

**COMMITTEE OF THE WHOLE**  
**JULY 16, 2024**  
**VILLAGE BOARD ROOM**  
**2200 HARNISH DRIVE, ALGONQUIN**  
**7:30 P.M.**

Trustee Glogowski – Chairperson  
Trustee Dianis  
Trustee Smith  
Trustee Brehmer  
Trustee Auger  
Trustee Spella  
President Sosine

∞ AGENDA ∞

- 1. Roll Call – Establish a Quorum**
- 2. Public Comment – Audience Participation**  
*(Persons wishing to address the Committee must register with the Chairperson prior to roll call.)*
- 3. Community Development**
  - A.** Consider a Final PUD, a Plat of Subdivision, a Special Use for Open Air Dining, and a Zoning Map Amendment for 221 South Main Street.
- 4. General Administration**
  - A.** Consider an Intergovernmental Boundary Agreement with Village of Gilberts
  - B.** Consider amending Chapter 33 by Increasing the Number of Available Class F Liquor Licenses by One
- 5. Public Works & Safety**
  - A.** Consider an Agreement with Martam Construction for the Edgewood Drive Retaining Wall Replacement Project
  - B.** Consider a Resolution Adopting the Kane County 2024 Natural Hazard Mitigation Plan
- 6. Executive Session (if needed)**
- 7. Other Business**
- 8. Adjournment**



# Village of Algonquin

2200 Harnish Drive, Algonquin, IL  
(847) 658-2700 | www.algonquin.org

## AGENDA ITEM

<b><u>MEETING TYPE:</u></b>	Committee of the Whole
<b><u>MEETING DATE:</u></b>	July 16, 2024
<b><u>SUBMITTED BY:</u></b>	Patrick M. Knapp, AICP
<b><u>DEPARTMENT:</u></b>	Community Development Department
<b><u>SUBJECT:</u></b>	Approval of a Final PUD, a Plat of Subdivision, a Special Use for Open Air Dining, and a Zoning Map Amendment for 221 South Main Street.

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### **ACTION REQUESTED:**

The Village of Algonquin, the “Owner” and “Petitioner”, applied for approval of a final planned development, a resubdivision, a zoning map amendment, and a special use permit to allow open-air dining, the “Request”, at the former Algonquin State Bank, 221 South Main Street, referred to herein as the “Subject Property”.

### **PLANNING & ZONING COMMISSION REVIEW:**

The Planning and Zoning Commission reviewed the Request at the March 11, 2024, Planning and Zoning Commission Meeting. Nine residents spoke during the public hearing and the comments related to the Request can be summarized as concerns about existing drinking glasses being left along the roadways, concerns about noise from the rear open air dining area, and one person voiced support for the project.

After discussion, the Planning and Zoning Commission accepted (approved 5-0) staff’s findings as the findings of the Planning and Zoning Commission and recommended approval, as outlined in the staff report for case PZ-2024-02 and subject to staff’s recommended conditions with an additional condition that the special use permit for open-air dining include additional sound abatement, light mitigation, and landscape screening.

### **DISCUSSION:**

At the time of the Planning and Zoning Hearing, the Petitioner was working with a Preferred Developer that provided specific building elevations. The Preferred Developer has since withdrawn their request and the Petitioner will now request that the building elevation condition be modified as follows: *The final architecture of the building shall enhance the historical character of downtown Algonquin. The building shall receive a Certificate of Appropriateness and shall receive administrative approval by the Village Manager. The final design of the building shall also include large windows on the Washington Street side of the building that can be opened up to take advantage of outdoor events*

At the Planning and Zoning Hearing, the Commission recommended adding an additional condition for sound and light abatement to the patio area. The Petitioner will now request that the open-air dining condition be modified to: *The noise and light from the open-air dining area shall be reviewed after six (6) months of establishment to see if there is a disproportionate impact on neighboring properties. Any excessive impacts shall be appropriately mitigated.*

**STAFF RECOMMENDATION:**

Staff recommends approval of an Ordinance approving a Plat of Resubdivision titled “South Harrison Street Parking Lot Resubdivision”, as prepared by Christopher B. Burke Engineering, LTD., and last revised December 22, 2023, approve a Final Planned Development Plan, a Zoning Map Amendment from B-1 Business, Limited Retail Zoning District and R-3 Two Family Dwelling Zoning District to O-T Old Town Zoning District, and issue a Special Use Permit authorizing an open-air dining area at 221 South Main Street, as outlined in the staff report for case PZ-2024-02, subject to the following conditions and final approval of all plans by staff:

- a. The Plat of Resubdivision titled “South Harrison Street Parking Lot Resubdivision”, as prepared by Christopher B. Burke Engineering, LTD., and last revised December 22, 2023;
- b. The final architecture of the building shall enhance the historical character of downtown Algonquin. The building shall receive a Certificate of Appropriateness and shall receive administrative approval by the Village Manager. The final design of the building shall also include large windows on the Washington Street side of the building that can be opened up to take advantage of outdoor events;
- c. All signage shall conform to the Village Sign Code. A separate sign permit for every sign is required to be submitted to the village for review and approval. Umbrellas in the open-air dining areas shall not be multicolored and shall not include advertising, text, or logos;
- d. The first floor shall only be occupied by sales tax generating businesses;
- e. The open-air dining area(s) shall meet local and state liquor regulations. The fence enclosure shall be constructed with a minimum thirty-six-inch (36”) tall black fence that matches the village fencing in downtown Algonquin. Noise levels shall not exceed the permitted decibel level of the Village Code. The noise and light from the open-air dining area shall be reviewed after six (6) months of establishment to see if there is a disproportionate impact on neighboring properties. Any excessive impacts shall be appropriately mitigated.

**ATTACHMENTS:**

- Exhibit A. Planning & Zoning Staff Report and Findings of Fact for Case No. PZ-2024-02
- Exhibit B. March 11, 2024, Planning & Zoning Commission Minutes
- Exhibit C. Resubdivision Plat
- Exhibit D. Resubdivision Plat Exhibit



**STAFF REPORT FROM THE DEPARTMENT OF COMMUNITY DEVELOPMENT**

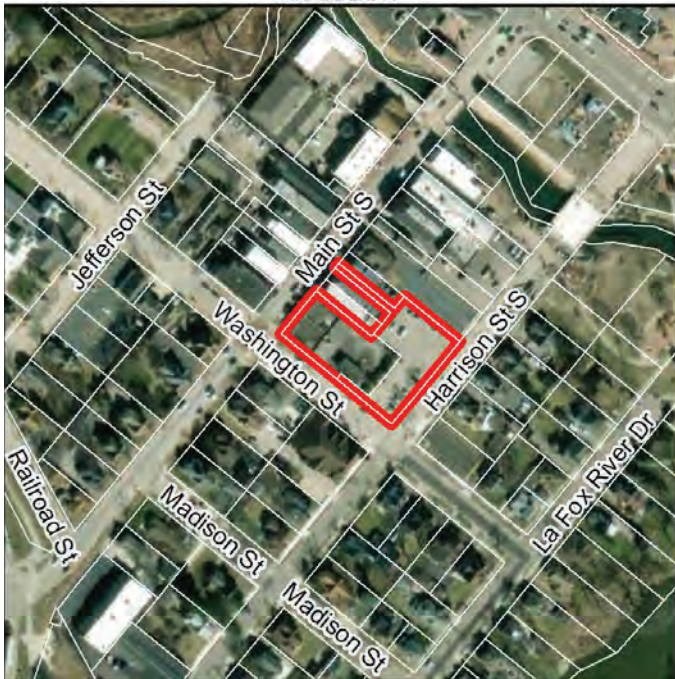
Patrick M. Knapp, AICP  
Deputy Director of Community Development

<b>CASE NUMBER:</b>	PZ-2024-02
<b>MEMO DATE:</b>	March, 4, 2024
<b>PUBLIC HEARING DATE:</b>	March 11, 2024
<b>PROPERTY ADDRESS/LOCATION:</b>	221 South Main Street
<b>APPLICANT/PROPERTY OWNER:</b>	The Village of Algonquin

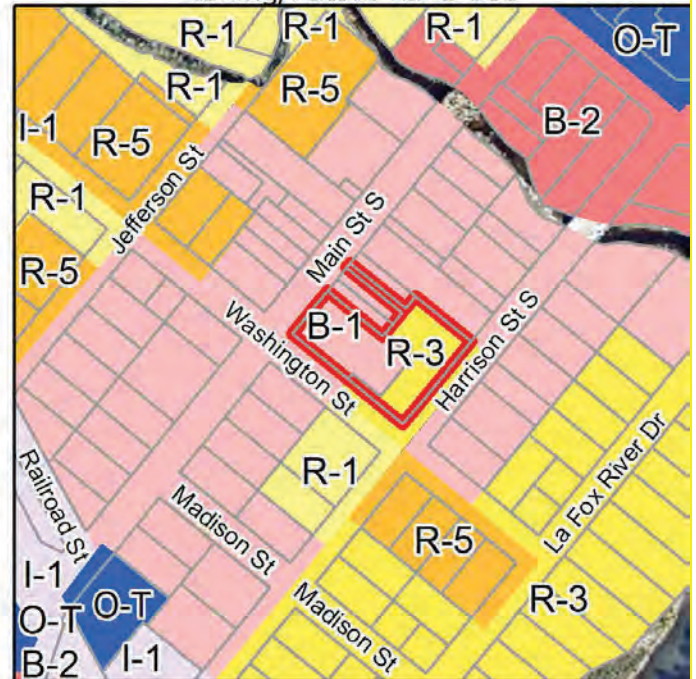
**Summary of Request**

The Village of Algonquin, the “Owner” and “Petitioner”, applied for approval of a final planned development, a resubdivision, a zoning map amendment, and a special use permit to allow open-air dining, the “Request”, at the former Algonquin State Bank, 221 South Main Street, referred to herein as the “Subject Property”.

Location



Zoning/Future Land Use



Existing Zoning	Existing Land Use/Improvements	Surrounding Zoning   Land Use	Property Size
B-1   Limited Retail	Vacant Commercial	North: B-1   Commercial	0.95 ac
R-3   Two-Family Dwelling	Parking Lot	East: B-1   Residential & Parking Lot	
		South: B-1, R-1   Commercial & Church	
		West: B-1   Commercial	

**Staff Recommendation Summary**

Staff recommends approval, subject to the conditions and plans listed in this report, as the proposal meets the findings and satisfies the long-term goals of the Village’s Comprehensive Plan, the 2013 Downtown Master Plan, and the Future Land Use Map.

