that member participation helps the County meet its 25% match for this grant in addition to assuring that member jurisdictions are eligible for IEMA/FEMA funds. He indicated that tag-teaming and designating substitute representatives is permissible when other obligations arise. Ken pointed out that a designated substitute representative does not have be an official or employee of the jurisdiction.

Ken requested that each jurisdiction consider sharing meeting information with their boards, councils, etc. at regularly scheduled meetings and consider posting the press release or adding a calendar item to their web pages. He also asked jurisdictions who are on Facebook to consider posting about the Plan on their pages as well.

Ken indicated that another opportunity to include the public in the process is to post the link to the Citizen Questionnaire on their web page or Facebook. The more individuals who complete the survey, the better our understanding will be of the public's perception of the hazards that impact the County. Finally, he asked the participants to consider posting or making available at their offices the "Frequently Asked Questions" document in their meeting packet. It provides a quick summary of what the Plan is and why it's important to participate.

Mission Statement & Goals

Copies of a draft mission statement and goals were distributed in the meeting packet. Task Force Members were asked to review these prior to the next meeting. The mitigation goals describe the objectives or end results the Task Force would like to accomplish in terms of hazard and loss reduction/prevention. Every project included in the Plan should be aimed at one or more of the goals identified by this Task Force. Specific goals related to where you live can be added to this list as well.

What Happens Next?

The risk assessment will be the main topic of the next Task Force meeting.

The second meeting of the Task Force is scheduled for:

Wednesday, August 3, 2022
County Board Room, 4th Floor
Kankakee County Administration Building
189 E. Court St., Kankakee
9 A.M.

Andrea asked Task Force members to please review the "Tasks to be Completed" handout before the next meeting and indicated that her and Ken's contact information could be found on the last page of the meeting handout if any questions come up. With no further questions she adjourned the meeting.

Meeting Minutes

Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Advisory Task Force

August 3, 2022, 9 a.m.
In-Person/Virtual
County Board Room, 4th Floor
Kankakee County Administration Building
189 E. Court St., Kankakee, IL

Task Force Members

Aroma Park Fire Protection District (FPD)
Aroma Park, Village of
Ascension Health St. Mary's Hospital
Bourbonnais FPD
Bourbonnais Township
Bourbonnais, Village of
Bradley, Village of
Hopkins Park, Village of
Iroquois-Kankakee ROE
Kankakee County
- EMA
- GIS
- Health
- Highway
- Planning

Kankakee Co. Regional Planning Commission
Kankakee Co. Soil & Water Cons. Dist.
Kankakee, City of
Manteno Community FPD
Manteno, Village of
Otto Township
Riverside Medical Center
Union Hill, Village of
Veterans Assistance Commission of Kankakee County
American Environmental Corporation

Welcome and Introductions

Delbert Skimmerhorn, Chairman of the Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Advisory Task Force, welcomed attendees. He turned the meeting over to Andrea Bostwick, American Environmental Corporation (AEC), who opened the meeting.

Handout materials were distributed to each Task Force member in attendance. For persons participating virtually, handout materials were distributed digitally via email to each member prior to the meeting.

Andrea provided a brief recap to reorient Task Force Members as to what has been accomplished. Before beginning the risk assessment presentation, Andrea asked the participating jurisdictions to submit their completed, “Critical Facilities”, “Capability Assessments” and “Shelter Surveys” if they haven’t done so already.

Risk Assessment

Andrea began the presentation by noting that there have been seven federally-declared disasters in Kankakee County since 1973. A total of 893 verified natural hazard events have been documented over the last 20 to 70 years. This does not include wildfires,

which add an additional 3,965 events. A minimum of $42.7 million in damages have resulted from approximately 110 documented natural hazard events.

The damage amounts are actually much higher based on several facts:

1.) damage descriptions for many floods, tornadoes and severe storm events did not include dollar amounts;
2.) damages to roads from heat and freeze/thaws conditions were not included; and
3.) crop damage figures were unavailable for a majority of the events.

The frequency, magnitude, and property damages for each category of natural hazard were then described.

Severe Storms

Severe storms are the most frequently occurring natural hazard in Kankakee County with 402 events verified since 1957. Approximately $6.2 million in damages has resulted from 75 events, which is almost 15% of all the property damage recorded in the County. Additionally, there has been $65,000 in crop damages from just 5 events. At least 10 fatalities and 609 injuries can be attributed to severe storms. Almost all the injuries and fatalities are attributed crashes associated with wet pavement conditions.

The highest recorded wind speed in the County, not associated with a tornado, is 80 knots (92 mph) and occurred at Kankakee on June 27, 1986 and again near Manteno on June 12, 2013. The largest hail recorded in the county is 6.0 inches (larger than a softball) near Manteno on April 23, 1961.

Severe Winter Storms

There were at least 129 verified events involving severe winter storms (snow and/or ice) since 1950 and 66 extreme cold events since 1995. Two of the four federal emergency disaster declarations for Kankakee County include severe winter storms – the January 1999 heavy snow event and the December 2000 winter storm. Approximately $450,000 in property damages/emergency protective measures resulted from these two events. Three fatalities have resulted from three separate extreme cold events. Additionally, 265 injuries and 5 fatalities can be attributed to crashes involving ice and snow-covered roadways between 2016 and 2020.

At least eight severe winter storms have occurred every decade since 1950. In the last decade, 26 severe winter storms took place.

The record maximum 24-hour snowfall in the County since 1950 is 13 inches, which occurred at Kankakee on January 13, 1979 and February 15-16, 2021. The coldest recorded temperature is -29°F at Kankakee on January 20, 1985.

Floods

There have been a least 164 verified flood events in Kankakee County, 107 riverine/shallow flood events since 1979 and 57 flash flood events since 1996. At least $1.8 million in damages has resulted from three flash flood and two general flood

events. No fatalities or injuries were recorded for any of the flood events. One of the three major federal disaster declarations for Kankakee County are related to flooding.

Excessive Heat

There have been 78 recorded excessive heat events reported in Kankakee County since 1995. No damages were recorded for any of the events, and no fatalities or injuries have occurred as the result of any of the recorded excessive heat events. The highest recorded temperature in the County was 109°F near Kankakee on July 14, 1936.

Tornadoes

Since 1950, 50 tornadoes have been verified in Kankakee County. Approximately $34.2 million in property damages has resulted from 28 of these tornadoes, which is more than 80% of all the property damage recorded in the County. Three tornadoes (1963, 1982, and 1991) had property damage totals of at least $2.5 million. Two fatalities and 79 injuries can be attributed to four tornado events.

The highest recorded F-Scale rating for a tornado in the County was an F4, which occurred on April 17, 1963. The longest tornado in the County was an F3 tornado that was 29.6 miles long on April 7, 1954. The widest tornado in the County was an F3 tornado that was 750 yards wide on April 2, 1982.

Drought

Four major droughts have occurred during the last four decades – 1983, 1988, 2005, and 2012. There has been at least one drought per decade with the exception of the 1990s when no substantial droughts were recorded. Two of these droughts resulted in the County being a USDA-designated disaster area.

Following each declared drought, crop yield reductions were generally experienced, some substantial. Corn and soybean yield reductions were most severe for the 1988 drought when there was a 63.6% reduction in corn and a 55.7% reduction in soybeans.

Year	Corn	Soybeans
1983	35.3%	3.8%
1988	63.6%	55.7%
2005	23.5%	10.2%
2012	22.2%	8.9%

Wildfires

No comprehensive, publicly-accessible databases detailing wildfire occurrences currently exists in Illinois; however, a review of local records provided by Scott O'Brien, the Manteno Community Fire Protection District Fire Chief, identified 3,965 wildfires in Kankakee County from 2009 to 2022. No property/crop damage figures were available, and no injuries/fatalities were reported.

A breakdown by fire protection district was provided and showed that Pembroke (687, 17.3%), Momence (482, 12.2%), and St. Anne (395, 10.0%) FPDs responded to the most wildfires.

Dams

There are 2 classified dams in the County according to the US Army Corps of Engineers' National Inventory of Dams. Both dams are publicly-owned: Bradley owns the North Branch Soldier Creek Reservoir Dam and the City of Kankakee owns the Kankakee Dam. The North Branch Soldier Creek Reservoir Dam has a hazard classification of "High" while Kankakee Dam has a hazard classification of "Low". No known classified dam failures have been recorded in the County.

Earthquakes

In the previous 200 years, no earthquakes have originated in Kankakee County while one earthquake originated in adjacent Will County. On May 26, 1909, an earthquake with a magnitude of 5.1 occurred at present day Lewis University Airport, just west of Lockport. While there are no known fault zones located in the County, there are 2 geologic structures that are part of the LaSalle Anticlinorium – the Herscher Anticline and the Herscher-Northwest Anticline.

Risk Priority Index Exercise

Following the risk assessment, Andrea led the Task Force through a Risk Priority Index (RPI) exercise. The RPI is a quantitative means of providing guidance for ranking the hazards that have the potential to impact the County. This ranking can assist participants in determining which hazards present the highest risks and therefore which ones to focus on when formulating mitigation projects and activities. Each hazard is scored on three categories: frequency, impacts on life and health, and impacts on property and infrastructure based on a scoring system provided. Andrea walked the Task Force through the scoring system using excessive heat as an example and then provided time for the Task Force to fill out the PRI form during the meeting. The results will be compiled, and the findings will be presented at the next meeting.

Mission Statement & Goals

Andrea asked Task Force members to review the draft mission statement and updated mitigation goals provided in the meeting materials. Both of these are required elements of the Plan. As part of the Plan update process both items need to be reviewed and re-evaluated.

The mission statement was reviewed, and the word "residents" was added to item two as follows: "2) identifies projects and activities that mitigation risk to ***residents,*** structures, facilities, and systems…".

Next Andrea discussed the mitigation goals which are intended to reduce long-term vulnerabilities to natural hazards. Each project included in the updated Plan should be aimed at one or more of the goals developed by the Task Force. The updated goals were reviewed, and no revisions were made to the wording. The mission statement and goals will be added to the Plan update.

Mitigation

Andrea explained that mitigation actions include activities and projects that reduce the long-term risk to people and property from the natural hazards discussed in the risk assessment.

Status of Existing Projects
Ken distributed **"Status of Existing Mitigation Actions"** forms to each of the previously participating jurisdictions detailing the mitigation projects and activities included in the 2013 Plan. She explained that as part of the update process the status of these projects needs to be determined. She described how the form should be completed so that this information can be included in the Plan update.

New Projects
The form titled **"Hazard Mitigation Projects"** was then distributed and Andrea indicated this form should be used to submit new projects and activities for the Plan update. To help the jurisdictions think about and assemble their lists a 2-page list of potential mitigation projects was included in the handout material along with mitigation project lists from other jurisdictions. These examples can be used to help Task Force members when they prepare their list. Finally, Andrea provided excerpts from a FEMA publication on mitigation ideas as another resource.

She indicated individual mitigation project lists will be developed for each participating jurisdiction and that this is a list of projects each jurisdiction would like to see accomplished if funding becomes available. FEMA is trying to stimulate the implementation of mitigation projects and activities to reduce the extraordinary amount of money being expended on hazard event damages.

The projects and activities included in the Plan should be mitigation-related, not emergency preparedness, response, recovery, or maintenance. Mitigation projects can include studies, regulatory activities, structural and infrastructure projects, and information/education activities. She provided advice for completing the mitigation project list including providing a detailed description of the project, the jurisdiction responsible for the project and the time frame to complete the project.

Task Force members were encouraged to contact Andrea or Ken if questions arise before they return to the next Task Force meeting.

What Happens Next?
The vulnerability assessment and mitigation project prioritization methodology will be the main topics of the next Task Force meeting.

The third meeting of the Task Force was scheduled for:

Wednesday, November 2, 2022
County Board Room, 4th Floor,
Kankakee County Administration Building
189 E. Court St., Kankakee, 9 A.M.

Public Comment
With no questions or comments, Andrea adjourned the meeting.

Meeting Minutes

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force

November 2, 2022
9:00 a.m.
In-Person/Virtual
County Board Room, 4th Floor
Kankakee County Administration Building
189 E. Court St., Kankakee, IL

Task Force Members

Aroma Park, Village of
Bourbonnais FPD
Bourbonnais Township
Bradley, Village of
Grant Park, Village of
Hopkins Park, Village of
Iroquois-Kankakee ROE
Kankakee Community College
Kankakee County
- EMA
- Health Department
- Highway Department
- KanComm 911
- Planning Department

Kankakee Co. Regional Planning Commission
Kankakee, City of
Manteno Community FPD
Manteno, Village of
Otto Township
Pembroke Township FPD
Riverside Medical Center
Union Hill, Village of
American Environmental Corporation

Welcome and Introductions

Delbert Skimmerhorn, Chair of the Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Advisory Task Force, welcomed attendees. He turned the meeting over to Andrea Bostwick, American Environment Corp. (AEC), who opened the meeting.

Handout materials were distributed to each Task Force member in attendance. For persons participating virtually, handout materials were distributed digitally via email to each member prior to the meeting.

Andrea provided a brief recap to reorient Task Force Members as to what has been accomplished. Before beginning the vulnerability analysis presentation, Andrea asked the participating jurisdictions to submit their completed, “Critical Facilities”, “Capability Assessments” and “Shelter Surveys” if they haven’t done so already.

Vulnerability Analysis

Ken Runkle of AEC began the vulnerability analysis discussion by noting that the focus of this meeting is the vulnerability posed by tornadoes. The analysis estimates future potential damages in terms of dollar loss to residences, including contents, for each participating jurisdiction based on FEMA acceptable formulas. The potential damages

were calculated on the magnitude most likely to be encountered, not on a worst-case event.

Tornadoes

Since 1950, 50 tornadoes have been verified in Kankakee County. While occurring less frequently than severe storms and severe winter storms, tornadoes have caused almost $34.2 million in property damages, 2 fatalities, and 79 injuries.

Using information from the 50 verified tornadoes, damages were calculated based on an "average" tornado. The average tornado in Kankakee County impacts approximately 0.30 square miles. Housing densities were calculated from U.S. Census Bureau information for each of the participating jurisdictions. This information, along with a set of assumptions were used to estimate the number of vulnerable residential structures.

Potential dollar losses were then calculated for these vulnerable residential structures using the provided tax assessment values and an additional assumption about the degree of damage sustained by the structures and their contents.

Potential dollar losses caused by an average-sized tornado to residences and their contents would be expected to exceed at least $8.7 million in any of the participating municipalities with the exception of Cabery, Hopkins Park, and Union Hill. Losses ranged from $2.1 million in Metcalf to $80.4 million in Manteno. Potential dollar losses by township would be expected to range from $316,017 in Norton Township to $19.4 million in Bourbonnais Township.

Risk Priority Index Exercise Results

Ken then presented the results of the Risk Priority Index Exercise, which was conducted at the August 3, 2022 meeting. He provided the Committee with a brief recap on what the Risk Priority Index is and how it can help participants determine which hazards present the highest risk and therefore which ones to focus on when formulating mitigation projects and activities.

Based on the Committee's responses, severe winter storms and tornadoes tied for the highest position, followed by floods and thunderstorms with damaging winds. The hazards that scored the lowest included drought, dam failures, and earthquakes.

Critical Facilities Vulnerability Survey

As part of the Plan update, Andrea indicated that vulnerable community assets need to be identified for the participating jurisdictions. She asked Committee members to complete a 2-page survey distributed to help identify each community's most vulnerable assets as well as identify a list of key issues that clearly describe each community's greatest vulnerabilities. This information will be used in the vulnerability analysis. In-person attendees took time to complete and return their surveys, while those attending virtually were encouraged to complete their surveys and email them to AEC.

Mitigation Actions Prioritization Methodology

The Mitigation Actions Prioritization Methodology outlines the approach used to classify each mitigation action identified by the participating jurisdictions and is a FEMA-required element of the Plan.

Mitigation actions can be prioritized in a number of ways. Andrea explained that the updated methodology is based on two key factors:

1) Frequency of hazard—severe storms occur more frequently than earthquakes.
2) Degree of mitigation—some projects will *significantly reduce* damages while other projects only have the potential to reduce damages.

This methodology helps objectively identify which projects and activities have a greater likelihood to significantly reduce the long-term vulnerabilities associated with the most frequently-occurring hazards. After reviewing the updated methodology, the Committee determined that no changes needed to be made.

Andrea acknowledged that while this methodology does not take cost or politics into consideration, these factors may affect the order in which projects are implemented. She also noted that it is important to keep in mind that implementing all of the mitigation projects is desirable regardless of which prioritization category they fall under.

Community Lifelines

Before discussing mitigation projects and the mitigation action tables with the Committee, Andrea took a few minutes to discuss the concept of community lifelines. FEMA has identified seven community lifelines that are the most fundamental services in the community that, when stabilized, enable all aspects of society to function. The seven community lifelines include: safety & security; food, water, shelter; health & medical; energy (power & fuel); communications; transportation; and hazardous materials.

While the concept of community lifelines was developed to support emergency response and planning, FEMA has begun applying it to all phases of emergency management. Efforts to protect community lifelines and prevent and mitigate potential impacts to them is one of the focuses of the BRIC grant program. A handout with a brief description of the community lifelines was included in the meeting packet. Community lifelines will be included in most project description to create a clear connection to the concept.

Mitigation Projects

Committee Members were asked to submit their existing and new Mitigation Projects forms. Andrea then described how the draft methodology, the existing and new lists of mitigation projects, finalized goals, and other information will be presented for Committee review.

Andrea chose a frequently-requested mitigation project, a community safe room (tornado-shelter), as an example to show how a typical project is prioritized and entered into the Plan on a Mitigation Action Table. She described how each column in the Mitigation Action Table would be completed for this example project.

Andrea explained that the information in the Mitigation Action Tables would be prepared by AEC, but that the Tables cannot be completed until all of the participants submit their draft lists of projects. Committee Members will have the opportunity at the next meeting to review all of the mitigation projects submitted so that they can make adjustments to their lists if they choose.

It was noted that each jurisdiction will have their own list of jurisdiction-specific mitigation projects and they do not need to get approval from the County or any of the other participants for any of their projects. Participants were also reminded that this is a list of projects and activities they would like to see accomplished if funding becomes available. For a jurisdiction to be eligible for a project, it must be on its list.

This is a mitigation plan and there are some projects that IEMA/FEMA do not consider mitigation. Projects associated with emergency preparedness, disaster response & recovery and maintenance will not be included in the Plan. Andrea noted that as the committee members put their lists together, if they are unsure about whether a project would be considered mitigation, go ahead, and include it on their list. AEC will review the lists and help make the appropriate determinations.

What Happens Next?

It is anticipated that participants will need time to assemble their mitigation project lists. Consequently, the Committee agreed to schedule the next meeting on:

Wednesday, March 1, 2023
9:00 a.m.
In-Person/Virtual
County Board Room, 4th Floor
Kankakee County Administration Building
189 E. Court St., Kankakee, IL

Public Comment

No additional questions or comments were raised. With concurrence from committee chair, Delbert Skimmerhorn, Andrea adjourned the meeting.

Meeting Minutes

Kankakee County Multi-Jurisdictional
Natural Hazards Mitigation Advisory Task Force

March 1, 2023
9:00 a.m.
In-Person/Virtual
County Board Room, 4th Floor
Kankakee County Administration Building
189 E. Court St., Kankakee, IL

Task Force Members

Aroma Park FPD
Aroma Park, Village of
Ascension St. Mary Kankakee
Bourbonnais, Village of
Bourbonnais FPD
Bourbonnais Township
Bradley, Village of
Grant Park, Village of
Iroquois-Kankakee ROE
Kankakee Community College
Kankakee County
EMA
Health Department
Highway Department
KanComm 911
Planning Department
Kankakee Co. Regional Planning Commission
Kankakee, City of
Manteno Community FPD
Momence FPD
Riverside Medical Center
Union Hill, Village of
American Environmental Corporation

Welcome and Introductions

Delbert Skimmerhorn, Chair of the Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Advisory Task Force, welcomed attendees. He turned the meeting over to Andrea Bostwick, American Environment Corp. (AEC), who opened the meeting.

Handout materials were distributed to each Task Force member in attendance. For persons participating virtually, handout materials were distributed digitally via email to each member prior to the meeting.

Andrea provided a brief recap to reorient Task Force members as to what has been accomplished and what will be covered at this meeting.

Mitigation Project Submittal & Action Tables

Task Force members were asked to review the Mitigation Action Tables containing the descriptions of the mitigation projects and activities. Andrea and Ken Runkle of AEC, moved throughout the room to discuss questions with each member. Some additional mitigation projects were provided and will be added to these tables. Andrea advised Task Force Members who wished to add additional projects to provide them to her as soon as possible and no later than March 31.

Andrea explained that the information in the draft Mitigation Action Tables handout was prepared by AEC using the lists of mitigation projects and activities provided by the participation jurisdictions. Participants were reminded that this is a list of projects and activities they would like to see accomplished if the money becomes available. Also, for a jurisdiction to be eligible for a project, it must be on its list.

Since this is a mitigation plan, some projects were either removed or not included if they were not considered mitigation. Projects associated with emergency preparedness/response, recovery, and maintenance will not be included in the Plan.

Public Forum and Adoption

The final Task Force meeting will be conducted as an open-house style public forum to present the draft Plan for review and comment. A paper copy of the draft Plan will be available for review at the meeting and posted online on the County's website. There will be a two-week public comment period following the public forum.

Unless otherwise specified, Task Force members will receive an electronic copy of the draft plan to make available for public comment.

Once the comment period is over, any comments received will be incorporated into the Plan and submitted to IEMA/FEMA. Following IEMA and FEMA review, any edits requested will be made and then FEMA will issue an Approval Pending Adoption letter. At this point an email will be sent to all the participating jurisdictions, along with a copy of a model adoption resolution, asking them to formally adopt the Plan by resolution. A copy of the executed resolution should then be provided to AEC. Once all the adoption resolutions are received, Andrea will submit them to IEMA and FEMA. FEMA will then issue the Final Approval letter starting the clock for the five-year update.

Plan Maintenance and Update

Andrea described the Plan maintenance and update commitments detailed in a draft of the Plan Maintenance and update section provided in the meeting handouts for review by the Task Force. The Plan will be monitored and evaluated on an annual basis by a Plan Maintenance Subcommittee, which will be made up of the participating jurisdictions and key members of the Advisory Task Force. The Kankakee County Planning Department will send out a Plan Maintenance Checklist to each of the participating jurisdictions who will be responsible for providing information to the Subcommittee. This information will include: the status of their mitigation actions; any hazard-related damages to critical facilities and infrastructure; the adoption of any new plans, policies, or regulations; and any significant changes in development. The Subcommittee will also evaluate the Plan to determine its effectiveness at achieving its stated purpose and goals. Participants can also add new mitigation actions during the annual monitoring phase or by contacting the Director of Planning.

The Planning Department will then prepare an annual progress report detailing the results of the annual monitoring and evaluation period and provide copies to the Subcommittee. Any modifications or additions to the mitigation project list will require an update of the Mitigation Strategy and a resubmittal of the Plan to IEMA and FEMA for reference.

At least once every five years, the Plan must be reviewed, revised, and resubmitted to IEMA/FEMA for the participating jurisdictions to remain eligible for mitigation project funds. At the five-year update, any jurisdiction that is not already part of this Plan and who wants to become part of the updated Plan may do so. New jurisdictions must supply the same information that all the current jurisdictions supplied.

What Happens Next?

Public Forum

The final Task Force meeting will be conducted as an open-house style public forum where the draft Plan update will be presented for review and comment.

The public forum will be held on:

Wednesday, May 31, 2023
County Board Room, 4th Floor
Kankakee County Administration Building
189 E. Court St., Kankakee, IL
4 p.m. to 6 p.m.

Public Comment

With no other questions, the meeting was adjourned.

APPENDIX C

Kankakee County Citizen Questionnaire

You can help protect lives and property from natural hazard events in the County by taking a few moments to complete this questionnaire.

Asterisk (*) desonates required questions for form completion.

* 1. **Please indicate where you live in the County (Please check only one.):**

- ☐ Aroma Park
- ☐ Bonfield
- ☐ Bourbonnais
- ☐ Bradley
- ☐ Buckingham
- ☐ Cabery
- ☐ Chebanse
- ☐ Essex
- ☐ Grant Park
- ☐ Herscher
- ☐ Hopkins Park
- ☐ Irwin
- ☐ Kankakee
- ☐ Limestone
- ☐ Manteno
- ☐ Momence
- ☐ Reddick
- ☐ St. Anne
- ☐ Sammons Point
- ☐ Sun River Terrace
- ☐ Union Hill
- ☐ Unincorp. County
- ☐ Other (please specify)

* 2. **Please place a checkmark next to each of the natural hazards listed below that you have experienced in the County (please check all that apply).**

- ☐ Severe Summer Storms (thunderstorms, hail, lightning strikes)
- ☐ Floods
- ☐ Severe Winter Storms (snow,sleet, ice)
- ☐ Excessive Heat
- ☐ Extreme Cold
- ☐ Tornadoes
- ☐ Drought
- ☐ Earthquakes
- ☐ Mine/Land Subsidence
- ☐ Landslides
- ☐ Dam Failures
- ☐ Other (please specify)

3. **Which of the natural hazards above have you encountered most frequently?**

4. **Rank the natural hazards listed below in order from 1 to 11 based on which hazard you feel poses the greatest threat. (1 = greatest threat and 11 = least threat)**
Each number should only be used once.

- ≡ Severe Summer Storms
- ≡ Floods

Appendix C

- Severe Winter Storms
- Excessive Heat
- Extreme Cold
- Tornadoes
- Drought
- Earthquakes
- Mine/Land Subsidence
- Landslides
- Dam Failures

* 5. **What types of mitigation projects or activities are most needed in the County? Please check the five you feel are most important**

- [ ] Public information fact sheets and brochures describing actions residents can take to protect themselves and their property against natural hazard impacts.
- [ ] Floodplain Ordinances
- [ ] Building Codes and Enforcement
- [ ] Sirens or other Alert Systems
- [ ] Flood or Drainage Protection (i.e., culvert and drainage ditch maintenance, retention pond construction, dam or levee conctruction/maintenance and/or hydraulic studies to determine cause of drainage problems.)
- [ ] Maintain power during storms by burying power lines, trimming trees and/or purchasing a back-up generator
- [ ] Tornado Safe Shelters
- [ ] Maintain roadway passage during snow storms and heavy rains
- [ ] Provide sufficient water supply during drought
- [ ] Identify residents with special needs in order to provide assistance during a ntural hazard event
- [ ] Retrofit critical infrastructure (public water supplies, schools, sewage treatment facilities, bridges, hospitals and other important services) to reduce potential damages
- [ ] Other (please specify)

* 6. **What are the most effective ways *for you* to receive information about how to make your household and property safer from natural hazards (Please check all that apply.)**

- [ ] Newspaper
- [ ] Television
- [ ] Radio
- [ ] Internet
- [ ] Social Media (Facebook, Twitter, etc.)
- [ ] Schools
- [ ] Mailings
- [ ] Extension Service
- [ ] Public Workshops/Meetings
- [ ] Fire Department/Law Enforcement
- [ ] Public Health Department
- [ ] Municipal/County Offices
- [ ] Other (please specify)

Thank you for your time in assisting with the update of the County's Hazard Mitigation Plan.
Kankakee County Multi-Jurisdictional Natural Hazard Mitigation Advisory Task Force

Done

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See how easy it is to create a survey.

Appendix C

APPENDIX D

Frequently Asked Questions

Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan Update

1) What is the Kankakee County Natural Hazards Mitigation Plan?

The Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan evaluates damage to life and property from natural hazards that have impacted the County and identifies projects and activities to reduce these damages. The Plan is considered to be multi-jurisdictional because it includes municipalities and other jurisdictions (townships, fire protection districts, schools, hospitals, etc.) who want to participate.

2) What is hazard mitigation?

Hazard mitigation is any action taken to ***reduce*** the long-term risk to people and property from a natural hazard ***before*** an event occurs.

3) Why is this Plan being updated?

The Plan update fulfills federal planning requirements of the Stafford Act as amended by the Disaster Mitigation Act and the Disaster Recovery and Reform Act. While meeting federal requirements, this Plan update also provides these benefits:

- Funding for mitigation projects and activities ***before*** disasters occur.
- Funding for projects and activities ***following*** declared disasters.
- Increased awareness about natural hazards and closer cooperation among the various organizations and political jurisdictions involved in emergency planning and response.

4) Who is updating this Plan?

The Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Advisory Task Force is updating the Plan with assistance from technical experts in emergency planning, environmental matters, and infrastructure. The Task Force will include members from education, emergency services, municipal, and county government, health care, and law enforcement.

5) How can I participate?

You are invited to attend public meetings of the Kankakee County Natural Hazards Mitigation Advisory Task Force. In addition, you are encouraged to provide photographs, other documentation, and anecdotal information about damages you experienced from natural hazards in Kankakee County. Surveys will be available at participating jurisdictions and through Kankakee County to help gather specific information from residents. All of this information will be used to update the Plan. The draft Plan update will be presented at a public forum for further public input.

More information can be obtained by contacting:

Delbert Skimerhorn, Director
Kankakee County Planning Department
189 East Court Street, Room 201
Kankakee, Illinois 60901
(815) 937-2940

APPENDIX E

Media Outlets Serving Kankakee County

Daily Journal (daily)
https://www.daily-journal.com/

The City News (weekly)
https://www.facebook.com/Kankakee-City-News-247635269056123/

Country Herald (Weekly)
https://www.countryherald.com/

Milner Media Partners
WVLI (92.7 FM), WIVR (101.7 FM), & WFAV (95.1 FM)
https://milnermediapartners.com/#

WGFA Radio (94.1 FM)
https://www.wgfaradio.com/

WKAN News (1320 AM & 101.3 FM)
https://www.wkan.com/

APPENDIX F

Contact:
Delbert Skimerhorn
Director of Planning
Email: dskimerhorn@k3county.net

FOR IMMEDIATE RELEASE

County Prepares for Natural Disasters: Kankakee County to Update Hazard Mitigation Plan

Kankakee, Illinois (May 5, 2022) — Kankakee County will update its plan to reduce the damages caused by severe weather such as floods, tornadoes, snow and ice storms, and thunderstorms among other events. The plan is called a Hazard Mitigation Plan and the process to update it will be funded through a grant from the Federal Emergency Management Agency (FEMA).

"The Plan describes the natural hazard events that have impacted the County and identifies activities and projects to reduce the risk to residents, property and infrastructure", said Kankakee County Director of Planning, Delbert Skimerhorn. "By having an updated hazard mitigation plan, the County and participating jurisdictions will become eligible for federal funds to construct these projects."

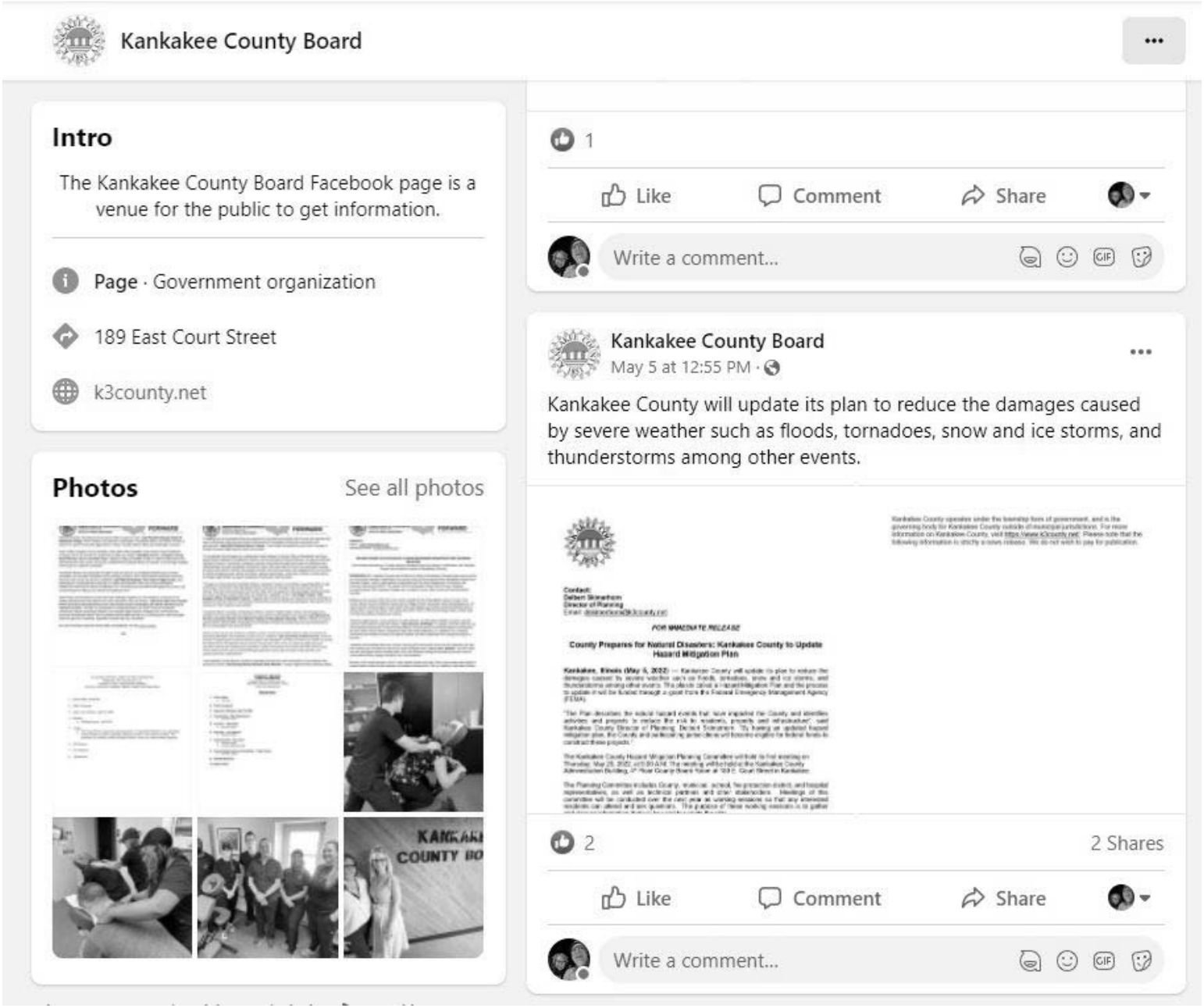
The Kankakee County Hazard Mitigation Planning Committee will hold its first meeting on Thursday, May 26, 2022, at 9:00 A.M. The meeting will be held at the Kankakee County Administration Building, 4th Floor County Board Room at 189 E. Court Street in Kankakee.

The Planning Committee includes County, municipal, school, fire protection district, and hospital representatives, as well as technical partners and other stakeholders. Meetings of this committee will be conducted over the next year as working sessions so that any interested residents can attend and ask questions. The purpose of these working sessions is to gather and discuss information that will be used to update the plan.

"This mitigation plan is different from our County's emergency response plan because it focuses on ways to reduce and prevent damages before they occur," added Skimerhorn.

###

Kankakee County operates under the township form of government, and is the governing body for Kankakee County outside of municipal jurisdictions. For more information on Kankakee County, visit https://www.k3county.net/. Please note that the following information is strictly a news release. We do not wish to pay for publication.


Kankakee County Board
Intro
The Kankakee County Board Facebook page is a venue for the public to get information.
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May 5 at 12:55 PM ·
Kankakee County will update its plan to reduce the damages caused by severe weather such as floods, tornadoes, snow and ice storms, and thunderstorms among other events.
County Prepares for Natural Disasters: Kankakee County to Update Hazard Mitigation Plan
2
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Appendix F

https://www.daily-journal.com/news/local/county-to-update-natural-disasters-plan/article_ff7ae7f4-cd5b-11ec-8ed0-9bd485e9fee3.html

County to update natural disasters plan

Daily Journal staff report
May 9, 2022



Kankakee County to update preparedness plan for natural disasters.

Pixsooz/iStock

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Appendix F

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It's called a hazard mitigation plan and the process to update it will be funded through a grant from the Federal Emergency Management Agency.

"The Plan describes the natural hazard events that have impacted the county and identifies activities and projects to reduce the risk to residents, property and infrastructure," said Delbert Skimerhorn, Kankakee County director of planning.

"By having an updated hazard mitigation plan, the county and participating jurisdictions will become eligible for federal funds to construct these projects."

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The committee includes county, municipal, school, fire protection district and hospital representatives, as well as technical partners and other stakeholders. The committee will meet over the next year in working sessions so that any interested residents can attend and ask questions. The purpose of the working sessions is to gather and discuss information that will be used to update the plan.

"This mitigation plan is different from our county's emergency response plan because it focuses on ways to reduce and prevent damages before they occur," Skimerhorn said.

County of Kankakee

Planning Department

Delbert K. Skimerhorn, Sr., AICP, GISP, CFM
Planning Manager / GIS Manager

189 East Court Street • Kankakee, IL 60901 • 815-937-2940 • Fax 815-937-2974
http:\\www.k3county.net E-mail: planning@k3county.net

Contact: Delbert Skimerhorn
815-937-2940

Reducing Damages Caused by Severe Weather

Kankakee, IL (July 18, 2022) — The frequency and damages caused by severe storms and other natural hazards in Kankakee County will be discussed when the Kankakee County Natural Hazards Mitigation Advisory Task Force meets at 9 a.m., Wednesday, August 3, at the Kankakee County Administration Building, 4th Floor County Board Room, 189 E. Court Street.

This Task Force, comprised of County, township, and municipal representatives as well as technical partners and stakeholders, such as schools, healthcare, and emergency responders, will meet over the next several months to update the Kankakee County Natural Hazards Mitigation Plan.

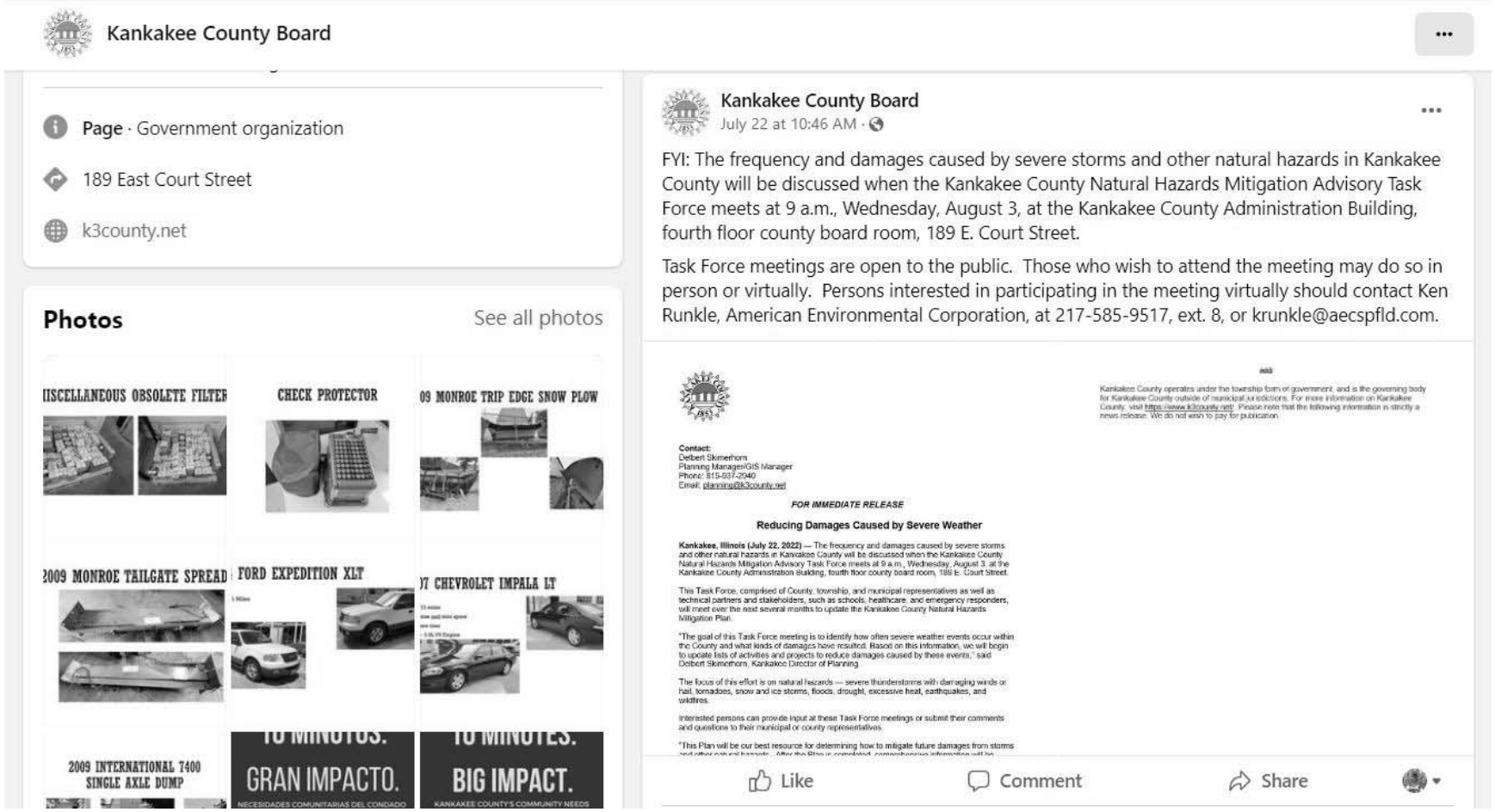
“The goal of this Task Force meeting is to identify how often severe weather events occur within the County and what kinds of damages have resulted. Based on this information, we will begin to update lists of activities and projects to reduce damages caused by these events,” said Delbert Skimerhorn, Kankakee Director of Planning.