**Approve**

**Deny**

**Approve with Conditions**



## Discussion of Staff Recommendation

### **Request and Use of the Subject Property**

The Village of Algonquin, the “Owner” and “Petitioner”, applied for approval of a final planned development, a resubdivision, a zoning map amendment, and a special use permit to allow open-air dining, the “Request”, at the former Algonquin State Bank, 221 South Main Street, referred to herein as the “Subject Property”. The Request will permit the redevelopment of the Subject Property into a retail space with open-air dining and an updated façade that is more in character with the downtown and adjacent properties.

### **Background**

The former Algonquin State Bank closed in March 2021 and as a result, the Village of Algonquin purchased the property to preserve the integrity of the building and prepare the site for redevelopment. This purchase reflects a recommendation outlined in the 2013 Downtown Algonquin Planning Study. The village advertised twice for redevelopment proposals and with the second round of proposals selected a preferred developer, Kopetsky Properties LLC, to redevelop the interior and exterior of the former bank building.

### **Plat of Subdivision**

The Subject Property is composed of two existing parcels that are both under Village of Algonquin ownership. One of the parcels includes the parking, building, and drive-through of the former Algonquin State Bank. The other parcel is currently a village parking lot. The Request includes a resubdivision of the two parcels to place all of the parking on one parcel and only the building and open-air dining areas on the other parcel.

### **Zoning Map Amendment**

The Subject Property will be rezoned from B-1 Business, Limited Retail Zoning District and R-3 Two Family Dwelling Zoning District to O-T Old Town Zoning District. Chapter 21.6 (B) of the Old Town District Zoning Code requires that all properties in Old Town that involve a redevelopment or planned development, shall be rezoned to O-T Zoning District. Note that the Subject Property is already located in the defined boundary of the Old Town District.

### **Building Elevations**

The 4,500-square-foot building improvements will include both interior and exterior renovations. The interior will be split into two tenant spaces that share a common rear entry and bathroom facilities. In the front of the building, the northern tenant space will utilize the existing front doors and the southern tenant space will be accessed through a new doorway at the south end of the front of the building. Each tenant space will also install new rear doors that will provide direct access to the rear open-air dining areas.

Exterior façade improvements will include the removal of the existing Mansard roof and wood paneling. The finished exterior walls will include red-toned face brick and additional windows. A parapet wall will be constructed with face brick and fiber cement accents.

At the February 14, 2024, Public Meeting the Historic Commission recommended a Certificate of Appropriateness for the exterior façade improvements .

### **Signage**

The existing pylon and wall signs on the building will be removed during the building renovation. A condition of the planned development will be a requirement that all future signs comply with the Old Town Sign Code section of the Village Sign Code.

### **Rear Parking Lot Reconstruction**

With the resubdivision of the Subject Property, the new rear parcel will only include the parking lot area. The village will be reconstructing this parking lot along with other village-owned parking lots west of Harrison Street as part of the Harrison Street reconstruction project. This reconstruction will maximize the number of parking spaces, provide parking islands for landscaping and utilities, and include common trash enclosures for businesses on the east side of Main Street.

### **Special Use for Open-Air Dining**

The improvements to the building will include an open-air dining patio for each tenant. These areas will be required to comply with local and state liquor laws by being fully enclosed and only allowing customer access from the inside of the building. The enclosures will be constructed with black metal fencing that will be at least thirty-six inches (36”) tall and match the fencing used in previous downtown streetscape projects. Emergency egress will be provided through black metal self-latching swing gates.

Exterior speakers will be permitted on the patios with the condition that the noise level does not exceed the permitted decibel level of the Village Code. Outdoor televisions will not be permitted. Live music will only be permitted on the patios by the issuance of a Special Event Permit or Public Event License.

### **Landscaping**

The only area that can be landscaped on the building parcel will be foundation plantings in the front of the building. The Landscaping Code requires that these plantings be maintained in the front of the building.

The reconstruction of the parking lot in the rear of the building will include parking islands that will be landscaped by the village.

### **Next Steps**

The final planned development, resubdivision, zoning map amendment, and special use for this Subject Property will be discussed at the Committee of the Whole and will then go to the Village Board for final approval. If approved by the Village Board, the developer can then apply for applicable permits, subject to any conditions of approval.

## **Standards & Findings**

The Planning and Zoning Commission shall review the Standards & Findings of Fact outlined in Exhibit “A” and 1) accept them without changes, 2) accept them with changes, or 3) reject the findings. The Planning and Zoning Commission should use the Findings of Fact to guide their recommendation to the Village Board on the petitioner’s request.

## **Staff Recommendation**

Staff recommends approval of a Plat of Resubdivision, Final Planned Development, Zoning Map Amendment, and the issuance of a Special Use Permit authorizing an open-air dining area at 221 South Main Street, consistent with the finding of fact outlined in this report, and subject to the conditions listed below. Based on these findings, staff recommends that the Planning and Zoning Commission make a motion to adopt staff’s findings as the findings of the Planning and Zoning Commission and recommends **approval** of the following motion:

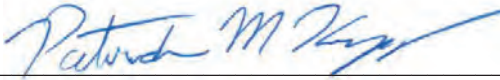
1. “To adopt Staff’s findings of fact as the findings of the Planning & Zoning Commission and to recommend approval of a Plat of Resubdivisions titled “South Harrison Street Parking Lot Resubdivision”, as prepared by Christopher B. Beruke Engineering, LTD., and last revised December 22, 2023, approve a Final Planned Development Plan, a Zoning Map Amendment from B-1 Business, Limited Retail Zoning District and R-3 Two Family Dwelling Zoning District to O-T Old Town Zoning District, and issue a Special Use

Permit authorizing an open-air dining area at 221 South Main Street, as outlined in the staff report for case PZ-2024-02, subject to the following conditions and final approval of all plans by staff:

- a. The Plat of Resubdivision titled “South Harrison Street Parking Lot Resubdivision”, as prepared by Christopher B. Beruke Engineering, LTD., and last revised December 22, 2023;
- b. The Exterior Elevations, as prepared by Risepointe, and last revised March 5, 2024;
- c. All signage shall conform to the Village Sign Code. A separate sign permit for every sign is required to be submitted to the village for review and approval. Umbrellas in the open-air dining areas shall not be multicolored and shall not include advertising, text, or logos;
- d. The open-air dining area(s) shall be fully enclosed and meet local and state liquor regulations. The enclosure shall be constructed with a minimum thirty-six-inch (36”) tall black fence that matches the fencing in downtown Algonquin. Exterior speakers can be installed in the open-air dining areas. Noise levels from the speakers and/or customers shall not exceed the permitted decibel level of the Village Code. Live music in the open-air dining areas can only be permitted through a separate Special Event Permit or Public Event License. There shall be no televisions in the open-air dining areas.”

The Village Board’s decision is final for this case.

I concur:



Patrick M Knapp, AICP  
Deputy Director/Acting Director of Community Development

**Attachments:**

- Exhibit A. Standards & Findings of Fact for a Final PUD, Zoning Map Amendment, & Special Use
- Exhibit B. Resubdivision Plat
- Exhibit C. Resubdivision Plat Exhibit
- Exhibit D. Exterior Elevations and Building Floor Plan

**Exhibit A – Standards & Findings of Fact**

**Planned Development Standards** – Section 21.11.E of the Algonquin Zoning Ordinance provides that a Planned Development shall conform to the following requirements:

1. The number of dwelling units erected shall not exceed the number permitted by the regulations of the district in which it is located, except in cluster developments where a density bonus may be granted as part of the planned development.
2. If a building is permitted to exceed the height limit of the district in which it is located, the yards and open spaces around such building shall be increased by an amount equal to the height that the building exceeds the height limit of the district measured in feet.
3. If more intensive uses are permitted than are allowed by the district regulations, there must be clear evidence that such uses are appropriate, provided the Planning and Zoning Commission finds:
  - a. That the use permitted by such exceptions is necessary or desirable and is appropriate with respect to the primary purpose of the development;
  - b. That the uses permitted by such exception are not of such a nature or so located as to exercise a detrimental influence on the development nor on the surrounding neighborhood;
  - c. That, in an industrial development, such additional uses allowed by exception shall conform to the performance standards of the district in which the development is located as set forth in Section 21.4 herein;
  - d. That the use exceptions allowed are on file in the Community Development Department;
4. The amount of off-street parking must be adequate to serve the needs of the projects. The Planning and Zoning Commission and Village Board may require more or less off-street parking than is otherwise required by this Chapter if it is determined the use(s) warrants the deviation.
5. If any open space or recreational facility is to be used solely by the residents of the project, adequate provisions shall be made for assessments against the property within the project so that such facilities can be properly improved, maintained, and operated.
6. All residential planned developments that involve annexation shall include clearly identifiable community-wide benefit improvements to the Village. Benefits may include the following, but shall not be limited to those listed: expansion of Village infrastructure that can serve other parts of the community; creation of a community park; dedication of right-of-way or construction of a collector road; and component of a larger mixed-use development that includes commercial uses. The larger the residential unit count, the larger the community-wide benefit improvements.
7. All commercial planned developments that include lots fronting on any major collector or arterial roadway shall provide landscaped open space between each building and parking lot. Said landscaped area shall include combinations of trees, shrubs, and seasonal plantings that shall be planted on top of earthen berms. The appropriate land area, height of the berm, and exact plant material specifications shall be reviewed and approved by the Village Board as part of the final planned development review process.

**Petitioner Response:**

The existing building's footprint will not be expanded and all uses will conform to the O-T Zoning District as required by the Village Code. The redevelopment of this property will bring more people to Downtown Algonquin and the updated façade will improve the character of downtown in the vicinity of this building. Additional parking will also benefit existing and future downtown businesses. The redevelopment adheres to the Village's Comprehensive Plan, the 2013 Downtown Master Plan, and the Future Land Use Plan. The building meets the Village's and the PUD's design standards, and the development will not negatively impact the health, safety, and general welfare of persons working or residing in the area.



**Zoning Map Amendment Standards** – Without specific standards in the Village’s Zoning Code, the standard in Illinois is to rely on the “LaSalle Factors” and also factors from the Sinclair Pipeline Company vs. Village of Richton Park.