The focus of this effort is on natural hazards — severe thunderstorms with damaging winds or hail, tornadoes, snow and ice storms, floods, drought, excessive heat, earthquakes, and wildfires.

Interested persons can provide input at these Task Force meetings or submit their comments and questions to their municipal or county representatives.

“This Plan will be our best resource for determining how to mitigate future damages from storms and other natural hazards. After the Plan is completed, comprehensive information will be available in one document to help guide those who are making decisions about how to better protect Kankakee County residents,” added Skimerhorn.

Task Force meetings are open to the public. Those who wish to attend the meeting may do so in person or virtually. Persons interested in participating in the meeting virtually should contact Ken Runkle, American Environmental Corporation, at 217-585-9517, ext. 8, or krunkle@aecspfld.com.


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2009 INTERNATIONAL 7400 SINGLE AXLE DUMP
GRAN IMPACTO.
NECESIDADES COMUNITARIAS DEL CONDADO
BIG IMPACT.
KANKAKEE COUNTY'S COMMUNITY NEEDS
Kankakee County Board
July 22 at 10:46 AM
FYI: The frequency and damages caused by severe storms and other natural hazards in Kankakee County will be discussed when the Kankakee County Natural Hazards Mitigation Advisory Task Force meets at 9 a.m., Wednesday, August 3, at the Kankakee County Administration Building, fourth floor county board room, 189 E. Court Street.
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Contact:
Delbert Skimerhorn
Planning Manager/GIS Manager
Phone: 815-937-2949
Email: planning@k3county.net
FOR IMMEDIATE RELEASE
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This Task Force, comprised of County, township, and municipal representatives as well as technical partners and stakeholders, such as schools, healthcare, and emergency responders, will meet over the next several months to update the Kankakee County Natural Hazards Mitigation Plan.
"The goal of this Task Force meeting is to identify how often severe weather events occur within the County and what kinds of damages have resulted. Based on this information, we will begin to update lists of activities and projects to reduce damages caused by these events," said Delbert Skimerhorn, Kankakee Director of Planning.
The focus of this effort is on natural hazards — severe thunderstorms with damaging winds or hail, tornadoes, snow and ice storms, floods, drought, excessive heat, earthquakes, and wildfires.
Interested persons can provide input at these Task Force meetings or submit their comments and questions to their municipal or county representatives.
"This Plan will be our best resource for determining how to mitigate future damages from storms
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Appendix F

https://www.daily-journal.com/news/local/kankakee/county-planning-board-developing-task-force-in-cases-of-severe-weather/article_3ff60a50-09ef-11ed-b79d-cfa7b95d8d04.html

County planning board developing task force in cases of severe weather

Daily Journal staff report
Jul 23, 2022



Privacy - Terms

Lightning strikes near Bradley-Bourbonnais Community High School's football field in 2018. The Kankakee County Planning Board is developing a task force regarding severe weather and damages.

Daily Journal/Tiffany Blanchette

The Kankakee County Planning Board shared information Friday on developing a task force for reducing damages caused by severe weather.

In a news release, the board shared the following: The frequency and damages caused by severe storms and other natural hazards in Kankakee County will be discussed when the Kankakee County Natural Hazards Mitigation Advisory Task Force meets at 9 a.m., Wed., Aug. 3, at the Kankakee County Administration Building, fourth floor county board room, 189 E. Court Street.

This Task Force, comprised of County, township and municipal representatives as well as technical partners and stakeholders, such as schools, healthcare, and emergency responders, will meet over the next several months to update the Kankakee County Natural Hazards Mitigation Plan.

"The goal of this Task Force meeting is to identify how often severe weather events occur within the County and what kinds of damages have resulted. Based on this information, we will begin to update lists of activities and projects to reduce damages caused by these events," said Delbert Skimerhorn, Kankakee Director of Planning.

The focus of this effort is on natural hazards — severe thunderstorms with damaging winds or hail, tornadoes, snow and ice storms, floods, drought, excessive heat, earthquakes and wildfires.

Interested persons can provide input at these Task Force meetings or submit their comments and questions to their municipal or county representatives.

"This Plan will be our best resource for determining how to mitigate future damages from storms and other natural hazards. After the Plan is completed, comprehensive information will be available in one document to help guide those who are making decisions about how to better protect Kankakee County residents," added Skimerhorn.

Task Force meetings are open to the public. Those who wish to attend the meeting may do so in person or virtually. Persons interested in participating in the meeting virtually should contact Ken Runkle, American Environmental Corporation, at 217-585-9517, ext. 8, or krunkle@aecspfld.com.

County of Kankakee

Planning Department

Delbert K. Skimerhorn, Sr., AICP, GISP, CFM
Planning Manager / GIS Manager

189 East Court Street • Kankakee, IL 60901 • 815-937-2940 • Fax 815-937-2974
http:\\www.k3county.net E-mail: planning@k3county.net

FOR IMMEDIATE RELEASE

Contact: Delbert Skimerhorn
815-937-2940

Projects to Reduce Damages Caused by Natural Hazards

Kankakee, IL (October 17, 2022) — Identifying projects and activities that can protect Kankakee County residents and property from natural hazards while maintaining vital services when severe weather hits will be discussed at the Kankakee County Natural Hazards Mitigation Advisory Task Force meeting on Wednesday, November 2, 9 a.m., at the Kankakee County Administration Building, 4th Floor County Board Room, 189 E. Court Street.

"Severe weather frequently damages buildings, crops, roads, and other critical infrastructure in this area. Since 1973, the County has been a part of seven federal disaster declarations. In addition, there have been at least six fatalities, 87 injuries, and $42.7 million in verified property damages caused by natural hazard events in the County. Identifying preventative steps that can be taken to reduce the dollar damages as well as protect public health before a natural hazard event occurs is the goal of this planning process," said Delbert Skimerhorn, Kankakee County Director of Planning.
This Committee began work in May 2022 to update the County's Natural Hazards Mitigation Plan.

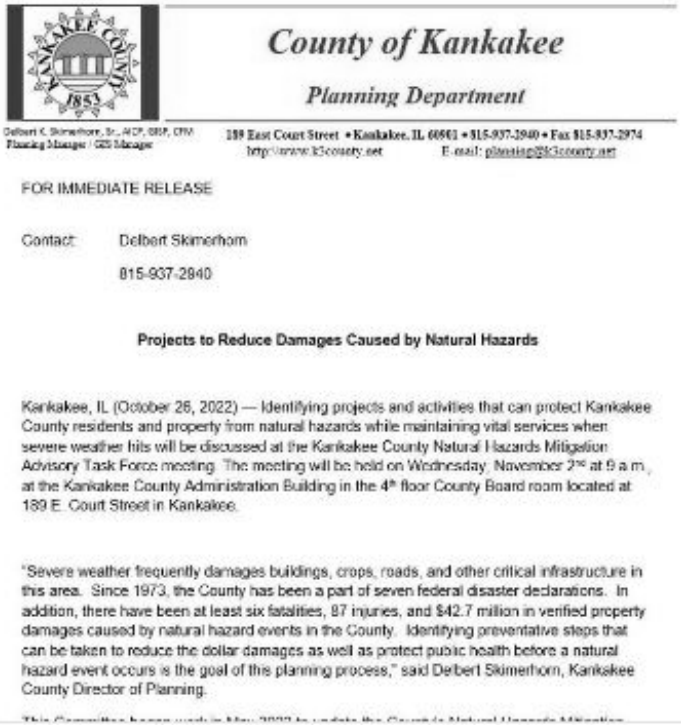
"Other emergency plans are directed at responding after a storm or natural disaster strikes. With this Plan, we will identify actions that can be taken to reduce damages caused by natural hazards for each participating jurisdiction before they occur. This Plan also helps assure each participating jurisdiction is eligible to receive federal grant money for mitigation projects," added Skimerhorn.

Building community safe rooms, acquiring flood prone properties, resolving drainage issues, retrofitting critical infrastructure to better withstand hazard events, purchasing back-up power supplies, and developing public information materials are a few of the more frequently encountered mitigation projects in Illinois.

Task Force meetings are open to the public. Those who wish to attend the meeting may do so in person or virtually. Persons interested in participating in the meeting virtually should contact Ken Runkle, American Environmental Corporation, at 217-585-9517, ext. 8, or krunkle@aecspfld.com.

Kankakee County Board
October 26 at 9:31 AM ·

Identifying projects and activities that can protect Kankakee County residents and property from natural hazards while maintaining vital services when severe weather hits will be discussed at the Kankakee County Natural Hazards Mitigation Advisory Task Force meeting. The meeting will be held on Wednesday, November 2nd at 9:00 AM at the Kankakee County Administration Building in the 4th floor County Board room located at 189 E. Court Street in Kankakee.



County of Kankakee

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1 1 Share

Appendix F

County of Kankakee

Planning Department

Delbert K. Skimerhorn, Sr., AICP, GISP, CFM
Director of Planning & GIS

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http:\\www.k3county.net E-mail: planning@k3county.net

FOR IMMEDIATE RELEASE

Contact: Delbert Skimerhorn

815-937-2940

Protecting Public Health and Property in Kankakee County

Kankakee, IL (February 13, 2023)—Projects and activities that can protect Kankakee County residents and vital services will be the main topic of discussion at the Kankakee County Natural Hazards Mitigation Advisory Task Force meeting on Wednesday, March 1, at the Kankakee County Administration Building, 4th Floor County Board Room, 189 E. Court Street in Kankakee. The meeting begins at 9 am and is open to the public.

The Task Force began work in May 2022 to update the County's Natural Hazards Mitigation Plan. This Plan details past severe weather events that have previously impacted the County and identifies mitigation projects and activities that can be taken before a severe weather event occurs to protect residents and critical services and infrastructure.

"There has been at least $42.7 million in verified property damages caused by severe weather events in the County. Obtaining FEMA's approval of our Plan update will make all of the participants eligible to receive federal grant money for mitigation projects and activities," explained Delbert Skimerhorn, Kankakee County Director of Planning.

Projects identified by Task Force members at this meeting will become part of the Kankakee County Natural Hazards Mitigation Plan. While portions of the Plan have been presented at each meeting, the entire Plan will be presented for public review and comment before it is submitted to the state and federal government for approval.

"A public forum will be conducted this summer for interested persons to review the updated Plan and ask questions of Task Force Members. A two-week public comment period will take place following the public forum to accommodate interested persons who are unable to attend. We want to make sure that anybody who is interested has an opportunity to review and comment on the Plan update," added Skimerhorn.

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Kankakee County Board
February 8 at 1:02 PM ·

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https://www.daily-journal.com/news/local/kankakee/natural-hazards-mitigation-task-force-to-host-public-meeting-march-1/article_b322599c-abdf-11ed-827f-dff219275c73.html

Natural Hazards Mitigation Task Force to host public meeting March 1

Daily Journal staff report
Feb 14, 2023



Skimerhorn

Kankakee County Board

KANKAKEE — Projects and activities that can protect Kankakee County residents and vital services will be the main topic of discussion at the Kankakee County Natural Hazards Mitigation Advisory Task Force meeting on March 1 at the Kankakee County Administration Building, 4th Floor County Board Room, 189 E. Court St. in Kankakee.

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For more information, go to k3county.net.

County of Kankakee

Planning Department

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http:\\www.k3county.net E-mail: planning@k3county.net

FOR IMMEDIATE RELEASE

Contact: Delbert Skimerhorn
815-937-2940

Plan to Protect Public Health and Property in Kankakee County Ready for Public Review

Kankakee, IL (May 15, 2023) -- The updated Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan outlining projects and activities to reduce damages caused by severe weather and other natural hazards will be available for public review and comment starting May 31, 2023. The Plan, along with a summary sheet and a comment survey, will be available for review at the Kankakee County Planning Department and on the County's website.

The comment period will remain open through June 14, 2023. Public comments received will be used to make any revisions needed before the Plan is submitted to the Illinois and Federal Emergency Management Agencies.

The Kankakee County Natural Hazards Mitigation Advisory Task Force has been conducting working meetings open to the public since May 2022. The Task Force prepared this Plan with technical assistance from state and federal agencies as well as a consultant specializing in emergency management planning.

The municipalities of Aroma Park, Bourbonnais, Bradley, Grant Park, Hopkins Park, Kankakee, Manteno, and Union Hill, as well as Kankakee Community College, Bourbonnais Fire Protection District (FPD), Manteno Community FPD, Momence FPD, Ascension St. Mary's Hospital, Riverside Medical Center, and Bourbonnais Township have participated in the planning process.

"This Plan describes how the County and the participating jurisdictions have been impacted by severe weather and other hazards and identifies specific mitigation actions that can be taken to reduce damages to people and property before events occur," explained Delbert Skimerhorn, Kankakee County Director of Planning.

An open-house style public forum will be held at the Kankakee County Administration Building, 4th Floor County Board Room, 189 E. Court Street in Kankakee from 4 p.m. to

6 p.m. on Wednesday, May 31, 2023. Individuals can come and review the Plan at any time during the forum. Those unable to attend can still review the Plan and provide comments without participating in the public forum.

Search Facebook

Kankakee County Board
May 10 at 11:03 AM ·

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County of Kankakee

Planning Department

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Posted on: May 10, 2023

Multi-Jurisdictional Natural Hazard Mitigation Plan for Public Review

FOR IMMEDIATE RELEASE

Contact: Delbert Skimerhorn
815-937-2940

Plan to Protect Public Health and Property in Kankakee County
Ready for Public Review

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"This Plan describes how the County and the participating jurisdictions have

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been impacted by severe weather and other hazards and identifies specific mitigation actions that can be taken to reduce damages to people and property before events occur," explained Delbert Skimerhorn, Kankakee County Director of Planning.

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Kankakee County's E-Waste Program

Posted on: March 1, 2019

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APPENDIX G

KANKAKEE COUNTY MULTI-JURISDICTIONAL NATURAL HAZARDS MITIGATION PLAN PUBLIC FORUM SUMMARY HANDOUT

MAY 31, 2023
4:00 P.M. – 6:00 P.M.

Each year natural hazards (i.e., severe thunderstorms, tornadoes, severe winter storms, flooding, etc.) cause damage to property and threaten the lives and health of Kankakee County residents. Since 1973, Kankakee County has been included in three major federally-declared disasters and experienced at least $25.7 million in recorded property damages and $69.8 million in recorded crop damages.

In the last 10 years alone (2013 – 2022), there have been 83 thunderstorms with damaging winds, 50 heavy rain events, 26 severe winter storms, 26 excessive heat events, 25 flash flood events, 25 riverine flood events, 25 extreme cold events, 17 severe storms with hail one inch in diameter or greater, 16 tornadoes, and 3 lightning strikes with verified damages in the County. While natural hazards cannot be avoided, their impacts can be reduced through effective hazard mitigation planning and implementation.

What is hazard mitigation planning?
Hazard mitigation planning is the process of determining how to reduce or eliminate property damage and loss of life from natural hazards. This process helps the County and participating jurisdictions reduce their risk by identifying vulnerabilities and developing mitigation actions to lessen and sometimes even eliminate the effects of a hazard. The results of this process are documented in a natural hazards mitigation plan.

Why prepare an updated natural hazards mitigation plan?
By preparing and adopting an updated natural hazards mitigation plan, participating jurisdictions become eligible to apply for and receive federal hazard mitigation funds to implement mitigation actions identified in the plan. These funds, made available through the Disaster Mitigation Act of 2000, can help provide local government entities with the opportunity to complete mitigation projects that would not otherwise be financially possible.

Who participated in the update of the County's Natural Hazards Mitigation Plan?
Recognizing the benefits that could be gained from preparing an updated natural hazards mitigation plan, Kankakee County invited all the local government entities within the County to participate. The following jurisdictions chose to participate in the Plan update with the County:

- Aroma Park, Village of
- Ascension St. Mary Kankakee
- Bourbonnais, Village of
- Bourbonnais Fire Protection District
- Bourbonnais Township
- Bradley, Village of
- Grant Park, Village of
- Hopkins Park, Village of
- Kankakee, City of
- Kankakee Community College
- Manteno, Village of
- Manteno Community Fire Protection District
- Momence Fire Protection District
- Riverside Medical Center
- Union Hill, Village of

KANKAKEE COUNTY MULTI-JURISDICTIONAL NATURAL HAZARDS MITIGATION PLAN

How was the Plan update developed?

The Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan update was developed through the Kankakee County Regional Planning Commission and the Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Advisory Task Force. The Task Force included representatives from each participating jurisdiction, as well as agriculture, education, emergency services, healthcare, planning, and social services. The Planning Committee met five times between May 2022 and May 2023.

Which natural hazards are included in the Plan update?

After reviewing the risk assessment, the Planning Committee chose to include the following natural hazards in the Plan:

- severe storms (thunderstorms, hail, lightning, heavy rain)
- floods (riverine & flash)
- severe winter storms (snow & ice)
- excessive heat
- extreme cold
- tornadoes
- drought
- wildfires
- dam failures
- earthquakes

What is included in the Plan update?

The Plan update is divided into sections that cover the planning process; the risk assessment; the mitigation strategy, including the jurisdiction-specific mitigation action lists; and plan maintenance and adoption. The majority of the Plan update is devoted to the risk assessment and mitigation strategy.

The risk assessment identifies the natural hazards that pose a threat to the County and includes a profile of each natural hazard, which describes the location and severity of past occurrences, reported damages to public health and property, and the likelihood of future occurrences. It also provides a vulnerability analysis that estimates the potential impacts each natural hazard would have on the health and safety of the residents of Kankakee County, as well as the buildings, critical facilities, and infrastructure in the County.

The key component of the mitigation strategy is a list of the projects and activities developed by each participating jurisdiction to reduce the potential loss of life and property damage that results from the natural hazards identified in the risk assessment. These projects and activities are intended to be implement *before* a hazard event occurs.

What happens next?

Any comments received at today's public forum and during the public comment period will be reviewed and, where applicable, incorporated into the draft Plan update before it is submitted to the Illinois Emergency Management Agency (IEMA) and the Federal Emergency Management Agency (FEMA) for review. Once IEMA and FEMA have reviewed and approved the Plan, it will be presented to the County and each participating jurisdiction for formal adoption. After adopting the Plan update, each participating jurisdiction will be eligible to apply for federal mitigation funds and can begin implementing the mitigation actions identified in the Plan.

APPENDIX H

KANKAKEE COUNTY MULTI-JURISDICTIONAL NATURAL HAZARDS MITIGATION PLAN

COMMENT SHEET

PLAN COMMENT PERIOD
MAY 31, 2023 THRU JUNE 14, 2023

The County's Multi-Jurisdictional Natural Hazards Mitigation Plan evaluates damage to life and property from natural hazards that occur in the County. This Plan also identifies projects and activities for the County and each participating jurisdiction that will help reduce these damages. This comment sheet should be used to provide feedback on the draft Plan update.

What comments, concerns or questions do you have regarding the draft Plan update?
(Use additional sheets if necessary.)

Please Print Your Name, Address, and Phone Number Below:

Name: _____ Phone: _____

Address: _____

_____ Zip Code: _____

Comments will be accepted through June 14, 2023.

Place
Stamp
Here

Delbert Skimerhorn, Sr., Director of Planning & GIS
Kankakee County Planning Department
189 E. Court St., Room 201
Kankakee, IL 60901

Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan Update Comment Survey

The Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan Update evaluates damage to life and property from natural hazards that occur in the County. This Plan also identifies projects and activities for the County and each participating jurisdiction to help reduce these damages. This comment survey should be used to provide feedback on the draft Plan.

An Asterisk (*) denotes a question that is required for form completion.

* 1. What comments, concerns or questions do you have regarding the draft Plan?

* 2. Name:

3. Address:

4. City/Village/Town:

5. State/Province:

6. Zip Code:

* 7. Email Address:

8. Phone Number:

Comments will be accepted through May 25, 2023.

Done

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See how easy it is to create a survey.

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Appendix H

APPENDIX I

County of Kankakee

Planning Department

Delbert K. Skimerhorn, Sr., AICP, GISP, CFM
Planning Manager / GIS Manager

189 East Court Street • Kankakee, IL 60901 • 815-937-2940 • Fax 815-937-2974
http:\\www.k3county.net E-mail: planning@k3county.net

To: Ford County EMA: Terry Whitebird (twhitebird@fordcounty.illinois.gov)
Grundy County EMA: Joe Schroeder ~~(esda@grundyco.org)~~ (ema@grundycountyil.gov)
Iroquois County EMA: Eric Ceci (ececi@co.iroquois.il.us)
Livingston County ESDA: ~~Charles Schopp (cschopp@livingstoncountyil.gov)~~ (jking@livingstoncountyil.gov)
Will County EMA: Allison Anderson (ema@willcountyillinois.com)
Lake County, IN EM&HS: Bob Walker
Newton County, IN EMA: Nathan Giroux (ncema@newtoncounty.in.gov)

From: Delbert Skimerhorn, Kankakee County Director of Planning

Subject: Hazard Mitigation Plan

Date: May 15, 2023

The purpose of this memorandum is to inform you that Kankakee County is updating its countywide Natural Hazards Mitigation Plan. Since we share common boundaries, you are invited to review our draft Plan and provide comments during the public comment period, which runs from May 31 through June 14, 2023. Starting May 31, the Plan along with a summary sheet and a comment survey can be viewed on the Kankakee County website.

A public forum is scheduled for:

Wednesday, May 31, 2023
4 p.m. to 6 p.m.
Kankakee County Administration Building
4th Floor County Board Room
189 E. Court Street in Kankakee, IL

If you have any questions, please contact me at 815-937-2940 or delbertskimerhorn@k3county.net

American Environmental Corp., an emergency management and environmental consulting firm experienced in preparing these plans, is leading our planning process. If you have specific questions about the Plan, please contact Ken Runkle, a consultant team member, at 217-585-9517 Ext. 8 or krunkle@aecspfld.com

Bostwick, Andrea

From: Skimerhorn, Delbert <dskimerhorn@k3county.net>
Sent: Wednesday, May 10, 2023 8:44 AM (ema@grundycountyil.gov)
To: twhitebird@fordcounty.illinois.gov; ~~esda@grundyco.org~~; ececi@co.iroquois.il.us; ~~cschopp@livingstoncountyil.gov~~; ema@willcountyillinois.com; ncema@newtoncounty.in.gov
Cc: Bostwick, Andrea (jking@livingstoncountyil.gov)
Subject: Natural Hazards Mitigation Plan for Kankakee County
Attachments: HM AC Letter.pdf

All,

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If you have any questions, please contact me at 815-937-2940 or delbertskimerhorn@k3county.net

Delbert Skimerhorn, Sr., AICP, GISP, CFM
Director of Planning & GIS
Kankakee County Planning Department/
GIS Department / KATS MPO
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APPENDIX J

Table 1
Severe Storms - Thunderstorms with Damaging Winds Reported in Kankakee County
1957 - 2022

Date(s)	Start Time	Location(s)	Magnitude Windspeed (knots)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
06/11/1957	2:30 AM	Manteno^	n/a	n/a	n/a	n/a	n/a	
08/03/1960	11:00 PM	Kankakee^	n/a	n/a	n/a	n/a	n/a	
04/23/1961	4:00 PM	Manteno^	n/a	n/a	n/a	$125,000	$25,000	Winds doppled chimneys, trees and downed power lines. Roofs were blown from several buildings.
07/17/1961	11:00 PM	Kankakee^	n/a	n/a	n/a	n/a	n/a	
05/10/1962	9:45 AM	Kankakee^	52 kts	n/a	n/a	n/a	n/a	
07/17/1965	5:07 AM	Sollitt^	51 kts	n/a	n/a	n/a	n/a	
09/14/1965	7:00 PM	Kankakee^	n/a	n/a	n/a	n/a	n/a	
04/20/1966	4:30 PM	Aroma Park^	n/a	n/a	n/a	n/a	n/a	
06/09/1967	2:30 PM	Bourbonnais	n/a	n/a	n/a	n/a	n/a	
06/24/1968	6:30 PM	Momence^	n/a	4	n/a	$25,000	n/a	Two mobile homes blown over in Momence area and 4 occupants treated at hospital.
06/12/1970	1:30 PM	Sollitt^	56 kts	n/a	n/a	n/a	n/a	
05/27/1973	2:25 PM	Irwin^	n/a	n/a	n/a	n/a	n/a	
06/06/1974	6:30 PM	Herscher	n/a	n/a	n/a	n/a	n/a	
06/14/1974	4:23 PM	Kankakee Bradley^	n/a	n/a	n/a	n/a	n/a	
06/20/1974	7:10 PM	Kankakee	n/a	n/a	n/a	n/a	n/a	
05/20/1975	4:00 PM	Essex^	n/a	n/a	n/a	n/a	n/a	
05/25/1975	12:05 PM	Kankakee	55 kts	n/a	n/a	n/a	n/a	
05/30/1975	3:00 PM	Kankakee	n/a	n/a	n/a	n/a	n/a	
06/14/1975	1:30 PM	Herscher^	60 kts	n/a	n/a	n/a	n/a	
11/10/1975	12:10 AM	St Anne	n/a	n/a	n/a	n/a	n/a	
05/18/1982	7:54 PM	Buckingham	n/a	n/a	n/a	n/a	n/a	
12/27/1982	7:30 PM	Kankakee	n/a	n/a	n/a	n/a	n/a	
07/29/1983	5:40 PM	Bonfield^	n/a	n/a	n/a	n/a	n/a	

^ Thunderstorms with damaging winds verified in the vicinity of this location(s).

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06/27/1986	12:45 PM	Kankakee Bradley	80 kts	n/a	1	$250,000	n/a	A severe thunderstorm raked the Kankakee area, resulting in one death and much damage. High winds toppled many large trees onto automobiles, houses and garages. A woman was crushed to death in her car by a falling tree in Bradley. High winds unroofed a furniture warehouse in Bradley and winds, coupled with hail, broke windows.
09/19/1986	9:15 PM	Reddick Reddick^	65 kts	n/a	n/a	$25,000	$2,500	A large grain bin (100,000 bushel capacity) was destroyed.
06/25/1987	10:00 AM	Manteno Manteno^	n/a	n/a	n/a	$2,500	n/a	Wind ripped open the roof of the Ramco Ribbons's building near Manteno.
04/05/1988	8:15 PM	Buckingham Momence Kankakee Bradley	n/a	n/a	n/a	n/a	n/a	
06/20/1988	7:00 PM	Aroma Park^	n/a	n/a	n/a	$25,000	n/a	High winds blew down a couple of large trees and tore off house shingles and doors off a farm building.
11/15/1988	11:59 PM	countywide	63 kts	n/a	n/a	$250,000	n/a	The high winds caused scattered damage in Kankakee. In addition, house damage was reported 5 miles south of Herscher and a nearby barn and machine shed were heavily damaged. A frame house in Manteno sustained damage when it shifted on its foundation.
07/11/1989	3:00 PM	Kankakee	n/a	n/a	n/a	n/a	n/a	
06/29/1990	10:00 AM	countywide	n/a	n/a	n/a	$25,000	n/a	Damage to trees, power lines, structures, and vehicles scattered throughout the county.
08/28/1990	3:45 PM	Momence	n/a	n/a	n/a	n/a	$2,500	Trees were uprooted by thunderstorm winds.

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03/22/1991	10:35 PM	Reddick Reddick^	52 kts	n/a	n/a	$250	n/a	The Illinois State Police reported rocks blown across the road near Reddick .
05/31/1991	5:30 PM	Kankakee	52 kts	n/a	n/a	n/a	n/a	
10/04/1991	6:50 PM	Kankakee Bradley	n/a	n/a	n/a	n/a	n/a	Poles were blown down by thunderstorm winds in Kankakee and Bradley.
10/04/1991	7:10 PM	Kankakee Bradley	n/a	n/a	n/a	n/a	n/a	Poles were blown down by thunderstorm winds in Kankakee and Bradley.
06/17/1992	3:45 PM	countywide	n/a	n/a	n/a	n/a	n/a	Large tree limbs and power lines were downed throughout the county.
07/02/1992	2:15 PM	countywide	n/a	n/a	n/a	n/a	n/a	Trees were blown down throughout the county.
07/16/1995	5:00 PM	Hopkins Park	n/a	n/a	n/a	$5,000	n/a	Part of a roof of a mobile classroom was torn off by winds.
07/27/1995	8:30 PM	Manteno	n/a	n/a	n/a	$100,000	n/a	About 20 empty tractor-semitrailers were knocked over, upended or blown on top of each other. A tractor-semitrailer was overturned on the Interstate 57 entrance ramp at Manteno. Several trees and limbs were blown down in town, mainly on the west side. Porches and gutters were damaged on a few homes. Crops were also flattened by winds.
01/18/1996	1:15 PM	Momence	n/a	n/a	n/a	n/a	n/a	Large tree branches were blown down.
07/24/1996	2:35 PM	Kankakee	n/a	n/a	n/a	n/a	n/a	Damaging winds downed trees in Kankakee.
10/29/1996	6:05 PM	countywide	n/a	n/a	n/a	n/a	n/a	
07/18/1997	3:40 PM	countywide	50 kts	n/a	n/a	n/a	n/a	
08/03/1997	9:15 PM	Momence	50 kts	n/a	n/a	n/a	n/a	
08/04/1997	4:35 PM	Kankakee	50 kts	n/a	n/a	n/a	n/a	

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08/16/1997	8:15 PM	Momence	50 kts	n/a	n/a	n/a	n/a	Strong to severe thunderstorms developed late in the afternoon and continued into the evening, producing strong winds, heavy rain and small hail. Downed trees and power lines resulted in numerous power outages.
06/28/1998	3:40 AM	Bourbonnais Bradley^	61 kts	n/a	n/a	n/a	n/a	AA trailer was overturned at the Sportsman's Club in Bourbonais, Kankakee County.
11/10/1998	7:10 AM	Hopkins Park^	50 kts	n/a	n/a	n/a	n/a	In Kankakee County a daycare center near Hopkins Park was severely damaged by strong winds just before it was to open.
02/11/1999	3:45 PM	Aroma Park Bradley	50 kts	n/a	n/a	n/a	n/a	A storage building was damaged in Aroma Park. The roof of an industrial building was damaged in Bradley.
04/21/1999	6:15 PM	Momence	50 kts	n/a	n/a	n/a	n/a	Two power poles were blown down.
07/23/1999	5:24 PM	Herscher Herscher^ Limestone^ Kankakee Kankakee^	50 kts	n/a	n/a	n/a	n/a	Trees down south of Illinois Route 17 in the vicinity of Herscher and Kankakee.
04/20/2000	1:10 AM	Limestone^ Kankakee^	50 kts	n/a	n/a	n/a	n/a	

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04/20/2000	6:30 AM	Kankakee Aroma Park St. Anne	50 kts	n/a	n/a	n/a	n/a	Wind damage was reported throughout Kankakee County, including fallen trees that blocked several county roads, a damaged farm building under construction, and a billboard that damaged a parked truck. Extensive damage occurred near VanDerKarr Road and east to Illinois Route 1, including a trailer that was flipped on its side and downed trees at a near by golf course.
05/08/2000	10:15 PM	Herscher Aroma Park Irwin^ Kankakee	60 kts	n/a	n/a	n/a	n/a	In Kankakee County, tree limbs knocked down power lines at Herscher. Large trees were blown down or uprooted in Kankakee and Aroma Park.
05/12/2000	4:05 PM	Kankakee	52 kts	n/a	n/a	n/a	n/a	
05/31/2000	1:50 PM	Kankakee Momence	50 kts	n/a	n/a	n/a	n/a	Trees were uprooted and large limbs were broken in Kankakee. Falling trees and limbs damaged cars and homes. As many as 30 trees were uprooted. In Momence a large tree was blown down at a school.
06/14/2000	1:35 PM	Kankakee^	52 kts	n/a	n/a	n/a	n/a	At the intersection of Interstate 57 and Highway 17, three semi tractor-trailers were overturned from the strong winds. Roof damage was reported to buildings near the intersection.
06/14/2000	1:45 PM	Kankakee	52 kts	n/a	n/a	n/a	n/a	In the city of Kankakee an area two blocks by six blocks was closed due to downed trees. In Governor Small Memorial Park fifty trees were uprooted, with damage reported to the Governor Small Museum.
06/14/2000	2:00 PM	St Anne	61 kts	n/a	n/a	n/a	n/a	Several trees were blown down.

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09/11/2000	10:00 PM	countywide	50 kts	n/a	n/a	n/a	n/a	A semi-tractor trailer was blown over on Interstate 57 in Chebanse. Limbs were down at several locations in Kankakee County.
07/08/2001	2:50 PM	St Anne	65 kts	n/a	n/a	$250,000	n/a	AA storage building was heavily damaged in St. Anne in Kankakee county at 1450 CST. The roof was blown off, garage doors were bent and siding was ripped from the building. A large tree also fell onto a car in St. Anne.
07/22/2001	5:30 PM	Bradley Kankakee^	50 kts	n/a	n/a	n/a	n/a	Most of the damage from these storms was in the form of trees and limbs down and power lines down which were received from Bradley in Kankakee county.
08/09/2001	8:40 PM	Bourbonnais Bradley^	60 kts	n/a	n/a	$40,000	n/a	In Bourbonnais in Kankakee county, a 20 foot by 120 foot metal framed storage building was picked up and carried 10 feet. It landed on 9 parked vehicles. The storage building was a total loss and all nine vehicles suffered major damage.
10/24/2001	1:22 PM	countywide	55 kts	n/a	n/a	n/a	n/a	In Kankakee county, trees and power lines were reported down across the entire county. In Bourbonnais, a roof was blown off a bakery and a wall at a construction site was blown over.
05/28/2003	3:59 PM	Kankakee	65 kts	n/a	n/a	$35,000	n/a	Kankakee in Kankakee county also suffered wind damage. Numerous trees and power lines were blown down across the city. Severeal tractor trailers were blown over and a car was total by a fallen tree.
05/30/2003	7:53 PM	Manteno	55 kts	n/a	n/a	n/a	n/a	Trees were reported down in Manteno in Kankakee county.
06/28/2003	2:30 PM	Union Hill^	50 kts	n/a	n/a	n/a	n/a	

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06/28/2003	2:54 PM	Sun River Terrace^	55 kts	n/a	n/a	n/a	n/a	A large trees were blown down at Illinois Route 1 and Route 17.
07/07/2003	9:36 PM	Kankakee	50 kts	n/a	n/a	n/a	n/a	Trees were damaged in Kankakee.
07/17/2003	9:00 PM	BradleyKankakee	55 kts	n/a	n/a	n/a	n/a	Numerous trees, large tree limbs and power lines were blown down in Bradley and Kankakee in Kankakee county.
07/27/2003	12:28 PM	Kankakee	50 kts	n/a	n/a	n/a	n/a	Large tree limbs and power lines were blown down in Kankakee.
05/12/2004	7:10 PM	Chebanse Chebanse^	50 kts	n/a	n/a	n/a	n/a	A gustnado was observed 2 miles north of Chebanse in a field near 2000 West Road by a trained spotter. It lasted about 1 minute. There was no damage.
05/30/2004	6:10 PM	Bonfield^	50 kts	n/a	n/a	n/a	n/a	A large tree was blown down.
05/30/2004	6:25 PM	Aroma Park Aroma Park^	50 kts	n/a	n/a	n/a	n/a	Several trees were blown down south and east of Aroma Park.
05/30/2004	6:35 PM	Momence	50 kts	n/a	n/a	n/a	n/a	Several tree limbs were blown down.
06/07/2005	3:00 PM	St George^	50 kts	n/a	n/a	n/a	n/a	A large cottonwood tree was blown down as well as several large tree limbs.
06/07/2005	6:31 PM	Grant Park	55 kts	n/a	n/a	n/a	n/a	Several large trees were blown down.
07/20/2005	6:25 PM	Bonfield St Anne Limestone Kankakee Aroma Park^	55 kts	n/a	n/a	n/a	n/a	Widespread tree damage was reported in Salina, Kankakee and St. Anne townships, including Kankakee City. A tree limb fell onto a parked van in Kankakee causing damage to the van. A large tree fell onto a garage in St. Anne causing extensive damage.
10/02/2005	4:15 PM	Herscher	50 kts	n/a	n/a	n/a	n/a	Power lines were blown at 600W and 2000S Roads.
04/02/2006	7:25 PM	Bourbonnais Bradley^	50 kts	n/a	n/a	n/a	n/a	Wind damage was reported in the River Bend Subdivision on Route 113, northwest of Kankakee.

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05/24/2006	4:00 PM	Kankakee^	55 kts	n/a	n/a	$10,000	n/a	Several barns and trees were blown down in a one half mile wide path in Limestone Township.
05/24/2006	4:17 PM	Kankakee Limestone Bonfield	61 kts	n/a	n/a	n/a	n/a	Tree limbs blown down in Kankakee. Trees were blown down blocking Limestone Road between 100N and 500W.
05/24/2006	4:20 PM	St Anne	55 kts	n/a	n/a	$30,000	n/a	About 200 trees were blown down in St. Anne. Numerous tree limbs and power lines were also blown down. Several trees fell onto houses. Bleachers at a high school were thrown across a field.
06/21/2006	5:15 PM	Manteno	55 kts	n/a	n/a	$5,000	n/a	Tree limbs, crops and utility poles were blown down.
06/25/2006	6:25 PM	Sun River Terrace^	55 kts	n/a	n/a	$5,000	n/a	A barn roof was blown off.
07/03/2006	5:37 PM	Essex	50 kts	n/a	n/a	n/a	n/a	Large tree limbs were blown down.
07/20/2006	4:58 AM	Kankakee Kankakee^	50 kts	n/a	n/a	n/a	n/a	Tree limbs were blown down on Highland and Route 17, east of Kankakee.
10/02/2006	10:28 PM	Kankakee	57 kts	n/a	n/a	n/a	n/a	Trees down city wide, some blocking roads.
10/02/2006	10:42 PM	Kankakee	57 kts	n/a	n/a	n/a	n/a	Six inch diameter trees blown down in the road on North 9th and Stone Streets. Two large trees were blown down, one blocking Route 17.
08/05/2007	6:30 PM	Grant Park	55 kts	n/a	n/a	n/a	n/a	Trees were blown down.
08/23/2007	2:35 PM	Manteno	50 kts	n/a	n/a	$2,000	n/a	A light pole was blown down.
08/23/2007	2:42 PM	Bourbonnais Bradley^	60 kts	3	n/a	$500,000	n/a	Several houses received minor wind damage with five homes suffering significant damage. Numerous trees, tree limbs and power lines were blown down. Three people suffered minor injuries from flying debris. One man was injured when part of a roof landed on his vehicle.

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10/18/2007	5:50 PM	Grant Park Momence^	60 kts	n/a	n/a	n/a	n/a	Winds blew down an eight inch diameter tree limb in Grant Park. Numerous large tres were blown down near Momence.
12/23/2007	1:44 AM	Herscher	55 kts	n/a	n/a	$2,000	n/a	Utility poles were blown down.
01/07/2008	6:42 PM	Kankakee^	55 kts	n/a	n/a	n/a	n/a	A gust to 63 mph was measured at Kankakee Airport.
05/02/2008	5:50 PM	Kankakee^	50 kts	n/a	n/a	n/a	n/a	A two foot diameter tree was blown down across a road.
05/30/2008	6:47 PM	Sollitt^ Grant Park	50 kts	n/a	n/a	$4,000	n/a	Large tree limbs and power lines were blown down near Route 1 and 10500 N. In Grant Park utility poles were blown down.
06/15/2008	3:40 PM	St Anne	55 kts	n/a	n/a	$2,000	n/a	Tree limbs and power lines were blown down.
06/21/2008	10:22 AM	Momence	55 kts	n/a	n/a	$2,000	n/a	A tree and power lines were blown down on Fifth Street.
07/10/2008	5:13 PM	Bradley Bourbonnais^ Kankakee^	65 kts	n/a	n/a	$100,000	n/a	A parked car on North Blaine Avenue was destroyed by a large tree that was blown down onto it. Another car on Goodwin Street sustained significant damage after a large tree limb fell on it. An SUV on South Grand Avenue suffered major damage after a large tree limb fell onto the roof. Some trees were uprooted. Numerous trees, tree limbs and power lines were blown down throughout Bradley.
07/21/2008	7:00 AM	Herscher	50 kts	n/a	n/a	n/a	n/a	Tree limbs were blown down.
07/21/2008	7:17 AM	Bourbonnais Bradley^	50 kts	n/a	n/a	n/a	n/a	Bleechers were tossed around at Olivet Nazarene University.
07/21/2008	7:20 AM	St Anne	55 kts	n/a	n/a	$1,000	n/a	Tree limbs were blown down. A large tree and powerlines were blown down blocking Route 1.

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07/21/2008	7:30 AM	Kankakee Bradley Bourbonnais Sun River Terrace Momence	65 kts	n/a	n/a	$500	n/a	Large tree limbs were blown down across parts of Kankakee. A large tree was blown over and uprooted near the corner of North Taylor Avenue and East Oak Street. The only damage reported was to a concrete sidewalk ripped up by the roots of the tree. Small tree limbs were blown down in Bourbonnais
08/04/2008	8:22 PM	Kankakee	78 kts	n/a	n/a	$100,000	n/a	Extensive wind damage occurred across southern parts of the City of Kankakee. The damage began along West Jeffery Street and extended east of the Cobb Park area. Many roads were impassable across these locations due to downed trees. Several very large trees were uprooted and power lines were blown down. One very large tree landed on the roof of a home across the western portion of the main area of damage. About two dozen of the city's oldest trees in Cobb Park were damaged. A car was crushed and destroyed by a falling tree on South Wildwood Avenue. A tree limb was thrown through the windshield of a second car and a third car was damaged on South Greenwood Avenue. Wind gusts were estimated between 80 and 100 mph.
08/05/2008	5:12 AM	Bradley Bourbonnais Kankakee Aroma Park	61 kts	n/a	n/a	$2,000	n/a	Tree limbs were blown down near Route 50 in Bradley. Several trees and power lines were blown down in Kankakee. Numerous tree limbs up to 4 inches in diameter were blown down in Bourbonnais. Trees were blown down in Aroma Park.