1. Will the rezoning of the Subject Property negatively impact the existing uses or zoning of nearby property? The amendment, if granted, will not alter the essential character of the neighborhood and will not be a substantial detriment to adjacent property.
2. To what extent do the current zoning restrictions diminish the property value of the Subject Property and nearby property? The property cannot yield a reasonable return if permitted to be used only under the conditions allowed under the existing zoning classification.
3. To what extent does the rezoning promote the health, safety, morals, and general welfare of the public. The amendment promotes the public health, safety, comfort, convenience and general welfare.
4. What is the suitability of the Subject Property for the zoned purposes? The requested zoning classification permits uses which are more suitable than the uses permitted under the existing zoning classification.
5. What is the relative gain to the public as compared to the hardship imposed upon the individual property owner? The subject property has not been utilized under the existing zoning classification for a substantial period of time.
6. Does the proposed development on the Subject Property comply with the policies and official land use plan and other official plans of the Village? The amendment complies with the policies and official land use plan and other official plans of the Village.

**Petitioner Response:**

The Village Code requires that any redevelopment project in the Old Town District be rezoned to O-T Old Town District Zoning Code. The zoning map amendment of this property adheres to the Village’s Comprehensive Plan, the 2013 Downtown Master Plan, and the Future Land Use Plan. The building meets the Village’s and the PUD’s design standards, and the development will not negatively impact the health, safety, and general welfare of persons working or residing in the area.

**Special Use Standards** – Section 21.12.E.3 of the Algonquin Zoning Ordinance provides that a Special Use shall conform to the following requirements:

- a. That the proposed use at the particular location requested is necessary or desirable to provide a service or a facility that is in the interest of public convenience and will contribute to the general welfare of the neighborhood or community;
- b. That such use will not, under the circumstances of the particular case, be detrimental to the health, safety, morals, or general welfare of persons residing or working in the vicinity, or injurious to property values or improvements in the vicinity;
- c. That the proposed use will comply with the regulations and conditions specified in this Chapter for such use and with the stipulations and conditions made a part of the authorization granted by the Village Board.

**Petitioner Response:**

Open-air dining, or outdoor dining, can contribute to the guest experience, and improve the character of the business and increase the likelihood of success, and thus the general welfare of the entire neighborhood. The proposed area for outdoor dining is separated from adjacent residential properties by at least 250 feet and will be approximately 90 feet away from an adjacent church. The open-air dining areas will not be detrimental to the health, safety, morals, or general welfare of persons residing or working in the vicinity, or injurious to property values or improvements in the vicinity. The outdoor dining area is reviewed through a permit review process and shall conform to all Village Codes.



# Village of Algonquin

COMMUNITY DEVELOPMENT DEPARTMENT

(847) 658-2700 | [permits@algonquin.org](mailto:permits@algonquin.org) | [www.algonquin.org](http://www.algonquin.org)

2200 Harnish Drive, Algonquin, IL

## PLANNING AND ZONING COMMISSION MINUTES

MARCH 11, 2024

### Roll Call - Establish Quorum

Chair Patrician called the meeting to order at 7:02 pm.

Deputy Director Patrick Knapp called the roll to check attendance.

Five of the seven commissioners were present and could hear and be heard:

- Chair Patrician
- Commissioner Laipert
- Commissioner Rasek
- Commissioner Sturznicke
- Commissioner Szpekowski

Members absent: Commissioners Kennealy and Neuhalfen

Staff Present: Senior Planner Patrick Knapp and Attorney David Noland

### Public Comment

Chair Patrician asked for public comments. No one from the public commented.

### Approval of Minutes

Chair Patrician asked for approval of the December 11, 2023, Planning and Zoning Commission minutes. A motion was made by Commissioner Sturznicke and seconded by Commissioner Laipert to approve the minutes. The motion was approved with a 5-0 vote.

### **Case Number PZ-2024-02 – Consideration of a Request to Approve a Resubdivision, a Final Planned Development, a Zoning Map Amendment from B-1 Business, Limited Retail Zoning District and R-3 Two Family Dwelling Zoning District to O-T Old Town Zoning District, and issue a Special Use Permit to allow Open-Air Dining**

Deputy Director Patrick Knapp confirmed that the Public Notice requirement was fulfilled.

Deputy Director Patrick Knapp, representing the Village, the Petitioner and Owner of the Subject Property, gave a digital presentation to the Planning & Zoning Commission.

Commissioner Sturznicke asked who owned the alley next to Cattleman's'. Staff responded that the Village owned the alley.

Commissioner Laipert asked if there would be any type of barrier in the rear. Staff responded that there would be a parking lot curb preventing vehicles from driving into the outdoor dining area.

Commissioner Rasek asked about the rear fence design. Staff responded that the village desires that the rear fence match the fencing already used downtown.

Commissioner Szpekowski asked about landscaping. Staff responded that the former bank building will be on its own parcel and that the only opportunity for landscaping is foundation landscaping in the front. The village already landscapes the planters surrounding the former bank and the new parking lot will include landscape islands. Staff also responded that they would report back to engineering that they should try and maximize the amount of landscaping in the rear parking lot design.

Chair Patrician asked if the building would have a common association. Staff responded that that would be up to the building owner.

Commissioner Laipert asked about the outdoor lighting. Staff responded that the village has a dark sky ordinance and that all lighting in the village is required to point downwards.

Chair Patrician opened the Public Comment portion of the Public Hearing.

Robert Benjamin, a Trustee of the Congregational Church of Algonquin, 109 Washington Street, stated that he is concerned with the lack of fencing and the amount of sound. He is also concerned about the impact of different events that the church hosts. He then stated that he desires to fully enclose the outdoor dining with a wall.

Cara Teuber, 314 La Fox River Drive, stated that she is concerned about noise and wants the outdoor dining to be completely enclosed with a wall.

Cathy Neuhalfen, 740 Saratoga Circle, spoke on behalf of her husband, Planning & Zoning Commissioner Neuhalfen who could not attend. She stated that they support the improvements but do not support the preferred developer's purchase proposal.

Jeff Jolitz, 409 South Harrison Street, stated that he is concerned about the noise and the amount of existing drinking in town. He stated that drinking glasses are left all over downtown. He stated that the outdoor dining should be completely enclosed with a wall.

Mike Teuber, stated that he is concerned about noise and lighting.

Chair Patrician closed the Public Comment portion of the Public Hearing



Commissioner Szpekowski stated that she is concerned about drinking glasses being left on the ground

Commissioner Laipert asked if a bigger wall could be built. Staff stated that a larger wall would take up outdoor dining space and could not be extended into the proposed parking area.

Commissioner Rasek asked if it was possible to deny the special use request for outdoor dining. Staff and the Attorney responded that this outdoor dining complies with the only standards, that it not be located in the front, and that it cannot be denied, only conditioned.

Chair Patrician re-opened the Public Comment portion of the Public Hearing.

*Note that audience participants began talking from their seats and some did not fill out Audience Participation Cards. Below there may be misspellings of names.*

Christopher Lariat and Erin Rednour stated that he wouldn't want blind spots for safety reasons.

Mike Teuber and Jeff Jolitz stated that they want the outdoor dining in the front or side. Staff stated that there is no room in the front and that the Special Use Code states that outdoor dining not be located in the front.

Chris Kempf stated that he is worried that the village won't construct the plan as stated

Michelle Kopetsky, a downtown business owner, stated that she is excited about this project and believes it will be beneficial to the downtown.

Erin Renthower stated that they were concerned about noise.

Chair Patrician closed the Public Comment portion of the Public Hearing.

Chair Patrician stated that he thinks that an accommodation for sound and lighting seems reasonable.

Commissioner Rasek stated that he supports the request, but would like to see additional screening with sound and light abatement.

Chair Patrician asked for a motion. A motion was made by Commissioner Rasek and seconded by Commissioner Szpekowski to adopt Staff's Findings of Fact as the findings of the Planning & Zoning Commission and to recommend approval of a Plat of Resubdivision titled "South Harrison Street Parking Lot Resubdivision", as prepared by Christopher B. Burke Engineering, LTD., and last revised December 22, 2023, approve a Final Planned Development Plan, a Zoning Map Amendment from B-1 Business, Limited Retail Zoning District and R-3 Two Family Dwelling Zoning District to O-T Old Town Zoning District, and issue a Special Use Permit authorizing an open-air dining area at 221 South Main Street, subject to the conditions listed in the staff report for Case Number PZ-2024-02 dated

March 4, 2024, and approval of all plans by staff, and to add the conditions that the special use permit for open-air dining include additional sound abatement, light mitigation, and landscape screening. The motion carried with a 5-0 vote.

### **New/Old Business**

None discussed.

### **Community Development Report**

Deputy Director Patrick Knapp provided an update regarding ongoing projects and Village Board approvals of Planning and Zoning cases.

### **Adjournment**

Chair Patrician asked for a motion to adjourn. A motion was made by Commissioner Sturznickel and seconded by Commissioner Laipert. The motion carried on a 5-0 vote. The meeting was adjourned at 8:50 P.M.

Minutes signed by:



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Patrick Knapp, Deputy Director



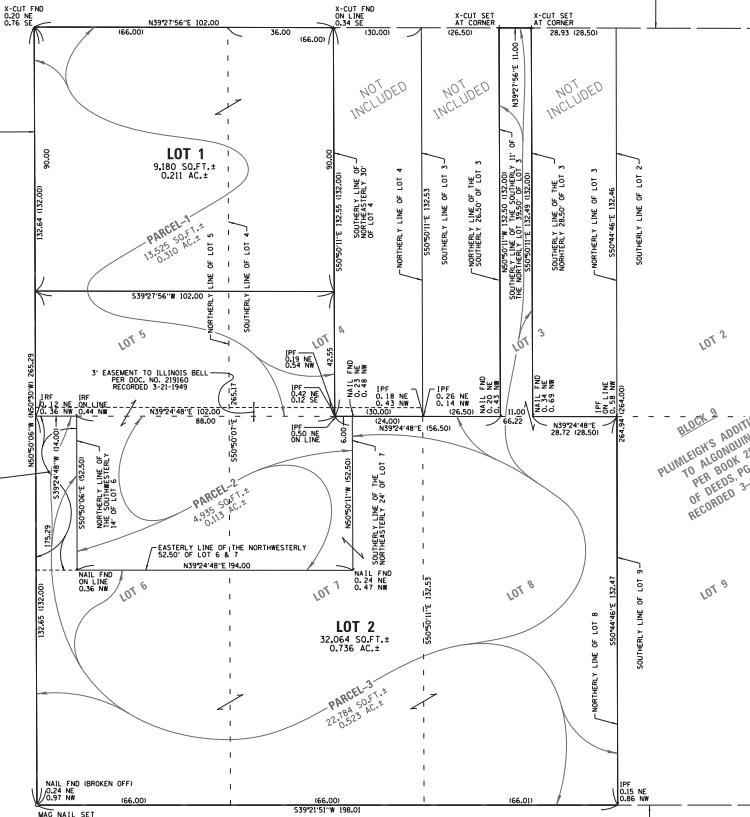
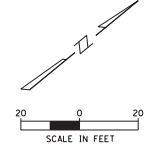
# SOUTH HARRISON STREET PARKING LOT RESUBDIVISION

IN THE NORTHWEST QUARTER OF SECTION 34, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN IN MOHNEY COUNTY, ILLINOIS

**S. MAIN STREET**  
66' RIGHT-OF-WAY

**WASHINGTON STREET**  
60' RIGHT-OF-WAY

**HARRISON STREET**  
66' RIGHT-OF-WAY



**OWNER'S SCHOOL DISTRICT CERTIFICATE**  
STATE OF ILLINOIS )  
COUNTY OF MOHNEY AND KANE )  
THE UNDERSIGNED, BEING DULY SWORN, UPON HIS/HER OATH DEPOSES AND STATES AS FOLLOWS:  
THAT HE/SHE IS THE OWNER OF THE PROPERTY LEGALLY DESCRIBED ON A PROPOSED RESUBDIVISION SUBMITTED TO THE VILLAGE OF ALGONQUIN FOR APPROVAL WHICH LEGAL DESCRIPTION IS ATTACHED HERETO AND INCORPORATED BY REFERENCE HEREIN;  
AND  
TO THE BEST OF THE OWNER'S KNOWLEDGE, THE SCHOOL DISTRICTS IN WHICH SAID TRACT, PARCEL, LOT OR BLOCK OF THE PROPOSED RESUBDIVISION LIES ARE:  
SCHOOL DISTRICT NO. 308  
EGLIN COLLEGE DISTRICT NO. 509

**VILLAGE ENGINEER'S CERTIFICATE**  
STATE OF ILLINOIS )  
COUNTY OF MOHNEY AND KANE )  
I, VILLAGE ENGINEER OF THE VILLAGE OF ALGONQUIN, ILLINOIS, HEREBY CERTIFY THAT THE RESUBDIVISION IS APPROVED AND ACCEPTED.  
DATED AT VILLAGE OF ALGONQUIN, MOHNEY COUNTY, ILLINOIS, THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_ A.D.

**VILLAGE BOARD CERTIFICATE**  
STATE OF ILLINOIS )  
COUNTY OF MOHNEY AND KANE )  
APPROVED AND ACCEPTED BY THE VILLAGE PRESIDENT AND BOARD OF TRUSTEES OF THE VILLAGE OF ALGONQUIN, ILLINOIS, AT A MEETING HELD THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_ A.D.  
BY VILLAGE PRESIDENT \_\_\_\_\_  
ATTEST VILLAGE CLERK \_\_\_\_\_

**VILLAGE CLERK'S CERTIFICATE**  
STATE OF ILLINOIS )  
COUNTY OF MOHNEY AND KANE )  
THIS IS TO CERTIFY THAT THERE ARE NO UNPAID SPECIAL ASSESSMENTS OF THE LANDS ON THE ABOVE DESCRIBED PROPERTY.  
VILLAGE CLERK \_\_\_\_\_ DATE \_\_\_\_\_

**OWNER'S CERTIFICATE**  
STATE OF ILLINOIS )  
COUNTY OF MOHNEY AND KANE )  
THIS IS TO CERTIFY THAT THE VILLAGE OF ALGONQUIN IS THE OWNER(S) OF THE PROPERTY SHOWN AND DESCRIBED ON THE RESUBDIVISION PLAT AND THAT THEY HAVE CAUSED THE SAME TO BE PLATTED AS INDICATED HEREON FOR THE USES AND PURPOSES HEREIN SET FORTH, AND DO HEREBY ACKNOWLEDGE AND ADOPT THE SAME UNDER THE STYLE AND TITLE HEREIN INDICATED.  
THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_ A.D.  
TITLE: \_\_\_\_\_  
ATTEST: \_\_\_\_\_  
TITLE: \_\_\_\_\_

**OWNER'S NOTICE**  
STATE OF ILLINOIS )  
COUNTY OF MOHNEY AND KANE )  
THIS IS TO CERTIFY THAT I, A NOTARY PUBLIC IN AND FOR SAID COUNTY, DO HEREBY CERTIFY THAT I PERSONALLY KNOW TO BE THE SAME PERSONS WHOSE NAMES ARE SUBSCRIBED TO THE FOREGOING INSTRUMENT AS SUCH NAMES APPEARED BEFORE ME THIS DAY IN PERSON AND I AM CONVINCED THAT THEY UNDERSTAND AND VOLUNTARILY SIGN THE INSTRUMENT AS THEIR OWN FREE AND VOLUNTARY ACT FOR THE USES AND PURPOSES HEREIN SET FORTH, GIVEN UNDER MY HAND AND NOTARIAL SEAL.  
THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_ A.D.

**GENERAL NOTES**  
1. ALL DIMENSIONS ARE GIVEN IN FEET AND DECIMAL PARTS THEREOF.  
2. ONLY THOSE BUILDING LINE SETBACKS AND EASEMENTS WHICH ARE SHOWN ON THE RECORDED PLAT OF SUBDIVISION ARE SHOWN HEREIN. REFER TO THE DEED, TITLE INSURANCE POLICY AND LOCAL ORDINANCES FOR OTHER RESTRICTIONS.  
3. COMPARE DEED DESCRIPTION AND SITE CONDITIONS WITH THE DATA GIVEN ON THIS PLAT AND REPORT ANY DISCREPANCIES TO THE SURVEYOR AT ONCE.  
4. NO DIMENSIONS SHALL BE DERIVED FROM SCALE MEASUREMENT.  
5. CONTRACTOR/DEVELOPER SHALL NOTIFY J.C.B. AT 1-800-890-0123 AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF ANY WORK.

**SURVEYOR NOTES**  
1. BEARING AND DISTANCES SHOWN HEREON ARE TO THE ILLINOIS STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD 83) ADJUSTMENT "83".  
2. THIS PLAT IS BASED IN PART ON THE FOLLOWING TITLE COMMITMENT REMAINTS:  
- BURLAND TITLE COMPANY WITH AN EFFECTIVE DATE OF APRIL 28, 2016 AS ORDER NO. 081-02016-2020.0  
- BURLAND TITLE COMPANY WITH AN EFFECTIVE DATE OF APRIL 18, 2018 AS ORDER NO. 081-02018-2011.0  
3. PROPERTY IS SUBJECT TO: RIGHTS OF THE PUBLIC, THE STATE OF ILLINOIS, AND THE MUNICIPALITY IN AND TO "ANY PART" OF THE LAND, IF ANY, TAKEN OR USED FOR ROAD PURPOSES.  
4. THIS SURVEY IS BASED ON FIELD WORK PERFORMED ON 08-04-2014 THRU 08-05-2014, 09-30-2014, 09-29-2015 & 11-16-2023 THRU 11-17-2023.

**PLANNING AND ZONING COMMISSION CERTIFICATE**  
STATE OF ILLINOIS )  
COUNTY OF MOHNEY AND KANE )  
THIS IS TO CERTIFY THAT MEMBERS OF THE PLANNING AND ZONING COMMISSION OF THE VILLAGE OF ALGONQUIN, MOHNEY COUNTY & KANE COUNTY, ILLINOIS HAVE REVIEWED THE ABOVE PLAT.  
DATED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_ A.D.  
CHAIRMAN: \_\_\_\_\_  
SECRETARY: \_\_\_\_\_

**VILLAGE COLLECTOR CERTIFICATE**  
STATE OF ILLINOIS )  
COUNTY OF MOHNEY AND KANE )  
I, VILLAGE COLLECTOR OF THE VILLAGE OF ALGONQUIN, DO HEREBY CERTIFY THAT THERE ARE NO DELINQUENT OR UNPAID CURRENT OR FORFEITED SPECIAL ASSESSMENTS OF ANY DEFERRED INSTALLMENT THEREOF THAT HAVE BEEN APPORTIONED AGAINST THE LAND INCLUDED IN THIS PLAT OF SUBDIVISION.  
DATED AT ALGONQUIN, MOHNEY AND KANE COUNTIES, ILLINOIS, THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_ A.D.

**COUNTY RECORDS CERTIFICATE**  
STATE OF ILLINOIS )  
COUNTY OF MOHNEY )  
THIS INSTRUMENT NO. \_\_\_\_\_ WAS FILED FOR RECORD IN THE RECORDER'S OFFICE OF MOHNEY COUNTY, ILLINOIS, ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_ A.D., AT \_\_\_\_\_ O'CLOCK.  
BY: \_\_\_\_\_  
RECORDER OF DEEDS MOHNEY COUNTY

**COUNTY CLERK'S CERTIFICATE**  
STATE OF ILLINOIS )  
COUNTY OF MOHNEY )  
I, COUNTY CLERK OF MOHNEY COUNTY, ILLINOIS, DO HEREBY CERTIFY THAT I FIND NO DELINQUENT GENERAL TAXES, NO UNPAID CURRENT GENERAL TAXES, NO UNPAID SPECIAL TAXES, NO UNPAID FUTURE TAXES, AND NO REDEEMABLE TAX SALES ADJUST ANY OF THE LAND INCLUDED IN THE RESUBDIVISION. I FURTHER CERTIFY THAT I HAVE RECEIVED ALL STATUTORY FEES IN CONNECTION WITH THE RESUBDIVISION.  
GIVEN UNDER MY HAND AND SEAL OF THE COUNTY CLERK, DATED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_ A.D.  
COUNTY CLERK \_\_\_\_\_

**PLAT AUTHORIZATION CERTIFICATE**  
STATE OF ILLINOIS )  
COUNTY OF MOHNEY )  
I, CHRISTOPHER B. BURKE ENGINEERING, LTD., AN ILLINOIS PROFESSIONAL ENGINEER, HEREBY CERTIFY THAT I AM THE DESIGNER OF THIS PLAT OF RESUBDIVISION WITH THE MOHNEY COUNTY RECORDER OF DEEDS OR REGISTRAR OF TITLE. THIS DESIGNATION IS GRANTED UNDER THE RIGHT TO DESIGNATE SUCH RECORDED UNDER SECTION 2 OF THE ILLINOIS PLAT ACT, 765 ILLINOIS COMPILATED STATUTES 200.2.  
GIVEN UNDER OF HAND AND SEAL AT ROSEMONT, ILLINOIS, THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_ A.D.