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03/08/2009	1:06 PM	Grant Park^	70 kts	n/a	n/a	$25,000	n/a	High winds damaged a brand new, 10,000 foot greenhouse and flattened and damaged 30,000 perennials. The high winds also blew plastic roofs off some 30 separate plant buildings and took the roof off of a pole barn. A grain auger was flipped over and damaged. A large barn on N 11000 E Road was blown over and destroyed. A large tree was blown down.
03/08/2009	1:08 PM	Bradley Kankakee Sammons Point^ Chebanse^	61 kts	n/a	n/a	n/a	n/a	A large pine tree was uprooted near the corner of Cook Boulevard and South Center Avenue in Bradley.
05/13/2009	10:50 PM	Bradley Bourbonnais^ Kankakee^	56 kts	n/a	n/a	n/a	n/a	An eighteen inch diameter tree was blown down near the 100 block of North Center Street.
05/13/2009	11:05 PM	Momence^	65 kts	n/a	n/a	$50,000	n/a	Dozens of trees were uprooted along 4000N, northwest of Momence. The fallen trees damaged vehicles and flattened a large pole barn. Just down the road, a roof of an outbuilding was partially removed. At the same location the roof of a house was torn off. Pieces of twisted metal from the roofs of barns and sheds were found in trees and wrapped around nearby utility poles.
08/16/2009	1:45 PM	Kankakee	50 kts	n/a	n/a	n/a	n/a	A 20 foot tall tree was blown down.
06/02/2010	2:20 AM	Manteno	54 kts	n/a	n/a	n/a	n/a	A wind gust to 62 mph was measured in Manteno.
06/12/2010	3:05 PM	Bourbonnais Bradley^	52 kts	n/a	n/a	n/a	n/a	Wind gusts were estimated to 60 mph.

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06/18/2010	3:35 PM	Kankakee	55 kts	n/a	n/a	n/a	n/a	A tree was blown down on a car near Route 17 and Hobbie Avenue.
06/23/2010	5:35 PM	Bonfield^	50 kts	n/a	n/a	$1,000	n/a	Two utility poles were bent over on Warner Bridge Road on the Kankakee Will County line.
06/23/2010	6:00 PM	Kankakee	60 kts	n/a	n/a	n/a	n/a	A twenty inch diameter tree was snapped off blocking the road near Elm and Emory Roads.
06/27/2010	8:30 AM	Kankakee	52 kts	n/a	n/a	n/a	n/a	Tree limbs were blown down with estimated wind gusts to 60 mph.
07/13/2010	2:45 AM	Manteno	59 kts	n/a	n/a	$30,000	n/a	Several trees six to eight inches in diameter were blown down near Interstate 57 around exit 322. A 12 inch diameter tree was snapped off at its base. Numerous trees were blown down on Leahy Circle and on Park Street. A 10 inch diameter tree was blown down on a house on Leahy Circle. A tree fell on a car on Park Street.
07/23/2010	5:20 PM	Kankakee Bradley^	55 kts	n/a	n/a	$6,000	n/a	Trees and limbs were blown down. A large tree limb fell on a car.
10/26/2010	6:23 AM	Aroma Park^	53 kts	n/a	n/a	n/a	n/a	
05/22/2011	2:40 PM	Kankakee	50 kts	n/a	n/a	$5,000	n/a	On the west side of Kankakee, several 4 to 6 inch diameter tree branches were reported down. A ten inch diameter tree was down in Small Memorial Park. A large branch fell onto a van on West Hawkins Street.

^ Thunderstorms with damaging winds verified in the vicinity of this location(s).

Table 1
Severe Storms - Thunderstorms with Damaging Winds Reported in Kankakee County
1957 - 2022

Date(s)	Start Time	Location(s)	Magnitude Windspeed (knots)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
05/29/2011	12:05 PM	Kankakee Kankakee^ Bradley^	65 kts	n/a	n/a	$250,000	n/a	Trees were blown down on Cobb Street. A 12 to 16 inch diameter tree was uprooted and fell onto a car. The driver was not injured. Three large trees were blown down on Main Street near the hospital, along with many large tree limbs. Tree limbs and power lines were blown down across much of the city of Kankakee. A large tree was uprooted and fell onto a house on Nelson Avenue causing severe damage to the first and second floors of the house. Several large tree limbs were blown onto a house on South Seventh Avenue.
06/04/2011	3:40 PM	Manteno	54 kts	n/a	n/a	n/a	n/a	A wind gust to 62 mph was measured near Route 45 and County Road 9000.
07/29/2011	2:50 AM	Bourbonnais Bradley Bradley^ Kankakee	50 kts	n/a	n/a	n/a	n/a	High winds toppled tree limbs throughout Bradley and Bourbonnais.
08/02/2011	10:34 PM	Bourbonnais Bradley^	56 kts	n/a	n/a	n/a	n/a	Two separate reports estimated winds between 60 and 65 mph.
05/20/2012	6:06 PM	Sollitt^	51 kts	n/a	n/a	n/a	n/a	A wind gust to 59 mph was measured near State Line Road and 10500 North.
06/16/2012	6:20 PM	Kankakee Kankakee Community College^ Aroma Park^	50 kts	n/a	n/a	$1,000	n/a	A one foot diameter branch was blown down on River Street. Two power poles were blown down just east of the entrance to Kankakee Community College on River Road.

^ Thunderstorms with damaging winds verified in the vicinity of this location(s).

Table 1
Severe Storms - Thunderstorms with Damaging Winds Reported in Kankakee County
1957 - 2022

Date(s)	Start Time	Location(s)	Magnitude Windspeed (knots)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
06/16/2012	7:10 PM	Momence	50 kts	n/a	n/a	n/a	n/a	Numerous four to six inch diameter limbs were blown down across portions of Market Street.
07/24/2012	5:55 AM	Bourbonnais Bradley^ Kankakee^	56 kts	n/a	n/a	n/a	n/a	A 12 to 14 inch diameter tree was blown down near Route 45 and North Street.
05/28/2013	7:45 PM	Manteno	51 kts	n/a	n/a	n/a	n/a	
05/30/2013	3:15 PM	Kankakee	50 kts	n/a	n/a	n/a	n/a	Numerous 3 to 6 inch diameter tree limbs were blown down in downtown Kankakee.
05/30/2013	9:40 PM	Momence	65 kts	n/a	n/a	$5,000	n/a	Trees were blown down. Part of the roof of a storage unit and a train depot were blown off.
06/12/2013	6:30 PM	Momence	60 kts	n/a	n/a	$3,000	n/a	Trees and power lines blown down on Hill Street.
06/12/2013	6:58 PM	Manteno^ Manteno	80 kts	n/a	n/a	$380,000	n/a	Along Route 45 between county roads 9000 and 10000, nine power poles were snapped at the base. A church under construction was completely destroyed. The representative from the Manteno Community Fire Protection District indicated that the storm destroyed a horse barn and damaged the surrounding area near 11000N Rd. and 1500W Rd. northwest of Manteno. Damaged was estimated at $200,000+.
06/12/2013	7:02 PM	Kankakee	60 kts	n/a	n/a	n/a	n/a	Numerous large trees and branches were blown down.
06/24/2013	5:07 PM	Bourbonnais Bradley Kankakee	52 kts	n/a	n/a	$500	n/a	A 4.5 inch diameter tree limb fell onto a fence in Bourbonnais. Large tree limbs fell onto power lines at Route 113 and Tower Road.

^ Thunderstorms with damaging winds verified in the vicinity of this location(s).

Table 1
Severe Storms - Thunderstorms with Damaging Winds Reported in Kankakee County
1957 - 2022

Date(s)	Start Time	Location(s)	Magnitude Windspeed (knots)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
06/24/2013	5:25 PM	Momence	60 kts	n/a	n/a	$2,000	n/a	Numerous large trees were uprooted with a small limb falling onto a car near Wilbur Street and Chatfield Street. A pine tree fell on and damaged a front porch near 2nd Street and Pine Street.
11/17/2013	12:35 PM	Reddick Buckingham^ Buckingham	60 kts	n/a	n/a	$15,000	n/a	A large tree was blown over onto Route 17 at Reddick. Route 115 was closed between 17000W and 16000W roads due to several power snapped power poles. Two power lines were blown down on 5000S Road between 16000W and 15000W roads. Several south facing windows were blown in on a house. A roof was blown off a shed.
11/17/2013	12:38 PM	Irwin^	70 kts	n/a	n/a	$25,000	n/a	The roof of a barn was torn off on the south side of 7000S between 8000W and 9000W/ Debris was thrown about half a mile to the northeast. A power pole was snapped at the base near the barn.
11/17/2013	12:42 PM	Bonfield	65 kts	n/a	n/a	$20,000	n/a	A home was damaged when strong winds tore off a large section of a roof. A power pole was also blown down.
11/17/2013	12:46 PM	Kankakee	50 kts	n/a	n/a	$25,000	n/a	A tree fell onto a house on Eagle Street.
11/17/2013	12:51 PM	St George^ Momence^	65 kts	n/a	n/a	n/a	n/a	Between 10 and 20 power poles were snapped or blown down along 4000N between 6000E and 8000E.
11/17/2013	12:56 PM	Grant Park	50 kts	n/a	n/a	$5,000	n/a	Barn doors were blown in and a few power poles were blown down.
05/11/2014	4:45 PM	Reddick^	52 kts	n/a	n/a	$1,500	n/a	Three wooded power poles were blown down near 19522 W 2000 S Road.

^ Thunderstorms with damaging winds verified in the vicinity of this location(s).

Table 1
Severe Storms - Thunderstorms with Damaging Winds Reported in Kankakee County
1957 - 2022

Date(s)	Start Time	Location(s)	Magnitude Windspeed (knots)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
06/21/2014	2:48 PM	Herscher	60 kts	n/a	n/a	$3,000	n/a	A large tree was blown down onto power lines approximately a block south of Route 115 on Main Street. A few utility poles and numerous small branches were blown down throughout the village.
06/21/2014	6:00 PM	Grant Park Sollitt^	60 kts	n/a	n/a	$50,000	n/a	Multiple large trees were blown down along area county roads, including one that fell onto a house at 620W County Line Road, and another that was uprooted and fell onto a car. Some of the trees were up to 16 inches in diameter.
06/30/2014	9:19 PM	Bourbonnais Bradley^	60 kts	n/a	n/a	$100,000	n/a	Some siding was peeled off of homes.
06/30/2014	9:23 PM	Limestone Bourbonnais	61 kts	n/a	n/a	n/a	n/a	Several large trees were blown down near Sportsman's Club. Winds were estimated to 70 mph by a trained spotter.
06/30/2014	9:30 PM	Momence	60 kts	n/a	n/a	$5,000	n/a	Trees 12 to 18 inches in diameter were blown down onto power lines. Numerous tree branches were blown down.
07/14/2014	11:23 AM	Bourbonnais	53 kts	n/a	n/a	n/a	n/a	Two large tree limbs were blown down on the north side of town.
09/20/2014	1:45 PM	Grant Park^	60 kts	n/a	n/a	$15,000	n/a	Numerous large trees were blown down, including some that damaged a home.
06/07/2015	3:31 PM	Bradley Bourbonnais^ Kankakee^	60 kts	n/a	n/a	$50,000	n/a	Numerous trees and large limbs were blown down across portions of Bradley. At least one large tree fell onto a house causing damage.
06/07/2015	3:37 PM	Limestone	52 kts	n/a	n/a	n/a	n/a	
06/22/2015	9:13 PM	Bourbonnais Bradley^	70 kts	n/a	n/a	n/a	n/a	Large branches and a couple trees were blown down.

^ Thunderstorms with damaging winds verified in the vicinity of this location(s).

Table 1
Severe Storms - Thunderstorms with Damaging Winds Reported in Kankakee County
1957 - 2022

Date(s)	Start Time	Location(s)	Magnitude Windspeed (knots)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
06/22/2015	9:20 PM	Union Hill^	50 kts	n/a	n/a	$1,000	n/a	Power poles snapped and fell onto a house near 14000 N and Phillips Road.
06/22/2015	9:36 PM	Bradley Bourbonnais^ Kankakee^	50 kts	n/a	n/a	$1,000	n/a	Trees and a fence were blown down on Old Farm South Court.
07/13/2015	5:20 PM	Bourbonnais^	60 kts	n/a	n/a	n/a	n/a	A 16-inch diameter tree was uprooted.
07/17/2015	10:05 PM	Manteno^	65 kts	n/a	n/a	$5,000	n/a	An outbuilding was destroyed. Trees and power lines were blown down.
03/15/2016	9:37 PM	St Anne^	65 kts	n/a	n/a	$10,000	n/a	A silo was blown into a field and destroyed. Power lines were damaged by the silo.
03/15/2016	9:42 PM	St Anne^	50 kts	n/a	n/a	$1,000	n/a	Power lines were blown down.
05/27/2016	3:34 PM	Limestone	55 kts	n/a	n/a	n/a	n/a	Tree fell onto house on 5600 block of Rt 17 West.
06/22/2016	8:35 PM	Bourbonnais Bradley^	55 kts	n/a	n/a	n/a	n/a	Damage was done to the press box at Ward Field of Olivet Nazarene University.
07/13/2016	5:22 PM	Herscher^	52 kts	n/a	n/a	n/a	n/a	Large tree downed onto care and home. Time estimated from radar.
07/13/2016	5:30 PM	Kankakee	52 kts	n/a	n/a	n/a	n/a	Across central and southern Kankakee County, over 200 trees and powerlines down.
07/13/2016	5:34 PM	Sun River Terrace	50 kts	n/a	n/a	n/a	n/a	Stoplight damaged at Illinois Routes 1 and 17.
07/13/2016	5:37 PM	Momence	52 kts	n/a	n/a	n/a	n/a	Trees up to one and a half feet in diameter down. One tree blocking Route 1.
07/13/2016	5:45 PM	Bourbonnais Bradley^	52 kts	n/a	n/a	n/a	n/a	
07/24/2016	7:42 PM	Momence^	61 kts	n/a	n/a	n/a	n/a	Six utility poles bent on 4000N between 6000E and 8000E and a half dozen trees downed. Radar indications are this was a microburst.
03/07/2017	1:27 AM	Limestone^	50 kts	n/a	n/a	n/a	n/a	A large tree was blown down onto the road.

^ Thunderstorms with damaging winds verified in the vicinity of this location(s).

Table 1
Severe Storms - Thunderstorms with Damaging Winds Reported in Kankakee County
1957 - 2022

Date(s)	Start Time	Location(s)	Magnitude Windspeed (knots)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
03/07/2017	1:37 AM	Kankakee	50 kts	n/a	n/a	n/a	n/a	Large tree branches were blown down throughout town.
07/23/2017	5:12 PM	Manteno Bourbonnais^	65 kts	n/a	n/a	$15,000	n/a	In Manteno, numerous large trees and tree limbs were blown down. Ten utility poles were snapped. The roof of a barn was blown off near the intersection of 7000N and 1000W.
07/23/2017	5:27 PM	Bourbonnais St. George^ Bradley Kankakee	63 kts	n/a	n/a	$25,000	n/a	Extensive tree damage was reported in Bradley. One tree limb two feet in diameter was snapped off. Wind gusts were estimated between 60 mph and 70 mph. Representative from Bourbonnais Fire Protection District identified $25,000 in damages to commercial buildings as a result of this event. Numerous trees and tree limbs were blown down along St. George Road, blocking the road. Crop damage was also reported.
05/02/2018	4:10 PM	Bourbonnais	65 kts	n/a	n/a	$50,000	n/a	Twenty utility poles were blown down. Several roofs were pulled back. A corn crib and metal silos were blown down with debris oriented roughly toward the east. The representative from the Manteno Community Fire Protection District verified the damages sustained.
05/02/2018	4:15 PM	Bourbonnais Bradley^	52 kts	n/a	n/a	n/a	n/a	Wind gusts were estimated to 60 mph.
05/09/2018	4:55 PM	Greater Kankakee Airport Kankakee^	56 kts	n/a	n/a	n/a	n/a	
05/09/2018	4:59 PM	Grant Park	52 kts	n/a	n/a	n/a	n/a	A ten inch diameter tree was blown down.

^ Thunderstorms with damaging winds verified in the vicinity of this location(s).

Table 1
Severe Storms - Thunderstorms with Damaging Winds Reported in Kankakee County
1957 - 2022

Date(s)	Start Time	Location(s)	Magnitude Windspeed (knots)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
05/13/2018	4:53 PM	St Anne	55 kts	n/a	n/a	n/a	n/a	Numerous large tree limbs were blown down, including nearly half of one tree.
05/16/2019	12:30 PM	Sammons Point^	52 kts	n/a	n/a	n/a	n/a	Wind gusts were estimated to 60 mph.
06/30/2019	1:50 PM	Manteno Bourbonnais^	56 kts	n/a	n/a	n/a	n/a	A semi truck was blown over on Interstate 57 near mile marker 322. Multiple large trees were uprooted at the Kankakee Sportsman Club.
06/30/2019	1:51 PM	Kankakee	55 kts	n/a	n/a	n/a	n/a	
06/30/2019	1:55 PM	Manteno	64 kts	n/a	n/a	n/a	n/a	Multiple tree limbs 6 to 12 inches in diameter were blown down. A wind gust to 74 mph was measured.
06/30/2019	2:00 PM	Grant Park^ Momence Momence^	61 kts	n/a	n/a	n/a	n/a	Power lines were blown down, a 30 foot tall tree was snapped and shingles were blown off a roof near Grant Park. Numerous trees were blown down in the Momence area including trees blown down onto residences.
07/02/2019	5:11 PM	Limestone	61 kts	n/a	n/a	n/a	n/a	Multiple trees were blown down, including onto power lines.
07/06/2019	12:55 PM	Sollitt^	50 kts	n/a	n/a	n/a	n/a	A one foot diameter tree limb was broken off a tree.
08/17/2019	1:54 AM	Grant Park	55 kts	n/a	n/a	n/a	n/a	Multiple 6 inch diameter tree limbs were snapped off of healthy trees. A 2 foot diameter tree was blown down.
09/27/2019	5:30 PM	Manteno	50 kts	n/a	n/a	n/a	n/a	Several tents were blown down, including one 60 feet by 120 feet. Tree limbs six inches in diameter were also blown down.
09/27/2019	6:10 PM	Grant Park^	50 kts	n/a	n/a	n/a	n/a	Two utility poles and a large diameter tree were blown down.
05/14/2020	9:10 PM	Momence^	55 kts	n/a	n/a	n/a	n/a	Trees and power lines were blown down along River Road, west of Momence.

^ Thunderstorms with damaging winds verified in the vicinity of this location(s).

Table 1
Severe Storms - Thunderstorms with Damaging Winds Reported in Kankakee County
1957 - 2022

Date(s)	Start Time	Location(s)	Magnitude Windspeed (knots)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
05/14/2020	9:15 PM	Grant Park^ Momence^	50 kts	n/a	n/a	n/a	n/a	Utility poles were damaged northeast of Momence.
06/10/2020	7:10 AM	Manteno^	50 kts	n/a	n/a	n/a	n/a	Damage to power lines was reported near 10000 N Road and 1500 W Road.
07/08/2020	6:10 PM	Kankakee Bradley^	50 kts	n/a	n/a	n/a	n/a	A large tree limb was blown down.
07/11/2020	8:49 PM	Reddick	50 kts	n/a	n/a	n/a	n/a	Power lines were blown down.
07/11/2020	9:20 PM	Limestone	55 kts	n/a	n/a	n/a	n/a	A large tree was blown down onto Route 113 west of W 3000 N Road.
08/10/2020	2:36 PM	Herscher Bonfield	65 kts	n/a	n/a	n/a	n/a	Trees, tree limbs and power lines were blown down in Herscher. Almost everyone lost power. Trees, tree limbs and power lines were blown down in Bonfield.
08/10/2020	2:47 PM	Limestone^ Limestone	65 kts	n/a	n/a	n/a	n/a	Trees, tree limbs and power lines were blown down in Limestone.

^ Thunderstorms with damaging winds verified in the vicinity of this location(s).

Table 1
Severe Storms - Thunderstorms with Damaging Winds Reported in Kankakee County
1957 - 2022

Date(s)	Start Time	Location(s)	Magnitude Windspeed (knots)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
08/10/2020	2:50 PM	Kankakee Kankakee^ Bradley Bourbonnais Bourbonnais^	70 kts	n/a	n/a	n/a	n/a	Numerous trees were blown down and uprooted in Kankakee. Tree limbs and power lines were also blown down. Many trees fell onto roofs and garages causing damage. The hardest hit areas were on the west side of Kankakee and the Riverview neighborhood where streets were blocked by the fallen trees. A semi truck was blown over in the Kankakee Walmart parking lot. Trees, tree limbs and power lines were blown down in Bradley. The hardest hit areas were Blatt and Meadowview subdivisions, west of Kennedy Drive. A 60 inch diameter tree on Marla Terrace was snapped at its base and fell onto a pickup truck, a garage and another vehicle in the garage. Several trees and power lines were blown down in Bourbonnais. At least two homes were damaged by trees falling through the roof.
08/10/2020	2:56 PM	Aroma Park Kankakee^ Sammons Point^	65 kts	n/a	n/a	n/a	n/a	Trees, tree limbs and power lines were blown down in Aroma Park. Tree damage was reported along E 7500S Road.
08/10/2020	3:01 PM	Momence Momence^	65 kts	n/a	n/a	n/a	n/a	Trees, tree limbs and power lines were blown down in Momence.
08/10/2020	3:04 PM	St Anne St Anne^	60 kts	n/a	n/a	n/a	n/a	Tree limbs and power lines were blown down in St. Anne. The worst damage was outside the village, in St. Anne Township.
08/10/2020	3:11 PM	Hopkins Park Hopkins Park^	65 kts	n/a	n/a	n/a	n/a	Trees, tree limbs and power lines were blown down in Pembroke Township. Almost everyone lost power.

^ Thunderstorms with damaging winds verified in the vicinity of this location(s).

Table 1
Severe Storms - Thunderstorms with Damaging Winds Reported in Kankakee County
1957 - 2022

Date(s)	Start Time	Location(s)	Magnitude Windspeed (knots)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
08/12/2021	1:29 AM	Aroma Park^ Sun River Terrace^	65 kts	n/a	n/a	n/a	n/a	Widespread tree damage occurred near the Elks Country Club with numerous trees snapped or blown down along with large tree limbs and power lines also blown down. Widespread tree damage occurred northeast of Aroma Park between Bittersweet Drive and Heiland Road. Numerous large tree limbs were blown down. Two houses suffered minor roof damage from the falling tree limbs. Some roads were blocked by the fallen trees. Power lines were also blown down. Significant tree damage occurred along Sandbar Road. Several trees were uprooted. Several large tree limbs were blown down and one fell onto a parked pickup truck. Power lines were also blown down.
09/07/2021	2:45 PM	Kankakee	50 kts	n/a	n/a	n/a	n/a	A tree limb 6 to 12 inches in diameter was blown down.
12/10/2021	9:34 PM	Chebanse	60 kts	n/a	n/a	n/a	n/a	Two semi trucks were blown over on Interstate 57 near mile marker 302.
08/03/2022	12:54 PM	Kankakee	60 kts	n/a	n/a	n/a	n/a	Twenty five large trees were blown down across Small Memorial Park. Multiple large trees were blown down onto roadways.
08/03/2022	1:00 PM	Kankakee	50 kts	n/a	n/a	n/a	n/a	Power lines were blown down at Interstate 57 and the Court Street exit. A light pole was bent and several tree limbs 3 to 6 inches in diameter were blown down.
08/03/2022	1:10 PM	Sun River Terrace	55 kts	n/a	n/a	n/a	n/a	A tree was uprooted.

^ Thunderstorms with damaging winds verified in the vicinity of this location(s).

Table 1
Severe Storms - Thunderstorms with Damaging Winds Reported in Kankakee County
1957 - 2022

Date(s)	Start Time	Location(s)	Magnitude Windspeed (knots)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
08/29/2022	12:15 PM	Bourbonnais^ Manteno^	50 kts	n/a	n/a	n/a	n/a	Small tree limbs were blown down northwest of Bourbonnais. A six inch diameter tree limb was blown down near County Line Road and Route 52.
08/29/2022	12:20 PM	Manteno	50 kts	n/a	n/a	n/a	n/a	Photos shared on social media showed several tree limbs 6 to 8 inches in diameter blown down.
08/29/2022	12:24 PM	Bourbonnais Bradley Kankakee	60 kts	n/a	n/a	n/a	n/a	Multiple large tree limbs were broken at the Olivet Nazarene University Campus in Bourbonnais. In Bradley, trees and tree limbs were blown down. A two foot diameter tree which was rotted was blown down blocking a road. A one foot diameter tree limb was blown down onto a car. In Kankakee, trees and tree limbs were blown down.
08/29/2022	12:27 PM	Aroma Park	60 kts	n/a	n/a	n/a	n/a	Trees and tree limbs were blown down.
08/29/2022	12:30 PM	Grant Park^ Grant Park	60 kts	n/a	n/a	n/a	n/a	Utility poles were blown down with debris on roadways near County Roads 6000 North and 7500 East. In Grant Park, trees and tree limbs were blown down. A 6 to 8 inch diameter tree limb was blown down near Maple Street and Taylor Street. Small tree limbs were blown down near Route 1 and County Road 10500 North.
08/29/2022	12:34 PM	Grant Park^	50 kts	n/a	n/a	n/a	n/a	A twenty foot tall, six inch diameter apple tree was blown down near Bull Creek Road and Route 17.
GRAND TOTAL:				**7**	**1**	**$3,104,250**	**$30,000**	

Source: Kankakee County Multi-Jurisdictional Natural Hazard Mitigation Planning Committee Member responses to the Natural Hazard Events Questionnaire.
NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Storm Events Database.

^ Thunderstorms with damaging winds verified in the vicinity of this location(s).

Table 2
Severe Storms - Hail Events Reported in Kankakee County
1980 - 2022

Date(s)	Start Time	Location(s)	Magnitude Hail Stone Diameter (inches)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
04/13/1981	7:30 PM	Grant Park Grant Park^	1.75 in.	n/a	n/a	n/a	n/a	
06/08/1981	4:15 PM	Kankakee Bradley^	4.00 in.	n/a	n/a	$250,000	$25,000	Hail as big as 4 inches in diameter damaged property and crops along an 18-mile path. Windows were broken and cars and siding on homes were damaged.
05/25/1984	3:15 PM	Herscher^	1.00 in.	n/a	n/a	n/a	n/a	
06/22/1984	5:30 PM	Bourbonnais Bradley	1.00 in.	n/a	n/a	n/a	n/a	About 25,000 acres of Kankakee County crops were heavily damaged or destroyed by large hail, strong wind, and rain as the storms continued southeast. The heaviest crop damage occurred north of Bourbonnais from about 2.5 miles west of US45, east to as fasr as St. George and north to the county line.
01/16/1990	1:50 PM	Bourbonnais	1.00 in.	n/a	n/a	n/a	n/a	
07/07/1991	6:19 PM	Bonfield^	1.00 in.	n/a	n/a	n/a	n/a	
07/07/1991	6:35 PM	Herscher	1.00 in.	n/a	n/a	n/a	n/a	
07/07/1991	8:25 PM	Manteno	1.75 in.	n/a	n/a	n/a	n/a	
04/10/1992	10:29 PM	Kankakee Bradley^	1.50 in.	n/a	n/a	n/a	n/a	
04/20/1993	4:30 AM	Bourbonnais	1.00 in.	n/a	n/a	n/a	n/a	
04/26/1994	7:30 PM	Deselm	1.00 in.	n/a	n/a	$5,000	n/a	High winds and hail damaged windows and a porch.
04/26/1994	8:18 PM	Bourbonnais	1.75 in.	n/a	n/a	n/a	n/a	High winds caused hail to accumulate several inches deep along walls.
04/26/1994	8:24 PM	Bradley	1.75 in.	n/a	n/a	n/a	n/a	High winds caused hail to accumulate several inches deep along walls.
07/05/1994	3:20 PM	Kankakee	1.75 in.	n/a	n/a	n/a	n/a	

^ Hail event verified in the vicinity of this location(s).

Table 2
Severe Storms - Hail Events Reported in Kankakee County
1980 - 2022

Date(s)	Start Time	Location(s)	Magnitude Hail Stone Diameter (inches)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
07/05/1994	3:35 PM	Kankakee^ Sun River Terrace^	1.75 in.	n/a	n/a	n/a	n/a	
04/19/1996	5:40 PM	Bourbonnais Bradley	1.00 in.	n/a	n/a	n/a	n/a	
05/05/1997	1:15 PM	Kankakee Bradley^	1.75 in.	n/a	n/a	n/a	n/a	
05/19/1998	3:18 PM	Kankakee Bradley^	1.75 in.	n/a	n/a	n/a	n/a	
05/19/1998	3:30 PM	Momence St Anne	1.75 in.	n/a	n/a	n/a	n/a	
06/29/1998	4:42 PM		1.00 in.	n/a	n/a	n/a	n/a	
04/21/1999	6:05 PM	Reddick^ Herscher	1.75 in.	n/a	n/a	n/a	n/a	
07/02/2000	3:35 PM	Bradley Kankakee	1.00 in.	n/a	n/a	n/a	n/a	
03/19/2003	6:25 PM	Kankakee	1.50 in.	n/a	n/a	n/a	n/a	
06/28/2003	2:30 PM	Essex^	1.00 in.	n/a	n/a	n/a	n/a	
07/06/2003	11:39 AM	Kankakee	1.00 in.	n/a	n/a	n/a	n/a	
07/06/2003	12:07 PM	Reddick^ Bonfield^ Bonfield	1.75 in.	n/a	n/a	n/a	n/a	
07/06/2003	2:10 PM	Essex	1.75 in.	n/a	n/a	n/a	n/a	
07/20/2003	9:34 PM	Kankakee	1.75 in.	n/a	n/a	n/a	n/a	
04/20/2004	6:40 PM	Bradley Kankakee	1.75 in.	n/a	n/a	n/a	n/a	Strong rotation also noted in clouds.

^ Hail event verified in the vicinity of this location(s).

Table 2
Severe Storms - Hail Events Reported in Kankakee County
1980 - 2022

Date(s)	Start Time	Location(s)	Magnitude Hail Stone Diameter (inches)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
05/30/2004	5:58 PM	Essex	1.75 in.	n/a	n/a	n/a	n/a	
05/19/2005	5:03 PM	Herscher	1.75 in.	n/a	n/a	n/a	n/a	Golfball size hail broke windows, dented cars and damaged roofs in Herscher.
05/24/2006	2:54 PM	Bourbonnais Bradley^	1.00 in.	n/a	n/a	n/a	n/a	
05/24/2006	3:43 PM	Bonfield	1.75 in.	n/a	n/a	n/a	n/a	
06/26/2006	1:30 PM	Momence^	1.00 in.	n/a	n/a	n/a	$10,000	Nickel to Quarter size hail fell across parts of eastern Kankakee County, east of Momence to the Illinois Indiana state line. The hail caused signficant crop damage.
08/23/2007	6:44 PM	Bourbonnais Bradley^	1.00 in.	n/a	n/a	n/a	n/a	
05/30/2008	6:12 PM	Manteno	2.50 in.	n/a	n/a	$2,000,000	n/a	Hail to the size of tennis balls was reported covering the ground near Main Street and Route 50. School roofs were damaged including heating and cooling units. Two school greenhouses were also damaged. Windows were also broken on some houses and businesses.
10/24/2010	9:54 PM	Manteno	1.00 in.	n/a	n/a	n/a	n/a	Nickel to quarter size hail was reported near Route 50 and 3rd Street.

^ Hail event verified in the vicinity of this location(s).

Table 2
Severe Storms - Hail Events Reported in Kankakee County
1980 - 2022

Date(s)	Start Time	Location(s)	Magnitude Hail Stone Diameter (inches)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
05/22/2011	2:46 PM	Kankakee Bradley Bourbonnais^	1.50 in.	n/a	n/a	n/a	n/a	Up to walnut size hail was reported across portions of Bradley and Kankakee as a line of thunderstorms moved through. Specific reports include penny size hail at the intersection of Grinnell Road and Interstate 57, and nickel size hail at the intersection of West Station Street and South Curtis Avenue. Walnut size hail was reported at North Street and Illinois Route 50.
06/04/2011	3:40 PM	Manteno	1.00 in.	n/a	n/a	n/a	n/a	Penny to quarter size hail was reported near Route 45 and County Road 9000.
06/04/2011	3:56 PM	Grant Park^	1.00 in.	n/a	n/a	n/a	n/a	Quarter size hail was reported near Route 17 and 14500 East.
08/02/2011	10:36 PM	Bourbonnais Bradley^	1.00 in.	n/a	n/a	n/a	n/a	
06/29/2012	10:37 PM	Bourbonnais Bradley^	1.00 in.	n/a	n/a	n/a	n/a	
07/31/2012	6:28 AM	Bourbonnais Bradley Kankakee	1.00 in.	n/a	n/a	n/a	n/a	Multiple reports of nickel to quarter size hail were received from portions of Kankakee, Bourbonnais, and Bradley.
08/09/2012	5:26 PM	Hopkins Park	1.00 in.	n/a	n/a	n/a	n/a	Quarter size hail was reported near 2690 South Road and 13000 East Road.
05/20/2013	10:10 PM	Manteno	1.00 in.	n/a	n/a	n/a	n/a	
06/12/2013	6:11 PM	Kankakee Bradley Bourbonnais	1.75 in.	n/a	n/a	n/a	n/a	Numerous reports of hail up to the size of golfballs were received between Kankakee and Bourbonnais.
06/12/2013	6:48 PM	Manteno	1.00 in.	n/a	n/a	n/a	n/a	
07/10/2013	7:15 AM	Essex	2.00 in.	n/a	n/a	n/a	n/a	

^ Hail event verified in the vicinity of this location(s).

Table 2
Severe Storms - Hail Events Reported in Kankakee County
1980 - 2022

Date(s)	Start Time	Location(s)	Magnitude Hail Stone Diameter (inches)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
06/30/2014	7:23 PM	Grant Park^	1.00 in.	n/a	n/a	n/a	n/a	
06/07/2015	3:17 PM	Bonfield	1.00 in.	n/a	n/a	n/a	n/a	
07/13/2015	6:20 PM	Herscher	1.75 in.	n/a	n/a	n/a	n/a	
03/15/2016	9:20 PM	St Anne	1.25 in.	n/a	n/a	n/a	n/a	
03/15/2016	10:42 PM	Grant Park	1.25 in.	n/a	n/a	n/a	n/a	
07/23/2017	5:19 PM	Manteno	1.00 in.	n/a	n/a	n/a	n/a	
07/23/2017	5:22 PM	Bourbonnais Bradley	1.00 in.	n/a	n/a	n/a	n/a	
05/02/2018	4:15 PM	Bourbonnais Bradley^	1.00 in.	n/a	n/a	n/a	n/a	
05/16/2019	12:30 PM	Sammons Point^	1.00 in.	n/a	n/a	n/a	n/a	
09/27/2019	6:02 PM	Grant Park^	2.50 in.	n/a	n/a	n/a	n/a	Tennis ball size hail was reported on 11000 E just north of 9000 N.
05/23/2020	2:47 PM	Buckingham	1.00 in.	n/a	n/a	n/a	n/a	
05/23/2020	3:25 PM	Kankakee Bradley^	1.00 in.	n/a	n/a	n/a	n/a	
09/07/2021	5:01 PM	Essex^	1.00 in.	n/a	n/a	n/a	n/a	
GRAND TOTAL:				**0**	**0**	**$2,255,000**	**$35,000**	

Source: NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Storm Events Database.

^ Hail event verified in the vicinity of this location(s).

Table 3
Severe Storms - Lightning Events Reported in Kankakee County
2000 - 2022

Date(s)	Start Time	Location(s)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
04/20/2000	1:10 AM	Kankakee^	n/a	n/a	n/a	n/a	Lightning started a fire that destroyed a house in Limestone Township near Kankakee.
04/04/2003	4:30 PM	Bourbonnais	n/a	n/a	$1,000	n/a	In Bourbonnais in Kankakee County, a house was struck by lightning causing minor damage.
06/21/2008	10:15 AM	Kankakee^	n/a	n/a	$5,000	n/a	A house was struck by lightning on Wiley Ridge Road and suffered minor damage.
07/16/2009	8:00 PM	Kankakee	n/a	n/a	$500,000	n/a	Lightning struck a new auto body repair building on Grinnell Road and started a fire. The building along with 3 vehicles was completely destroyed.
06/04/2010	4:00 PM	Grant Park	n/a	n/a	$50,000	n/a	Lightning struck a house, which started a fire.
06/20/2011	5:00 AM	Bourbonnais	n/a	n/a	$40,000	n/a	A large tree was struck by lightning in an alley near Kennedy Drive and North Street. The tree then fell on to three cars, destroying two of them. Power lines were also brought down by the falling tree.
10/03/2013	4:30 PM	Kankakee	1	n/a	n/a	n/a	A golfer standing near a tree was struck by lightning. His injuries were not life threatening and he was treated and released.
09/29/2019	n/a	Bourbonnais^	n/a	n/a	$250,000	n/a	The representative from Bourbonnais Fire Protection District identified $250,000 in damage when lightning struck a residential structure causing severe damage.
09/08/2021	n/a	Bourbonnais	n/a	n/a	$100,000	n/a	The representative from Bourbonnais Fire Protection District identified $100,000 ind damages when lightning struck a residential structure causing severe damage.
GRAND TOTAL:			**1**	**0**	**$946,000**	**$0**	

Source: Kankakee County Multi-Jurisdictional Natural Hazard Mitigation Planning Committee Member responses to the Natural Hazard Events Questionnaire.
NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Storm Events Database.

^ Lightning event verified in the vicinity of this location(s).

Table 4
Severe Storms - Heavy Rain Events Reported in Kankakee County
2000 - 2022

Date(s)	Magnitude Rainfall (inches)	Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
04/19/2000 thru 04/21/2000	2.00 in.	Chebanse	n/a	n/a	n/a	n/a	
06/14/2000	2.25 in.	Momence	n/a	n/a	n/a	n/a	
06/20/2000 thru 06/21/2000	3.45 in.	Chebanse Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
07/09/2000 thru 07/10/2000	4.36 in.	Chebanse Kankakee WWTP	n/a	n/a	n/a	n/a	
07/31/2000	1.85 in.	Momence	n/a	n/a	n/a	n/a	
10/04/2000	2.52 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
02/24/2001 thru 02/25/2001	2.16 in.	Chebanse Kankakee WWTP	n/a	n/a	n/a	n/a	
05/18/2001	1.67 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
05/27/2001	1.57 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/06/2001	1.61 in.	Momence	n/a	n/a	n/a	n/a	
10/14/2001	1.78 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
05/12/2002	2.19 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
07/09/2002	2.10 in.	Momence	n/a	n/a	n/a	n/a	
09/21/2002	1.78 in.	Momence	n/a	n/a	n/a	n/a	
05/05/2003	1.75 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	

[1] Observed Location information was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in the Midwestern Regional Climate Center's cli-MATE data system and NOAA's Storm Events Database.

Table 4
Severe Storms - Heavy Rain Events Reported in Kankakee County
2000 - 2022

Date(s)	Magnitude Rainfall (inches)	Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
05/09/2003	1.65 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
05/29/2003	1.63 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/05/2003	1.73 in.	Momence	n/a	n/a	n/a	n/a	
07/07/2003	2.75 in.	Momence	n/a	n/a	n/a	n/a	
07/09/2003	2.17 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/15/2003	1.50 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/21/2003	2.82 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
11/18/2003	2.27 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
05/31/2004	2.27 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/11/2004 thru 06/12/2004	3.91 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
08/04/2004	2.81 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
08/18/2004 thru 08/19/2004	2.07 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
08/26/2004	2.42 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
11/02/2004	1.60 in.	Momence	n/a	n/a	n/a	n/a	
01/13/2005	1.78 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/16/2005	2.26 in.	Momence	n/a	n/a	n/a	n/a	
07/21/2005	1.56 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/27/2005	2.02 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	

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Table 4
Severe Storms - Heavy Rain Events Reported in Kankakee County
2000 - 2022

Date(s)	Magnitude Rainfall (inches)	Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
04/17/2006	2.85 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
05/25/2006	3.95 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
05/30/2006	2.11 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/11/2006	1.70 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
09/12/2006 thru 09/13/2006	3.39 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
10/17/2006	1.80 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
11/30/2006	1.60 in.	Momence	n/a	n/a	n/a	n/a	
04/25/2007	2.10 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/06/2007	2.75 in.	Momence	n/a	n/a	n/a	n/a	
08/20/2007	2.12 in.	Momence	n/a	n/a	n/a	n/a	
01/08/2008	2.78 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
06/05/2008	4.20 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
07/11/2008	1.75 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/05/2008	2.72 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
09/05/2008	3.11 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	

[1] Observed Location information was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in the Midwestern Regional Climate Center's cli-MATE data system and NOAA's Storm Events Database.

Table 4
Severe Storms - Heavy Rain Events Reported in Kankakee County
2000 - 2022

Date(s)	Magnitude Rainfall (inches)	Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
09/14/2008 thru 09/15/2008	5.79 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
02/27/2009	1.85 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
03/08/2009 thru 03/09/2009	3.00 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
04/06/2009	1.55 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
04/28/2009	2.08 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
05/14/2009	3.20 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/11/2009	2.32 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
08/27/2009 thru 08/28/2009	2.80 in.	Bonfield Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
10/23/2009	2.50 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
10/30/2009	1.50 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
04/08/2010	1.68 in.	Momence	n/a	n/a	n/a	n/a	
06/06/2010	3.00 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/15/2010	2.57 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
07/13/2010	1.90 in.	Momence	n/a	n/a	n/a	n/a	
05/25/2011	2.03 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/10/2011	2.00 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	

[1] Observed Location information was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in the Midwestern Regional Climate Center's cli-MATE data system and NOAA's Storm Events Database.

Table 4
Severe Storms - Heavy Rain Events Reported in Kankakee County
2000 - 2022

Date(s)	Magnitude Rainfall (inches)	Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
06/20/2011	1.62 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/09/2011	1.64 in.	Momence	n/a	n/a	n/a	n/a	
12/15/2011	2.60 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
05/07/2012	1.63 in.	Chebanse	n/a	n/a	n/a	n/a	
06/16/2012 thru 06/17/2012	5.85 in.	Chebanse Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
09/02/2012	1.76 in.	Momence	n/a	n/a	n/a	n/a	
04/10/2013 thru 04/11/2013	2.22 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
06/12/2013 thru 06/13/2013	3.40 in.	Chebanse Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
10/06/2013	1.59 in.	Momence	n/a	n/a	n/a	n/a	
10/30/2013 thru 10/31/2013	2.35 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
05/12/2014	1.60 in.	Momence	n/a	n/a	n/a	n/a	
06/10/2014	1.93 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
06/19/2014 thru 06/20/2014	2.54 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	

[1] Observed Location information was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in the Midwestern Regional Climate Center's cli-MATE data system and NOAA's Storm Events Database.

Table 4
Severe Storms - Heavy Rain Events Reported in Kankakee County
2000 - 2022

Date(s)	Magnitude Rainfall (inches)	Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
06/22/2014	1.57 in.	Momence	n/a	n/a	n/a	n/a	
06/30/2014	1.60 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/11/2014	1.70 in.	Momence	n/a	n/a	n/a	n/a	
09/06/2014	1.93 in.	Momence	n/a	n/a	n/a	n/a	
10/03/2014	2.80 in.	Momence	n/a	n/a	n/a	n/a	
11/23/2014 thru 11/24/2014	1.55 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/07/2015	3.37 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/22/2015 thru 06/23/2015	3.44 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
06/27/2015	1.60 in.	Momence	n/a	n/a	n/a	n/a	
07/09/2015	1.50 in.	Momence	n/a	n/a	n/a	n/a	
08/17/2015 thru 08/18/2015	1.76 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
09/09/2015	1.80 in.	Momence	n/a	n/a	n/a	n/a	
12/28/2015	1.70 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/23/2016	1.90 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/13/2016	1.59 in.	Momence	n/a	n/a	n/a	n/a	
08/15/2016 thru 08/16/2016	4.75 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
08/25/2016	1.60 in.	Momence	n/a	n/a	n/a	n/a	

[1] Observed Location information was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in the Midwestern Regional Climate Center's cli-MATE data system and NOAA's Storm Events Database.

Table 4
Severe Storms - Heavy Rain Events Reported in Kankakee County
2000 - 2022

Date(s)	Magnitude Rainfall (inches)	Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
09/08/2016	2.55 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
11/03/2016	1.59 in.	Momence	n/a	n/a	n/a	n/a	
06/13/2017	1.85 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/21/2017 thru 07/22/2017	4.25 in.	Momence	n/a	n/a	n/a	n/a	
08/03/2017	2.59 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
09/19/2017	1.74 in.	Momence	n/a	n/a	n/a	n/a	
10/23/2017	1.69 in.	Momence	n/a	n/a	n/a	n/a	
02/19/2018 thru 02/20/2018	3.89 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
06/20/2018	1.57 in.	Momence	n/a	n/a	n/a	n/a	
06/21/2018 thru 06/22/2018	2.51 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
04/30/2019 thru 05/01/2019	3.59 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
06/19/2019 thru 06/20/2019	2.00 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/13/2019	1.82 in.	Momence	n/a	n/a	n/a	n/a	

[1] Observed Location information was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in the Midwestern Regional Climate Center's cli-MATE data system and NOAA's Storm Events Database.

Table 4
Severe Storms - Heavy Rain Events Reported in Kankakee County
2000 - 2022

Date(s)	Magnitude Rainfall (inches)	Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
09/15/2019	1.66 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
09/27/2019 thru 09/28/2019	2.73 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
10/27/2019	2.18 in.	Momence	n/a	n/a	n/a	n/a	
01/11/2020	3.46 in.	Bonfield Momence	n/a	n/a	n/a	n/a	
05/14/2020 thru 05/15/2020	4.00 in.	Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
05/17/2020	2.50 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/15/2020 thru 07/16/2020	3.11 in.	Kankakee^ Kankakee WWTP Momence	n/a	n/a	n/a	n/a	
04/28/2021 thru 04/29/2021	1.69 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/25/2021	3.69 in.	Grant Park^	n/a	n/a	n/a	n/a	3.69 inches of rain was measured in 1 hour and 18 minutes
10/24/2021 thru 10/25/2021	3.05 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	

[1] Observed Location information was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in the Midwestern Regional Climate Center's cli-MATE data system and NOAA's Storm Events Database.

Table 4
Severe Storms - Heavy Rain Events Reported in Kankakee County
2000 - 2022

Date(s)	Magnitude Rainfall (inches)	Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
03/30/2022 thru 03/31/2022	1.62 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/06/2022	2.22 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
10/25/2022 thru 10/26/2022	1.90 in.	Kankakee WWTP	n/a	n/a	n/a	n/a	
GRAND TOTAL:			**0**	**0**	**$ -**	**$ -**	

Sources: NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Cooperative Observation Forms.
NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Storm Events Database.

[1] Observed Location information was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in the Midwestern Regional Climate Center's cli-MATE data system and NOAA's Storm Events Database.

Table 5
General Flood Events Reported in Kankakee County
1979 - 2022

Date(s)	Start Time	Water Body	Location(s)	Magnitude		Impacts[3]			Injuries	Fatalities	Property Damages	Crop Damages*	Impacts/ Event Description
				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
03/06/1979 thru 03/07/1979	n/a	Kankakee River, Iroquois River	central & southern portion of county	10.51 ft. 03/06/1979 flood of record	21.68 ft. 03/07/1979 flood of record				n/a	n/a	n/a	n/a	
01/29/1980 thru 01/30/1980	n/a	Kankakee River	central portion of county	05.19 ft. 01/30/1980	---				n/a	n/a	n/a	n/a	
06/05/1980	n/a	Iroquois River	southern portion of county	---	16.84 ft. 06/05/1980				n/a	n/a	n/a	n/a	
12/26/1980 thru 12/31/1980	n/a	Kankakee River	central portion of county	06.81 ft. 12/28/1980	---				n/a	n/a	n/a	n/a	
02/03/1981 thru 02/08/1981	n/a	Kankakee River	central portion of county	05.15 ft. 02/04/1981	---				n/a	n/a	n/a	n/a	
04/13/1981 thru 04/14/1981	n/a	Kankakee River	central portion of county	05.40 ft. 04/14/1981	---				n/a	n/a	n/a	n/a	
05/14/1981 thru 05/16/1981	n/a	Kankakee River	central portion of county	05.11 ft. 05/15/1981	---				n/a	n/a	n/a	n/a	

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

[3] An "X" in the columns of Home, Business and Infrastructure indicates impacts occurred to those structure/infrastructure types during a general flood event. A detailed description of the type and magnitude of the impacts are included in the Impacts/Event Description column if available.

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1979 - 2022

Date(s)	Start Time	Water Body	Location(s)	Magnitude		Impacts[3]			Injuries	Fatalities	Property Damages	Crop Damages*	Impacts/ Event Description
				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
06/13/1981 thru 06/20/1981	n/a	Kankakee River	central portion of county	05.91 ft. 06/16/1981	---				n/a	n/a	n/a	n/a	
01/09/1982 thru 02/11/1982	n/a	Kankakee River	central portion of county	06.73 ft. 02/02/1982	---				n/a	n/a	n/a	n/a	
02/21/1982 thru 02/28/1982	n/a	Kankakee River, Iroquois River	central & southern portion of county	08.63 ft. 02/28/1982	18.96 ft. 02/24/1982 6th highest crest on record				n/a	n/a	n/a	n/a	
03/13/1982 thru 04/05/1982	n/a	Kankakee River	central portion of county	06.03 ft. 03/20/1982	---				n/a	n/a	n/a	n/a	
04/16/1982 thru 04/19/1982	n/a	Kankakee River	central portion of county	05.62 ft. 04/17/1982	---				n/a	n/a	n/a	n/a	
12/03/1982 thru 12/06/1982	n/a	Kankakee River	central portion of county	05.70 ft. 12/04/1982	---				n/a	n/a	n/a	n/a	

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

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				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
12/20/1982 thru 12/21/1982	n/a	Kankakee River	central portion of county	06.66 ft. 12/21/1982	---				n/a	n/a	n/a	n/a	
04/09/1983 thru 04/10/1983	n/a	Kankakee River	central portion of county	05.94 ft. 04/10/1983	---				n/a	n/a	n/a	n/a	
05/01/1983 thru 05/05/1983	n/a	Kankakee River	central portion of county	05.80 ft. 05/02/1983	---				n/a	n/a	n/a	n/a	
02/12/1984 thru 02/13/1984	n/a	Kankakee River	central portion of county	07.96 ft. 02/13/1984	---				n/a	n/a	n/a	n/a	
03/14/1984 thru 03/18/1984	n/a	Kankakee River	central portion of county	05.80 ft. 03/15/1984	---				n/a	n/a	n/a	n/a	
01/19/1985 thru 01/27/1985	n/a	Kankakee River	central portion of county	06.50 ft. 01/21/1985	---				n/a	n/a	n/a	n/a	
02/23/1985 thru 02/25/1985	n/a	Kankakee River, Iroquois River	central & southern portion of county	05.60 ft. 02/24/1985	17.76 ft. 02/25/1985				n/a	n/a	n/a	n/a	

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

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Date(s)	Start Time	Water Body	Location(s)	Magnitude		Impacts[3]			Injuries	Fatalities	Property Damages	Crop Damages*	Impacts/ Event Description
				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
03/03/1985 thru 03/04/1985	n/a	Kankakee River	central portion of county	05.89 ft. 03/04/1985	---				n/a	n/a	n/a	n/a	
11/18/1985 thru 11/22/1985	n/a	Kankakee River	central portion of county	05.65 ft. 11/19/1985	---				n/a	n/a	n/a	n/a	
12/21/1985 thru 01/12/1986	n/a	Kankakee River	central portion of county	07.62 ft. 12/22/1985	---				n/a	n/a	n/a	n/a	
01/05/1988 thru 01/10/1988	n/a	Kankakee River	central portion of county	05.21 ft. 01/06/1988	---				n/a	n/a	n/a	n/a	
01/20/1988 thru 01/22/1988	n/a	Kankakee River	central portion of county	05.38 ft. 01/22/1988	---				n/a	n/a	n/a	n/a	
02/11/1988 thru 02/18/1988	n/a	Kankakee River	central portion of county	08.08 ft. 02/11/1988 8th highest crest on record	---				n/a	n/a	n/a	n/a	

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

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Date(s)	Start Time	Water Body	Location(s)	Magnitude		Impacts[3]			Injuries	Fatalities	Property Damages	Crop Damages*	Impacts/ Event Description
				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
02/19/1989 thru 02/20/1989	n/a	Kankakee River	central portion of county	06.00 ft. 02/20/1989	---				n/a	n/a	n/a	n/a	
06/02/1989 thru 06/05/1989	n/a	Kankakee River	central portion of county	05.20 ft. 06/04/1989	---				n/a	n/a	n/a	n/a	
06/09/1989 thru 06/12/1989	n/a	Kankakee River	central portion of county	05.49 ft. 06/11/1989	---				n/a	n/a	n/a	n/a	
06/29/1989 thru 06/30/1989	n/a	Kankakee River	central portion of county	05.25 ft. 06/30/1986	---				n/a	n/a	n/a	n/a	
03/13/1990	n/a	Iroquois River	southern portion of county	---	17.74 ft. 03/13/1990				n/a	n/a	n/a	n/a	
11/27/1990 thru 12/02/1990	n/a	Kankakee River	central portion of county	06.04 ft. 11/28/1990	---				n/a	n/a	n/a	n/a	
12/29/1990 thru 01/05/1991	n/a	Kankakee River, Iroquois River	central & southern portion of county	06.17 ft. 12/30/1990	18.22 ft. 01/01/1991				n/a	n/a	n/a	n/a	

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

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				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
03/18/1991 thru 03/19/1991	n/a	Kankakee River	central portion of county	05.18 ft. 03/19/1991	---				n/a	n/a	n/a	n/a	
01/04/1993 thru 01/07/1993	n/a	Kankakee River	central portion of county	05.68 ft. 01/05/1993	---				n/a	n/a	n/a	n/a	
06/20/1993	n/a	Kankakee River	central portion of county	05.06 ft. 06/20/1993	---				n/a	n/a	n/a	n/a	
01/13/1994 thru 01/14/1994	n/a	Kankakee River	central portion of county	06.57 ft. 01/14/1994	---				n/a	n/a	n/a	n/a	
01/19/1994 thru 01/20/1994	n/a	Kankakee River	central portion of county	05.09 ft. 01/20/1994	---				n/a	n/a	n/a	n/a	
01/28/1994 thru 01/31/1994	n/a	Kankakee River	central portion of county	05.33 ft. 01/29/1994	---				n/a	n/a	n/a	n/a	
02/11/1994 thru 02/12/1994	n/a	Kankakee River	central portion of county	06.79 ft. 02/12/1994	---				n/a	n/a	n/a	n/a	

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

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				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
10/25/1994 thru 10/26/1994	n/a	Kankakee River	central portion of county	06.96 ft. 10/26/1994	---				n/a	n/a	n/a	n/a	
02/11/1995 thru 02/21/1995	n/a	Kankakee River	central portion of county	07.73 ft. 02/13/1995	---				n/a	n/a	n/a	n/a	
01/12/1996 thru 01/14/1996	n/a	Kankakee River	central portion of county	05.69 ft. 01/13/1996	---				n/a	n/a	n/a	n/a	
07/21/1996 thru 07/24/1996	n/a	Kankakee River	central portion of county	05.80 ft. 07/22/1996	---				n/a	n/a	n/a	n/a	
01/22/1997 thru 01/23/1997	n/a	Kankakee River	central portion of county	05.11 ft. 01/23/1997	---				n/a	n/a	n/a	n/a	
02/04/1997 thru 02/08/1997	n/a	Kankakee River	central portion of county	05.54 ft. 02/05/1997	---				n/a	n/a	n/a	n/a	
02/21/1997 thru 03/03/1997	n/a	Kankakee River	central portion of county	05.81 ft. 02/27/1997	---				n/a	n/a	n/a	n/a	

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

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Date(s)	Start Time	Water Body	Location(s)	Magnitude		Impacts[3]			Injuries	Fatalities	Property Damages	Crop Damages*	Impacts/ Event Description
				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
06/06/1997 thru 06/09/1997	n/a	Kankakee River	central portion of county	05.22 ft. 06/08/1997	---				n/a	n/a	n/a	n/a	
06/16/1997 thru 06/19/1997	n/a	Kankakee River	central portion of county	05.62 ft. 06/17/1997	---				n/a	n/a	n/a	n/a	
08/12/1997 thru 08/13/1997	n/a	Kankakee River	central portion of county	05.74 ft. 08/13/1997	---				n/a	n/a	n/a	n/a	
01/08/1998 thru 01/09/1998	n/a	Kankakee River	central portion of county	05.11 ft. 01/09/1998	---				n/a	n/a	n/a	n/a	
03/18/1998 thru 03/23/1998	n/a	Kankakee River	central portion of county	05.91 ft. 03/19/1998	---				n/a	n/a	n/a	n/a	
08/03/1998 thru 08/04/1998	11:00 PM	area streams & creeks	countywide	---	---			X	n/a	n/a	n/a	n/a	The rain caused flooding of roads, viaducts, and underpasses.
01/23/1999 thru 01/27/1999	n/a	Kankakee River	central portion of county	06.91 ft. 01/25/1999	---				n/a	n/a	n/a	n/a	

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

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				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
04/23/1999 thru 04/24/1999	n/a	Kankakee River	central portion of county	05.29 ft. 04/23/1999	---				n/a	n/a	n/a	n/a	
06/20/2000	9:00 PM	area streams & creeks	countywide	---	---			X	n/a	n/a	n/a	n/a	Rainfall of 1.5 to over 4 inches fell in Kankakee County causing flooding of farm fields and roads.
02/25/2001 thru 02/26/2001	n/a	Kankakee River	central portion of county	05.16 ft. 02/25/2001	---				n/a	n/a	n/a	n/a	

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

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				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
05/12/2002 thru 05/15/2002	n/a	Kankakee River, area streams & creeks	countywide	05.85 ft. 05/12/2002	---			X	n/a	n/a	n/a	$129,632	Many drainage ditches, streams and creeks flooded. Many roads, especially in low lying areas also flooded, mainly as a result of streams and creeks overflowing their banks. There were no reports of serious flooding of homes or businesses and there were no reports of injuries.
06/11/2004 thru 06/13/2004	7:00 AM	area streams & creeks	countywide	---	---				n/a	n/a	n/a	n/a	Long term flooding occurred due to sustained heavy rainfall over the Kankakee river basin.

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

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				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
01/12/2005 thru 01/17/2005	n/a	Kankakee River, Iroquois River	central & southern portion of county	06.19 ft. 01/13/2005	18.63 ft. 01/15/2005 9th highest crest on record	X	X	X	n/a	n/a	n/a	n/a	Water was reported over roads 3 miles south of Reddick. IL Rte. 50 was reported covered with water & impassible at several locations south of Manteno. Langhan Creek was out of its banks and flooded residential areas between Clifton & Chebanse. Beaver Creek was out of its banks near St. Anne, flooding adjacent roads. At Aroma Park homes & businesses were surrounded by water.

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

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1979 - 2022

Date(s)	Start Time	Water Body	Location(s)	Magnitude		Impacts[3]			Injuries	Fatalities	Property Damages	Crop Damages*	Impacts/ Event Description
				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
05/24/2006	4:50 PM	---	Bourbonnais	---	---			X	n/a	n/a	n/a	n/a	Roads near Olivette University were closed with 6 inches of water.
02/04/2007 thru 02/09/2007	n/a	Kankakee River	central portion of county	05.45 ft. 02/08/2007	---				n/a	n/a	n/a	n/a	
03/25/2007 thru 03/26/2007	n/a	Iroquois River	southern portion of county	---	16.12 ft. 03/26/2007				n/a	n/a	n/a	n/a	
08/24/2007 thru 08/27/2007	n/a	Kankakee River	central portion of county	05.99 ft. 08/25/2007	---				n/a	n/a	n/a	n/a	

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

[3] An "X" in the columns of Home, Business and Infrastructure indicates impacts occurred to those structure/infrastructure types during a general flood event. A detailed description of the type and magnitude of the impacts are included in the Impacts/Event Description column if available.

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Date(s)	Start Time	Water Body	Location(s)	Magnitude		Impacts[3]			Injuries	Fatalities	Property Damages	Crop Damages*	Impacts/ Event Description
				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
01/08/2008 thru 01/15/2008	n/a	Kankakee River, Iroquois River	central & southern portion of county	06.30 ft. 01/08/2008	20.14 ft. 01/11/2008 3rd highest crest on record			X	n/a	n/a	$500,000	n/a	After flash flooding during the morning hours of January 8th, flooding continued until January 11th. Significant flooding occurred in Aroma Park. As the rain ran off into streams and creeks, rivers overflowed their banks causing additional flooding. Numerous roads were closed and flooded.
01/21/2008	n/a	Kankakee River	central portion of county	05.21 ft. 01/21/2008	---				n/a	n/a	n/a	n/a	
02/06/2008 thru 02/19/2008	n/a	Kankakee River, Iroquois River	central & southern portion of county	05.57 ft. 02/06/2008	18.86 ft. 02/08/2008				n/a	n/a	n/a	n/a	

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

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Date(s)	Start Time	Water Body	Location(s)	Magnitude		Impacts[3]			Injuries	Fatalities	Property Damages	Crop Damages*	Impacts/ Event Description
				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
06/05/2008 thru 06/08/2008	n/a	Kankakee River	central portion of county	05.85 ft. 06/05/2008	---				n/a	n/a	n/a	$182,964	
09/14/2008 thru 09/25/2008	n/a	Kankakee River, area streams & creeks	countywide	06.98 ft. 09/15/2008	---				n/a	n/a	n/a	$187,837	
12/22/2008 thru 12/30/2008	n/a	Kankakee River	central portion of county	07.17 ft. 12/24/2008	---				n/a	n/a	n/a	n/a	
01/21/2009 thru 02/08/2009	n/a	Kankakee River	central portion of county	06.94 ft. 01/22/2009	---				n/a	n/a	n/a	n/a	
03/08/2009 thru 03/20/2009	n/a	Kankakee River, Iroquois River	central & southern portion of county	07.07 ft. 03/11/2009	17.21 ft. 03/13/2009			X	n/a	n/a	n/a	n/a	Ditches and fields were reported to be flooded along with standing water on some roads.
04/05/2009 thru 04/09/2009	n/a	Kankakee River	central portion of county	05.58 ft. 04/07/2009	---				n/a	n/a	n/a	n/a	

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

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Date(s)	Start Time	Water Body	Location(s)	Magnitude		Impacts[3]			Injuries	Fatalities	Property Damages	Crop Damages*	Impacts/ Event Description
				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
04/27/2009 thru 04/28/2009	8:01 PM	---	Bourbonnais Bradley Kankakee	---	---			X	n/a	n/a	n/a	n/a	Minor flooding of streets and underpasses was reported.
05/15/2009 thru 05/16/2009	n/a	Kankakee River	central portion of county	05.42 ft. 05/16/2009	---				n/a	n/a	n/a	n/a	
06/11/2009	7:55 AM	---	central portion of county	---	---				n/a	n/a	n/a	n/a	Minor flooding was reported in fields.
01/04/2010 thru 01/17/2010	n/a	Kankakee River	central portion of county	06.72 ft. 01/05/2010	---				n/a	n/a	n/a	n/a	
02/19/2010	n/a	Iroquois River	southern portion of county	---	16.95 ft. 02/19/2010				n/a	n/a	n/a	n/a	
05/26/2010	4:50 PM	---	Bourbonnais^ Bourbonnais Bradley^ Bradley	---	---			X	n/a	n/a	n/a	n/a	Ditches on the sides of roads were reported to be filled with minor flooding on roads and in fields.

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

[3] An "X" in the columns of Home, Business and Infrastructure indicates impacts occurred to those structure/infrastructure types during a general flood event. A detailed description of the type and magnitude of the impacts are included in the Impacts/Event Description column if available.

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1979 - 2022

Date(s)	Start Time	Water Body	Location(s)	Magnitude		Impacts[3]			Injuries	Fatalities	Property Damages	Crop Damages*	Impacts/ Event Description
				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
03/04/2011	9:46 PM	---	Bradley	---	---			X	n/a	n/a	n/a	n/a	Minor street flooding was reported along Blatt Road in Bradley with standing water up to the bumper of a parked car.
04/27/2011 thru 04/30/2011	n/a	Kankakee River	central portion of county	05.28 ft. 04/28/2011	---				n/a	n/a	n/a	n/a	
06/09/2011 thru 06/11/2011	n/a	Kankakee River	central portion of county	05.55 ft. 06/10/2011	---				n/a	n/a	n/a	n/a	

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

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Date(s)	Start Time	Water Body	Location(s)	Magnitude		Impacts[3]			Injuries	Fatalities	Property Damages	Crop Damages*	Impacts/ Event Description
				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
05/07/2012	12:00 AM	area streams & creeks	west-central portion of county	---	---			X	n/a	n/a	n/a	n/a	Several roads had water covering them across the area. Almost all creeks were out of their banks with a majority of fields flooded. Illinois Highway 17 had water across one lane of the road in multiple locations.
04/18/2013 thru 04/20/2013	n/a	Kankakee River	central portion of county	05.47 ft. 04/19/2013	---				n/a	n/a	n/a	n/a	
01/14/2014 thru 03/07/2014	n/a	Kankakee River, Iroquois River	central & southern portion of county	07.44 ft. 01/17/2014	16.33 ft. 02/23/2014				n/a	n/a	n/a	n/a	

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

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				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
06/21/2014	7:07 PM	---	Grant Park^	---	---			X	n/a	n/a	n/a	n/a	Up to four inches of flowing water was reported over portions of 9000N east of Route 1.
06/25/2014 thru 06/27/2014	n/a	Kankakee River	central portion of county	05.15 ft. 06/26/2014	---				n/a	n/a	n/a	n/a	
01/07/2015 thru 01/12/2015	n/a	Kankakee River	central portion of county	06.14 ft. 01/11/2015	---				n/a	n/a	n/a	n/a	
02/18/2015 thru 03/01/2015	n/a	Kankakee River	central portion of county	05.37 ft. 02/19/2015	---				n/a	n/a	n/a	n/a	
06/07/2015	4:44 PM	---	Bradley	---	---			X	n/a	n/a	n/a	n/a	One to two feet of standing water was reported at the viaduct on West Broadway Street.

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

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				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
06/09/2015 thru 06/30/2015	n/a	Kankakee River, Iroquois River	central & southern portion of county	07.09 ft. 06/27/2015	17.13 ft. 06/23/2015				n/a	n/a	n/a	$18,958,614	
07/12/2015 thru 07/19/2015	n/a	Kankakee River, Iroquois River	central & southern portion of county	05.53 ft. 07/19/2015	18.79 ft. 07/14/2015 7th highest crest on record				n/a	n/a	n/a	$4,415,995	
12/28/2015 thru 01/02/2016	n/a	Kankakee River, Iroquois River	central & southern portion of county	05.59 ft. 12/29/2015	18.70 ft. 12/31/2015 8th highest crest on record				n/a	n/a	n/a	n/a	
08/28/2016	n/a	Kankakee River	central portion of county	05.07 ft. 08/28/2016	---				n/a	n/a	n/a	n/a	
04/06/2017 thru 04/07/2017	n/a	Kankakee River	central portion of county	05.19 ft. 04/06/2017	---				n/a	n/a	n/a	n/a	

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

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				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
08/03/2017	2:22 PM	---	Bradley Kankakee	---	---			X	n/a	n/a	n/a	n/a	A few roads were flooded with 2 to 3 inches of water from multiple rounds of storms.
12/29/2017 thru 01/01/2018	n/a	Kankakee River	central portion of county	05.46 ft. 12/30/2017	---				n/a	n/a	n/a	n/a	
02/20/2018 thru 03/06/2018	n/a	Kankakee River, Iroquois River, area streams & creeks	countywide	07.19 ft. 02/21/2018	20.60 ft. 02/23/2018 2nd highest crest on record	X		X	n/a	n/a	$1,100,000	n/a	Numerous roads in Kankakee County were flooded and several roads were closed. Approximately 110 homes throughout the county were affected by flood waters.

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

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				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
01/26/2019 thru 02/06/2019	n/a	Kankakee River	central portion of county	06.79 ft. 01/27/2019	---				n/a	n/a	n/a	n/a	A localized area along the Kankakee River experienced flooding due to ongoing river ice northwest of Aroma Park. Several homes were completely surrounded by water.
02/06/2019	11:00 AM	Iroquois River, area streams & creeks	southern portion of county	---	---			X	n/a	n/a	n/a	n/a	River Road was closed at Minnie Creek due ice related flooding of the Iroquois River.
04/30/2019 thru 05/05/2019	n/a	Kankakee River, area streams & creeks	central & southern portion of county	06.28 ft. 05/01/2019	---				n/a	n/a	n/a	$8,258,896	Agricultural land along a creek was flooded near St. Anne.

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

[3] An "X" in the columns of Home, Business and Infrastructure indicates impacts occurred to those structure/infrastructure types during a general flood event. A detailed description of the type and magnitude of the impacts are included in the Impacts/Event Description column if available.

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Date(s)	Start Time	Water Body	Location(s)	Magnitude		Impacts[3]			Injuries	Fatalities	Property Damages	Crop Damages*	Impacts/ Event Description
				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
06/27/2019 thru 06/29/2019	n/a	Kankakee River	central portion of county	05.71 ft. 06/27/2019	---				n/a	n/a	n/a	$8,526,033	
09/27/2019 thru 09/28/2019	8:30 PM	Rock Creek	Kankakee River State Park^	---	---		X		n/a	n/a	n/a	n/a	Rock Creek was out of its banks and flooded trails at the Kankakee Sportsmen Club.
09/28/2019	12:45 AM	South Branch Rock Creek	Manteno^	---	---			X	n/a	n/a	n/a	n/a	Flooding from the South Branch Rock Creek continued at 9000 N and Sycamore Road.
01/11/2020 thru 01/12/2020	n/a	Kankakee River	central portion of county	05.52 ft. 01/12/2020	---				n/a	n/a	n/a	n/a	
04/30/2020	n/a	Kankakee River	central portion of county	05.07 ft. 04/30/2020	---				n/a	n/a	n/a	n/a	
05/15/2020 thru 05/21/2020	n/a	Kankakee River	central portion of county	06.87 ft. 05/18/2020	---				n/a	n/a	n/a	n/a	

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

[3] An "X" in the columns of Home, Business and Infrastructure indicates impacts occurred to those structure/infrastructure types during a general flood event. A detailed description of the type and magnitude of the impacts are included in the Impacts/Event Description column if available.

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Date(s)	Start Time	Water Body	Location(s)	Magnitude		Impacts[3]			Injuries	Fatalities	Property Damages	Crop Damages*	Impacts/ Event Description
				Flood Crest Kankakee River Momence[1]	Flood Crest Iroquois River Chebanse[2]	Home	Business	Infra-structure					
05/23/2020	3:30 PM	area streams & creeks	Kankakee^ Aroma Park^	---	---				n/a	n/a	n/a	n/a	Flood waters eroded a stream through a field, which were flowing heavily.
GRAND TOTAL:									**0**	**0**	**$1,600,000**	**$40,659,971**	

Sources: NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Storm Data.
NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Storm Events Database.
NOAA, National Weather Service, River Observations, North Central River Forecast Center.
United States Army Corps of Engineers, RiverGages.com, Data Mining.
United States Department of Agriclture, Risk Management Agency, Cause of Loss Historical Data Files.

[1] Flood stage at the Momence gauge location is 5.0 feet, moderate flood stage is 6.5 feet and major flood stage is 9.0 feet.

[2] Flood stage at the Chebanse gauge location is 16.0 feet, moderate flood stage is 18.0 feet and major flood stage is 20.0 feet.

[3] An "X" in the columns of Home, Business and Infrastructure indicates impacts occurred to those structure/infrastructure types during a general flood event. A detailed description of the type and magnitude of the impacts are included in the Impacts/Event Description column if available.

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Table 6
Flash Flood Events Reported in Kankakee County
1996 - 2022

Date(s)	Start Time	Location(s)	Impacts[1]			Injuries	Fatalities	Property Damages	Crop Damages	Impacts/ Event Description
			Home	Business	Infra-structure					
07/17/1996 thru 07/18/1996	6:00 PM	northern & central portion of county				n/a	n/a	n/a	n/a	
02/21/1997	9:32 AM	northern & western portion of county				n/a	n/a	n/a	n/a	
04/22/1999	1:18 PM	countywide				n/a	n/a	n/a	n/a	
06/09/1999	4:26 PM	northern portion of county				n/a	n/a	n/a	n/a	
06/22/2000	4:15 PM	northwestern portion of county			X	n/a	n/a	n/a	n/a	Flooding was reported along Route 113.
07/10/2000	4:00 AM	countywide	X		X	n/a	n/a	n/a	n/a	In Kankakee, streets, viaducts, basements, creeks and retension ponds flooded. Flood waters ripped up 50 feet of pavement on Broadway Street. There was also street and basement flooding in St. Anne.
06/05/2001	11:26 AM	countywide				n/a	n/a	n/a	n/a	
05/30/2004	11:40 AM	Bradley			X	n/a	n/a	n/a	n/a	Street flooding occurred on Broadway Street.
05/24/2006	4:15 PM	Kankakee			X	n/a	n/a	$125,000	n/a	Several roads were flooded. Seven cars stalled in high water, two cars were floating under a viaduct. A woman was rescued from one of the cars. The right shoulder of 1500N at 3100W washed away
05/29/2006	5:37 PM	Bourbonnais			X	n/a	n/a	n/a	n/a	One foot of water at Charles and Cryer Roads. One to two feet of water on roadways at University and Stadium Roads. Two to Three feet of water on 200 block of Barrington Drive.

^ Flash flood event verified in the vicinity of this location(s).

[1] An "X" in the columns of Home, Business and Infrastructure indicates impacts occurred to those structure/infrastructure types during a general flood event. A detailed description of the type and magnitude of the impacts are included in the Impacts/Event Description column if available.

Table 6
Flash Flood Events Reported in Kankakee County
1996 - 2022

Date(s)	Start Time	Location(s)	Impacts[1]			Injuries	Fatalities	Property Damages	Crop Damages	Impacts/ Event Description
			Home	Business	Infra-structure					
08/23/2007 thru 08/24/2007	7:18 PM	countywide				n/a	n/a	n/a	n/a	
01/08/2008	6:30 AM	St. George			X	n/a	n/a	n/a	n/a	The intersection of St. George Road and 600E was flooded.
01/08/2008	8:50 AM	Otto	X			n/a	n/a	n/a	n/a	Fields were flooded and one house was surrounded by flood waters on Route 45 near Otto Road.
01/08/2008	9:07 AM	Kankakee			X	n/a	n/a	n/a	n/a	The intersection of Hobbie Avenue and Route 50 was flooded with 2 to 3 feet of water.
02/05/2008	12:51 AM	southeastern portion of county				n/a	n/a	n/a	n/a	
06/04/2008 thru 06/05/2008	9:10 PM	Bourbonnais Bradley Kankakee			X	n/a	n/a	n/a	n/a	Several streets were flooded in Kankakee with water four to five feet deep in some locations. A motorist was rescued near Brookmont Boulevard. Many fields were flooded in Bourbonnais.
09/13/2008	1:28 AM	northern portion of county				n/a	n/a	n/a	n/a	
09/14/2008	6:00 AM	Bradley Kankakee			X	n/a	n/a	n/a	n/a	Numerous streets and viaducts were flooded in Bradley. There was 2 feet of water at Euclid and Erie. Several streets and intersections were flooded and closed in Kankakee including Hobbie Avenue at Route 50 with 2 to 3 feet of water, and the Brookmont Boulevard viaduct with 1 to 2 feet of water.
12/27/2008	2:51 PM	northern portion of county				n/a	n/a	n/a	n/a	

^ Flash flood event verified in the vicinity of this location(s).

[1] An "X" in the columns of Home, Business and Infrastructure indicates impacts occurred to those structure/infrastructure types during a general flood event. A detailed description of the type and magnitude of the impacts are included in the Impacts/Event Description column if available.

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Flash Flood Events Reported in Kankakee County
1996 - 2022

Date(s)	Start Time	Location(s)	Impacts[1]			Injuries	Fatalities	Property Damages	Crop Damages	Impacts/ Event Description
			Home	Business	Infra-structure					
05/13/2009 thru 05/14/2009	10:00 PM	Bourbonnais Bradley			X	n/a	n/a	$25,000	n/a	Several roads in Bourbonnais and Bradley were flooded. Viaducts were also flooded and closed. Three stalled cars were reported in a flooded viaduct east of Broadway. Eighteen inches of water was reported in the intersection of Mooney Drive and Armour Road.
05/15/2009	5:46 PM	northern portion of county				n/a	n/a	n/a	n/a	
06/11/2009	2:45 PM	eastern portion of county				n/a	n/a	n/a	n/a	
06/16/2009	5:44 PM	northwestern portion of county				n/a	n/a	n/a	n/a	
06/05/2010 thru 06/06/2010	9:10 PM	Bradley Kankakee			X	n/a	n/a	n/a	n/a	Water was flowing over East River Road in Kankakee. Route 50 was flooded at Harrison Street and Greenwood Street in Kankakee. An underpass was flooded at Brookmont and Schuyler in Bradley.
06/15/2010	4:45 PM	central & southern portions of county			X	n/a	n/a	n/a	n/a	Street flooding was reported in Bourbonnais, Bradley, Manteno, ans Kankakee, as well as on county roads. Portions of Interstate 57 were closed due to flooding. Route 50 north of Larry Powers Road had 6 inches of flowing water over it. Several roads were flooded and impassable near Route 17 and 4000 South Roads. Ditches were reported to be overflowing near 5000W and 1000S and 2000S Roads.
06/23/2010	7:10 PM	countywide				n/a	n/a	n/a	n/a	

^ Flash flood event verified in the vicinity of this location(s).

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Table 6
Flash Flood Events Reported in Kankakee County
1996 - 2022

Date(s)	Start Time	Location(s)	Impacts[1]			Injuries	Fatalities	Property Damages	Crop Damages	Impacts/ Event Description
			Home	Business	Infra-structure					
10/24/2010 thru 10/25/2010	11:35 PM	northcentral portion of county				n/a	n/a	n/a	n/a	
05/22/2011	5:08 PM	southeaster portion of county				n/a	n/a	n/a	n/a	
05/25/2011 thru 05/26/2011	8:09 PM	countywide				n/a	n/a	n/a	n/a	
06/09/2011	11:26 AM	northeastern portion of county				n/a	n/a	n/a	n/a	
05/06/2012	3:19 PM	southwestern portion of county				n/a	n/a	n/a	n/a	
05/07/2012	7:12 AM	northern portion of county				n/a	n/a	n/a	n/a	
06/16/2012 thru 06/17/2012	7:17 PM	Momence Bourbonnais Bradley Kankakee			X	n/a	n/a	$100,000	n/a	In Momence, several inches of standing water in roadways caused road closures, including County Road 3500N. In Bourbonnais, two to three feet of standing water forced road closures, including the intersection of Bethel Drive and Independence Drive. Law enforcement in Kankakee reported numerous road closures across portions of Kankakee and Bradley as well as rural portions of the county due to water rushing over roadways.
04/18/2013	5:58 AM	northwestern portion of county				n/a	n/a	n/a	n/a	

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Date(s)	Start Time	Location(s)	Impacts[1]			Injuries	Fatalities	Property Damages	Crop Damages	Impacts/ Event Description
			Home	Business	Infra-structure					
06/12/2013 thru 06/13/2013	7:45 PM	Bourbonnais Bradley Kankakee			X	n/a	n/a	n/a	n/a	Every underpass and numerous streets were flooded throughout Kankakee, Bradley, and Bourbonnais.
10/05/2013	5:00 PM	Bourbonnais Bradley Kankakee			X	n/a	n/a	n/a	n/a	Several streets in Kankakee, Bradley, and Bourbonnais have standing water and all viaducts are closed due to flooding. Numerous intersections are closed. A few streets had upwards of a foot of water with several cars stranded.
05/11/2014	8:55 PM	Momence^			X	n/a	n/a	n/a	n/a	On 3000N Road water estimated to around a foot and a half deep was flowing from a field across the road and caused a car to stall.
06/07/2015 thru 06/08/2015	4:06 PM	eastern portion of county				n/a	n/a	n/a	n/a	
05/15/2015	11:00 AM	northcentral portion of county				n/a	n/a	n/a	n/a	
06/18/2015	3:30 PM	southeastern portion of county				n/a	n/a	n/a	n/a	
06/20/2015 thru 06/21/2015	4:15 AM	western portion of county				n/a	n/a	n/a	n/a	
06/22/2015 thru 06/23/2015	6:15 AM	countywide				n/a	n/a	n/a	n/a	
07/17/2015	5:31 PM	southeastern portion of county				n/a	n/a	n/a	n/a	

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Date(s)	Start Time	Location(s)	Impacts[1]			Injuries	Fatalities	Property Damages	Crop Damages	Impacts/ Event Description
			Home	Business	Infra-structure					
07/18/2016	12:53 AM	southern portion of county				n/a	n/a	n/a	n/a	
08/15/2016	5:06 PM	central portion of county				n/a	n/a	n/a	n/a	
08/28/2016	1:34 PM	southwestern portion of county				n/a	n/a	n/a	n/a	
06/13/2017	5:00 PM	Bourbonnais Bradley Kankakee				n/a	n/a	n/a	n/a	Heavy rain caused flash flooding in the Kankakee and Bradley areas. One water rescue occurred for a partially submerged car in Bradley on Kennedy Drive.
06/26/2019 thru 06/27/2019	10:39 PM	eastern portion of county				n/a	n/a	n/a	n/a	
07/21/2019	12:51 PM	central portion of county				n/a	n/a	n/a	n/a	
09/27/2019 thru 09/28/2019	8:30 PM	Manteno^			X	n/a	n/a	n/a	n/a	One foot of flowing water was reported at 9000 N and Sycamore Road due to flooding from the South Branch Rock Creek.
05/14/2020 thru 05/15/2020	8:52 PM	Herscher			X	n/a	n/a	n/a	n/a	Flooding was reported across most roads in the Herscher area including flood waters across all of Route 115, which was closed during the peak of the heavy rain. Horse Creek was 90% full at 9000 W Road and well over its banks at 10000 W Road. Pilot Drive was also flooded.
05/14/2020 thru 05/15/2020	9:30 PM	Bradley			X	n/a	n/a	n/a	n/a	Numerous streets and underpasses were flooded in Bradley.