**SURVEYOR'S CERTIFICATE**  
STATE OF ILLINOIS )  
COUNTY OF COOK )  
I, CHRISTOPHER B. BURKE ENGINEERING, LTD., AN ILLINOIS PROFESSIONAL DESIGNER, NUMBER 181-001173-0216, DO HEREBY CERTIFY THAT I HAVE REVIEWED AND APPROVED THE PLAT OF RESUBDIVISION.  
PARCEL 1: LOTS 4 AND 7 (EXCEPTED) AND PART THEREOF CONVEYED FROM COMMONLY A CORPORATION BY WARRANTY DEED DATED JUNE 3, 1900 AND RECORDED IN BOOK 108 OF DEEDS, PAGE 847 IN BLOCK 9 IN SAID PLUMBER'S ADDITION TO ALGONQUIN, BEING A SUBDIVISION OF PART OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, WEST OF FOX RIVER AND PART OF THE NORTHEAST QUARTER OF SECTION 33, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, EAST OF CHICAGO AND NORTHWESTERN RAILROAD, ACCORDING TO THE PLAT THEREOF RECORDED MARCH 24, 1900 IN BOOK 28 OF DEEDS, PAGE 400, IN MOHNEY COUNTY, ILLINOIS.  
PARCEL 2: THE NORTHERLY 52-20 FEET (AS MEASURED PARALLEL TO THE NORTHERLY LINE OF LOTS 4 AND 7) AND 7 TAKEN AS A TRACT IN BLOCK 9, EXCEPT THE SOUTHERLY 14 FEET THEREOF AND MEASURED PARALLEL TO THE SOUTHERLY LINE OF SAID LOT 8) AND EXCEPT THE NORTHERLY 25 FEET THEREOF AS MEASURED PARALLEL TO THE NORTHERLY LINE OF SAID LOT 7) ALL IN PLUMBER'S ADDITION TO ALGONQUIN, BEING A SUBDIVISION OF PART OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, WEST OF FOX RIVER, AND PART OF THE NORTHEAST QUARTER OF SECTION 33, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, EAST OF CHICAGO AND NORTHWESTERN RAILROAD, ACCORDING TO THE PLAT THEREOF RECORDED MARCH 24, 1900 IN BOOK 28 OF DEEDS, PAGE 400, IN MOHNEY COUNTY, ILLINOIS.  
PARCEL 3: LOT 8 IN BLOCK 9 IN PLUMBER'S ADDITION TO ALGONQUIN, BEING A SUBDIVISION OF PART OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 43 NORTH, RANGE 8, EAST OF THE THIRD PRINCIPAL MERIDIAN, WEST OF FOX RIVER, AND PART OF THE NORTHEAST QUARTER OF SECTION 33, TOWNSHIP 43 NORTH, RANGE 8, EAST OF THE THIRD PRINCIPAL MERIDIAN, EAST OF CHICAGO AND NORTHWESTERN RAILROAD, ACCORDING TO THE PLAT THEREOF RECORDED MARCH 24, 1900 IN BOOK 28 OF DEEDS, PAGE 400, IN MOHNEY COUNTY, ILLINOIS.  
ALSO INCLUDING:  
THE SOUTHERLY 14 FEET (AS MEASURED PARALLEL TO THE NORTHERLY LINE OF SAID LOT 8) OF THE NORTHERLY 52-20 FEET, 25'-0" (AS MEASURED PARALLEL TO THE NORTHERLY LINE OF LOTS 4 AND 7) AND THE NORTHERLY 25 FEET (AS MEASURED PARALLEL TO THE NORTHERLY LINE OF SAID LOT 7) OF THE NORTHERLY 52-20 FEET, (AS MEASURED PARALLEL TO THE NORTHERLY LINE OF SAID LOTS 6 AND 7) OF LOTS 6 AND 7 TAKEN AS A TRACT IN BLOCK 9 IN SAID PLUMBER'S ADDITION TO ALGONQUIN.  
AND INCLUDING:  
THE SOUTHERLY 11 FEET OF THE NORTHERLY 39-5 FEET OF LOT 3, BLOCK 5 OF PLUMBER'S ADDITION TO THE VILLAGE OF ALGONQUIN, SITUATED IN THE COUNTY OF MOHNEY AND STATE OF ILLINOIS.  
WE FURTHER DECLARE THAT ALL THE LAND INCLUDED IN THE ADJOINED PLAT IS WITHIN THE CORPORATE LIMITS OF THE VILLAGE OF ALGONQUIN, ILLINOIS, WHICH HAS ADOPTED A CITY PLAN AND IS EXERCISING THE SPECIAL POWERS AUTHORIZED BY DIVISION 12 ARTICLE 11 OF THE ILLINOIS MUNICIPAL CODE.  
IN ACCORDANCE WITH CHAPTER 765 ICS SECTION 200.1 - 5.6" X 24" REBAR IS TO BE USED AT ALL LOT CORNERS AND POINTS OF GEOMETRIC CHANGE UNLESS NOTED OTHERWISE.  
THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_ A.D.

**VILLAGE COLLECTOR CERTIFICATE**  
STATE OF ILLINOIS )  
COUNTY OF MOHNEY AND KANE )  
I, VILLAGE COLLECTOR OF THE VILLAGE OF ALGONQUIN, DO HEREBY CERTIFY THAT THERE ARE NO DELINQUENT OR UNPAID CURRENT OR FORFEITED SPECIAL ASSESSMENTS OF ANY DEFERRED INSTALLMENT THEREOF THAT HAVE BEEN APPORTIONED AGAINST THE LAND INCLUDED IN THIS PLAT OF SUBDIVISION.  
DATED AT ALGONQUIN, MOHNEY AND KANE COUNTIES, ILLINOIS, THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_ A.D.

**COUNTY RECORDS CERTIFICATE**  
STATE OF ILLINOIS )  
COUNTY OF MOHNEY )  
THIS INSTRUMENT NO. \_\_\_\_\_ WAS FILED FOR RECORD IN THE RECORDER'S OFFICE OF MOHNEY COUNTY, ILLINOIS, ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_ A.D., AT \_\_\_\_\_ O'CLOCK.  
BY: \_\_\_\_\_  
RECORDER OF DEEDS MOHNEY COUNTY

**COUNTY CLERK'S CERTIFICATE**  
STATE OF ILLINOIS )  
COUNTY OF MOHNEY )  
I, COUNTY CLERK OF MOHNEY COUNTY, ILLINOIS, DO HEREBY CERTIFY THAT I FIND NO DELINQUENT GENERAL TAXES, NO UNPAID CURRENT GENERAL TAXES, NO UNPAID SPECIAL TAXES, NO UNPAID FUTURE TAXES, AND NO REDEEMABLE TAX SALES ADJUST ANY OF THE LAND INCLUDED IN THE RESUBDIVISION. I FURTHER CERTIFY THAT I HAVE RECEIVED ALL STATUTORY FEES IN CONNECTION WITH THE RESUBDIVISION.  
GIVEN UNDER MY HAND AND SEAL OF THE COUNTY CLERK, DATED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_ A.D.

**PLAT AUTHORIZATION CERTIFICATE**  
STATE OF ILLINOIS )  
COUNTY OF MOHNEY )  
I, CHRISTOPHER B. BURKE ENGINEERING, LTD., AN ILLINOIS PROFESSIONAL ENGINEER, HEREBY CERTIFY THAT I AM THE DESIGNER OF THIS PLAT OF RESUBDIVISION WITH THE MOHNEY COUNTY RECORDER OF DEEDS OR REGISTRAR OF TITLE. THIS DESIGNATION IS GRANTED UNDER THE RIGHT TO DESIGNATE SUCH RECORDED UNDER SECTION 2 OF THE ILLINOIS PLAT ACT, 765 ILLINOIS COMPILATED STATUTES 200.2.  
GIVEN UNDER OF HAND AND SEAL AT ROSEMONT, ILLINOIS, THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_ A.D.

**CHRISTOPHER B. BURKE ENGINEERING, LTD.**  
9575 West Higgins Road, Suite 600  
Rosemont, Illinois 60018  
(847) 823-0500

**SOUTH HARRISON STREET PARKING LOT RESUBDIVISION**  
IN  
VILLAGE OF ALGONQUIN, ILLINOIS  
PREPARED FOR  
VILLAGE OF ALGONQUIN

CALC.	KJR	PROJECT NO.	070273-00189
DWN.	AJK	SHEET 1 OF 1	
CHKD.	JRM	DRAWING NO.	RESUB070273.189A
SCALE:	1"=20'	DATE:	12-22-2023

N:\ALGONQUIN\070273\070273-00189\DWG\RESUB070273.189A.DWG

# SOUTH HARRISON STREET PARKING LOT RESUBDIVISION – EXHIBIT



N

SCALE IN FEET  
0 20

**PIN NO.**  
19-34-107-017  
19-34-107-019

**LEGEND**

- x X-CUT SET
- IRON PIPE FOUND (IPF)
- IRON ROD FOUND (IRF)
- X-CUT FOUND
- 000.00 MEASURED
- (100.00) RECORD
- R.O.W. LINE
- PROPERTY LINE
- - - - ABANDONED/EXTENSION LINE
- - - - EASEMENT LINE

**CB** **CHRISTOPHER B. BURKE ENGINEERING, LTD.**  
9575 West Higgins Road, Suite 600  
Rosemont, Illinois 60018  
(847) 823-0500

**SOUTH HARRISON STREET PARKING LOT RESUBDIVISION – EXHIBIT**  
IN  
VILLAGE OF ALGONQUIN, ILLINOIS  
PREPARED FOR  
VILLAGE OF ALGONQUIN

CALC.	KJR	PROJECT NO.	070273.00189
DWN.	AJK	SHEET	1 OF 1
CHKD.	JRM	DRAWING NO.	RESUB070273.189A
SCALE:	1" = 20'	DATE:	12-21-2023





**VILLAGE OF ALGONQUIN**  
*GENERAL SERVICES ADMINISTRATION*

**- M E M O R A N D U M -**

DATE: July 8, 2024

TO: President Sosine and Village Board of Trustees

FROM: Tim Schloneger

SUBJECT: Intergovernmental Agreement with Gilberts for Jurisdictional Boundaries

---

Gilberts and Algonquin previously entered into a boundary agreement dated January 21, 1997, which established agreed upon boundary lines to plan both for growth and for conservation of available resources in the area that lies between their existing corporate boundaries.