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			Home	Business	Infra-structure					
05/14/2020 thru 05/15/2020	9:30 PM	Momence^ Momence			X	n/a	n/a	n/a	n/a	Multiple reports of flash flooding were received from the Momence area, including two feet of water over 4000 N Road, northwest of Momence.
05/17/2020	4:42 PM	countywide				n/a	n/a	n/a	n/a	
06/27/2020	5:00 PM	Herscher^			X	n/a	n/a	n/a	n/a	Over a foot of water was reported on Route 115 and S 12000 W Road.
06/26/2021	3:50 PM	northeastern portion of county				n/a	n/a	n/a	n/a	
08/25/2021 thru 08/26/2021	9:15 PM	northeastern portion of county				n/a	n/a	n/a	n/a	
01/27/2022	4:00 AM	Kankakee River State Park			X	n/a	n/a	n/a	n/a	A river ice spotter reported flooding of trails at the Kankakee River State Park near the Warner Bridge due to an ice jam. The water level dropped by one foot with ice marks left on nearby trees. Sheet ice cover buckled due to the water level drop.
GRAND TOTAL:						**0**	**0**	**$250,000**	**$0**	

Sources: Iowa State University, Iowa Environmental Mesonet, National Weather Service Data, Search for Warnings.
NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Storm Data.
NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Storm Events Database.

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Table 7
Severe Winter Storm Events Reported in Kankakee County
1950 - 2022

Date(s)	Start Time	Event Type	Magnitude[1]					Observed Location(s)[2]	Injuries	Fatalities	Property Damages	Impacts/ Event Description
			Snow (inches)	Freezing Rain (inches)	Ice (inches)	Sleet (Inches)	Strong Wind (mph)					
02/22/1950	n/a	Winter Storm	6.0 in.				X	Kankakee 3SW Kankakee 4NW	n/a	n/a	n/a	
02/24/1950	n/a	Heavy Snow	4.1 in.					Kankakee 3SW	n/a	n/a	n/a	
11/26/1950	n/a	Winter Storm	4.0 in.				X	Kankakee 4 NW	n/a	n/a	n/a	
12/06/1950	n/a	Heavy Snow	6.0 in.					Kankakee 3SW Kankakee 4NW	n/a	n/a	n/a	
12/08/1950	n/a	Winter Storm	5.1 in.				X	Kankakee 4 NW	n/a	n/a	n/a	
11/06/1951 thru 11/07/1951	4:00 AM	Winter Storm	9.0 in.				X	Kankakee 3SW Kankakee 4NW	n/a	n/a	n/a	
12/14/1951	2:00 AM	Heavy Snow	5.0 in.					Kankakee 3SW Kankakee 4NW	n/a	n/a	n/a	
02/13/1952 thru 02/14/1952	11:30 PM	Winter Storm	6.0 in.				X	Kankakee 4 NW	n/a	n/a	n/a	

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Date(s)	Start Time	Event Type	Magnitude[1]					Observed Location(s)[2]	Injuries	Fatalities	Property Damages	Impacts/ Event Description
			Snow (inches)	Freezing Rain (inches)	Ice (inches)	Sleet (Inches)	Strong Wind (mph)					
12/01/1952 thru 12/02/1952	8:30 AM	Heavy Snow	4.5 in.					Kankakee 3SW	n/a	n/a	n/a	
02/15/1953 thru 02/16/1953	9:00 PM	Winter Storm	6.6 in.				X	Kankakee 3SW Kankakee 4NW	n/a	n/a	n/a	
03/07/1953	7:00 AM	Heavy Snow	4.0 in.					Kankakee 4 NW	n/a	n/a	n/a	
11/26/1953 thru 11/27/1953	4:00 PM	Heavy Snow	4.2 in.					Kankakee 4 NW	n/a	n/a	n/a	
12/22/1953	2:00 AM	Heavy Snow	4.0 in.					Kankakee 4 NW	n/a	n/a	n/a	
02/25/1954 thru 02/26/1954	9:30 AM	Heavy Snow	4.0 in.					Kankakee 4 NW	n/a	n/a	n/a	
03/02/1954 thru 03/03/1954	4:30 PM	Winter Storm	5.0 in.				X	Kankakee 4 NW	n/a	n/a	n/a	
02/10/1955	n/a	Heavy Snow	6.0 in.					Kankakee 4 NW	n/a	n/a	n/a	

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			Snow (inches)	Freezing Rain (inches)	Ice (inches)	Sleet (Inches)	Strong Wind (mph)					
02/11/1956 thru 02/12/1956	n/a	Heavy Snow	9.2 in.					Kankakee 3SW Kankakee 4NW	n/a	n/a	n/a	
03/14/1956	3:00 AM	Heavy Snow	5.5 in.					Kankakee 3SW Kankakee 4NW	n/a	n/a	n/a	
12/08/1956	n/a	Heavy Snow	4.2 in.					Kankakee 4 NW	n/a	n/a	n/a	
01/09/1957 thru 01/10/1957	1:15 PM	Heavy Snow	5.0 in.					Kankakee 3SW Kankakee 4NW	n/a	n/a	n/a	
01/22/1957 thru 01/23/1957	2:30 AM	Heavy Snow	7.5 in.					Kankakee 3SW Kankakee 4NW	n/a	n/a	n/a	
03/25/1957	n/a	Winter Storm	4.0 in.				X	Kankakee 4 NW	n/a	n/a	n/a	
01/21/1958	n/a	Heavy Snow	4.0 in.					Kankakee 4 NW	n/a	n/a	n/a	
12/08/1958	n/a	Heavy Snow	4.0 in.					Kankakee 4 NW	n/a	n/a	n/a	

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			Snow (inches)	Freezing Rain (inches)	Ice (inches)	Sleet (Inches)	Strong Wind (mph)					
01/20/1959 thru 01/22/1959	9:30 AM	Winter Storm	7.0 in.	X	2.0 in.	X		Kankakee 3SW Kankakee 4NW	n/a	n/a	n/a	
11/12/1959	n/a	Heavy Snow	6.0 in.					Kankakee 4 NW	n/a	n/a	n/a	
12/23/1959	n/a	Winter Storm	4.0 in.			X		Kankakee 4 NW	n/a	n/a	n/a	
03/16/1960 thru 03/17/1960	1:00 AM	Heavy Snow	7.2 in.					Kankakee 3SW	n/a	n/a	n/a	
04/15/1961 thru 04/17/1961	5:00 PM	Heavy Snow	5.6 in.					Kankakee 3SW	n/a	n/a	n/a	
12/22/1961 thru 12/24/1961	5:45 PM	Heavy Snow	6.5 in.					Kankakee 3SW	n/a	n/a	n/a	
01/14/1962 thru 01/15/1962	11:00 AM	Heavy Snow	6.5 in.					Kankakee 3SW	n/a	n/a	n/a	
12/02/1964 thru 12/04/1964	9:20 AM	Heavy Snow	5.8 in.					Kankakee 3SW	n/a	n/a	n/a	

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			Snow (inches)	Freezing Rain (inches)	Ice (inches)	Sleet (Inches)	Strong Wind (mph)					
01/26/1967 thru 01/27/1967	n/a	Heavy Snow	14.0 in.					Kankakee 3SW	n/a	n/a	n/a	
01/05/1969 thru 01/06/1969	9:40 AM	Heavy Snow	7.0 in.					Kankakee 3SW	n/a	n/a	n/a	
01/09/1974 thru 01/10/1974	2:00 PM	Heavy Snow	5.5 in.					Kankakee WWTP	n/a	n/a	n/a	
12/01/1974 thru 12/02/1974	8:45 PM	Heavy Snow	5.0 in.					Kankakee WWTP	n/a	n/a	n/a	
12/09/1975	10:45 AM	Heavy Snow	5.0 in.					Kankakee WWTP	n/a	n/a	n/a	
01/14/1976	n/a	Heavy Snow	5.0 in.					Kankakee WWTP	n/a	n/a	n/a	
02/03/1977	n/a	Heavy Snow	4.0 in.					Kankakee WWTP	n/a	n/a	n/a	
12/09/1977	12:00 AM	Heavy Snow	6.0 in.					Kankakee WWTP	n/a	n/a	n/a	
12/19/1977 thru 12/21/1977	10:30 PM	Heavy Snow	4.5 in.					Kankakee WWTP	n/a	n/a	n/a	

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			Snow (inches)	Freezing Rain (inches)	Ice (inches)	Sleet (Inches)	Strong Wind (mph)					
01/12/1979 thru 01/14/1979	6:30 PM	Blizzard	17.0 in.				X	Kankakee WWTP	n/a	n/a	n/a	COOP observer noted blizzard conditions
01/24/1979 thru 01/25/1979	3:00 PM	Heavy Snow	5.0 in.					Kankakee WWTP	n/a	n/a	n/a	
02/26/1980	7:00 AM	Heavy Snow	6.0 in.					Kankakee WWTP	n/a	n/a	n/a	
03/12/1980 thru 03/13/1980	6:30 PM	Heavy Snow	5.0 in.					Kankakee WWTP	n/a	n/a	n/a	
11/28/1980	1:30 AM	Heavy Snow	4.0 in.					Kankakee WWTP	n/a	n/a	n/a	
02/10/1981 thru 02/11/1981	1:30 AM	Heavy Snow	7.0 in.					Kankakee WWTP	n/a	n/a	n/a	
12/17/1981 thru 21/18/81	3:00 PM	Heavy Snow	5.0 in.					Kankakee WWTP	n/a	n/a	n/a	
12/23/1981	3:00 PM	Heavy Snow	4.0 in.					Kankakee WWTP	n/a	n/a	n/a	
02/01/1982	5:00 AM	Heavy Snow	6.0 in.					Kankakee WWTP	n/a	n/a	n/a	
04/06/1982	11:00 AM	Heavy Snow	6.0 in.					Kankakee WWTP	n/a	n/a	n/a	

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			Snow (inches)	Freezing Rain (inches)	Ice (inches)	Sleet (Inches)	Strong Wind (mph)					
03/21/1983	7:00 AM	Heavy Snow	5.0 in.					Kankakee WWTP	n/a	n/a	n/a	
01/29/1984 thru 01/30/1984	8:00 PM	Heavy Snow	9.0 in.					Kankakee WWTP	n/a	n/a	n/a	
01/09/1985 thru 01/10/1985	9:00 PM	Heavy Snow	5.0 in.					Kankakee WWTP	n/a	n/a	n/a	
01/10/1987 thru 01/11/1987	12:30 PM	Heavy Snow	7.0 in.					Kankakee WWTP	n/a	n/a	n/a	
01/18/1987	12:00 PM	Heavy Snow	5.0 in.					Kankakee WWTP	n/a	n/a	n/a	
01/19/1987 thru 01/20/1987	9:00 PM	Heavy Snow	4.0 in.					Kankakee WWTP	n/a	n/a	n/a	
12/22/1990	4:00 PM	Heavy Snow	5.0 in.					Chabanse	n/a	n/a	n/a	
01/05/1991	3:00 AM	Heavy Snow	4.0 in.					Kankakee WWTP	n/a	n/a	n/a	
03/13/1991 thru 03/14/1991	12:00 AM	Heavy Snow	12.0 in.					Kankakee WWTP	n/a	n/a	n/a	

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			Snow (inches)	Freezing Rain (inches)	Ice (inches)	Sleet (Inches)	Strong Wind (mph)					
01/16/1992	7:45 AM	Heavy Snow	7.0 in.					Kankakee WWTP Chabanse Momence	n/a	n/a	n/a	
01/26/1992	n/a	Heavy Snow	4.0 in.					Momence	n/a	n/a	n/a	
12/09/1992 thru 12/10/1992	4:30 PM	Heavy Snow	5.5 in.					Kankakee WWTP Momence	n/a	n/a	n/a	
02/15/1993 thru 02/16/1993	6:30 PM	Winter Storm	4.5 in.		X			Kankakee WWTP	n/a	n/a	n/a	
02/23/1994	7:00 AM	Heavy Snow	5.0 in.				X	Kankakee WWTP	n/a	n/a	n/a	Strong gusty northeast winds accompanied the snow which caused considerable blowing and drifting.
02/26/1994	7:00 AM	Winter Storm	5.6 in.				X	Kankakee WWTP Chabanse Momence	n/a	n/a	n/a	
12/09/1995	n/a	Winter Storm	3.0 in.				40 mph	Kankakee WWTP	n/a	n/a	n/a	The strong winds caused severe blowing and drifting, especially in open areas.
01/15/1997 thru 01/16/1997	7:00 AM	Heavy Snow	6.5 in.					Kankakee WWTP Momence	n/a	n/a	n/a	

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			Snow (inches)	Freezing Rain (inches)	Ice (inches)	Sleet (Inches)	Strong Wind (mph)					
02/15/1997	11:30 AM	Heavy Snow	4.0 in.					Chabanse	n/a	n/a	n/a	
04/10/1997 thru 04/11/1997	5:00 PM	Heavy Snow	8.0 in.					Kankakee WWTP Chabanse	n/a	n/a	n/a	
12/09/1997 thru 12/10/1997	8:00 PM	Heavy Snow	5.0 in.					Kankakee WWTP	n/a	n/a	n/a	
03/08/1998 thru 03/10/1998	12:00 PM	Winter Storm	8.1 in.				X	Kankakee WWTP	n/a	n/a	n/a	Strong winds combined with the heavy snow damaged power lines and tree limbs throughout northeast Illinois.
01/01/1999 thru 01/03/1999	5:00 PM	Blizzard	15.0 in.				X	Kankakee WWTP Chabanse	n/a	n/a	$250,000	***This event was part of a federal emergency declaration (Declaration #3134)*** Chebanse COOPobserver noted drifts of up to 48" on the 3rd.
01/20/1999	n/a	Heavy Snow	5.5 in.					Chabanse	n/a	n/a	n/a	
03/08/1999 thru 03/09/1999	2:30 PM	Winter Storm	8.2 in.				X	Kankakee WWTP Chabanse	n/a	n/a	n/a	Strong east winds caused blowing and drifting of snow.

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Table 7
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1950 - 2022

Date(s)	Start Time	Event Type	Magnitude[1]					Observed Location(s)[2]	Injuries	Fatalities	Property Damages	Impacts/ Event Description
			Snow (inches)	Freezing Rain (inches)	Ice (inches)	Sleet (Inches)	Strong Wind (mph)					
01/19/2000 thru 01/20/2000	12:00 PM	Heavy Snow	7.0 in.					Kankakee WWTP Chabanse Momence	n/a	n/a	n/a	
01/30/2000 thru 01/31/2000	12:15 PM	Heavy Snow	4.3 in.					Kankakee WWTP Momence	n/a	n/a	n/a	
12/12/2000	12:30 AM	Winter Storm	9.7 in.			X		Kankakee WWTP Chabanse Momence	n/a	n/a	$200,000	***This event was part of a federal emergency declaration (Declaration #3161)***
12/14/2000	10:30 AM	Heavy Snow	5.5 in.					Kankakee WWTP Chabanse Momence	n/a	n/a	n/a	***This event was part of a federal emergency declaration (Declaration #3161)***
12/19/2000	1:30 PM	Heavy Snow	4.3 in.					Kankakee WWTP Momence	n/a	n/a	n/a	***This event was part of a federal emergency declaration (Declaration #3161)***
01/31/2002	4:00 AM	Winter Storm	5.0 in.	X	0.25 in.				n/a	n/a	n/a	Many utility poles, power lines, trees and tree limbs were knocked down by the ice causing several power outages.
02/26/2002	n/a	Heavy Snow	5.0 in.					Momence	n/a	n/a	n/a	

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			Snow (inches)	Freezing Rain (inches)	Ice (inches)	Sleet (Inches)	Strong Wind (mph)					
03/02/2002 thru 03/03/2002	8:00 PM	Heavy Snow	6.3 in.					Kankakee WWTP	n/a	n/a	n/a	
12/25/2002	3:00 PM	Heavy Snow	6.2 in.					Kankakee WWTP Momence	n/a	n/a	n/a	
02/14/2003 thru 02/15/2003	7:00 PM	Heavy Snow	5.5 in.					Kankakee WWTP Momence	n/a	n/a	n/a	
12/05/2003	1:00 AM	Heavy Snow	5.2 in.					Momence	n/a	n/a	n/a	
12/09/2005	n/a	Heavy Snow	6.0 in.					Momence	n/a	n/a	n/a	
02/06/2007 thru 02/07/2007	7:00 AM	Heavy Snow	7.0 in.					Kankakee WWTP Momence	n/a	n/a	n/a	
02/13/2007 thru 02/14/2007	2:00 AM	Blizzard	14.9 in.				35 mph	Kankakee WWTP Momence	n/a	n/a	n/a	Wind gusts were frequently blowing at or above 35 mph, creating blizzard and whiteout conditions across many areas.
02/25/2007	3:00 PM	Winter Storm	1.8 in.	X	0.5 in.	X		Kankakee WWTP	n/a	n/a	n/a	
12/15/2007 thru 12/16/2007	11:30 AM	Heavy Snow	11.1 in.					Momence	n/a	n/a	n/a	

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			Snow (inches)	Freezing Rain (inches)	Ice (inches)	Sleet (Inches)	Strong Wind (mph)					
12/31/2007 thru 01/01/2008	1:00 PM	Heavy Snow	8.4 in.					Kankakee WWTP Momence	n/a	n/a	n/a	
01/29/2008	7:00 PM	Winter Storm	1.0 in.				35 mph	Momence	n/a	n/a	n/a	Winds gusting to 35 mph caused near blizzard conditions with numerous locations reporting visibility less than a quarter mile.
01/31/2008 thru 02/02/2008	4:00 PM	Heavy Snow	10.6 in.					Kankakee WWTP Momence	n/a	n/a	n/a	
02/26/2008	n/a	Heavy Snow	4.0 in.					Momence	n/a	n/a	n/a	
12/18/2008 thru 12/19/2008	10:00 PM	Ice Storm	1.8 in.		0.5 in.	X		Kankakee WWTP	n/a	n/a	n/a	Ice accumulations caused numerous tree limbs and power lines to break, which also brought down utility poles. Power outages were widespread across these areas.
01/14/2009 thru 01/15/2009	1:00 AM	Heavy Snow	7.0 in.					Momence	n/a	n/a	n/a	

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Date(s)	Start Time	Event Type	Magnitude[1]					Observed Location(s)[2]	Injuries	Fatalities	Property Damages	Impacts/ Event Description
			Snow (inches)	Freezing Rain (inches)	Ice (inches)	Sleet (Inches)	Strong Wind (mph)					
12/23/2009 thru 12/24/2009	11:00 AM	Ice Storm	X	X	0.25 in.	X			n/a	n/a	n/a	A mixture of sleet, snow and freezing rain changed to all freezing rain by evening with many locations receiving around a quarter inch of ice accumulation on trees, power lines and other elevated surfaces. Some areas in north central Illinois received as much as one half inch of ice acumulation. Numerous trees, tree limbs and power lines fell down due to the weight of the ice. While some ice accumulation was reported on less traveled and untreated roads, most roadways remained wet even with temperatures near or slightly below freezing.
12/04/2010	n/a	Heavy Snow	4.5 in.					Momence	n/a	n/a	n/a	

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			Snow (inches)	Freezing Rain (inches)	Ice (inches)	Sleet (Inches)	Strong Wind (mph)					
12/11/2010 thru 12/12/2010	2:00 PM	Winter Storm	1.2 in.				55 mph	Kankakee WWTP	n/a	n/a	n/a	Very strong winds developed causing whiteout and near blizzard conditions in open areas. Winds also blew down tree limbs and power lines.
12/21/2010	n/a	Heavy Snow	5.0 in.					Momence	n/a	n/a	n/a	
02/01/2011 thru 02/02/2011	11:00 AM	Blizzard	15.0 in.				X	Kankakee WWTP Momence	n/a	n/a	n/a	
01/12/2012	9:00 AM	Heavy Snow	5.5 in.					Kankakee WWTP Momence	n/a	n/a	n/a	
01/20/2012 thru 01/21/2012	11:00 AM	Heavy Snow	6.5 in.					Kankakee WWTP Momence	n/a	n/a	n/a	
03/05/2013 thru 03/06/2013	11:00 AM	Heavy Snow	6.7 in.					Kankakee WWTP Momence	n/a	n/a	n/a	
03/25/2013	n/a	Heavy Snow	4.2 in.					Momence	n/a	n/a	n/a	
12/16/2013	1:00 AM	Heavy Snow	4.0 in.					Kankakee WWTP	n/a	n/a	n/a	
01/01/2014 thru 01/02/2014	7:00 PM	Heavy Snow	5.1 in.					Kankakee WWTP Momence	n/a	n/a	n/a	

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			Snow (inches)	Freezing Rain (inches)	Ice (inches)	Sleet (Inches)	Strong Wind (mph)					
01/05/2014 thru 01/06/2014	8:00 AM	Winter Storm	9.4 in.				X	Kankakee WWTP Momence	n/a	n/a	n/a	
01/19/2014	n/a	Heavy Snow	6.0 in.					Momence	n/a	n/a	n/a	
01/26/2014 thru 01/27/2014	8:00 PM	Winter Storm	3.0 in.				50 mph	Kankakee WWTP Momence	n/a	n/a	n/a	While only 2 to 4 inches of snow fell across the area, winds gusting up to 58 mph at times behind the front lead to temporary blizzard-like conditions that caused severe impacts to area roadways. In Kankakee and Iroquois counties, I-57 was snow covered, and over 80 vehicles were reportedly stuck in ditches or medians.
02/01/2014 thru 02/02/2014	3:00 AM	Winter Storm	6.4 in.		X	X		Kankakee WWTP Momence	n/a	n/a	n/a	
02/04/2014 thru 02/05/2014	4:00 PM	Heavy Snow	5.5 in.					Kankakee WWTP Momence	n/a	n/a	n/a	
02/09/2014	n/a	Heavy Snow	4.2 in.					Momence	n/a	n/a	n/a	

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			Snow (inches)	Freezing Rain (inches)	Ice (inches)	Sleet (Inches)	Strong Wind (mph)					
02/17/2014	7:00 AM	Winter Storm	6.2 in.			X		Kankakee WWTP Momence	n/a	n/a	n/a	
01/05/2015 thru 01/06/2015	6:00 PM	Heavy Snow	4.9 in.					Kankakee WWTP	n/a	n/a	n/a	
02/01/2015 thru 02/02/2015	12:00 AM	Heavy Snow	14.5 in.					Kankakee WWTP	n/a	n/a	n/a	
02/24/2016 thru 02/25/2016	n/a	Heavy Snow	8.0 in.					Momence	n/a	n/a	n/a	
12/04/2016 thru 12/05/2016	10:00 AM	Heavy Snow	4.5 in.					Kankakee WWTP Momence	n/a	n/a	n/a	
02/12/2018	n/a	Heavy Snow	4.0 in.					Kankakee WWTP	n/a	n/a	n/a	
01/28/2019	12:00 AM	Heavy Snow	5.0 in.					Kankakee WWTP	n/a	n/a	n/a	
02/11/2019 thru 02/12/2019	2:20 PM	Ice Storm		X	0.25 in.				n/a	n/a	n/a	
03/17/2019	n/a	Heavy Snow	4.7 in.					Momence	n/a	n/a	n/a	

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			Snow (inches)	Freezing Rain (inches)	Ice (inches)	Sleet (Inches)	Strong Wind (mph)					
03/22/2020 thru 03/23/2020	2:00 PM	Heavy Snow	4.0 in.					Kankakee WWTP	n/a	n/a	n/a	
01/01/2021	2:00 AM	Ice Storm	1.0 in.	X	0.28 in.				n/a	n/a	n/a	
01/30/2021 thru 01/31/2021	4:00 PM	Heavy Snow	10.3 in.					Kankakee WWTP	n/a	n/a	n/a	
02/15/2021 thru 02/16/2021	12:00 PM	Heavy Snow	13.0 in.					Kankakee WWTP	n/a	n/a	n/a	
02/01/2022 thru 02/02/2022	3:00 PM	Heavy Snow	13.0 in.					Kankakee WWTP	n/a	n/a	n/a	
02/16/2022 thru 02/17/2022	4:00 PM	Winter Storm	6.5 in.				30 mph	Kankakee WWTP	n/a	n/a	n/a	Winds were gusting to 30 mph producing widespread blowing and drifting snow.
12/22/2022	12:30 PM	Winter Storm	2.3 in.				X	Kankakee WWTP	n/a	n/a	n/a	
GRAND TOTAL:									**0**	**0**	**$450,000**	

Sources: NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Cooperative Observation Forms.
NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Storm Data.
NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Storm Events Database.

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Table 8
Excessive Heat Events Reported in Kankakee County
1995 - 2022

Date(s)	Start Time	Magnitude - Temperature °F			Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
		Day (Max)	Night (Min)	Heat Index (Max)						
07/12/1995 thru 07/17/1995	n/a	102 °F	69 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/31/1995 thru 08/01/1995	n/a	93 °F	70 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/11/1995 thru 08/19/1995	n/a	101 °F	70 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/30/1995 thru 08/31/1995	n/a	93 °F	72 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/28/1996 thru 07/01/1996	n/a	95 °F	69 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/07/1996 thru 08/08/1996	n/a	93 °F	72 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/22/1996	n/a	91 °F	71 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/23/1997 thru 06/25/1997	n/a	95 °F	72 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/29/1997 thru 06/30/1997	n/a	90 °F	71 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	

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Date(s)	Start Time	Magnitude - Temperature °F			Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
		Day (Max)	Night (Min)	Heat Index (Max)						
07/26/1997 thru 07/28/1997	n/a	98 °F	70 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/24/1998 thru 06/29/1998	n/a	97 °F	67 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/06/1999 thru 06/07/1999	n/a	91 °F	70 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/09/1999 thru 06/10/1999	n/a	95 °F	68 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/04/1996 thru 07/06/1999	n/a	91 °F	73 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/17/1996	n/a	92 °F	71 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/21/1999 thru 07/26/1999	n/a	97 °F	71 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/28/1999 thru 08/01/1999	n/a	102 °F	71 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/31/2000 thru 09/04/2000	n/a	96 °F	67 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/19/2001	n/a	94 °F	71 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	

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		Day (Max)	Night (Min)	Heat Index (Max)						
07/20/2001 thru 07/25/2001	n/a	95 °F	70 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/31/2001 thru 08/02/2001	n/a	95 °F	72 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/07/2001 thru 08/10/2001	n/a	95 °F	69 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/21/2002 thru 06/23/2002	n/a	96 °F	68 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/03/2002 thru 07/06/2002	n/a	97 °F	68 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/09/2002	n/a	96 °F	67 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/17/2002 thru 07/23/2002	n/a	98 °F	69 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/29/2002	n/a	91 °F	71 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/31/2002 thru 08/05/2002	n/a	96 °F	70 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
09/09/2002	n/a	96 °F	67 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	

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		Day (Max)	Night (Min)	Heat Index (Max)						
07/04/2003 thru 07/06/2003	n/a	95 °F	70 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/16/2003 thru 08/17/2003	n/a	92 °F	72 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/21/2003 thru 08/22/2003	n/a	96 °F	71 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/26/2003 thru 08/27/2003	n/a	97 °F	92 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/23/2005 thru 06/29/2005	n/a	97 °F	70 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/17/2005 thru 07/18/2005	n/a	91 °F	74 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/24/2005 thru 07/26/2005	n/a	95 °F	77 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/15/2006 thru 07/18/2006	n/a	94 °F	71 °F	105 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	

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		Day (Max)	Night (Min)	Heat Index (Max)						
07/28/2006 thru 08/03/2006	n/a	94 °F	71 °F	110 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/07/2007 thru 06/08/2007	n/a	91 °F	74 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/23/2009 thru 06/26/2009	n/a	93 °F	73 °F	105 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/06/2010 thru 07/08/2010	n/a	93 °F	71 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/14/2010 thru 07/15/2010	n/a	90 °F	73 °F	105 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/22/2010 thru 07/25/2010	n/a	92 °F	72 °F	105 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/09/2010 thru 08/14/2010	n/a	94 °F	71 °F	105 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/06/2011 thru 06/09/2011	n/a	96 °F	71 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	

[1] Observed Location information, if available, was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in NOAA's Storm Events Database and the Midwestern Regional Climate Center's cli-MATE data system.

Table 8
Excessive Heat Events Reported in Kankakee County
1995 - 2022

Date(s)	Start Time	Magnitude - Temperature °F			Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
		Day (Max)	Night (Min)	Heat Index (Max)						
07/11/2011 thru 07/13/2011	n/a	94 °F	70 °F	110 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/19/2011 thru 07/24/2011	n/a	100 °F	73 °F	115 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/27/2011 thru 08/03/2011	n/a	92 °F	70 °F	110 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
09/01/2011 thru 09/03/2011	n/a	96 °F	71 °F	105 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/28/2012 thru 06/29/2012	n/a	97 °F	74 °F	110 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/03/2012 thru 07/08/2012	n/a	101 °F	71 °F	118 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/16/2012 thru 07/19/2012	n/a	100 °F	70 °F	110 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/22/2012 thru 07/24/2012	n/a	95 °F	71 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	

[1] Observed Location information, if available, was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in NOAA's Storm Events Database and the Midwestern Regional Climate Center's cli-MATE data system.

Table 8
Excessive Heat Events Reported in Kankakee County
1995 - 2022

Date(s)	Start Time	Magnitude - Temperature °F			Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
		Day (Max)	Night (Min)	Heat Index (Max)						
07/25/2012 thru 07/26/2012	n/a	100 °F	72 °F	113 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/16/2013 thru 07/20/2013	n/a	95 °F	71 °F	108 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/27/2013 thru 08/28/2013	n/a	91 °F	74 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
09/09/2013 thru 09/12/2013	n/a	96 °F	68 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/17/2015 thru 07/19/2015	n/a	90 °F	70 °F	108 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/10/2016 thru 06/12/2016	n/a	94 °F	70 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/21/2016 thru 07/25/2016	n/a	90 °F	71 °F	115 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/11/2016 thru 08/13/2016	n/a	91 °F	70 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	

[1] Observed Location information, if available, was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in NOAA's Storm Events Database and the Midwestern Regional Climate Center's cli-MATE data system.

Table 8
Excessive Heat Events Reported in Kankakee County
1995 - 2022

Date(s)	Start Time	Magnitude - Temperature °F			Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
		Day (Max)	Night (Min)	Heat Index (Max)						
06/12/2017 thru 06/14/2017	n/a	98 °F	69 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
05/27/2018 thru 05/30/2018	n/a	99 °F	67 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/17/2018 thru 06/18/2018	n/a	92 °F	71 °F	110 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/29/2018 thru 07/02/2018	n/a	92 °F	70 °F	120 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/04/2018 thru 07/06/2018	n/a	92 °F	69 °F	110 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/05/2018 thru 08/07/2018	n/a	94 °F	70 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/26/2018 thru 08/29/2018	n/a	94 °F	67 °F	105 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
09/02/2018 thru 09/06/2018	n/a	93 °F	69 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	

[1] Observed Location information, if available, was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in NOAA's Storm Events Database and the Midwestern Regional Climate Center's cli-MATE data system.

Table 8
Excessive Heat Events Reported in Kankakee County
1995 - 2022

Date(s)	Start Time	Magnitude - Temperature °F			Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
		Day (Max)	Night (Min)	Heat Index (Max)						
09/20/2018 thru 09/21/2018	n/a	95 °F	71 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/02/2019 thru 07/03/2019	n/a	92 °F	70 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/17/2019 thru 07/19/2019	n/a	91 °F	74 °F	115 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/05/2020 thru 07/10/2020	n/a	94 °F	70 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
07/18/2020	n/a	88 °F	72 °F	105 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/24/2020 thru 08/28/2020	n/a	93 °F	71 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/11/2021 thru 08/12/2021	n/a	91 °F	70 °F	110 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/24/2021 thru 08/26/2021	n/a	93 °F	70 °F	108 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
06/14/2022 thru 06/15/2022	n/a	96 °F	68 °F	110 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	

[1] Observed Location information, if available, was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in NOAA's Storm Events Database and the Midwestern Regional Climate Center's cli-MATE data system.

Table 8
Excessive Heat Events Reported in Kankakee County
1995 - 2022

Date(s)	Start Time	Magnitude - Temperature °F			Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
		Day (Max)	Night (Min)	Heat Index (Max)						
07/05/2022	n/a	98 °F	71 °F	110 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
08/03/2022	n/a	91 °F	71 °F	108 °F	Kankakee WWTP	n/a	n/a	n/a	n/a	
GRAND TOTAL:						**0**	**0**	**$ -**	**$ -**	

Sources: Iowa State University, Iowa Environmental Mesonet, National Weather Service Data, Search for Warnings.
Midwestern Regional Climate Center, cli-MATE.
NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Cooperative Observation Forms.
NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Storm Events Database.

[1] Observed Location information, if available, was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in NOAA's Storm Events Database and the Midwestern Regional Climate Center's cli-MATE data system.

Table 9
Extreme Cold/Wind Chill Events Reported in Kankakee County
1995 - 2022

Date(s)	Start Time	Magnitude - Temperature °F			Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Impacts/Event Description
		Low (Min)	High (Max)	Wind Chill (Max)					
01/03/1995 thru 01/05/1995	n/a	11 °F	-7 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
12/09/1995 thru 12/10/1995	n/a	15 °F	-3 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
01/30/1996 thru 02/05/1996	n/a	17 °F	-17 °F	n/a	Kankakee WWTP	n/a	1	n/a	A Kankakee man was found in the cold outside his home. He later died at a hospital.
01/10/1997 thru 01/14/1997	n/a	11 °F	-10 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
01/16/1997 thru 01/18/1997	n/a	11 °F	-11 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
01/28/1977 thru 01/29/1997	n/a	11 °F	-5 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
01/02/1999 thru 01/04/1999	n/a	11 °F	-22 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
01/04/1999 thru 01/05/1999	n/a	11 °F	-22 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	

[1] Observed Location information, if available, was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in NOAA's Storm Events Database and the Midwestern Regional Climate Center's cli-MATE data system.

Table 9
Extreme Cold/Wind Chill Events Reported in Kankakee County
1995 - 2022

Date(s)	Start Time	Magnitude - Temperature °F			Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Impacts/Event Description
		Low (Min)	High (Max)	Wind Chill (Max)					
01/09/1999 thru 01/10/1999	n/a	15 °F	-12 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
01/20/2000 thru 01/21/2000	n/a	17 °F	-13 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
01/23/2000 thru 01/24/2000	n/a	16 °F	-11 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
12/11/2000 thru 12/13/2000	n/a	12 °F	-4 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
12/18/2000	n/a	16 °F	-3 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
12/22/2000 thru 12/26/2000	n/a	16 °F	-10 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
01/01/2001 thru 01/02/2001	n/a	17 °F	-5 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
01/22/2003 thru 01/23/2003	n/a	14 °F	-4 °F	-25 °F	Kankakee WWTP	n/a	n/a	n/a	
01/26/2003 thru 01/27/2003	n/a	14 °F	-7 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	

[1] Observed Location information, if available, was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in NOAA's Storm Events Database and the Midwestern Regional Climate Center's cli-MATE data system.

Table 9
Extreme Cold/Wind Chill Events Reported in Kankakee County
1995 - 2022

Date(s)	Start Time	Magnitude - Temperature °F			Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Impacts/Event Description
		Low (Min)	High (Max)	Wind Chill (Max)					
01/05/2004 thru 01/07/2004	n/a	15 °F	-3 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
01/29/2004 thru 02/01/2004	6:00 PM	13 °F	-9 °F	-34 °F	Kankakee WWTP	n/a	n/a	n/a	
12/23/2004 thru 12/25/2004	n/a	13 °F	-1 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
12/08/2005	n/a	14 °F	-3 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
02/17/2006 thru 02/19/2006	n/a	11 °F	-3 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
02/03/2007 thru 02/10/2007	n/a	17 °F	-9 °F	-35 °F	Kankakee WWTP	n/a	n/a	n/a	
02/15/2007 thru 02/16/2007	n/a	16 °F	-7 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
01/02/2008	n/a	19 °F	-2 °F	-20 °F	Kankakee WWTP	n/a	n/a	n/a	
01/20/2008	n/a	15 °F	-2 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
01/24/2008 thru 01/25/2008	n/a	10 °F	-7 °F	-30 °F	Kankakee WWTP	n/a	n/a	n/a	

[1] Observed Location information, if available, was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in NOAA's Storm Events Database and the Midwestern Regional Climate Center's cli-MATE data system.

Table 9
Extreme Cold/Wind Chill Events Reported in Kankakee County
1995 - 2022

Date(s)	Start Time	Magnitude - Temperature °F			Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Impacts/Event Description
		Low (Min)	High (Max)	Wind Chill (Max)					
01/30/2008 thru 01/31/2008	n/a	17 °F	2 °F	-35 °F	Kankakee WWTP	n/a	1	n/a	A male driver's vehicle ran off road. H tried to walk to nearest house for help, about 0.5 miles away. He was found frozen to death by owner of house he was walking to.
02/10/2008 thru 02/12/2008	n/a	15 °F	0 °F	-30 °F	Kankakee WWTP	n/a	n/a	n/a	
12/20/2008 thru 12/22/2008	n/a	-1 °F	-2 °F	-30 °F	Kankakee WWTP	n/a	n/a	n/a	
01/13/2009 thru 01/17/2009	n/a	16 °F	-19 °F	-45 °F	Kankakee WWTP	n/a	n/a	n/a	
01/24/2009 thru 01/25/2009	n/a	16 °F	-1 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
12/28/2009	n/a	n/a	n/a	n/a		n/a	1	n/a	A 27-year old male found was dead in Bourbonnais due to hypothermia.
01/21/2011 thru 01/22/2011	n/a	10 °F	-2 °F	-29 °F	Kankakee WWTP	n/a	n/a	n/a	The representative from the Manteno Community Fire Protection District indicated that ComEd experienced a large-scale power outage coupled with belwo zero weather and winds.
02/03/2011 thru 02/05/2011	n/a	26 °F	-7 °F	-40 °F	Kankakee WWTP	n/a	n/a	n/a	

[1] Observed Location information, if available, was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in NOAA's Storm Events Database and the Midwestern Regional Climate Center's cli-MATE data system.

Table 9
Extreme Cold/Wind Chill Events Reported in Kankakee County
1995 - 2022

Date(s)	Start Time	Magnitude - Temperature °F			Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Impacts/Event Description
		Low (Min)	High (Max)	Wind Chill (Max)					
02/09/2011 thru 02/10/2011	n/a	17 °F	-12 °F	-30 °F	Kankakee WWTP	n/a	n/a	n/a	
01/22/2013 thru 01/23/2013	n/a	14 °F	1 °F	-25 °F	Kankakee WWTP	n/a	n/a	n/a	
01/05/2014 thru 01/08/2014	n/a	14 °F	-15 °F	-50 °F	Kankakee WWTP	n/a	n/a	n/a	
01/22/2014 thru 01/24/2014	n/a	16 °F	-7 °F	-30 °F	Kankakee WWTP	n/a	n/a	n/a	
01/27/2014 thru 01/29/2014	n/a	7 °F	-12 °F	-45 °F	Kankakee WWTP	n/a	n/a	n/a	
02/03/2014	n/a	16 °F	-4 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
02/06/2014 thru 02/08/2014	n/a	9 °F	-9 °F	-30 °F	Kankakee WWTP	n/a	n/a	n/a	
02/10/2014 thru 02/12/2014	n/a	12 °F	-16 °F	-30 °F	Kankakee WWTP	n/a	n/a	n/a	
03/03/2014	n/a	18 °F	-2 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
01/06/2015 thru 01/08/2015	n/a	12 °F	-9 °F	-35 °F	Kankakee WWTP	n/a	n/a	n/a	

[1] Observed Location information, if available, was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in NOAA's Storm Events Database and the Midwestern Regional Climate Center's cli-MATE data system.

Table 9
Extreme Cold/Wind Chill Events Reported in Kankakee County
1995 - 2022

Date(s)	Start Time	Magnitude - Temperature °F			Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Impacts/Event Description
		Low (Min)	High (Max)	Wind Chill (Max)					
01/14/2015 thru 01/15/2005	n/a	17 °F	-4 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
02/05/2015	n/a	16 °F	-3 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
02/19/2015 thru 02/20/2015	n/a	19 °F	-5 °F	-30 °F	Kankakee WWTP	n/a	n/a	n/a	
02/23/2015 thru 02/24/2015	n/a	14 °F	-2 °F	-30 °F	Kankakee WWTP	n/a	n/a	n/a	
02/28/2015	n/a	15 °F	-6 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
01/17/2016 thru 01/19/2016	n/a	10 °F	-2 °F	-30 °F	Kankakee WWTP	n/a	n/a	n/a	
12/19/2016	n/a	12 °F	-7 °F	-30 °F	Kankakee WWTP	n/a	n/a	n/a	
12/26/2017 thru 12/28/2017	n/a	17 °F	-7 °F	-30 °F	Kankakee WWTP	n/a	n/a	n/a	
12/31/2017 thru 01/07/2018	n/a	18 °F	-17 °F	-40 °F	Kankakee WWTP	n/a	n/a	n/a	
01/27/2019	n/a	14 °F	-9 °F	n/a	Kankakee WWTP	n/a	n/a	n/a	
01/29/2019 thru 02/01/2019	n/a	9 °F	-22 °F	-52 °F	Kankakee WWTP	n/a	n/a	n/a	

[1] Observed Location information, if available, was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in NOAA's Storm Events Database and the Midwestern Regional Climate Center's cli-MATE data system.