The proposed agreement renews and extends those jurisdictional boundaries for twenty (20) more years – keeping the status quo in place.

**INTERGOVERNMENTAL AGREEMENT  
BETWEEN  
THE VILLAGE OF GILBERTS AND THE VILLAGE OF ALGONQUIN  
REGARDING JURISDICTIONAL BOUNDARIES**

**THIS AGREEMENT** (“*Agreement*”) is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 2024 (“*Effective Date*”), by and between the **Village of Gilberts**, an Illinois municipal corporation in Kane County, Illinois (“*Gilberts*”) and the **Village of Algonquin**, an Illinois municipal corporation in McHenry and Kane Counties, Illinois (“*Algonquin*”). Gilberts and Algonquin are sometimes referred to in this Agreement separately as “*Party*” or jointly as “*Parties*”.

**WITNESSETH:**

**WHEREAS**, Gilberts and Algonquin are units of local government as defined by Article VII, Section 1 of the Illinois State Constitution of 1970; and

**WHEREAS**, units of local government are enabled by Article VII, Section 10, of the Illinois State Constitution of 1970 to enter into agreements among themselves to obtain or share services and to exercise, combine, or transfer any power or function in any manner not prohibited by law or ordinance; and

**WHEREAS**, the Illinois Intergovernmental Cooperation Act, 5 ILCS 220/1, *et seq.*, authorizes municipalities to jointly with any public agency of the State, including other units of local government, exercise any power, privilege, or authority which may be exercised by a unit of local government individually, and to enter into contracts for the performance of governmental services, activities, and undertakings; and

**WHEREAS**, the Illinois Municipal Code authorizes municipalities to enter into boundary line agreements “[i]f unincorporated territory is within one and one-half miles of the boundaries of two or more corporate authorities that have adopted official plans . . .,” 65 ILCS 5/11-12-9; and

**WHEREAS**, unincorporated territory lies within one and one-half miles of the boundaries of Gilberts and Algonquin; and

**WHEREAS**, Gilberts and Algonquin have each adopted a Comprehensive Plan pursuant to the Illinois Municipal Code, 65 ILCS 5/11-12-5, 11-12-6; and

**WHEREAS**, Gilberts and Algonquin previously entered into a boundary agreement dated January 21, 1997, which established agreed upon boundary lines to plan both for growth and for conservation of available resources in the area that lies between their existing corporate boundaries; and

**WHEREAS**, Gilberts and Algonquin recognize the continued desirability of establishing jurisdictional boundaries between their respective municipalities in order to

plan effectively and efficiently for the growth and potential development between their municipalities and the conservation of available resources for their respective residents; and

**WHEREAS**, Gilberts and Algonquin recognize that unincorporated land generally lying in the area between their present municipal boundaries is attractive for development activity, and has the potential to experience growth and development, and that there is the potential for problems pertaining to such issues as adequate open space, stormwater and flood control, ground water, ecological and environmental impacts, appearance, and inconsistent development; and

**WHEREAS**, Gilberts and Algonquin realize that growth and development activity will be accompanied by increased demands for municipal services, including, but not limited to transportation and road infrastructure, government and police powers, provision of utilities, furnishing of public safety and health services, and site plan and building review services; and

**WHEREAS**, Gilberts and Algonquin and their respective residents are vitally affected by such problems and demands, and any attempt to solve them and provide for the welfare and prosperity of the residents of Gilberts and Algonquin will be benefitted by mutual action and intergovernmental cooperation; and

**WHEREAS**, Gilberts and Algonquin realize the benefit of intergovernmental cooperation and the need to provide for logical corporate boundaries and areas of municipal authority between their respective municipalities; and

**WHEREAS**, each Party represents to the other that it has complied with the Illinois Municipal Code, 65 ILCS 5/11-12-9 and, not less than thirty (30) days and not more than one-hundred and twenty (120) days prior to formal approval of this Agreement, that it has provided public notice of this Agreement by (1) posting notice for not less than 15 consecutive days in the same location at which notices of Village Board meetings for Gilberts and Algonquin are posted, and (2) publishing notice on at least one occasion in a newspaper of general circulation within the territory that is subject to the Agreement; and

**WHEREAS**, Gilberts and Algonquin have authorized the execution of this Agreement as an exercise of their inter-governmental cooperation authority under the Illinois State Constitution of 1970 and in accordance with the Intergovernmental Cooperation Act and Illinois Municipal Code.

**NOW, THEREFORE**, in consideration of the mutual promises contained herein and the recitals hereinabove set forth, the sufficiency of which are hereby acknowledged, it is hereby mutually agreed by and between Gilberts and Algonquin as follows:

**SECTION ONE:** Pursuant to the authority contained in the Illinois Municipal Code, 65 ILCS 5/11-12-9, the jurisdictional boundary line which will mark the boundaries of

jurisdiction for Gilberts and Algonquin shall be as depicted on the "[NAME]" map, attached hereto as **Exhibit A** and made a part hereof by this reference.

**SECTION TWO:** Gilberts agrees not to annex, solicit the annexation of, enter into any agreement to annex, commence proceedings to annex, nor to entertain a petition to annex any territory which lays **north or east** of the jurisdictional boundary line depicted in Exhibit A.

**SECTION THREE:** Algonquin agrees not to annex, solicit the annexation of, enter into any agreement to annex, commence proceedings to annex, nor to entertain a petition to annex any territory which lays **south or west** of the jurisdictional boundary line depicted in Exhibit A.

**SECTION FOUR:** Neither Party shall object to the annexation, planning, or zoning of property within the jurisdictional boundary of the territory assigned to the other Party, provided however, with respect to any territory which is contiguous to the jurisdictional boundary of the other Party, each Party shall give the other Party thirty (30) days' written notice prior to:

- a) approval of any amendments to its Zoning Code;
- b) approval of any annexation agreement;
- c) approval of any amendment to its Comprehensive Plan;
- d) such other action which commits it to a land use within its jurisdictional boundary area which substantially deviates from its Comprehensive Plan.

Upon request of the Party so notified, that Party shall be given reasonable opportunity to review any such proposal and to be heard on any such proposal by the corporate authorities of the Party giving such notice, prior to any final action on the proposal.

**SECTION FIVE:** In the event that either Party is contacted by any person in connection with any matter involving the annexation of land which lies within the aforementioned jurisdictional territory of the other Party, the contacted Party shall immediately refer such person to the other Party.

**SECTION SIX:** Both Parties agree that neither will provide water, sewer or sewer treatment services, directly or indirectly, to any property within the jurisdictional boundary of the territory assigned to the other Party.

**SECTION SIX SEVEN:** The parties acknowledge and agree that, in the event of a breach by one Party of the covenants contained in Sections One through Five, above, each of which alone is a material element of this Agreement, the other shall be aggrieved and will suffer damages which are immediate, great, and irreparable, and for which no adequate remedy at law exists; and accordingly, in the event of such breach by one Party, the aggrieved Party shall have the right to seek an order from a court of competent jurisdiction, preliminarily and/or permanently restraining and/or enjoining the breaching



Party from any further breach of the covenant or covenants of this Agreement and curing such breach. This right to injunctive relief shall be in addition to, and not in lieu of, any and all other rights or remedies available to the aggrieved Party under applicable Illinois law.

**SECTION EIGHT:** It is mutually agreed that neither Gilberts nor Algonquin shall directly or indirectly seek any modification or rescission of this Agreement through court action and that this Agreement shall remain in full force and effect in accordance with Paragraph Nine herein or until amended or changed by the mutual agreement of both respective corporate authorities.

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**SECTION SEVEN NINE:** This Agreement shall inure to the benefit of and be binding upon the Parties and their respective successors and assigns for a term of twenty (20) years from and after the Effective Date.

**SECTION EIGHT TEN:** If any section, paragraph, subdivision, clause, sentence, or provision of this Agreement is determined by a court of competent jurisdiction to be void or invalid, such determination shall not affect, impair, invalidate, or nullify the remaining provisions of this Agreement, which shall remain in full force and effect.

**SECTION NINE ELEVEN:** Each Party shall adopt an ordinance approving the terms and provisions of this Agreement, and authorizing the Village President and Village Clerk to execute and deliver this Agreement. Upon execution, the Village Clerk of each Party shall forward to the Village Clerk of the other Party a certified copy of the ordinance so enacted, together with the Agreement, signed in duplicate original, so that each Party shall have one fully executed document on file. Upon approval by both Parties, a certified copy of this Agreement will be filed with the office of the Kane County Recorder of Deeds.