Table 9
Extreme Cold/Wind Chill Events Reported in Kankakee County
1995 - 2022

Date(s)	Start Time	Magnitude - Temperature °F			Observed Location(s)[1]	Injuries	Fatalities	Property Damages	Impacts/Event Description
		Low (Min)	High (Max)	Wind Chill (Max)					
02/07/2021 thru 02/08/2021	n/a	18 °F	-7 °F	-30 °F	Kankakee WWTP	n/a	n/a	n/a	
02/14/2021 thru 02/17/2021	2:00 AM	16 °F	-9 °F	-30 °F	Kankakee WWTP	n/a	n/a	n/a	
01/07/2022	n/a	16 °F	-4 °F	-25 °F	Kankakee WWTP	n/a	n/a	n/a	
01/26/2022	n/a	14 °F	-8 °F	-30 °F	Kankakee WWTP	n/a	n/a	n/a	
12/23/2022 thru 12/25/2022	n/a	17 °F	-8 °F	-42 °F	Kankakee WWTP	n/a	n/a	n/a	
GRAND TOTAL:						**0**	**3**	**$ -**	

Sources: Iowa State University, Iowa Environmental Mesonet, National Weather Service Data, Search for Warnings.
Midwestern Regional Climate Center, cli-MATE.
NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Cooperative Observation Forms.
NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Storm Events Database.

[1] Observed Location information, if available, was obtained from NWS's COOP Observation Station records as well as other officially-designated sources identified in NOAA's Storm Events Database and the Midwestern Regional Climate Center's cli-MATE data system.

Table 10
Tornadoes Reported in Kankakee County
1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
1	04/07/1954	3:16 PM	Cabery^ Herscher^ Limestone Bourbonnais Bradley Manteno^	F 3	29.6 mi.	400 yd.	13 *	1 *	$250,000 *	n/a	*Touchdown/Liftoff – Multiple Counties* Touched down in Livingston County southwest of Saunemin and traveled northeast passing through the extreme northwestern tip of Ford County before lifting off near Manteno in Kankakee County - total length: 42.6 miles * The injuries, fatalities, and property damage figures represent losses sustained in three counties (including Kankakee County). A detailed breakdown by county was not available.
2	05/26/1955	4:30 PM	Kankakee River State Park^ Manteno^	F 1	10.3 mi.	400 yd.	n/a	n/a	$250,000 ~	n/a	*Touchdown/Liftoff – Two Counties* Tornado touched down in Kankakee County just north of the Kankakee River State Park and traveled northeast lifting off just west of Beecher in Will County - total length: 18.7 miles ~ The property damage figure represents losses sustained in two counties (including Kankakee County). A detailed breakdown by county was not available.

[1] The length provided is only for the portion(s) of the tornado that occurred in the County.

^ Tornado touchdown verified in the vicinity of this location(s).

† Property damages sustained as a result of this tornado represent losses sustained in two or more counties. A detailed breakdown by county was not available.

Table 10
Tornadoes Reported in Kankakee County
1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
3	06/14/1957	3:00 PM	Aroma Park^ Sun River Terrace^	F 1	1.0 mi.	83 yd.	n/a	n/a	$25,000	n/a	
4	06/16/1960	3:00 PM	Manteno^ Grant Park^	F 1	0.1 mi.	10 yd.	n/a	n/a	$2,500 ^	n/a	^ The property damage figure includes both property and crop damage. A breakdown by damage type was not available. - Two farm buildings were demolished, house trailer twisted, and trees felled
5	07/02/1960	11:42 PM	Manteno Manteno^	F 1	3.9 mi.	150 yd.	n/a	n/a	$250,000 ~	n/a	*Touchdown/Liftoff – Two Counties* Tornado touched down in Will County at Joliet and traveled southeast lifting off at Manteno in Kankakee County - total length: 23.6 miles ~ The property damage figure represents losses sustained in two counties (including Kankakee County). A detailed breakdown by county was not available. - A large tree fell through a house trapping a couple in their bed near Manteno. Numerous farmsteads were damaged.

[1] The length provided is only for the portion(s) of the tornado that occurred in the County.
^ Tornado touchdown verified in the vicinity of this location(s).
† Property damages sustained as a result of this tornado represent losses sustained in two or more counties. A detailed breakdown by county was not available.

Table 10
Tornadoes Reported in Kankakee County
1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
6	04/17/1963	3:55 PM	Bonfield^ Limestone^ Bourbonnais Bradley Momence^	F 4	25.2 mi.	130 yd.	50	1	$2,500,000 §	n/a	*Touchdown/Liftoff – Multiple Counties* Touched down in Kakakee County northeast of Bonfield and traveled southeast into Indiana, passing through Newton and Jasper counties before lifting off east of Medaryville in Pulaski County - total length: 57.3 miles § The property damage figure represents losses sustained in four counties (including Kankakee County). A detailed breakdown by county was not available.
7	09/04/1969	5:20 PM	St. Anne^	F 2	2.5 mi.	10 yd.	n/a	n/a	$25,000 ^	n/a	^ The property damage figure includes both property and crop damage. A breakdown by damage type was not available. - Damage mostly to small structures or roofs of larger buildigns on two farms. Broken trees damaged utility lines. Corn and soybeans were damaged.

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^ Tornado touchdown verified in the vicinity of this location(s).
† Property damages sustained as a result of this tornado represent losses sustained in two or more counties. A detailed breakdown by county was not available.

Table 10
Tornadoes Reported in Kankakee County
1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
8	06/16/1973	5:30 PM	Kankakee	F 0	0.1 mi.	10 yd.	n/a	n/a	n/a	n/a	
9	06/09/1974	7:44 PM	Kankakee	F 1	0.1 mi.	10 yd.	n/a	n/a	n/a	n/a	power lines were damaged
10	03/12/1976	1:35 PM	St Anne^ Hopkins Park	F 3	10.0 mi.	250 yd.	n/a	n/a	$250,000 §	n/a	*Touchdown/Liftoff – Multiple Counties* Touched down just over the County Line in Iroquois County southeast of St. Ann and traveled northeast into Indiana, passing through Newton County before lifting off northeast of Wheatfield in Jasper County - total length: 38.5 miles § The property damage figure represents losses sustained in four counties (including Kankakee County). A detailed breakdown by county was not available. - Several homes were damaged in the Hopkins Park area.

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Table 10
Tornadoes Reported in Kankakee County
1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
11	06/25/1978	12:15 PM	Kankakee River State Park^	F 1	2.4 mi.	17 yd.	n/a	n/a	$250	n/a	*Touchdown/Liftoff – Two Counties* Tornado touched down in Will County southeast of Wilmington near the County Line and traveled southeast lifting off just north of the Kankakee River State Park in Kankakee County - total length: 4.7 miles - Along Deselm Road, a pwoer line was downed and a barn and an old schoolhouse were demolished.
12	04/02/1982	11:40 PM	Irwin Limestone^ Kankakee Bradley Bourbonnais	F 3	12.0 mi.	750 yd.	15	n/a	$8,000,000	n/a	A tornado touched down in Irwin and caused major damage to homes and buildings. Walls were blown out of several buildings and a church steeple was ripepd off and the entire structure shifted. As it travelled to Bourbonnais, it struck a trailer park destroying 8 mobile homes and damaging 166 others. Ten homes were damaged. Tow persons were seriously injured when their mobile home overturned.

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Table 10
Tornadoes Reported in Kankakee County
1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
13	06/22/1990	5:25 PM	Chebanse^ Chebanse	F 2	1.3 mi.	100 yd.	n/a	n/a	$250,000 ~	n/a	*Touchdown/Liftoff – Two Counties* Tornado touched down in Kankakee County northeast of Chabanse and traveled southeast lifting off southeast of Chebanse in Iroquois County - total length: 3.0 miles ~ The property damage figure represents losses sustained in two counties (including Kankakee County). A detailed breakdown by county was not available. - Damage was heavy to a four-block area of Chebanse, then a barn near I-57 was destroyed. Other buildings, trees, and power lines were damaged. A trucker southbound on I-57 saw the tornado and parked his rig across the road to block traffic from danger.

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Table 10
Tornadoes Reported in Kankakee County
1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
14	03/22/1991	10:53 PM	Chebanse^ Kankakee^ Kankakee	F 1	8.0 mi.	100 yd.	n/a	n/a	$2,500,000 ~	n/a	*Touchdown/Liftoff – Two Counties* Tornado touched down in Iroquois County just south of the County Line west of Chebanse and traveledsnorth lifting off north of IL Route 17 between Limestone and Kanakakee in Kankakee County - total length: 9.0 miles ~ The property damage figure represents losses sustained in two counties (including Kankakee County). A detailed breakdown by county was not available. - Southwest of Kankakee, at Kankakee High School, a sports equipment trailer was destroyed, than within a mile of downtown Kankakee, at Small Memorial Park, at leat 15 trees were damaged.
15	03/27/1991	4:10 PM	Manteno	F 1	0.5 mi.	50 yd.	n/a	n/a	n/a	n/a	
16	05/10/1995	1:07 PM	Momence	F 0	0.5 mi.	10 yd.	n/a	n/a	n/a	n/a	A weak tornado was spotted at a farm northeast of Momence. It did no damage.
17	04/19/1996	5:25 PM	Herscher^ Limestone Kankakee^	F 0	4.0 mi.	20 yd.	n/a	n/a	n/a	n/a	A small tornado caused minor damage to farm buildings west of Kankakee.

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Table 10
Tornadoes Reported in Kankakee County
1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
18	04/19/1996	6:01 PM	Momence^ Momence Grant Park^	F 0	5.0 mi.	20 yd.	n/a	n/a	n/a	n/a	A tornado touched down briefly damaging the roof of a house southwest of Mommence along the Kankakee River. It touched down again briefly southeast of Grant Park, damaging the roof of another house
19	05/18/2000	5:10 PM	Union Hill^	F 0	0.5 mi.	50 yd.	n/a	n/a	n/a	n/a	The Kankakee County sheriff's department reported a tornado just west of Union Hill.
20	05/18/2000	5:10 PM	Herscher Herscher^	F 0	0.5 mi.	50 yd.	n/a	n/a	n/a	n/a	A police officer who is also a trained spotter saw a tornado touch down near Herscher. Trees were blown down in and a flag pole was bent over in Herscher. A car was blown off the road and flipped over by high winds or possibly the tornado just west of Herscher.

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Table 10
Tornadoes Reported in Kankakee County
1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
21	05/30/2003	7:34 PM	Manteno^	F 0	2.3 mi.	50 yd.	n/a	n/a	n/a	n/a	*Touchdown/Liftoff – Two Counties* Tornado touched down in Will County just west of the County Line and traveled east parallel to W9000N Rd. lifting off east of Manteno in Kankakee County - total length: 2.5 miles - A weak tornado touched down near Warner Bridge Road along the Will/Kankakee line. The tornado remained mainly in fields and did no damage.

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Table 10
Tornadoes Reported in Kankakee County
1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
22	04/20/2004	6:18 PM	Hopkins Park Hopkins Park^	F 2	3.0 mi.	50 yd.	n/a	n/a	n/a	n/a	The tornado began in an open field and moved north northeast along county road 11000 East, knocking down trees and limbs. The tornado intensified from County Road 2630 South to 2430 South where homes were damaged, a mobile home was destroyed and large trees were knocked down or damaged. The most intense damage occurred at a church where the roof was taken off and walls were pushed down. The tornado continued across a farm field knocking over 2 pivot irrigation systems. It ended near 1000 South where trees were damaged.

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Table 10
Tornadoes Reported in Kankakee County
1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
23	04/20/2004	6:35 PM	Kankakee^ Kankakee	F 1	6.0 mi.	75 yd.	n/a	n/a	n/a	n/a	***This event is part of a federally-declared disaster (Declaration #1513)*** The tornado formed just southwest of County Roads 5000S and 3000W. A brick one story house was directly hit. Numerous large trees were snapped or uprooted around the home. An empty corrugated grain bin was pushed into a tree. The tornado continued northeast to the Cognis chemical plant where the brick wall of a building fell outward. About 200 feet of chain link fence was torn up. Several cinder block buildings were damaged or destroyed in this complex just northeast of where the fence was taken out. It then moved across railroad tracks to tear up part of the corrugated metal roofs at the River Valley Metro building (city bus storage) and other nearby businesses. The final damage was at a farm at the corner of Rts 45/52 and River Road. A barn was destroyed as well as several large sheds.

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Table 10
Tornadoes Reported in Kankakee County
1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
24	04/20/2004	7:03 PM	Grant Park^ Grant Park	F 0	3.0 mi.	20 yd.	n/a	n/a	n/a	n/a	This tornado began about 1 mile southwest of Grant Park in an open field where it was spotted by the fire department. It crossed Route 1 west of town damaging a fence. The tornado moved into town causing minor roof damage to a few homes. Part of the roof of the fire station was peeled off and a large tree fell in the yard behind the fire station. The tornado moved across an open field, then knocked down a large tree at 9000N and Route 1. There was also minor roof damage to a farm building northeast of the intersection.

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Tornadoes Reported in Kankakee County
1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
25	05/24/2006	4:20 PM	Sammons Point^ Aroma Park^	F 1	1.5 mi.	50 yd.	n/a	n/a	$75,000	n/a	The tornado began near Sugar Island at 6000 South and about 3000 East and appears to have ended near 5500 South and 4500 East. The tornado path was embedded in a half mile wide swath of tree limb damage. In the narrow tornado path, more concentrated damage occurred. A large healthy tree was uprooted and other trees had large limbs blown down. Barn roofs were ripped off. A large machine shed was completely destroyed. Wood supports were pulled from the ground, two by fours were snapped and a large steel beam was thrown into a nearby barn. Pieces of metal roof and siding were blown a mile downstream. A camper was rolled over.
26	06/03/2007	11:47 AM	Herscher	EF 0	0.4 mi.	10 yd.	n/a	n/a	n/a	n/a	A brief tornado touched down near Herscher. No damage was reported.

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1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
27	06/07/2008	4:18 PM	Essex^	EF 1	0.4 mi.	40 yd.	n/a	n/a	n/a	n/a	*Touchdown/Liftoff – Two Counties* Tornado touched down in Kankakee County northwest of Essex near the County Line and traveled northeast lifting off northeast of Symerton in Will County - total length: 14.52 miles - A tornado touched down just west of 17000W, just south of County Line Road, in far northwest Kankakee County. The tornado uprooted large trees and snapped a small hardwood tree before crossing into southwest Will County.

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1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
28	03/08/2009	12:56 PM	St George^	EF 1	0.74 mi.	80 yd.	n/a	n/a	$40,000	n/a	A tornado touched down near the intersection of county roads 5000N and 7500E. On the southwest corner of this intersection, a detached garage and steel shed were destroyed. A two foot diameter tree was snapped at the base and several other trees had large branches broken off. Debris from this location was lifted and carried approximately 100 yards into the field across the road. The tornado also damaged property on the northeast corner of the intersection. A corn crib and a shed which served as a blacksmith forge were both destroyed. Debris from these buildings was scattered to the northeast in a narrow path approximately 800 yards long. Corn stalks in a field to the northeast appeared to have been flattened and twisted by this tornado.

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1950 - 2022

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29	03/08/2009	1:00 PM	Grant Park^	EF 1	0.51 mi.	120 yd.	n/a	n/a	$30,000	n/a	A tornado touched down at a farm about one half mile east of the intersection of county roads 8000N and 9000E. Two barns at this location lost part of their roof. Another garage and another steel building were completely destroyed. Debris from this location was lifted and deposited in a field and treeline approximately 400 yards to the northeast.
30	06/05/2010	9:02 PM	Limestone^ Irwin^	EF 1	0.62 mi.	30 yd.	n/a	n/a	$500,000	n/a	A brief tornado developed about 5 miles southwest of Kankakee, or 3 miles south of Limestone, in southern Kankakee County. This brief tornado caused damage to a farm just north of the intersection of 5000W Road and 3000S Road. Several trees were uprooted or snapped. A machine shed on the property was destroyed, along with farm equipment and vehicles. A quonset building was damaged, and a fence was blown over.

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1950 - 2022

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31	06/05/2010	9:18 PM	Aroma Park^ Hopkins Park^ Hopkins Park	EF 3	7.75 mi.	175 yd.	1	n/a	$600,000	n/a	The tornado damaged a single family home which collapsed in on itself and damaged the roof and exterior walls of a garage just west of 6000E Rd. It move to the east-northeast, encountering another family home at the intersection of Route 1 and 4000S Road. The home and the garage/barn next to it sustained considerable damage. Two four-wheelers and a four-door automobile inside the garage were lifted and flipped over. Further north along Route 1, there was minor structural damage to a couple of homes and several trees uprooted. At the intersection of 4000S Road and 8500E Road, another house sustained partial damage to its roof with several surrounding trees having limbs sheared at the top. The more significant damage occurred near the intersection of 13000E Road and Gamble Road in the Hopkins Park area, where several healthy large hardwood tree tops were sheared or broken. Some homes were damaged by falling trees.

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1950 - 2022

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32	06/05/2010	9:19 PM	Aroma Park^	EF 1	0.56 mi.	50 yd.	n/a	n/a	$75,000	n/a	This tornado touched down in a farm field near a creek, about 1/4 mile north of County Road 3500 S, and one quarter mile west of Illinois Route 1. It destroyed a machine shed and flipped over a large grain trailer. The tornado also blew down large tree limbs.
33	05/25/2011	8:04 AM	Hopkins Park^ Hopkins Park	EF 1	5.78 mi.	50 yd.	n/a	n/a	$250,000	n/a	Tree damage was observed at multiple locations along the path of this tornado including snapped hardwood trees. Additional damage included snapped utility poles, roof and shingle damage to homes, overturned campers, and an attached garage removed from a home that was under construction. Two buildings, built from concrete blocks, were destroyed near 11580E and 7000S. At 4702S and 14000E, storage sheds were destroyed and a metal grain bin was blown over. Shingles were also blown off the roof of a house.

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1950 - 2022

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34	06/20/2011	5:14 AM	Limestone^	EF 0	2.43 mi.	100 yd.	n/a	n/a	$100,000	n/a	A shed was completely destroyed along Route 17. There was extensive hardwood tree damage for most of the damage path. One of the housing structures along 7000W had a glass window blown out. An additional building had damage in the siding from a branch piercing the outer wall. Along 2000N, there were several occurrences of damage to man-made objects at several homesteads. The door on a large tin barn was blown into the structure and several panels of the siding collapsed. A wooden corn shed was completely destroyed, and a house sustained shingle damage. A metal siding fence also blew down on the property line, as well as a chain link fence. Another property on 2000N incurred heavy structural damage due to fallen trees. Many branches were speared into the ground in a convergent pattern, as well.

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1950 - 2022

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35	11/17/2013	1:00 PM	Sollitt^	EF 0	0.05 mi.	75 yd.	n/a	n/a	n/a	n/a	*Touchdown/Liftoff – Two Counties* Tornado touched down in Kankakee County east of Sollitt near the County Line and traveled northeast lifting off just north of the County Line in the southeast corner of Will County - total length: 0.16 miles - The tornado formed along the Kankakee-Will County Line just west of N 17480 E Road. Large branches from hardwood trees were broken off while an older softwood tree was snapped at the base. A hardwood tree was also snapped in half.
36	06/30/2014	9:22 PM	St George^ Momence^	EF 1	10.30 mi.	150 yd.	n/a	n/a	$20,000	n/a	This tornado started near the intersection of E. 6000N Rd and N. County Highway 51. Roof damage was done to a barn along with numerous trees snapped and uprooted. The tornado ended along County Highway 13.

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1950 - 2022

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37	06/30/2014	9:23 PM	Manteno^ Grant Park^	EF 0	3.10 mi.	45 yd.	n/a	n/a	$133,000	n/a	A tornado touched down near N. 5000E Rd and ended near N 8000E Rd. It snapped a wooden power pole and damaged corn along its path.
38	06/30/2014	9:24 PM	Manteno^ Grant Park^	EF 1	2.70 mi.	110 yd.	n/a	n/a	$158,000	n/a	This tornado began near 10000N Rd and ended near a farmstead along N. 8000E Rd. A large machine shed was heavily damaged, and trees were snapped and uprooted.
39	06/30/2014	9:25 PM	Sollitt^ Grant Park^	EF 1	5.50 mi.	450 yd.	n/a	n/a	$166,000	n/a	A tornado started near the intersection of 11000N Rd and N 8000E Rd. A large shed was destroyed with all of its posts and several anchors to the posts pulled from the ground. There was also minor buckling of a house's foundation, numerous trees snapped and uprooted, a snapped wooden power pole, and damage to corn crops. The tornado dissipated near Illinois Highway 1.
40	06/30/2014	9:26 PM	Sollitt^ Grant Park^	EF 1	3.20 mi.	110 yd.	n/a	n/a	$166,000	n/a	This tornado began near a farmstead on N. 8000E Rd and would end near the intersection of 9000N Rd and N. 11000E Rd. A barn was destroyed, a 4,000 lb. trailer moved 50 feet, and numerous hardwood trees were snapped and uprooted.

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1950 - 2022

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41	06/30/2014	9:29 PM	Grant Park^ Momence^	EF 1	7.20 mi.	175 yd.	n/a	n/a	n/a	n/a	*Touchdown/Liftoff – Two Counties* Touched down in Kankakee County between Grant Park and Momence and traveled east-southeast into Indiana before lifting off east of Schneider in Lake County - total length: 13.44 miles - Damage was done to a roof of a barn along with numerous hardwood trees snapped and uprooted.
42	06/30/2014	9:30 PM	Sollitt^ Grant Park^	EF 0	4.40 mi.	295 yd.	n/a	n/a	$8,000	n/a	This tornado that began near the intersection of 11000N Rd and Slaughter House Rd damaged a greenhouse and brought roof damage to a house, along with snapping large tree limbs. The tornado ended near County Highway 13.

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1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
43	06/30/2014	9:32 PM	Sollitt^ Grant Park^	EF 2	3.90 mi.	240 yd.	n/a	n/a	$500,000	n/a	This strong tornado touched down slightly north of the intersection between E. 10500N Rd and N. 14000E Rd. The tornado torqued a house on its foundation beyond repair and damaged a small church. There were also numerous barns and outbuildings destroyed and severe damage to several large trees. The tornado dissipated near N. 17500E Rd.
44	06/30/2014	9:33 PM	Sollitt^	EF 0	0.70 mi.	120 yd.	n/a	n/a	n/a	n/a	A very short-lived tornado tracked near E. 10500N Rd. Damage occurred to both a house and a barn, to a swimming pool, and to trees.
45	06/30/2014	9:33 PM	Sollitt^	EF 1	2.40 mi.	410 yd.	n/a	n/a	n/a	n/a	*Touchdown/Liftoff – Two Counties* Touched down in Kankakee County east-southeast of Sollitt and traveled southeast into Indiana before lifting off south of Lowell in Lake County - total length: 8.7 miles - This tornado began near Kankakee County Highway 13 in Illinois and crossed into Indiana just south of E. 10500N Rd.

[1] The length provided is only for the portion(s) of the tornado that occurred in the County.
^ Tornado touchdown verified in the vicinity of this location(s).
† Property damages sustained as a result of this tornado represent losses sustained in two or more counties. A detailed breakdown by county was not available.

Table 10
Tornadoes Reported in Kankakee County
1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
46	06/30/2014	9:37 PM	Sollitt^	EF 0	0.10 mi.	165 yd.	n/a	n/a	n/a	n/a	*Touchdown/Liftoff – Two Counties* Touched down in extreme northeast Kankakee County east of Sollitt and traveled east-southeast into Indiana before lifting off southwest of Lowell in Lake County - total length: 3.9 miles
47	06/22/2015	9:08 PM	Bourbonnais Bradley	EF 1	2.24 mi.	300 yd.	n/a	n/a	n/a	n/a	The tornado primarily produced damage to trees including a few that were uprooted and snapped near the base.
48	06/22/2015	10:46 PM	Irwin^	EF 0	1.02 mi.	50 yd.	n/a	n/a	n/a	n/a	A tornado briefly touched down but no damage occurred.
49	07/17/2016	8:41 PM	Cabery^	EF 1	2.16 mi.	100 yd.	n/a	n/a	n/a	n/a	The tornado started approximately three quarters of a mile east-northeast of Cabery. As it crossed S 17000W Rd, there were several large metal corrugated pipes probably 10 feet in diameter rolled long distances. The tornado headed east to S 16000W Rd, and a farm outbuilding lost its roof and part of the walls collapsed. Two grain bins were destroyed. Many power lines down 7-8 mile south of Rt. 17.

[1] The length provided is only for the portion(s) of the tornado that occurred in the County.
^ Tornado touchdown verified in the vicinity of this location(s).
† Property damages sustained as a result of this tornado represent losses sustained in two or more counties. A detailed breakdown by county was not available.

Table 10
Tornadoes Reported in Kankakee County
1950 - 2022

Map No.	Date(s)	Start Time	Location(s)	Magnitude Fujita Scale	Length (Miles)[1]	Width (Yards)	Injuries	Fatalities	Property Damages	Crop Damages	Impacts/Event Description
50	08/10/2020	3:04 PM	Grant Park^ Grant Park	EF 0	1.47 mi.	150 yd.	n/a	n/a	n/a	n/a	A tornado touched down along N 11000 E Road. Tree limbs were blown down, a utility pole was damaged and crops were damaged. The tornado moved southeast through Grant Park. Numerous trees were damaged including some trees snapped and some trees uprooted. Minor roof damaged occurred to a house on Park Street and to another house on Maple Street. The tornado lifted near Lake Metonga.
GRAND TOTAL:							**79 ***	**2 ***	**$17,123,750 †**	**$ -**	

* The 13 injuries and 1 fatality sustained as a result of the April 7, 1954 event represent losses sustained in three counties (including Kankakee County). A detailed breakdown by county was not available.

† There is $6.25 million in property damages that was incurred as the result of 7 separate tornado events that represent losses sustained in two or more counties. A detailed breakdown by county was not available.

Sources: NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Storm Data.
NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Storm Events Database.
NOAA, National Weather Service, Storm Prediction Center, SVRGIS, Tornadoes (1950-2017) Database.

[1] The length provided is only for the portion(s) of the tornado that occurred in the County.
^ Tornado touchdown verified in the vicinity of this location(s).
† Property damages sustained as a result of this tornado represent losses sustained in two or more counties. A detailed breakdown by county was not available.

Table 11
Drought Events Reported in Kankakee County
1980 - 2022

Year(s)	Start Month	Duration (Months)	Magnitude Drought Intensity Category[1]					Percent Crop Yield Reduction from Previous Year		Designated USDA Primary Natural Disaster Area	Crop Damages	Impacts/Event Description
			D0	D1	D2	D3	D4	Corn	Soybeans			
1983	n/a	n/a						35.3 %	3.8 %	n/a	n/a	All 102 counties in Illinois were proclaimed state disaster areas because of high temperatures and insufficient precipitation beginning in mid-June
1988 - 1989	June	16						63.6 %	55.7 %	n/a	n/a	Approximately half of all Illinois counties were impacted by drought conditions
2005 - 2006	May	12	X	X	X	X		23.5 %	10.2 %	Yes	$1,180,845 *	
2012 - 2013	June	6.5	X	X	X			22.2 %	8.9 %	No	$27,945,077 *	
GRAND TOTAL:											**$29,125,922 ***	

* Crop Damage figures were obtained from USDA Risk Management Agency and only represent losses sustained by insured crops

Sources: Illinois State Water Survey, Illinois State Climatologist.
National Drought Mitigation Center, United States Drought Monitor.
NOAA, National Environmental Satellite, Data & Information Service, National Centers for Environmental Information, Storm Events Database.
United States Department of Agriculture, National Agricultural Statistics Service, Quik Stats Lite.
United States Department of Agriclture, Risk Management Agency, Cause of Loss Historical Data Files.

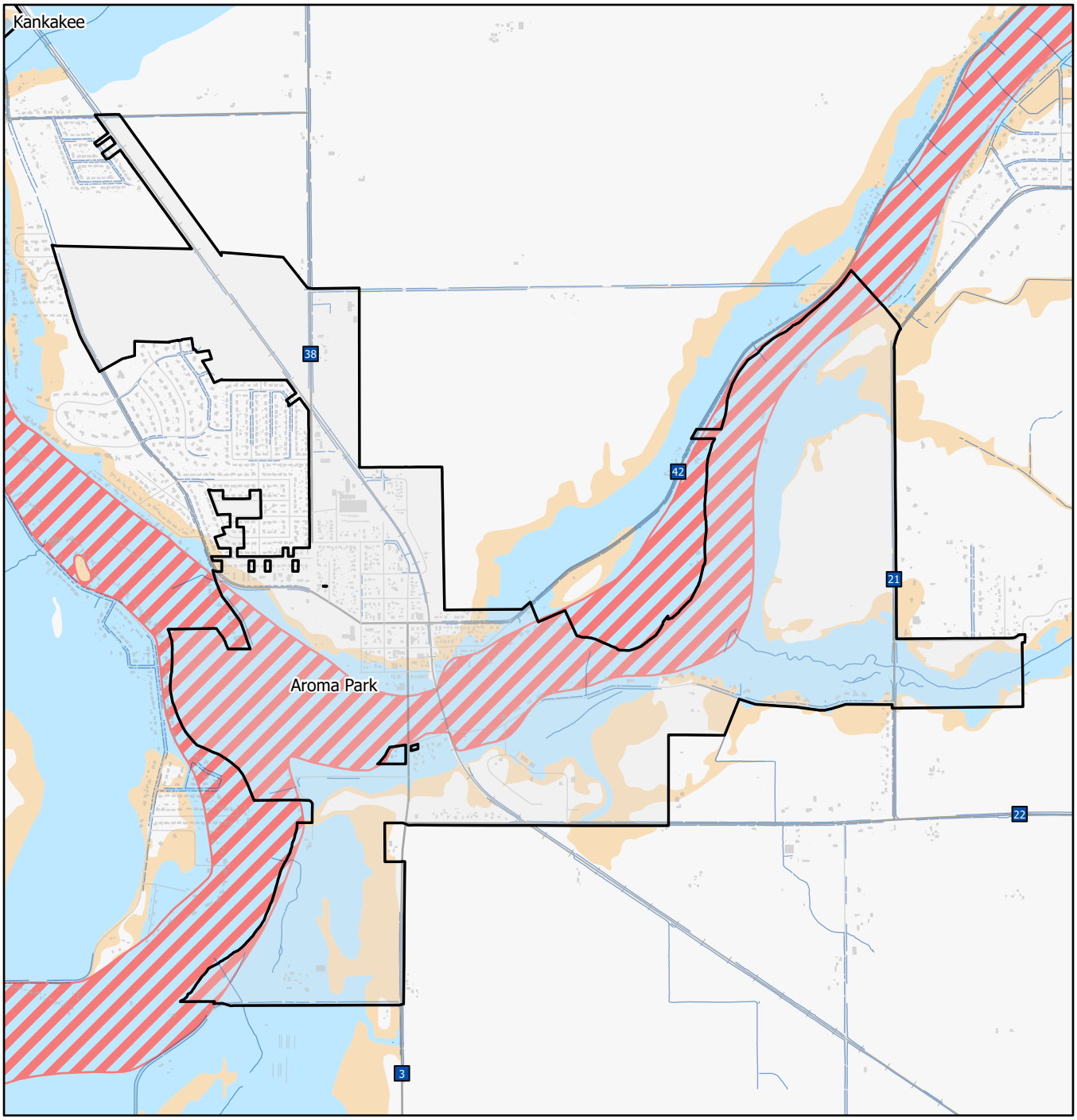
[1] An "X" identifies the level of drought intensity reached by at least a portion of the County during the event, if available.

US Drought Monitor – Drought Intensity Category Descriptions

D0	abnormally dry	D3	extreme drought
D1	moderate drought	D4	exceptional drought
D2	severe drought		

APPENDIX K

Flood Hazard Zones in Aroma Park, Illinois



- Municipal Boundaries
- Building Footprints (2010)
- Interstate
- Arterial or Collector Road
- Local Road
- Stream (2d) or Ditch (1d)
- Railroads
- Regulatory Floodway
- 1% Annual Chance Flood Hazard
- 1% Depth Less than 1 Foot
- 0.2% Annual Chance Flood Hazard
- Area Of Minimal Flood Hazard

Miles
0 0.25 0.5

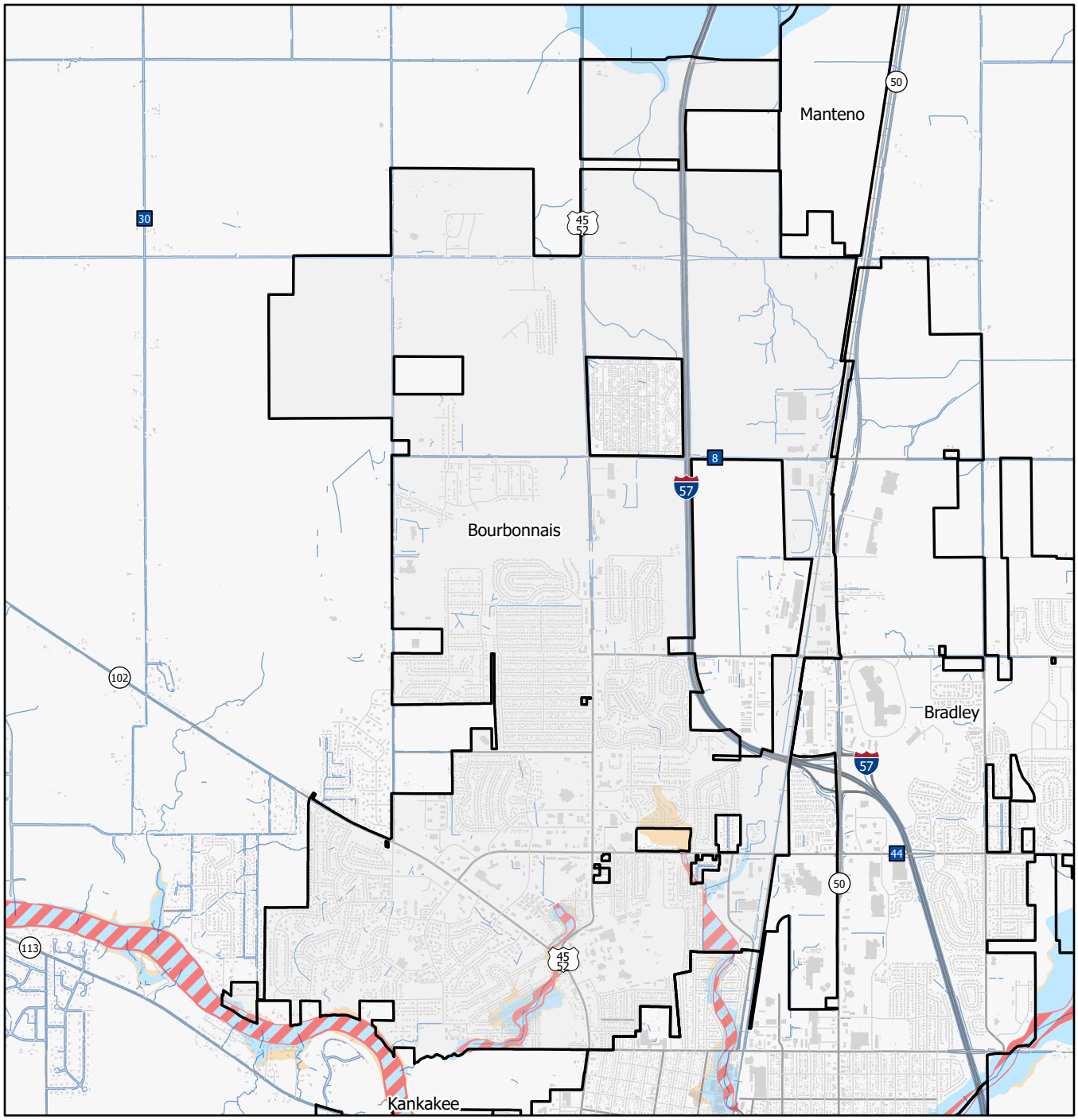
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K3GIS
Kankakee County Geographic Information Systems

December 13, 2022

Disclaimer: This map is for reference only. Data provided are derived from multiple sources with varying level of accuracy. Kankakee County GIS disclaims all responsibility for the accuracy or completeness of the data shown herein.
FEMA Flood Zones, Federal Emergency Management Agency, February 14, 2019.