**IN WITNESS WHEREOF**, the Parties set their hands and seals on the date first above written in Kane County, Illinois.

**VILLAGE OF GILBERTS**

**VILLAGE OF ALGONQUIN**

By: \_\_\_\_\_  
Village President

By: \_\_\_\_\_  
Village President

ATTEST:

ATTEST:

By: \_\_\_\_\_  
Village Clerk

By: \_\_\_\_\_  
Village Clerk

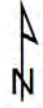
**EXHIBIT A**  
***Jurisdictional Boundary Line Map***



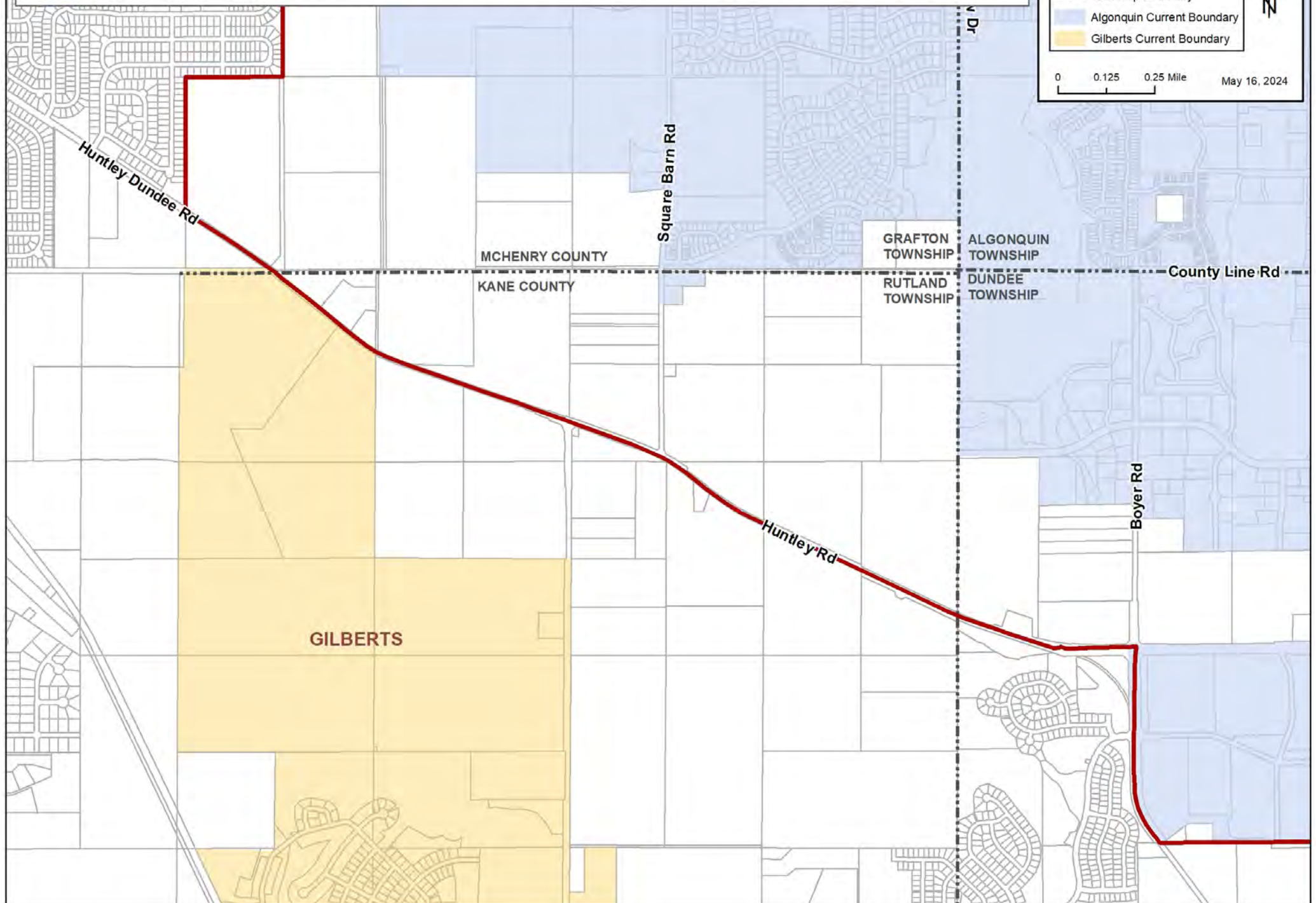
# Exhibit A - BOUNDARY AGREEMENTS between Village of Algonquin and Village of Gilberts

**Legend**

- Boundary Agreement
- - - Township Boundary
- Algonquin Current Boundary
- Gilberts Current Boundary



0 0.125 0.25 Mile May 16, 2024





VILLAGE OF ALGONQUIN  
MEMORANDUM

---

DATE: July 9, 2024

TO: Committee of the Whole

FROM: Michelle Weber

SUBJECT: Liquor Code Amendment

---

In accordance with an ordinance passed in 2013 limiting the number of allowable liquor licenses in all classes to the number of licenses issued at that time, the attached proposed ordinance amending the number of available Class F liquor license.

This change is the result of requests from:

- Keing Corporation (dba) Chicago Ramen Algonquin a restaurant located 1644 S. Randall Road, Algonquin has applied for a class F liquor license, which will allow patrons to consume beer and wine only on premise as well as purchase packaged beer and wine to go.

Staff recommends increasing the number of available Class A-1 by one to accommodate the request from Chicago Ramen Algonquin.

Attachment

ORDINANCE NO. 2024 - O - \_\_\_\_

**An Ordinance Amending Chapter 33, Liquor Control  
and Liquor Licensing, of the Algonquin Municipal Code**

WHEREAS, the Village of Algonquin, McHenry and Kane Counties, Illinois, is a home rule municipality as contemplated under Article VII, Section 6, of the Constitution of the State of Illinois, and the passage of this Ordinance constitutes an exercise of the Village’s home rule powers and functions as granted in the Constitution of the State of Illinois.

NOW, THEREFORE, BE IT ORDAINED by the President and Board of Trustees of the VILLAGE OF ALGONQUIN, McHenry and Kane Counties, Illinois, as follows:

SECTION 1: Section 33.07-B, Number of Licenses Issued, Paragraph 14, of the Algonquin Municipal Code shall be amended as follows:

14. Eleven Class F licenses at any one time.

SECTION 2: If any section, paragraph, subdivision, clause, sentence or provision of this Ordinance shall be adjudged by any Court of competent jurisdiction to be invalid, such judgment shall not affect, impair, invalidate or nullify the remainder thereof, which remainder shall remain and continue in full force and effect.

SECTION 3: All ordinances or parts of ordinances in conflict herewith are hereby repealed to the extent of such conflict.

SECTION 4: This Ordinance shall be in full force and effect August \_\_\_\_, 2024, approval and publication in pamphlet form (which publication is hereby authorized) as provided by law.

Voting Aye:

Voting Nay:

Abstain:

Absent:

APPROVED:

(SEAL)

\_\_\_\_\_  
Village President, Debby Sosine

ATTEST: \_\_\_\_\_  
Village Clerk, Fred Martin

Passed: \_\_\_\_\_

Approved: \_\_\_\_\_

Published: \_\_\_\_\_





**VILLAGE OF ALGONQUIN**  
*PUBLIC WORKS DEPARTMENT*

**– M E M O R A N D U M –**

DATE: July 16, 2024

TO: Tim Schloneger, Village Manager  
Committee of the Whole

FROM: Jake Benner, Engineer II

SUBJECT: Recommendation to Award the Bid for the Edgewood Drive Retaining Wall Replacement to Martam Construction

---

The Edgewood Drive Retaining Wall Replacement project aims to address the two distressed and failing retaining walls along the north side of Edgewood Drive to the west of IL Route 31. The work will consist of tree removal, removal of the existing wall, excavation for the new wall, installing the redi-rock retaining wall system, removal and replacement of concrete curb & gutter, placing an asphalt patch, and landscape restoration.

Upon completion of the design in late spring, the project was advertised for bid during June. Bids were opened on July 2<sup>nd</sup>, 2024, with five (5) bids received. Daybreaker, Inc. was the low bidder in the amount of \$426,155.19. The Village has not worked with Daybreakers, Inc. on previous projects. After a thorough review of Daybreaker's references and their past project history, Village staff is not confident in this contractor's ability to successfully complete the scope of this project. Due to no prior municipal experience, the scope of the project being larger than any of their projects completed in the past, and no experience with several aspects of the project (maintenance of traffic, asphalt, redi-rock, etc.), Village staff does not recommend Daybreaker, Inc. Additionally, Daybreaker did not have all their subcontractors lined up and they have never worked with their proposed traffic control subcontractor.

It is in the public interest and with the exercise of discretionary power without fraud, there is a reasonable basis to deny the low-cost proposal and go with the next lowest qualified contractor to complete the work. The second lowest bidder was Martam Construction at \$479,777.70, which falls below the engineer's estimate. There is sufficient funding for this project in the Street Improvement Fund. Martam has successfully completed several projects for the Village including retaining wall construction requiring advanced traffic control, so staff is confident in this contractor's ability to perform the work. To manage this project, the Village will utilize in-house construction observation.

Village staff recommends the Committee of the Whole take necessary action to move forward with the award of this project to the Village Board for approval in the amount of \$479,777.70 to Martam Construction.

**Summary**

1. The lowest bidder was Daybreaker, Inc., but this contractor has not provided sufficient references and work history of this scale to appear to be capable of successfully completing the scope of this project. The next low bidder, Martam Construction, is capable and has completed many similar projects for the Village.
2. Construction oversight will be performed by Village staff.
3. Sufficient funds are proposed within the Street Improvement Fund to cover the construction cost for this project.



**CHRISTOPHER B. BURKE ENGINEERING, LTD.**

9575 West Higgins Road Suite 600 Rosemont, Illinois 60018 TEL (847) 823-0500 FAX (847) 823-0520

July 3, 2024

Village of Algonquin  
110 Mitchard Way  
Algonquin, IL 60102

Attention: Clifton V. Ganek, P.E.

Subject: Edgewood Drive Retaining Wall Replacement  
(CBBEL Project No. 070273.00143)

Dear Mr. Ganek,

On Tuesday, July 2nd, 2024, at 10:00 a.m., bids were received and opened for the Edgewood Drive Retaining Wall Replacement project. The project includes the replacement of two modular block retaining walls on the north side of Edgewood Drive, west of Main Street (IL 31).

Five (5) bid proposals were received for this project. The bids have been reviewed and tabulated as summarized below.

<u>COMPANY</u>	<u>BID (AS READ)</u>	<u>BID BOND</u>
ENGINEER'S ESTIMATE	\$856,414.00	-
DAYBREAKER INC.	\$426,155.19	X
MARTAM CONSTRUCTION	\$479,777.70	X
COPEHAVER CONSTRUCTION, INC.	\$577,206.00	X
ALLIANCE CONTRACTORS INC.	\$632,768.40	X
MISFITS CONSTRUCTION COMPANY	\$1,187,830.00	X

Daybreaker Inc. is the low bidder with a bid amount of \$426,155.19, which was below our Engineer's Estimate. We have reviewed Daybreaker Inc's bid document in detail.