Flood Hazard Zones in Bourbonnais, Illinois



- Municipal Boundaries
- Building Footprints (2010)
- Interstate
- Arterial or Collector Road
- Local Road
- Stream (2d) or Ditch (1d)
- Railroads
- Regulatory Floodway
- 1% Annual Chance Flood Hazard
- 1% Depth Less than 1 Foot
- 0.2% Annual Chance Flood Hazard
- Area Of Minimal Flood Hazard

0 0.5 1 Miles

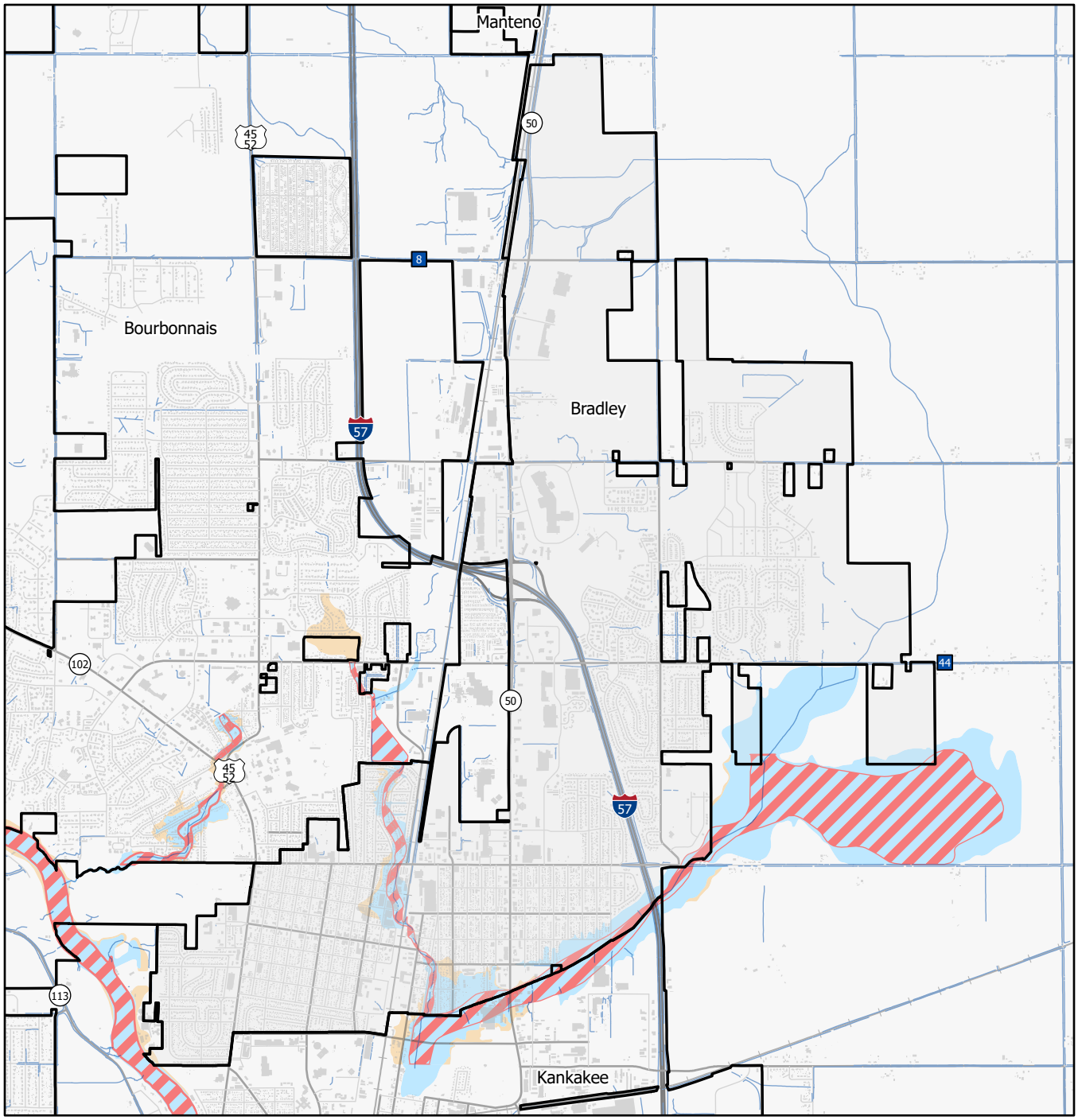
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Flood Hazard Zones in Bradley, Illinois



- Municipal Boundaries
- Building Footprints (2010)
- Interstate
- Arterial or Collector Road
- Local Road
- Stream (2d) or Ditch (1d)
- Railroads
- Regulatory Floodway
- 1% Annual Chance Flood Hazard
- 1% Depth Less than 1 Foot
- 0.2% Annual Chance Flood Hazard
- Area Of Minimal Flood Hazard

0 0.5 1 Miles

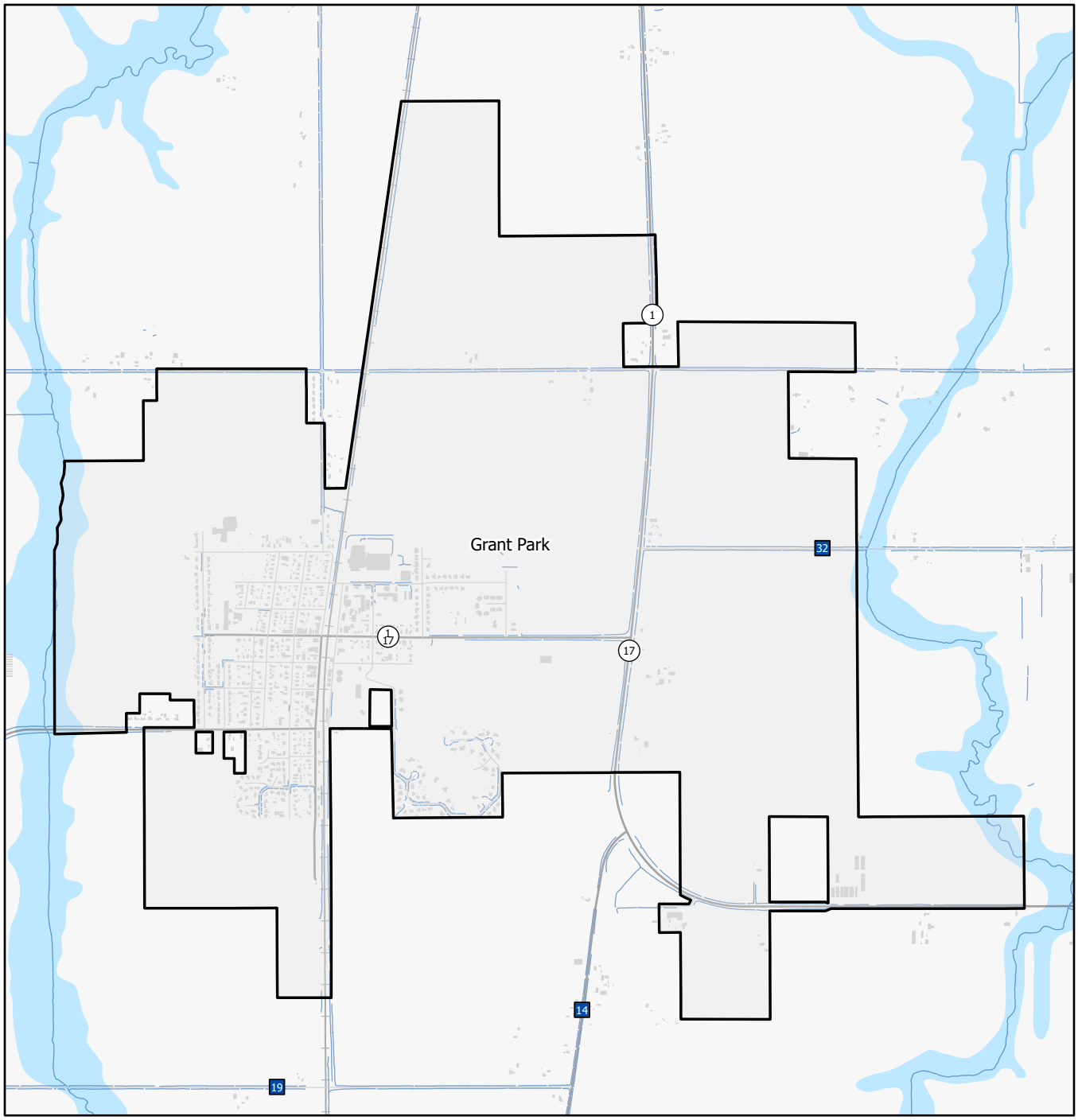
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Flood Hazard Zones in Grant Park, Illinois



- Municipal Boundaries
- Building Footprints (2010)
- Interstate
- Arterial or Collector Road
- Local Road
- Stream (2d) or Ditch (1d)
- Railroads
- Regulatory Floodway
- 1% Annual Chance Flood Hazard
- 1% Depth Less than 1 Foot
- 0.2% Annual Chance Flood Hazard
- Area Of Minimal Flood Hazard

Miles
0 0.25 0.5

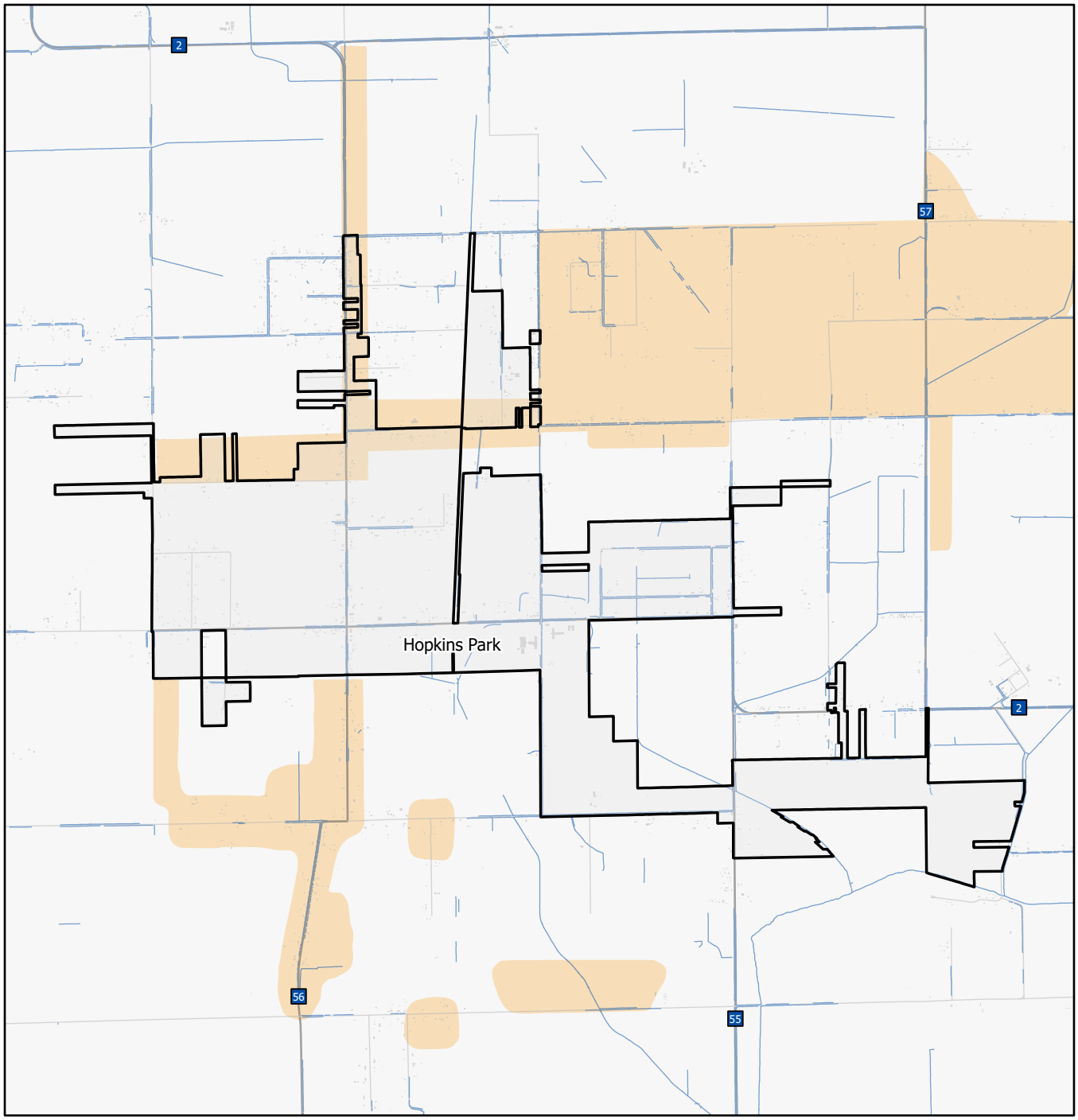
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FEMA Flood Zones, Federal Emergency Management Agency, February 14, 2019.

Flood Hazard Zones in Hopkins Park, Illinois



- Municipal Boundaries
- Building Footprints (2010)
- Interstate
- Arterial or Collector Road
- Local Road
- Stream (2d) or Ditch (1d)
- Railroads
- Regulatory Floodway
- 1% Annual Chance Flood Hazard
- 1% Depth Less than 1 Foot
- 0.2% Annual Chance Flood Hazard
- Area Of Minimal Flood Hazard

0 0.5 1 Miles

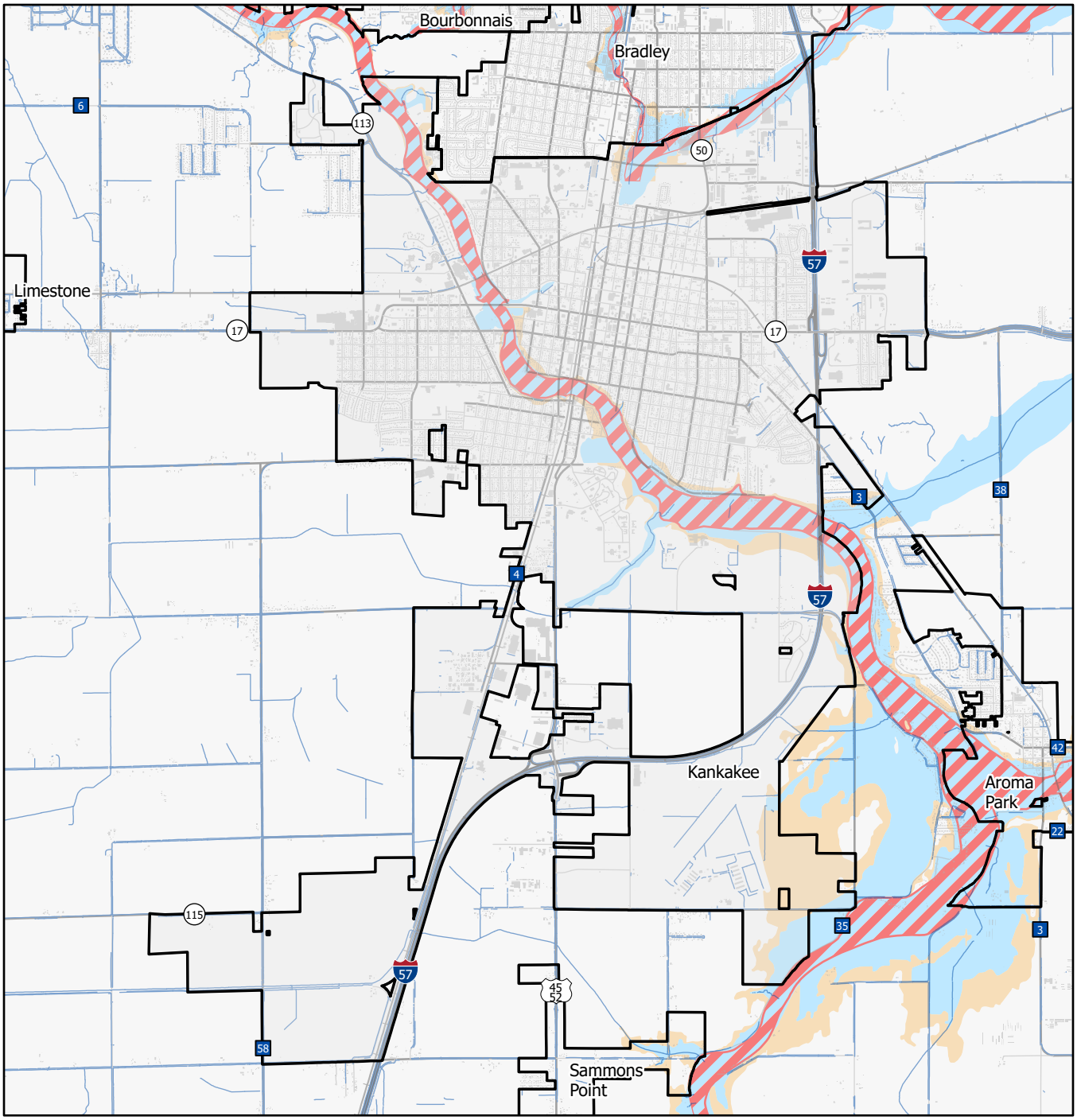
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FEMA Flood Zones, Federal Emergency Management Agency, February 14, 2019.

Flood Hazard Zones in Kankakee, Illinois



- Municipal Boundaries
- Building Footprints (2010)
- Interstate
- Arterial or Collector Road
- Local Road
- Stream (2d) or Ditch (1d)
- Railroads
- Regulatory Floodway
- 1% Annual Chance Flood Hazard
- 1% Depth Less than 1 Foot
- 0.2% Annual Chance Flood Hazard
- Area Of Minimal Flood Hazard

Miles
0 0.5 1

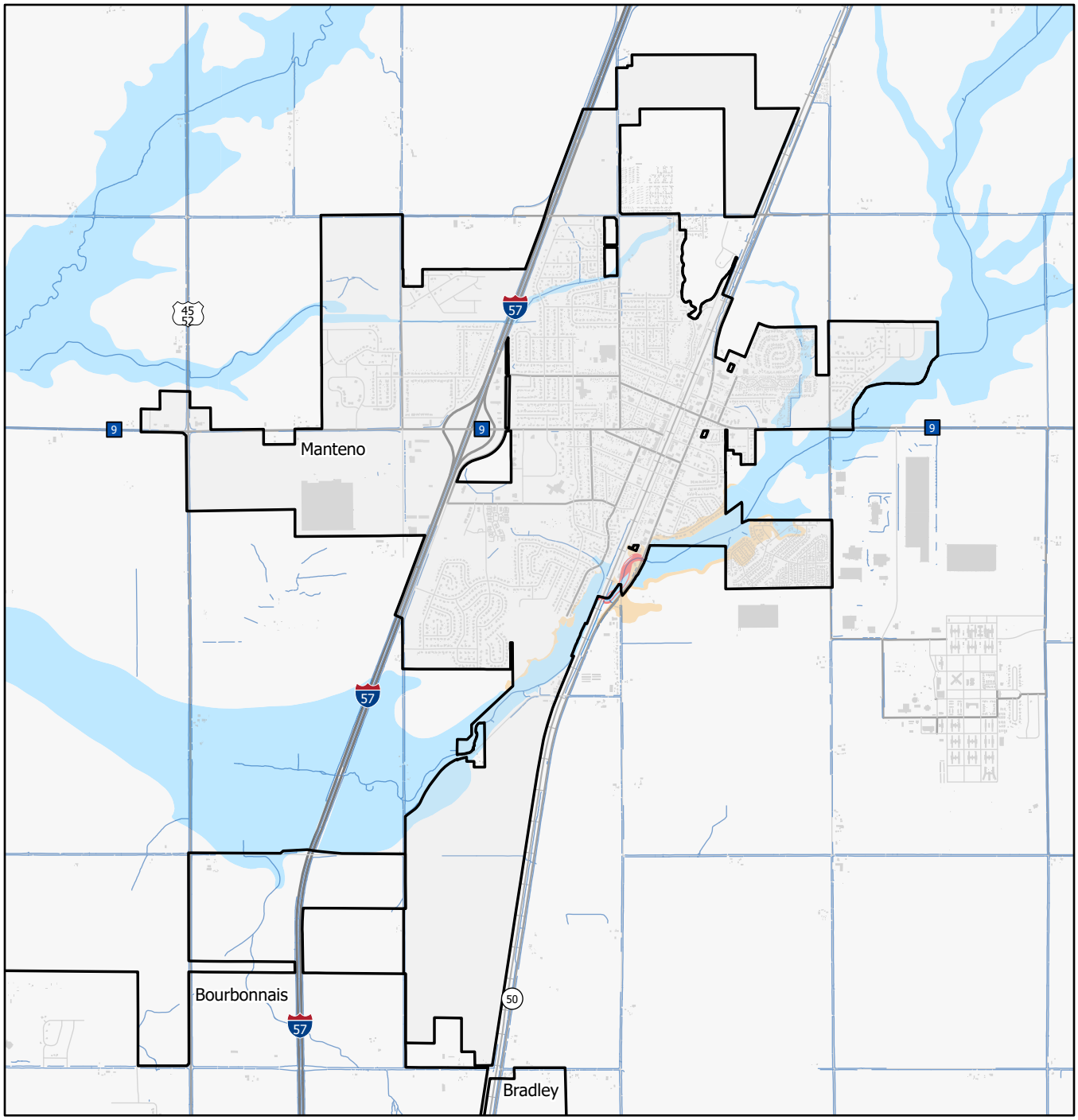
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FEMA Flood Zones, Federal Emergency Management Agency, February 14, 2019.

Flood Hazard Zones in Manteno, Illinois



- Municipal Boundaries
- Building Footprints (2010)
- Interstate
- Arterial or Collector Road
- Local Road
- Stream (2d) or Ditch (1d)
- Railroads
- Regulatory Floodway
- 1% Annual Chance Flood Hazard
- 1% Depth Less than 1 Foot
- 0.2% Annual Chance Flood Hazard
- Area Of Minimal Flood Hazard

0 0.5 1 Miles

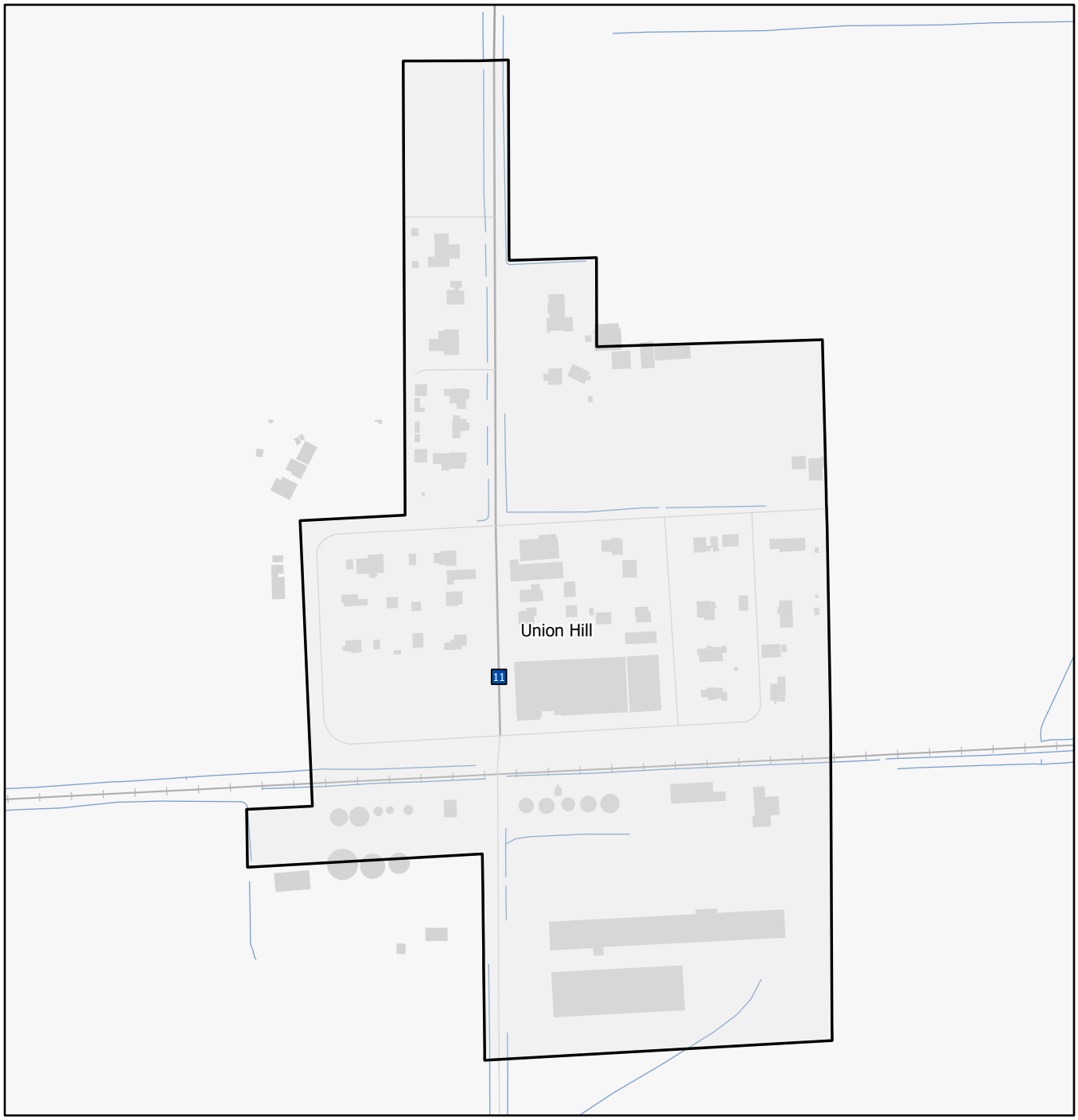
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K3GIS Kankakee County Geographic Information Systems

December 13, 2022

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Flood Hazard Zones in Union Hill, Illinois



- Municipal Boundaries
- Building Footprints (2010)
- Interstate
- Arterial or Collector Road
- Local Road
- Stream (2d) or Ditch (1d)
- Railroads
- Regulatory Floodway
- 1% Annual Chance Flood Hazard
- 1% Depth Less than 1 Foot
- 0.2% Annual Chance Flood Hazard
- Area Of Minimal Flood Hazard

0 250 500 Feet

N

K3 GIS
Kankakee County Geographic Information Systems

December 13, 2022

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FEMA Flood Zones, Federal Emergency Management Agency, February 14, 2019.

APPENDIX L

Based on these factors, the Task Force prioritized the possible activities that could be pursued. Some possible projects, such as dredging the length of the Kankakee River, were not pursued because they did not meet the above criteria. The result is 26 action items that address the major hazards, are appropriate for those hazards, are cost-effective, are affordable, and have minimal impact on the human and natural environment.

Action items: Twenty-five action items are recommended in the following pages. Each action item starts with a short description, followed by five subheadings that identify

- Earlier sections of this *Plan* that discuss the topic and make recommendations
- The agency or office responsible for implementing the action item,
- The deadline for accomplishing the action item,
- The cost of implementation, and
- The benefits of implementing the action item.

All of the action items can be tied to the above listed goals and the recommendations in Chapters 5 – 9. These relationships are shown in the table on page 10-19. These recommendations and the discussions in the earlier chapters provide more background and direction on each action item.

Section 10.2 identifies administrative tasks needed to administer and support *Plan* implementation. Section 10.3 includes the 18 programmatic action items that are recommended. Section 10.4 lists four public information action items that form the public information program strategy credited separately by the Community Rating System. Sections 10.5 and 10.6 provide proposed resolutions for the County Board and City Councils/Village Boards to pass to put the Action Plan in effect within their jurisdiction.

10.2. Administrative Action Items

This section identifies three action items that are needed to administer and support the recommendations of the rest of this chapter: adopting the *Plan*, charging the Community Development Subcommittee with monitoring its implementation, and applying to the Community Rating System to receive recognition and provide an additional incentive for implementation of the action items.

1. *Plan* Adoption: The County, each municipality, and Kankakee Community College will adopt this *Natural Hazards Mitigation Plan* by passing the resolution in Section 10.5 or 10.6, as appropriate. The County's resolution charges the Planning Department with the tasks described in the next action item. The municipal resolutions adopt the action items that are pertinent to the community and assigns a person responsible for them.

Responsible office: County Board, Village Boards and City Councils, Kankakee Community College Board of Trustees.

Deadline: September 1, 2013

Cost: Staff time.

Benefits: Formal adoption of the plan ensures that County and municipal staffs are authorized and instructed to implement the action items. Adoption is also a requirement for recognition of the plan by mitigation funding programs and the Community Rating System.

2. Monitoring and Reporting: A plan is worthless if there is no instrument for ensuring that it is carried out. Accordingly, the Kankakee County Regional Planning Commission is proposed to monitor the implementation of this *Plan*, report to the County Board and municipalities on its progress, and recommend revisions to this *Plan* as needed. The Commission would:

- Act as a forum for hazard mitigation issues,
- Disseminate hazard mitigation ideas and activities to all participants,
- Monitor implementation of this Action Plan,
- Report on progress and recommended changes each year to the County Board and each municipality, and
- Draft the five-year update mandated for continued FEMA recognition of the *Plan*.

The Commission would not have any powers over County or municipal staff. It would be purely an advisory body. Its primary mitigation duty is to collect information and report to the County Board, the municipalities, and the public on how well this *Plan* is being implemented.

The Commission would be, in effect, Kankakee County's hazard mitigation conscience, reminding the agencies and municipalities that they are all stakeholders in the *Plan's* success. The resolution charges it with seeing the *Plan* carried out and recommending changes that may be needed. While it has no formal powers, its work should act as a strong incentive for the offices responsible for the action items to meet their deadlines.

The resolution in Section 10.6 calls for each municipality to appoint a mitigation liaison who is to attend the meetings of the Commission when it reviews mitigation issues. The liaison is to report on his or her community's activities and provide input for the annual plan implementation progress reports.

Responsible office: Chair, Kankakee County Regional Planning Commission and each municipality. Staff support for the Commission and drafting the reports will be provided by the County Planning Department.

Deadline: The annual progress report would be due by September 30 of each year, the same deadline that other progress reports are due to the Community Rating System. A five year update is required for continuing credit of this *Plan* under the Community Rating System and FEMA's mitigation funding programs.

Cost: Staff time.

Benefits: Those responsible for implementing the various recommendations have many other jobs to do. A monitoring system helps ensure that they don't forget their assignments or fall behind in working on them. The *Plan* will be evaluated in light of progress, changed conditions, and new opportunities.

3. Community Rating System: With help from the Insurance Services Office, the Planning Department will develop an abbreviated application to the Community Rating System that includes those activities undertaken by communities in Kankakee County and/or are recommended by this *Plan*. The Department will host a workshop to review the application. Participants will determine whether to apply for a Community Rating System flood insurance premium rate discount. If so, they would submit an application.

Background information: Section 1.5.

Responsible office: Kankakee County Planning Department. Technical support and a workshop can be provided by the Insurance Services Office.

Deadline: Conduct a workshop for the County and all municipalities to review their activities and prepare an application by March 31, 2014.

Cost: Staff time.

Benefits: There are many benefits to CRS participation, as explained in Section 1.4. In addition to saving residents money, the CRS has been shown to provide an effective incentive to implement and maintain floodplain management activities, even during times of drought.

10.3. Program Action Items

4. Development Regulations: As comprehensive plans, zoning ordinances, and subdivision ordinances are being revised by the County and the municipalities, the following provisions should be incorporated into them:

- Setting aside floodplains and wetlands as open space,
- Requiring utility lines to be buried,
- Requiring drainageways to have maintenance easements or otherwise be set aside from development,
- Identifying who is responsible for maintenance activities in easements,
- Requiring new manufactured housing communities to have storm shelters, and
- Requiring developers to contribute to a fund that will pay for appropriate hazard protection measures, such as rain gauges and outdoor warning systems.

Background information: Sections 5.1 − 5.6, 5.9 (recommendations 1 and 2), 7.2, and 7.7 (recommendation 4).

Responsible office: County Planning Department, municipal planners or engineers.

Deadline: The County Planning Department will provide model ordinance language to the Spring 2014 mitigation review meeting of the Regional Planning Commission. Communities will review the language and incorporate it as appropriate when their relevant plans and ordinances are up for review.

Cost: Staff time.

Benefits: By incorporating mitigation provisions into other plans and regulations, more offices will be implementing mitigation activities, hazardous areas will be avoided, and new developments will be better protected.

5. Building Code Improvements:

- Aroma Park, Grant Park, and Hopkins Park should adopt the latest International series of codes (I-Codes), the new national standard that is being adopted throughout the country.
- Bradley and Herscher should request a Building Code Effectiveness Grading Schedule (BCEGS) survey. The other communities should request one after they have adopted the I-Codes.
- Kankakee Community College should require that all construction projects receive a building permit from the City of Kankakee, thereby assuring that the latest I-Code standards will be met.
- Every community should update its building code at least every five years.

Background information: Sections 5.3, 5.9 (recommendations 3, 4 and 5).

Responsible office: County Planning Department, municipal building or code enforcement offices, Kankakee Community College Physical Plant.

Deadline: The first three actions should be completed by January 1, 2014.

Cost: Staff time.

Benefits: Adoption of the I-Codes will improve the hazard protection standards for new construction and will ensure a consistent set of building standards across the County. It will also assist communities to improve their BCEGS rating. A new BCEGS rating will better convey the community's code administration program and identify if there are any weaknesses that should be addressed.

6. Regulation Administration: While current regulatory programs appear to be well administered, the following improvements would help:

- Code administrators need to ensure that newly installed manufactured homes, especially those in manufactured housing communities, are being properly installed to protect them from wind damage and that all provisions of their floodplain management regulations are being enforced.

- This is particularly important for the County, Essex, Hopkins Park, Kankakee, and Manteno, which have large numbers of manufactured homes.
- Aroma Park, and Kankakee should ensure that at least one regulatory staff member becomes a Certified Floodplain Manager (CFM®).
- Bourbonnais, Bradley, and Manteno should ensure that their CFMs obtain the training needed to keep their certification.

Background information: Sections 5.4 − 5.5, 5.9 (recommendations 7 and 9).

Responsible office: County Planning Department, municipal building or code enforcement offices.

Deadlines: Ongoing. The CFM exam is given several times each year.

Cost: Staff time. The CFM exam is $100 per person plus Association dues ($20/year). There could also be a cost for the required continuing education, depending on how the credits are earned.

Benefits: Closer scrutiny of manufactured housing installation will help ensure that they are securely connected to the foundation and protected from flooding. Certification will ensure that staff understand their responsibilities under the National Flood Insurance Program.

7. Floodplain Mapping: This item has been completed.

8. Stormwater Management: This item has been completed.

9. Property Evaluations: Each entity should assess its critical facilities and publicly owned buildings and their insurance policies for exposure to damage from:

- Flooding,
- High winds,
- Lightning,
- Hail,
- Power losses from downed lines, and
- Other natural and technological hazards, as appropriate.

Nearby Kane County is developing a checklist for a similar project. FEMA's new National Mitigation Data Collection Tool provides software to help record and analyze information related to flooding. These two activities should be reviewed to determine the appropriate evaluation tools and approach for Kankakee County. Should major work be needed to protect a facility, and it can be shown that the project would be cost-effective, funding assistance could be applied for from IDNR, IEMA, or FEMA.

Background information: Sections 6.1 − 6.7 and 6.10 (recommendation 2).

Responsible office: County Planning Department and municipal engineers

Deadline:

- Establish evaluation procedures by June 2014
- Do at least 25% of the facilities within each jurisdiction each following year

Cost: Staff time.

Benefits: Keeping critical facilities and other public buildings operational during and after a natural disaster, hazardous materials spill, or other type of emergency is vital to public health and safety. This action item would provide a summary for each facility of its exposure to damage by natural hazards and other known hazards and a general blueprint of what could be done to reduce that exposure. It is hard to put a dollar value on potential damage averted, but damage to even one critical facility could exceed $100,000 in repair costs and the ripple effect on other people and property.

10. Repetitive Loss Evaluations: The County will apply for funds to support an evaluation of all 124 properties in the 16 repetitive loss areas. If funded, the County will conduct a field survey to collect more data on each property. The data will be recorded in FEMA's new software for mitigation of repetitive loss properties, which will provide more detailed mitigation recommendations than those in Chapter 6. The owners will be contacted before this work.

Each owner will receive a report itemizing what could be done to reduce the building's exposure to repetitive flooding. If the recommendations are for acquisition or elevation of the structure, and it can be shown that the project would be cost-effective, funding assistance could be applied for from IDNR, IEMA, or FEMA.

Background information: Sections 3.4, 6.1 − 6.8 and 6.10 (recommendation 6).

Responsible office: County Planning Department, with support from Kankakee and Aroma Park for the properties in their jurisdiction.

Deadline: Apply for funding by the deadlines for the Flood Mitigation Assistance, Pre-Disaster Mitigation, and Hazard Mitigation Grant Programs, as appropriate.

Cost: Based on a similar project underway in Kane County, it is expected that this project would cost $30,000. It would be dependent on funding support from one of FEMA's mitigation programs.

Benefits: Repetitive flooding takes its toll on people and property and leads to deterioration of neighborhoods over time. Reducing the damage caused by repetitive flooding will address the number one reason why the National Flood Insurance Program has to raise premium rates. Lower cost projects can be funded by the owners, resulting in no cost to the County or municipality. If an acquisition or elevation project is recommended, a favorable benefit/cost ratio is a prerequisite for financial assistance.

11. Property Protection Assistance: The findings in action item 10, Repetitive Loss Evaluations, will provide more detailed information on appropriate property protection measures for typical floodprone buildings in the County. Some of these will necessitate state or federal funding support, while others could be accomplished at relatively low cost, such as:

- Berms and regrading for shallow surface flooding,
- Local drainage improvements,
- Clearing defensible space and retrofitting buildings for wildfire protection,
- Sewer backup protection,
- Relocating furnaces and water heaters out of basements,
- Tornado safe rooms, and
- Installing lightning rods.

Implementing such projects would be greatly supported if there was technical and financial assistance. The funding sought for action item 10 will be used to help design a program of technical assistance and financial incentives (such as rebates or cost sharing) to encourage low cost property protection measures on private property. Alternatives will be explored and explained to the municipalities. Each community can opt for a level of involvement appropriate for its hazards and financial situation.

Background information: Sections 6.1 − 6.7, 6.10 (recommendation 5), 9.3, 9.5, and 9.7 (recommendation 1).

Responsible office: County Planning Department

Deadline: Present a proposed program, with funding alternatives, to the Spring 2015 meeting of the Regional Planning Commission, after completion of action item 10.

Cost: Staff time to review and develop appropriate alternatives would be supported by the funding sought for action item 10. The level of financial support depends upon the community's resources. It should be noted that road-related drainage improvement projects can be funded by Motor Fuel Tax budgets.

Benefits: In some cases, staff time to provide technical information is all that is needed to guide and motivate a property owner to construct or install a property protection measure. Using a 25% rebate level, for every dollar spent by the community, $4 will be spent to protect a property from damage. Many Chicago area communities have found these approaches to protect against local drainage and sewer backup problems to be a real cost saver compared to public works projects to control drainage or replace sewer pipes.

12. Tree City USA: Each municipality will implement an urban forestry program that qualifies it to become a Tree City, USA. To qualify for Tree City USA, a city or village must meet four standards, which are explained in more detail on page 6-9:

- A tree board or department,

- A tree care ordinance,
- A forestry program with an annual budget of at least $2 per capita, and
- An Arbor Day observance and proclamation.

Kankakee and Momence are already Tree City USA, designees, so this action item is for them to maintain their eligibility.

Background information: Sections 6.5 and 6.10 (recommendation 4).

Responsible office: To be designated by the municipality's adopting resolution.

Deadline: Incorporate the program into the fiscal year 2015 budget cycle.

Cost: $2 per capita, staff time. It should be noted that some communities already spend this much or more on tree trimming contracts or related work.

Benefits: In addition to improving a community's appearance, an active urban forestry program will address the major problems caused by winter storms and high winds – loss of power, telephone and cable services and damage to vehicles and buildings due to falling trees or limbs.

13. Flood Warning and Response: EMA will review what is needed to install new gauges or otherwise improve the County's flood threat recognition system. It will also explore preparing a flood stage forecast map for one or more stretches of the County's major rivers. The map will show areas that will be inundated at various flood levels and will identify properties and roads that will be affected. The map will be reviewed with affected agencies and "calibrated" to historical floods.

Background information: Sections 7.1 − 7.4 and 7.7 (recommendations 1 and 6).

Responsible office: County EMA will take the lead with support from the Planning Department's GIS staff, the County Highway Department, and each affected municipality and township.

Deadline: Report on findings at the Spring 2014 meeting of the Regional Planning Commission.

Cost: Staff time.

Benefits: Early recognition of an impending flood can save lives and prevent property damage. A flood stage forecast map can quickly show the impact of a predicted flood and help EMA, municipal, and township officials take appropriate actions before an area is flooded. For example, ten minutes of warning would give local authorities time to close a road or evacuate a parking lot before they are flooded. The data collected from a new gauge would also help in evaluating watershed plans and models.

14. Outdoor Warning Systems: The County will establish a program to continue to install or upgrade outdoor warning systems. Priority funding should go to Hopkins Park, Cabery, and Irwin, the only municipalities that have no outdoor warning sirens or in the case of Hopkins Park, minimal warning sirens.

Background information: Sections 7.2 and 7.7 (recommendations 3 and 4).

Responsible office: County EMA

Deadline: Begin disbursement within two months of securing the funds.

Cost: An annual budget of $24,000 is recommended.

Each municipality or fire district will need to provide an equal share to match the County's contribution.

Benefits: Outdoor warning systems are the most effective way to protect people who are outdoors and exposed to an impending hazard, such as a tornado or severe thunderstorm. By making such systems affordable for the smaller communities, many lives will be protected from such hazards. A cost-sharing approach will also ensure that new sirens will be consistent with EMA's standards.

15. StormReady: This item has been completed.

16. Emergency Response Operations: To improve the County's and each municipality's abilities to respond to hazards, the following actions will be pursued:

- The coordinator/liaison will attend EMA training and participate in exercises.
- Municipal leaders will encourage residents to volunteer for CERT teams so they will have the expertise within their community, should a disaster occur.
- The County EMA and the Planning Department will jointly develop post-disaster procedures for public information, reconstruction regulation and mitigation project identification.
- The municipal coordinator/liaison will review their emergency management operations and:
  - Identify where additional activities are needed to respond to natural hazards,
  - Ensure that all relevant offices and agencies are given clear and coordinated instructions,
  - Ensure they have access to information on all critical facilities and update that information annually,
  - Develop arrangements to provide and receive aid from other communities' permit departments to assist in post-disaster damage assessment and building inspection, and
  - Attend training on damage assessment and post-disaster mitigation activities,

- County EMA will invite the municipal coordinator/liaisons to an exercise at least once a year.

Background information: Sections 7.1 − 7.5 and 7.7 (recommendations 2, 9, and 10).

Responsible office: County EMA, municipal coordinator/liaisons

Deadline:

- Each municipality will identify its emergency management coordinator/liaison when it passes its resolution to adopt this *Plan* [see Section 10.4].
- County EMA will host a county-wide meeting of emergency personnel and review procedures, mutual aid arrangements, and training needs by February 28, 2015.

Cost: Staff time.

Benefits: Emergency response plans that have been carefully prepared, that utilize the latest planning and management tools, that are coordinated with the affected municipalities, and that are regularly exercised will greatly improve local disaster response capabilities. Better disaster response means less loss of life, injury to people and damage to property.

17. Fire Protection Operations: The Essex, Salina, and Pembroke Fire Protection Districts will review the criteria for the Insurance Services Offices' fire department classification system. They will determine whether they have been accurately scored and, if so, they will identify steps to take that will improve both their operations and their insurance classification.

Background information: Sections 7.3 − 7.4 and 7.7 (recommendation 8).

Responsible office: Essex, Salina, and Pembroke Fire Protection Districts, with support from the Kankakee Valley Fire Chiefs Association.

Deadline: Conduct the review by February 28, 2014.

Cost: Staff time.

Benefits: The review will identify any shortcomings and needs of the districts.

If they are corrected, their constituents will be better protected from urban and wild fires and will benefit from reduced insurance premiums.

18. Small Flood Control Projects: When drainage improvement, flood control, or bridge and culvert repair projects are pursued, the following guidelines will be used:

- Wherever possible, flood and drainage protection measures will be incorporated into road, street, bridge and culvert improvement projects.
- Each project's study should look beyond the immediate project site to ensure that no other properties will be adversely impacted.
- Each project's study should consider protecting and improving the natural functions of the stream and floodplain, in addition to flood protection.
- The design and construction should be certified by a licensed professional engineer.
- All relevant federal, state and local permits must be obtained.
- Communities and property owners that may be affected by the project should be notified.

Background information: Sections 8.1 − 8.4 and 8.9 (recommendations 1 and 2).

Responsible office: County Engineer, municipal engineers and public works directors

Deadline: Ongoing

Cost: The cost of each project will vary and may well be part of operational or street maintenance budgets.

Benefits: The benefits of each project will vary, but this approach ensures that the projects selected will provide the most protection for the cost. Several of the listed criteria assure that adverse impacts will not be transferred on to neighboring or downstream properties.

19. River Restoration Projects: The Corps of Engineers should implement its planned projects to remove sediment and restore habitat at Six-Mile Pool and the State line.

Background information: Sections 8.5 and 8.9 (recommendation 3).

Responsible office: The Planning Department, Kankakee River Basin Commission, and the US Army Corps of Engineers, Rock Island District

Deadline: The Planning Department and the Commission will provide a report on the Corps' progress by the Spring 2014 meeting of the Regional Planning Commission.

Cost: Staff time.

Benefits: The primary benefit will be improved habitat, but there will be secondary flood protection benefits from the removal of sediment and the provision of some upstream flood storage.

20. Drainage System Maintenance: Each municipality, in coordination with appropriate active drainage districts, will implement a formal and regular drainage system maintenance program. This would involve mapping the local drainage system, determin-

ing which areas can be accessed for inspection and maintenance, preparing procedures modeled on Community Rating System and IDNR program guidance, conducting an annual inspection, and removing debris as needed. It would include educating and working with homeowner associations and other non-governmental entities responsible for maintenance on their own properties.

Background information: Sections 8.7 and 8.9 (recommendations 4 and 5).

Responsible office: Municipal public works departments, Kankakee Community College Physical Plant, active drainage districts. Model procedures will be developed by the Planning Department based on CRS and IDNR guidance.

Deadline: Develop the model procedures by March 31, 2015, in conjunction with the CRS workshop (action item 3).

Cost: Staff time.

Benefits: An obstruction to a channel, such as a plugged culvert, can result in overbank flooding during a small rainstorm. By inspecting and maintaining the drainage system, potential flood problems can be identified and corrected before the next big rain. A proactive preventive activity like this can prevent a great deal of flood damage, closed streets, and threats to people.

21. Water Use Management: The Regional Planning Department, the Kankakee River Basin Commission, and Aqua-Illinois Water Company will review the long term potential for a shortage in water supplies and diversion of water to other areas. A report will be prepared that summarizes the potential problems, analyzes alternative solutions, and makes recommendations to the County Board, city councils, and village boards.

Background information: Sections 2.7, 3.10, 5.7, and 5.9 (recommendation 11).

Responsible office: The Planning Department, the Kankakee River Basin Commission, and Aqua Illinois Water Company, with support from municipal water departments.

Deadline: Draft the study for presentation to the Regional Planning Commission by August 2015.

Cost: Staff time.

Benefits: The study will shed light on the problem and the possible solutions. It will help inform the public and elected officials provide a factual basis for action by the local governments and water suppliers. Such actions may prevent or reduce the adverse impacts of a drought on people, property, and habitat.

10.4. Public Information Program Strategy

22. Messages and Templates: The County Planning Department and EMA, with help from members of the Community Development Subcommittee, will prepare background information, articles, templates and other materials that can be used by anyone to communicate hazard mitigation topics, including:

- The natural hazards that threaten Kankakee County,
- What the sirens and warnings mean,
- Safety and health precautions for all types of hazards,
- Emergency and permanent property protection measures,
- Floodplain management and flood insurance information,
- The benefits of preventive measures and the need for all projects to get permits,
- What government agencies are doing and how they can help, and
- Protecting streams, water quality, wetlands and open spaces.

These materials are to be provided to County, municipal, school, Red Cross, and private offices for use in presentations, newsletter articles, webpages, brochures and other outreach projects.

Background information: Sections 5.9 (recommendation 6), 6.7, 6.10 (recommendation 1), 7.1 − 7.3, 7.7 (recommendation 7), 9.5, and 9.7 (recommendation 1).

Responsible office: County Planning Department and EMA

Deadline: Ongoing.

Cost: Staff time.

Benefits: By preparing a master set of locally pertinent articles and materials, each interested office only has to select the most appropriate media and distribute the messages. By simply inserting an article in a newsletter or putting it on the website, the local level of effort is greatly reduced, which increases the likelihood that the messages will get out. The messages will also be technically correct and consistent throughout the County.

23. County-Wide Activities: The following public information activities will be implemented on a county-wide basis:

- Brochures or handouts on the hazards, safety precautions, and simple property protection measures,
- Playing videos and short programs on the public access cable channel,
- Putting more information on the County's website and adding links to other sites with relevant materials, and
- An order form for free references that can be put in municipal offices and local and school libraries.

Background information: Sections 5.9 (recommendation 6), 6.7, 6.10, (recommendation 3), 9.1 − 9.5, and 9.7 (recommendations 2, 5 and 6).

Responsible office: County Planning Department and EMA

Deadline: Ongoing.

Cost: Staff time to prepare the materials. Some funding may be needed for reproduction of items like the brochures. Sponsorship could be sought from utilities or companies interested in hazard mitigation or public safety.

Benefits: There are many benefits to having a well-informed public. For example, deaths from lightning have steadily decreased over the years because people are more aware of what they should and should not do. More self-help and self-protection measures will be implemented if people know about them and are motivated to pursue them.

24. Municipal Activities: Each municipality will review its needs, resources, and interest in CRS credits and will determine what public information activities it will implement. Municipalities will be supported with materials and templates provided by the County Planning Department that will help with the following:

- Articles in their newsletters,
- An annual mailing on flood protection to all residents of the floodplain,
- Appropriate handouts at permit offices for applicants and other interested parties,
- References in the local public library,
- Information and links on their website,
- Helping people obtain information from the Flood Insurance Rate Map,
- Providing technical advice to people interested in property protection,
- Making site visits to review drainage and other problems facing a property, and
- Annual Arbor Day celebrations pursuant to being a Tree City USA community.

Background information: Sections 6.5, 6.7, 6.9 (recommendations 1, 3 and 4), 9.1 − 9.5, and 9.7 (recommendations 2, 3 and 6).

Responsible office: Determined by each municipality.

Deadline: Ongoing

Cost: Staff time. There may be printing and mailing costs, depending on the extent of the project.

Benefits: Same as the previous action item.

25. Real Estate Disclosure: The County Planning Department will meet with the Association of Realtors to review ways to inform people of the natural hazards that

properties are exposed to. A special effort will be made to advise people to check out a site's flood hazard before they are committed to a purchase.

Background information: Sections 9.2 and 9.7 (recommendation 4).

Responsible office: County Planning Department

Deadline: The first meeting will be held by March 31, 2014.

Cost: Staff time.

Benefits: This action item has both a consumer protection benefit and a flood protection benefit. House hunters will be more aware of what they are purchasing and can ensure that they can afford flood insurance. They may even plan to retrofit or otherwise protect the property before they move in.

APPENDIX M

Plan Maintenance Checklist

We are in the process of conducting our annual evaluation/status update for our Multi-Jurisdictional Hazard Mitigation Plan. Please review the following tasks and complete and return this checklist along with the necessary forms. If you have any questions, please let us know.

Jurisdiction: _____

Prepared By: _____

Title: _____ Date: _____

TASK 1: DAMAGE INFORMATION

Has your jurisdiction sustained any natural hazard-related damages to critical facilities and infrastructure within the last year?

☐ Yes ☐ No ☐ Don't Know

If Yes, please complete and return the attached critical facilities damages questionnaire.

TASK 2: STATUS OF EXISTING PROJECTS/ACTIVITIES

Please look over the attached Mitigation Action Tables for your jurisdiction and determine whether any of the mitigation projects/activities listed have been completed or are in progress (in the planning stages.)

Does your jurisdiction have any mitigation projects/activities in progress (in the planning stages) or completed?

☐ Yes ☐ No

If Yes, please fill out and return the attached Mitigation Action Progress Report for each project/activity that has been completed or is in progress.

Has your jurisdiction undergone any changes in priorities within the last 12 months that would impact the implementation of the listed mitigation projects/activities?

☐ Yes ☐ No

If yes, please detail the changes in priorities.

_____

_____

_____

Plan Maintenance Checklist

TASK 3: IDENTIFICATION OF NEW PROJECTS/ACTIVITIES

Are there any new mitigation projects/activities your jurisdiction would like to see add to the Plan? (Remember, only projects included in the Plan are potentially eligible for federal mitigation projects funding.)

☐ Yes ☐ No

If yes, please complete and return the attached New Mitigation Project Form.

TASK 4: JURISDICTION EVALUATION

Have there been any significant changes in development in your jurisdiction within the last 12 months (i.e. expansion of existing businesses, siting of new businesses, new subdivision development, or expansion of existing subdivisions, demolition of businesses/residents to create green spaces, etc.)

☐ Yes ☐ No

If yes, please specify the type of development changes.

Has your jurisdiction adopted any new/updated policies, plans, regulations, or reports (i.e., comprehensive plans, building codes, zoning ordinance, etc.) that could be incorporated into this Plan?

☐ Yes ☐ No

If yes, please provide the name of the policy, plan, regulation, or report and its purpose.

Were any components of the Hazard Mitigation Plan (i.e., mitigation actions, vulnerability analyses, etc.) integrated into any new/updated policies, plans, regulations, or reports (i.e., comprehensive plans, building codes, zoning ordinance, etc.)?

☐ Yes ☐ No

If yes, please provide the name of the policy, plan, regulation, or report and what component(s) of the hazard mitigation plan were integrated.

Plan Maintenance Checklist

TASK 4: JURISDICTION EVALUATION CONTINUED…

Do any new critical facilities or infrastructure need to be added to your jurisdiction's Critical Facilities Survey?

☐ Yes ☐ No

If yes, please provide the name and address of the facility.

_____

_____

What are your plans for sharing information on the Plan and its annual progress with your jurisdiction and constituents (i.e., informal presentation at board/council meeting, posting update to social media or website, etc.)?

_____

_____

Critical Facilities Damage Questionnaire

Supplemental information about ***damages to critical infrastructure/facilities*** (i.e., government buildings, schools, communication tower and radio equipment, water & sewer treatment facilities, hospitals, etc.) that have ***taken place*** in the municipalities and County is needed for the risk assessment/vulnerability analysis portion of the Plan. If you could take a moment and think about the critical infrastructure damages caused by past natural hazard occurrences and provide any available information in the form below, it would be greatly appreciated.

Please complete <u>one record</u> for <u>each natural hazard event that damaged a critical facility</u>. Do not combine multiple events on one record. Additional forms are located on the back of this page.

Prepared By: _____ Date: _____

1.) Date of Event (month/day/year if possible)**:** _____

2.) Critical Facility Damaged: _____

3.) Type of Hazard:

☐ thunderstorm (straight-line winds)	☐ tornado	☐ landslide
☐ hail	☐ snow storm	☐ sinkhole
☐ lightning strike	☐ ice storm	☐ mine subsidence
☐ heavy rain	☐ extreme cold	☐ earthquake
☐ flood	☐ drought	☐ levee failure
	☐ excessive heat	☐ dam failure

4.) Types of Damages: _____

_____

5.) Estimate of Damages: $ _____

Mitigation Action Progress Report

As part of the Plan Maintenance "monitoring" phase, the implementation status of each project and activity listed in the Plan for the participating jurisdictions needs to be identified.

1) Please review the Mitigation Action Tables provided for your jurisdiction to determine whether any of the projects/activities listed have been ***"Completed"*** or are ***"In Progress"*** (in the planning stages.)
2) For each project or activity that is ***"Completed"*** or "***In Progress"***, please fill out the following Progress Report.

Jurisdiction: _____

Prepared By: _____

Title: _____ Date: _____

Progress Report Period	From Date: To Date:
Project/Activity Description	
Responsible Agency	
Project Status	☐ In Progress ☐ Approved by Council/Board ☐ Included in Capital Improvement Plan/Slated for Construction & Implementation ☐ Grant Completed & Submitted ☐ Letting/Contractor Selected ☐ Notice to Proceed Issued ☐ Construction Underway ☐ Anticipated Completion Date: _____ ☐ Other (please specify): _____ ☐ Completed ☐ Project Delayed ☐ Project Cancelled

SUMMARY OF PROJECT PROGRESS FOR THIS REPORT PERIOD

What was accomplished during this reporting period for this project?

Were any obstacles, problems or delays encountered?	☐	Yes	☐	No	☐ Don't Know
If Yes, please describe:					

If the project was delayed, is it still relevant?	☐	Yes	☐	No	☐ Don't Know
If Yes, should the project be changed/revised?					

Other comments:

Hazard Mitigation Projects
Multi-Jurisdictional Hazard Mitigation Plan

Participating Jurisdiction _____

Prepared by: _____

Title _____ Date: _____

	Project Description	**Position/Organization Responsible for Implementation & Administration of the Project** *(i.e. Mayor / City Council; Public Works Director; Fire Chief / Board of Trustees)*	**Time Frame to Complete the Project** *(i.e. 1 year; 5 years; 2-5 years)*
1.			
2.			
3.			
4.			

APPENDIX N

Resolution of the County Board of Kankakee County, Illinois

RE: A RESOLUTION OF KANKAKEE COUNTY ADOPTING THE 2023 KANKAKEE COUNTY MULTI-JURISDICTIONAL NATURAL HAZARDS MITIGATION PLAN

WHEREAS the Kankakee County Board recognizes the threat that natural hazards, including severe thunderstorms, severe winter storms, floods, and tornadoes among others, pose to people and property within Kankakee County; and,

WHEREAS, the Kankakee County has prepared a multi-hazard mitigation plan, hereby known as the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and,

WHEREAS, the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Kankakee County from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Kankakee County demonstrates its commitment to hazard mitigation and achieving the goals outlines in the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan; and,

WHEREAS, the Planning, Zoning, and Agriculture Committee, at its regularly scheduled meeting of August 16, 2023 after review, discussion and consideration, recommends approval to adopt the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan and to participate in the annual maintenance and evaluation of the Plan.

NOW THERFORE, BE IT RESOLVED BY KANKAKEE COUNTY, ILLINOIS, THAT:

The Kankakee County Board adopts the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan and agrees to participate in the annual maintenance and evaluation of the Plan.

PASSED and approved this 12th day of September 2023.

Andrew H. Wheeler, County Board Chairman

ATTEST:

Dan Hendrickson, County Clerk

ADOPTED by a vote of 22 in favor and 0 against, and 0 abstaining, this 12th day of September 2023.

U

Village of Aroma Park, Illinois

Resolution No. 09-12-2023

A Resolution of Village of Aroma Park adopting the
2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan

WHEREAS the Village of Aroma Park Board recognizes the threat that natural hazards, including severe thunderstorms, severe winter storms, floods, and tornadoes among others, pose to people and property within Village of Aroma Park; and

WHEREAS the Village of Aroma Park has prepared a multi-hazard mitigation plan, hereby known as the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Village of Aroma Park from the impacts of future hazards and disasters; and

WHEREAS adoption by the Village of Aroma Park demonstrates its commitment to hazard mitigation and achieving the goals outlines in the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan.

NOW THERFORE, BE IT RESOLVED BY Village of Aroma Park, ILLINOIS, THAT:

The Village of Aroma Park Board adopts the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan and agrees to participate in the annual maintenance and evaluation of the Plan.

ADOPTED by a vote of 6 in favor and 0 against, and 0 abstaining, this 12th day of September, 2023.

CERTIFIED by Brian Ayer

ATTESTED by Lori Draper

Ascension Saint Mary Hospital, Illinois

Resolution No. 0523

A Resolution of Ascension Saint Mary Hospital, adopting the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan

WHEREAS the Ascension Saint Mary Hospital, recognizes the threat that natural hazards, including severe thunderstorms, severe winter storms, floods, and tornadoes among others, pose to people and property within Ascension Saint Mary Hospital service area; and

WHEREAS the Ascension Saint Mary Hospital, has prepared a multi-hazard mitigation plan, hereby known as the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Ascension Saint Mary Hospital service area from the impacts of future hazards and diasters; and

WHEREAS adoption by the Ascension Saint Mary Hospital, demonstrates its commitment to hazard mitigation and achieving the goals outlined in the 2023 Kankakee County Multi-Jurisdisctional Natural Hazards Mitigation Plan.

NOW THEREFORE, BE IT RESOLVED BY THE ASCENSION SAINT MARY HOSPITAL, ILLINOIS, THAT:

The Ascension Saint Mary Hospital, adopts the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan and agrees to participate in the annual maintenance and evaluation of the plan.

CERTIFIED by _____, VP Nursing 11/3/23
Signature (Name & Title)

ATTESTED by _____ 11.7.23
Signature (Name & Title)

VILLAGE OF BOURBONNAIS, ILLINOIS

RESOLUTION NO. 23-1547

A RESOLUTION ADOPTING THE 2023 KANKAKEE COUNTY MULTI-JURISDICTION NATURAL HAZARDS MITIGATION PLAN

ADOPTED BY THE
BOARD OF TRUSTEES OF THE
VILLAGE OF BOURBONNAIS
THIS 5 DAY OF September, 2023

Published in pamphlet form by authority of the Board of Trustees of the Village of Bourbonnais, Kankakee County, Illinois this ____ day of _____, 2023.

RESOLUTION NO. 23-1547

A RESOLUTION ADOPTING THE 2023 KANKAKEE COUNTY MULTI-JURISDICTION NATURAL HAZARDS MITIGATION PLAN

WHEREAS the Village of Bourbonnais recognizes the threat that natural hazards, including severe thunderstorms, severe winter storms, floods, and tornadoes among others, pose to people and property within Village of Bourbonnais; and

WHEREAS the Village of Bourbonnais has prepared a multi-hazard mitigation plan, hereby known as the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Village of Bourbonnais from the impacts of future hazards and disasters; and

WHEREAS adoption by the Village of Bourbonnais demonstrates its commitment to hazard mitigation and achieving the goals outlines in the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan.

NOW THERFORE, BE IT RESOLVED BY VILLAGE OF BOURBONNAIS, ILLINOIS, THAT:

The Village of Bourbonnais adopts the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan and agrees to participate in the annual maintenance and evaluation of the Plan.

[The remainder of this page is intentionally left blank, voting record and signature page to immediately follow.]

PASSED AND APPROVED by the President and Board of Trustees of the Village of Bourbonnais, Kankakee County, Illinois this 5 day of September, 2023 by the following vote:

NAME	AYE	NAY	ABSENT	RECUSE	ABSTAIN
Greenlee	X				
Fischer	X				
King	X				
Keast	X				
Littrell	X				
Serafini	X				
TOTALS	6	0	0	0	0

Paul Schore

PAUL SCHORE
Village President

ATTEST:

BRIAN SIMEUR
Village Clerk

STATE OF ILLINOIS)
) SS.
COUNTY OF KANKAKEE)

CERTIFICATION OF RESOLUTION

I, the undersigned, do hereby certify that I am the duly qualified and acting Village Clerk for the Village of Bourbonnais, Kankakee County, Illinois (the "Municipality"), and that as such official I am the keeper of the records and files of the Municipality and its President and Board of Trustees (the "Corporate Authorities").

I do further certify that the foregoing is a full, true and complete excerpt from the proceedings of the meeting of the Corporate Authorities held on the 5 day of September, 2023, insofar as the same relates to the adoption of a resolution numbered and entitled:

RESOLUTION NO. 23-1547

A RESOLUTION ADOPTING THE 2023 KANKAKEE COUNTY MULTI-JURISDICTION NATURAL HAZARDS MITIGATION PLAN

a true, correct and complete copy of which resolution as adopted at such meeting appears in the proceedings of such meeting.

I do hereby further certify that the deliberations of the Corporate Authorities on the adoption of said resolution were conducted openly, that the vote on the adoption of said resolution was taken openly and was preceded by a public recital of the matter being considered and such other information as would inform the public of the business being conducted, that such meeting was held at a specified time and place, convenient to the public, that notice of such meeting was duly given to all news media requesting such notice, that said meeting was called and held in strict compliance with the provisions of the open meetings laws of the State of Illinois, as amended, and that the Corporate Authorities have complied with all of the procedural rules of the Corporate Authorities.

IN WITNESS WHEREOF, I hereunto affix my official signature, and the Municipality's seal, this 6 day of September, 2023.

(SEAL)

Village Clerk

Bourbonnais Fire Protection District, Illinois

Resolution No. 08 222023

A Resolution of Bourbonnais Fire Protection District adopting the
2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan

WHEREAS the Bourbonnais Fire Protection District recognizes the threat that natural hazards, including severe thunderstorms, severe winter storms, floods, and tornadoes among others, pose to people and property within Bourbonnais Fire Protection District; and

WHEREAS the Bourbonnais Fire Protection District has prepared a multi-hazard mitigation plan, hereby known as the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Bourbonnais Fire Protection District from the impacts of future hazards and disasters; and

WHEREAS adoption by the Bourbonnais Fire Protection District demonstrates its commitment to hazard mitigation and achieving the goals outlines in the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan.

NOW THERFORE, BE IT RESOLVED BY Bourbonnais Fire Protection District, ILLINOIS, THAT:

The Bourbonnais Fire Protection District adopts the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan and agrees to participate in the annual maintenance and evaluation of the Plan.

ADOPTED by a vote of 5 in favor and 0 against, and 0 abstaining, this 22 day of August, 2023.

CERTIFIED by _____
Randy Myers, President

ATTESTED by _____
Alice Argyelan, Secretary

Bourbonnais Township, Illinois

Resolution No. R-9-18-1-2023

A Resolution of Bourbonnais Township adopting the
2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan

WHEREAS the Bourbonnais Township Board of Trustees recognizes the threat that natural hazards, including severe thunderstorms, severe winter storms, floods, and tornadoes among others, pose to people and property within Bourbonnais Township; and

WHEREAS the Bourbonnais Township has prepared a multi-hazard mitigation plan, hereby known as the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

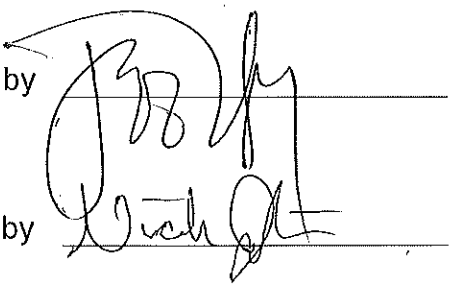
WHEREAS the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Bourbonnais Township from the impacts of future hazards and disasters; and

WHEREAS adoption by the Bourbonnais Township demonstrates its commitment to hazard mitigation and achieving the goals outlines in the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan.

NOW THERFORE, BE IT RESOLVED BY THE Bourbonnais Township, ILLINOIS, THAT:

The Bourbonnais Township Board of Trustees adopts the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan and agrees to participate in the annual maintenance and evaluation of the plan.

ADOPTED by a vote of 3 in favor and 0 against, and 0 abstaining, this 18 day of September, 2023.

CERTIFIED by 

ATTESTED by

VILLAGE OF BRADLEY

RESOLUTION NO. R-08-23-03

A RESOLUTION OF THE VILLAGE OF BRADLEY, KANKAKEE COUNTY, ILLINOIS ADOPTING THE 2023 KANKAKEE COUNTY MULTI-JURISDICTIONAL NATURAL HAZARDS MITIGATION PLAN

ADOPTED BY THE
BOARD OF TRUSTEES OF THE
VILLAGE OF BRADLEY

THIS 14th DAY OF August, 2023

Published in pamphlet form by the authority of the Board of Trustees of the Village of Bradley, Kankakee County, Illinois this 14 day of August, 2023

RESOLUTION NO. R-0823-03

A RESOLUTION OF THE VILLAGE OF BRADLEY, KANKAKEE COUNTY, ILLINOIS ADOPTING THE 2023 KANKAKEE COUNTY MULTI-JURISDICTIONAL NATURAL HAZARDS MITIGATION PLAN

WHEREAS, the Corporate Authorities of the Village of Bradley, Kankakee County, Illinois, have the authority to adopt resolutions and to promulgate rules and regulations that pertain to its government and affairs and protect the public health, safety, and welfare of its citizens; and

WHEREAS, the Village recognizes the threat that natural hazards, including severe thunderstorms, severe winter storms, floods, and tornadoes among others, pose to people and property within the Village; and

WHEREAS, the County of Kankakee has prepared a multi-hazard mitigation plan, hereby known as the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, the National Flood Insurance Act of 1968, as amended, and the National Dam Safety Program Act, as amended; and

WHEREAS, the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the Village from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Village demonstrates its commitment to hazard mitigation and achieving the goals outlines in the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan.

NOW THEREFORE, BE IT RESOLVED BY THE CORPORATE AUTHORITIES OF THE VILLAGE OF BRADLEY, KANKAKEE COUNTY, ILLINOIS, PURSUANT TO ITS STATUTORY AUTHORITY, AS FOLLOWS:

SECTION 1. The Corporate Authorities hereby find that all of the recitals contained in the preamble to this Resolution are true, correct, and complete and are hereby incorporated by reference hereto and made a part hereof.

SECTION 2. The Village hereby adopts the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan and agrees to participate in the annual maintenance and evaluation of the Plan.

SECTION 3. In the event that any provision or provisions, portion or portions, or clause or clauses of this Resolution shall be declared to be invalid or unenforceable by a Court of competent jurisdiction, such adjudication shall in no way affect or impair the validity or enforceability of any of the remaining provisions, portions, or clauses of this Resolution that may be given effect without such invalid or unenforceable provision or provisions, portion or portions, or clause or clauses.

SECTION 4. All ordinances, resolutions, motions, or parts thereof, conflicting with any of the provisions of this Resolution, are hereby repealed to the extent of the conflict.

SECTION 5. The Village Clerk is hereby directed to publish this Resolution in pamphlet form.

SECTION 6. This Resolution shall be in full force and effect from and after its passage, approval, and publication in pamphlet form as provided by law.

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PASSED by the Board of Trustees on a roll call vote on the 14 day of Aug, 2023.

TRUSTEES:

RYAN LEBRAN	Aye – X	Nay – ____	Absent – ____
BRIAN BILLINGSLEY	Aye – X	Nay – ____	Absent – ____
DARREN WESTPHAL	Aye – X	Nay – ____	Absent – ____
BRIAN TIERI	Aye – X	Nay – ____	Absent – ____
GRANT D. VANDENHOUT	Aye – X	Nay – ____	Absent – ____
GENE JORDAN	Aye – ____	Nay – ____	Absent – X

VILLAGE PRESIDENT:

MICHAEL WATSON	Aye – ____	Nay – ____	Absent – ____
TOTALS:	**Aye –** 5	**Nay –** Ø	**Absent –** 1

ATTEST:

Julie Tambling
JULIE TAMBLING, VILLAGE CLERK

APPROVED this 14 day of August, 2023.

Michael Watson
MICHAEL WATSON, VILLAGE PRESIDENT

ATTEST:

Julie Tambling
JULIE TAMBLING, VILLAGE CLERK

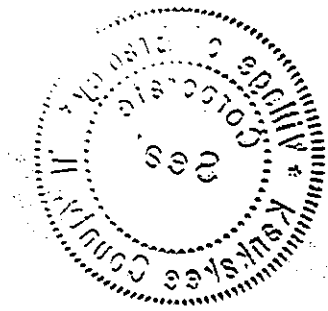
STATE OF ILLINOIS)
) §§
COUNTY OF KANKAKEE)

I, Julie Tambling, Village Clerk of the Village of Bradley, County of Kankakee and State of Illinois, DO HEREBY CERTIFY that the attached is a true, perfect, and complete copy of Resolution number R-082303 "A RESOLUTION OF THE VILLAGE OF BRADLEY, KANKAKEE COUNTY, ILLINOIS ADOPTING THE 2023 KANKAKEE COUNTY MULTI-JURISDICTIONAL NATURAL HAZARDS MITIGATION PLAN," which was adopted by the Village Corporate Authorities at a meeting held on the 14 day of Aug, 2023.

IN WITNESS WHEREOF, I have hereunto set my hand in the Village of Bradley, County of Kankakee and State of Illinois, on this 14 day of Aug, 2023.

Julie Tambling
JULIE TAMBLING, VILLAGE CLERK

(SEAL)



Village of Grant Park, Illinois

Resolution No. R-8-23-1

A Resolution of Village of Grant Park adopting the
2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan

WHEREAS the Village of Grant Park recognizes the threat that natural hazards, including severe thunderstorms, severe winter storms, floods, and tornadoes among others, pose to people and property within Village of Grant Park; and

WHEREAS the Village of Grant Park has prepared a multi-hazard mitigation plan, hereby known as the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Village of Grant Park from the impacts of future hazards and disasters; and

WHEREAS adoption by the Village of Grant Park demonstrates its commitment to hazard mitigation and achieving the goals outlines in the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan.

NOW THERFORE, BE IT RESOLVED BY THE Village of Grant Park, ILLINOIS, THAT:

The Village of Grant Park adopts the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan and agrees to participate in the annual maintenance and evaluation of the plan.

ADOPTED by a vote of 4 in favor and 0 against, and 0 abstaining, this 21 day of August, 2023.

CERTIFIED by _____
Jamie Hawkins, Village President

ATTESTED by _____
Scott Dillman, Clerk

VILLAGE OF HOPKINS PARK, KANKAKEE COUNTY, Illinois

Resolution No. 2023-R-20

A Resolution of Village of Hopkins Park Board adopting the
2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan

WHEREAS the Village of Hopkins Park BOARD recognizes the threat that natural hazards, including severe thunderstorms, severe winter storms, floods, and tornadoes among others, pose to people and property within Village of Hopkins Park; and

WHEREAS Kankakee County has prepared a multi-hazard mitigation plan, hereby known as the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Kankakee County from the impacts of future hazards and disasters; and

WHEREAS adoption by the Village of Hopkins Park Board demonstrates its commitment to hazard mitigation and achieving the goals outlines in the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan.

NOW THERFORE, BE IT RESOLVED BY Village of Hopkins Park Board, ILLINOIS, THAT:

The (Village of Hopkins Park Board adopts the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan and agrees to participate in the annual maintenance and evaluation of the Plan.

ADOPTED by a vote of 4 in favor and 0 against, and 3 abstaining, this 16th day of November 2023.

CERTIFIED by _____
(Mark A. Hodge, Mayor,
Village of Hopkins Park

ATTESTED by _____
(Kimberly Garfias, Clerk,
Village of Hopkins Park

THE CITY OF KANKAKEE
KANKAKEE COUNTY, ILLINOIS

RESOLUTION
NUMBER 2023 - 52

RESOLUTION OF THE CITY OF KANKAKEE ADOPTING THE 2023 KANKAKEE COUNTY MULTI-JURISDICTIONAL NATURAL HAZARDS MITIGATION PLAN

CHRISTOPHER W. CURTIS, Mayor
STACY GALL, City Clerk

MICHAEL PRUDE
CHERRY MALONE-MARSHALL
MICHAEL O'BRIEN
DAVID M. BARON
DALE TOLLY
LARRY OSENGA
DANITA SWANSON
LANCE MARCZAK
VICTOR NEVAREZ
CARMEN LEWIS
KELLY JOHNSON
MICHAEL COBBS
LENORA NOBLE
REGINALD JONES

Alderpersons

Published in pamphlet form by authority of the Mayor and City Clerk of the City of Kankakee on this 2nd day of October, 2023.

RESOLUTION NUMBER 2023 - 52

RESOLUTION OF THE CITY OF KANKAKEE ADOPTING THE 2023 KANKAKEE COUNTY MULTI-JURISDICTIONAL NATURAL HAZARDS MITIGATION PLAN

WHEREAS, the City of Kankakee, Kankakee County, Illinois (the "*City*") is a home rule unit of local government pursuant to Article VII, Section 6, of the 1970 Illinois Constitution, and, except as limited by such section, it may exercise any power and perform any function pertaining to its government and affairs; and

WHEREAS the CITY OF KANKAKEE recognizes the threat that natural hazards, including severe thunderstorms, severe winter storms, floods, and tornadoes among others, pose to people and property within the CITY OF KANKAKEE; and

WHEREAS the COUNTY OF KANKAKEE has prepared a multi-hazard mitigation plan, hereby known as the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended, said Plan being attached hereto as Exhibit A; and

WHEREAS the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the CITY OF KANKAKEE from the impacts of future hazards and disasters; and

WHEREAS adoption by the CITY OF KANKAKEE demonstrates its commitment to hazard mitigation and achieving the goals outlined in the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan; and

WHEREAS, the Mayor and City Council have determined that it is necessary and in the best interests of the City of Kankakee and its residents to adopt the aforesaid plan,

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF KANKAKEE, KANKAKEE COUNTY, ILLINOIS, PURSUANT TO ITS STATUTORY AND HOME RULE AUTHORITY, AS FOLLOWS:

Section 1: The City Council hereby finds that all of the recitals contained in the preamble to this Resolution are true, correct, and complete and are hereby incorporated by reference hereto and made a part hereof.

Section 2: The City Council hereby adopts the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan and agrees to participate in the annual maintenance and evaluation of the Plan.

Section 3: All ordinances, resolutions, motions, or parts thereof, conflicting with any of the provisions of this Resolution, are hereby repealed to the extent of the conflict.

Section 4: The City Clerk is hereby directed to publish this Resolution in pamphlet form.

Section 5: This Resolution shall be in full force and effect from and after its passage, approval, and publication in pamphlet form as provided by law.

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ADOPTED by the Mayor and City Council of the City of Kankakee, Kankakee County, Illinois this 2nd day of October, 2023, pursuant to a roll call vote, as follows:

	YES	NO	ABSENT	ABSTAIN
PRUDE	X			
MALONE-MARSHALL	X			
O'BRIEN	X			
BARON	X			
TOLLY	X			
OSENGA	X			
SWANSON			X	
MARCZAK	X			
NEVAREZ	X			
LEWIS	X			
JOHNSON	X			
COBBS	X			
JONES	X			
NOBLE	X			
MAYOR CURTIS				
TOTAL	**13**	**0**	**1**	

APPROVED by the Mayor of the City of Kankakee, Kankakee County, Illinois on this 2nd day of October, 2023.

CHRISTOPHER W. CURTIS
Mayor

ATTEST:

STACY GALL, City Clerk

STATE OF ILLINOIS)
) SS
COUNTY OF KANKAKEE)

CERTIFICATION

I, Stacy Gall do hereby certify that I am the duly qualified and elected Clerk of the City of Kankakee, Kankakee County, Illinois, and that as such Clerk I do have charge of and custody of the books and records of the City of Kankakee, Kankakee County, Illinois.

I do hereby further certify that the foregoing is a full, true and correct copy of Resolution No. 2023-52, "**RESOLUTION OF THE CITY OF KANKAKEE ADOPTING THE 2023 KANKAKEE COUNTY MULTI-JURISDICTIONAL NATURAL HAZARDS MITIGATION PLAN.**" adopted and approved by the Mayor and City Council of the City of Kankakee, Illinois on October 2, 2023.

IN WITNESS WHEREOF, I have hereunto affixed my hand and the Corporate Seal of the City of Kankakee, Kankakee County, Illinois this 3rd day of October, 2023.

Stacy Gall
City Clerk
City of Kankakee

EXHIBIT A

Kankakee Community College District #520, Illinois

Resolution No. _____

A Resolution of Kankakee Community College District #520 adopting the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan

WHEREAS the Kankakee Community College District #520 Board of Trustees recognizes the threat that natural hazards, including severe thunderstorms, severe winter storms, floods, and tornadoes among others, pose to people and property within Kankakee Community College District #520; and

WHEREAS the Kankakee Community College District #520 has prepared a multi-hazard mitigation plan, hereby known as the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Kankakee Community College District #520 from the impacts of future hazards and disasters; and

WHEREAS adoption by the Kankakee Community College District #520 demonstrates its commitment to hazard mitigation and achieving the goals outlines in the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan.

NOW THERFORE, BE IT RESOLVED BY THE Kankakee Community College District #520, ILLINOIS, THAT:

The Kankakee Community College District #520 Board of Trustees adopts the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan and agrees to participate in the annual maintenance and evaluation of the plan.

ADOPTED by a vote of 5 in favor and 0 against, and 0 abstaining, this 10 day of OCT., 2023.

CERTIFIED by _____
Catherine Boicken
Chair, Board of Trustees

ATTESTED by _____
Michael Proctor
Secretary, Board of Trustees

Village of Manteno, Illinois

Resolution No. 23-03

A Resolution of Village of Manteno adopting the
2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan

WHEREAS the Village of Manteno Board of Trustees recognizes the threat that natural hazards, including severe thunderstorms, severe winter storms, floods, and tornadoes among others, pose to people and property within the Village of Manteno; and

WHEREAS the Village of Manteno has prepared a multi-hazard mitigation plan, hereby known as the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the Village of Manteno from the impacts of future hazards and disasters; and

WHEREAS adoption by the Village of Manteno demonstrates its commitment to hazard mitigation and achieving the goals outlines in the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan.

NOW THERFORE, BE IT RESOLVED BY VILLAGE OF MANTENO, ILLINOIS THAT:

The Village of Manteno Board of Trustees adopts the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan and agrees to participate in the annual maintenance and evaluation of the Plan.

ADOPTED by a vote of 5 in favor and 0 against, and 1 absent ~~abstaining,~~ this 18th day of September, 2023.

CERTIFIED by Timothy O Nugent
Timothy O. Nugent
Village President

ATTESTED by Robin Batka
Robin Batka
Village Clerk

RESOLUTION NO. 2023-006

A Resolution of The Manteno Community Fire Protection District adopting the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan

WHEREAS The Manteno Community Fire Protection District recognizes the threat that natural hazards, including severe thunderstorms, severe winter storms, floods, and tornadoes among others, pose to people and property within the boundaries of the Manteno Community Fire Protection District; and

WHEREAS The Manteno Community Fire Protection District, working with Kankakee County has prepared a multi-hazard mitigation plan, hereby known as the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the Manteno Community Fire Protection District from the impacts of future hazards and disasters; and

WHEREAS adoption by The Manteno Community Fire Protection District demonstrates its commitment to hazard mitigation and achieving the goals outlines in the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan.

NOW THERFORE, BE IT RESOLVED BY THE MANTENO COMMUNITY FIRE PROTECTION DISTRICT, KANKAKEE COUNTY ILLINOIS, AS FOLLOWS:

SECTION ONE: The Manteno Community Fire Protection District adopts the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan and agrees to participate in the annual maintenance and evaluation of the plan.

SECTION TWO: The provisions of this Resolution are hereby declared to be severable and should any provision of this Resolution to be determined to be in conflict with any law, statute regulation by a court of competent jurisdiction, said provision shall be excluded and deemed inoperative, unenforceable and as though not provided for herein, and all other provisions shall remain unaffected, unimpaired, valid and in full force and effect.

SECTION THREE: That all other resolutions, policies, or other proceedings in conflict herewith be to the extent of such conflict, are hereby superseded.

SECTION FOUR: This Resolution shall be in full force and effect upon its passage and approval as required by law.

ADOPTED this 11th day of September, 2023, by the following roll call vote:

AYES: 3

NAYS: 0

ABSENT: 0

President, Board of Trustees
Manteno Community Fire Protection District

ATTEST:

Secretary, Board of Trustees
Manteno Community Fire Protection District

STATE OF ILLINOIS)
) SS
COUNTY OF KANKAKEE)

SECRETARY'S CERTIFICATE

I, **David Peters**, the duly qualified and acting Secretary of the Board of Trustees of the Manteno Community Fire Protection District, Kankakee County, Illinois, do hereby certify that attached hereto is a true and correct copy of a Resolution entitled:

RESOLUTION NO. 2023-006

A Resolution of The Manteno Community Fire Protection District adopting the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan

which Resolution was duly adopted by said Board of Trustees at a meeting held on the 11 day of Sept., 2023.

I do further certify that a quorum of said Board of Trustees was present at said meeting, and the Board met all the requirements of the Illinois Open Meetings Act.

IN WITNESS WHEREOF, I have hereunto set my hand this 11th day of Sept., 2023.

Secretary, Board of Trustees
Manteno Community Fire Protection District

(Greater Momence Fire Protection District), Illinois
Resolution No. 2023-R-15

A Resolution of (Greater Momence Fire Protection District) adopting the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan

WHEREAS the (Greater Momence Fire Protection District) recognizes the threat that natural hazards, including severe thunderstorms, severe winter storms, floods, and tornadoes among others, pose to people and property within (Greater Momence Fire Protection District); and

WHEREAS the (Greater Momence Fire Protection District/Trustees) has prepared a multi-hazard mitigation plan, hereby known as the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in (Greater Momence Fire Protection District) from the impacts of future hazards and disasters; and

WHEREAS adoption by the (Greater Momence Fire Protection District) demonstrates its commitment to hazard mitigation and achieving the goals outlines in the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan.

NOW THERFORE, BE IT RESOLVED BY THE (Greater Momence Fire Protection District), ILLINOIS, THAT:

The (Greater Momence Fire Protection District) adopts the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan and agrees to participate in the annual maintenance and evaluation of the plan.

ADOPTED by a vote of 3 in favor and 0 against, and 0 abstaining, this 24 day of August, 2023.

CERTIFIED by _____
(Dave Horn President)

ATTESTED by _____
(Joey Baud Secretary)

Riverside Medical Center Kankakee, Illinois

Resolution No. _____

A Resolution of Riverside Medical Center adopting the
2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan

WHEREAS the Riverside Medical Center recognizes the threat that natural hazards, including severe thunderstorms, severe winter storms, floods, and tornadoes among others, pose to people and property within Riverside Medical Center; and

WHEREAS the Riverside Medical Center has prepared a multi-hazard mitigation plan, hereby known as the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Riverside Medical Center from the impacts of future hazards and disasters; and

WHEREAS adoption by the Riverside Medical Center demonstrates its commitment to hazard mitigation and achieving the goals outlines in the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan.

NOW THERFORE, BE IT RESOLVED BY THE RIVERSIDE MEDICAL CENTER KANKAKEE, ILLINOIS, THAT:

The Riverside Medical Center adopts the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan and agrees to participate in the annual maintenance and evaluation of the plan.

ADOPTED by a vote of ___ in favor and ___ against, and ___ abstaining, this 15 day of November, 2023.

CERTIFIED by _____
Kyle Benoit, Senior Vice President & COO

ATTESTED by (SIGNATURE)_____
(NAME & TITLE)

Union Hill, Illinois
Resolution No. 2023-1

A Resolution of Village of Union Hill adopting the
2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan

WHEREAS the Village of Union Hill Board of Trustees recognizes the threat that natural hazards, including severe thunderstorms, severe winter storms, floods, and tornadoes among others, pose to people and property within the Village of Union Hill, Kankakee County, Illinois.

WHEREAS the Village has prepared a multi-hazard mitigation plan, hereby known as the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Union Hill from the impacts of future hazards and disasters; and

WHEREAS adoption by the Village demonstrates its commitment to hazard mitigation and achieving the goals outlines in the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan.

NOW THERFORE, BE IT RESOLVED BY the Village of Union Hill Board of Trustees, ILLINOIS, THAT:

The Village of Union Hill adopts the 2023 Kankakee County Multi-Jurisdictional Natural Hazards Mitigation Plan and agrees to participate in the annual maintenance and evaluation of the Plan.

ADOPTED by a vote of 6 in favor and 0 against, and 0 abstaining, this 13 day of Sept, 2023.

CERTIFIED by _____
Grant Van Voorst,
Village Preisdent

ATTESTED by _____
Erin Stowe,
Village Clerk