Daybreaker, Inc. has not performed any work for the Village in the past. Upon interviewing Daybreaker Inc., the company has primarily performed smaller scale construction work for residential and commercial clients, and does not have any past experience with general contracting for municipal work. Daybreaker Inc. also does not have any prior experience using Redi-Rock retaining walls, and has not demonstrated any past experience with traffic control operations or work or restoration on steep slope embankments as would be required as part of this project. Attached are phone logs from our reference checks and a summary of the virtual interview. Although it is not a contract requirement, Daybreaker, Inc. is not an IDOT prequalified firm.

Martam Construction is the second low bidder with a bid amount of \$479,777.70, which was also below our Engineer's Estimate. We have reviewed Martam Construction's bid documents in detail.

Martam Construction has performed many projects for the Village in the past and has completed satisfactory work for many other agencies and municipalities, including Kane County DOT, DuPage DOT, the City of St. Charles, the Village of Willowbrook, the Village of Oak Brook, IDOT, and the Illinois Tollway. Attached are phone logs from our review of project references. Martam Construction is an IDOT prequalified firm.

Our office recommends the Village award the contract to the lowest responsible bidder, as it deems appropriate and as stated in the contract documents.

Attached please find a copy of the bid tabulation for your review and files. If you have any further questions, please do not hesitate to contact me at (847) 823-0500.

Sincerely,



David J. Kleinwachter, P.E., CPESC, CFM  
Project Manager, Civil Engineering Design

cc: Orion Galey – CBBEL (letter only)  
Kevin Wilson – CBBEL (letter only)

Christopher B. Burke Engineering, Ltd.  
 9575 West Higgins Road, Suite 600  
 Rosemont, Illinois 60018  
 (CBBEL Project Number: 070273.00184)

LOCAL PUBLIC AGENCY: VILLAGE OF ALGONQUIN  
 COUNTY: MCHENRY  
 LETTING DATE: 07/2/24  
 PROJECT NAME: EDGEWOOD RETAINING WALL REPLACEMENT

**TABULATION OF BIDS**  
 Date: JULY 2, 2024

SP	CODE	PAY ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	ENGINEER'S ESTIMATE		DAYBREAKER INC.		MARTAM CONSTRUCTION		COPENHAVER CONSTRUCTION, INC.		ALLIANCE CONTRACTORS INC.		MISFITS CONSTRUCTION COMPANY	
					UNIT COST	TOTAL COST	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST
	20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	122	\$60.00	\$ 7,320.00	\$ 60.62	\$ 7,395.64	\$ 27.50	\$ 3,355.00	\$ 35.00	\$ 4,270.00	\$ 25.00	\$ 3,050.00	\$ 30.00	\$ 3,660.00
	20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	96	\$75.00	\$ 7,200.00	\$ 75.77	\$ 7,273.92	\$ 35.50	\$ 3,408.00	\$ 50.00	\$ 4,800.00	\$ 32.00	\$ 3,072.00	\$ 50.00	\$ 4,800.00
	20100500	TREE REMOVAL ACRES	ACRE	0.3	\$25,000.00	\$ 7,500.00	\$ 21,649.50	\$ 6,494.85	\$ 22,000.00	\$ 6,600.00	\$ 30,000.00	\$ 9,000.00	\$ 20,000.00	\$ 6,000.00	\$ 30,000.00	\$ 9,000.00
	20200100	EARTH EXCAVATION	CU YD	1020	\$42.00	\$ 42,840.00	\$ 43.15	\$ 44,013.00	\$ 27.50	\$ 28,050.00	\$ 33.00	\$ 33,660.00	\$ 5.00	\$ 5,100.00	\$ 95.00	\$ 96,900.00
	20400800	FURNISHED EXCAVATION	CU YD	700	\$35.00	\$ 24,500.00	\$ 3.52	\$ 2,464.00	\$ 0.01	\$ 7.00	\$ 10.00	\$ 7,000.00	\$ 5.00	\$ 3,500.00	\$ 50.00	\$ 35,000.00
	20700220	POROUS GRANULAR EMBANKMENT	CU YD	85	\$80.00	\$ 6,800.00	\$ 126.29	\$ 10,734.65	\$ 88.00	\$ 7,480.00	\$ 30.00	\$ 2,550.00	\$ 65.00	\$ 5,525.00	\$ 150.00	\$ 12,750.00
	21301084	EXPLORATION TRENCH 84" DEPTH	FOOT	40	\$150.00	\$ 6,000.00	\$ 17.61	\$ 704.40	\$ 80.00	\$ 3,200.00	\$ 10.00	\$ 400.00	\$ 1.00	\$ 40.00	\$ 50.00	\$ 2,000.00
*	*28000510	INLET FILTERS	EACH	3	\$300.00	\$ 900.00	\$ 144.76	\$ 434.28	\$ 405.00	\$ 1,215.00	\$ 170.00	\$ 510.00	\$ 25.00	\$ 75.00	\$ 300.00	\$ 900.00
	44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	540	\$18.00	\$ 9,720.00	\$ 18.75	\$ 10,125.00	\$ 6.50	\$ 3,510.00	\$ 8.00	\$ 4,320.00	\$ 15.00	\$ 8,100.00	\$ 3.00	\$ 1,620.00
*	44201771	CLASS D PATCHES, TYPE IV, 10 INCH	SQ YD	364	\$100.00	\$ 36,400.00	\$ 113.52	\$ 41,321.28	\$ 112.00	\$ 40,768.00	\$ 140.00	\$ 50,960.00	\$ 93.85	\$ 34,161.40	\$ 200.00	\$ 72,800.00
*	50200100	STRUCTURE EXCAVATION	CU YD	645	\$55.00	\$ 35,475.00	\$ 14.20	\$ 9,159.00	\$ 27.50	\$ 17,737.50	\$ 39.00	\$ 25,155.00	\$ 5.00	\$ 3,225.00	\$ 175.00	\$ 112,875.00
	50200450	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL FOR STRUCTURES	CU YD	85	\$60.00	\$ 5,100.00	\$ 36.00	\$ 3,060.00	\$ 24.00	\$ 2,040.00	\$ 33.00	\$ 2,805.00	\$ 5.00	\$ 425.00	\$ 150.00	\$ 12,750.00
	*52200700	PRECAST MODULAR RETAINING WALL	SQ FT	2616	\$155.00	\$ 405,480.00	\$ 58.53	\$ 153,114.48	\$ 65.00	\$ 170,040.00	\$ 69.00	\$ 180,504.00	\$ 155.75	\$ 407,442.00	\$ 215.00	\$ 562,440.00
*	60146304	PIPE UNDERDRAIN FOR STRUCTURES, 4 INCH	FOOT	430	\$30.00	\$ 12,900.00	\$ 9.64	\$ 4,145.20	\$ 22.50	\$ 9,675.00	\$ 15.00	\$ 6,450.00	\$ 10.00	\$ 4,300.00	\$ 10.00	\$ 4,300.00
*	60260100	INLET TO BE ADJUSTED	EACH	2	\$600.00	\$ 1,200.00	\$ 1,044.69	\$ 2,089.38	\$ 1,250.00	\$ 2,500.00	\$ 500.00	\$ 1,000.00	\$ 500.00	\$ 1,000.00	\$ 1,500.00	\$ 3,000.00
*	*60603800	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 (SPECIAL)	FOOT	540	\$35.00	\$ 18,900.00	\$ 41.24	\$ 22,269.60	\$ 30.00	\$ 16,200.00	\$ 33.00	\$ 17,820.00	\$ 49.15	\$ 26,541.00	\$ 85.00	\$ 45,900.00
*	67100100	MOBILIZATION	L SUM	1	\$45,000.00	\$ 45,000.00	\$ 17,938.18	\$ 17,938.18	\$ 28,000.00	\$ 28,000.00	\$ 38,000.00	\$ 38,000.00	\$ 12,800.00	\$ 12,800.00	\$ 96,500.00	\$ 96,500.00
*	72400205	REMOVE AND RELOCATE SIGN PANEL ASSEMBLY - TYPE A	EACH	2	\$750.00	\$ 1,500.00	\$ 270.62	\$ 541.24	\$ 330.00	\$ 660.00	\$ 500.00	\$ 1,000.00	\$ 300.00	\$ 600.00	\$ 500.00	\$ 1,000.00
*	*X5220102	WALL REMOVAL	FOOT	305	\$80.00	\$ 24,400.00	\$ 15.26	\$ 4,654.30	\$ 62.50	\$ 19,062.50	\$ 140.00	\$ 42,700.00	\$ 25.00	\$ 7,625.00	\$ 45.00	\$ 13,725.00
	*X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	\$35,000.00	\$ 35,000.00	\$ 10,608.25	\$ 10,608.25	\$ 23,100.00	\$ 23,100.00	\$ 47,000.00	\$ 47,000.00	\$ 8,425.00	\$ 8,425.00	\$ 9,500.00	\$ 9,500.00
	*X7010237	CHANGEABLE MESSAGE SIGN, SPECIAL	CAL DAY	56	\$55.00	\$ 3,080.00	\$ 41.24	\$ 2,309.44	\$ 44.00	\$ 2,464.00	\$ 45.00	\$ 2,520.00	\$ 40.00	\$ 2,240.00	\$ 100.00	\$ 5,600.00
	*X8950114	MODIFY EXISTING CONTROLLER AND CABINET	EACH	1	\$2,000.00	\$ 2,000.00	\$ 798.97	\$ 798.97	\$ 4,500.00	\$ 4,500.00	\$ 1.00	\$ 1.00	\$ 21,500.00	\$ 21,500.00	\$ 1,500.00	\$ 1,500.00
	*Z0012798	CONSTRUCTION LAYOUT	L SUM	1	\$5,000.00	\$ 5,000.00	\$ 1,749.60	\$ 1,749.60	\$ 7,150.00	\$ 7,150.00	\$ 16,000.00	\$ 16,000.00	\$ 4,100.00	\$ 4,100.00	\$ 9,500.00	\$ 9,500.00
	*Z0073510	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1	\$1,500.00	\$ 1,500.00	\$ 1,546.39	\$ 1,546.39	\$ 1,650.00	\$ 1,650.00	\$ 1,100.00	\$ 1,100.00	\$ 850.00	\$ 850.00	\$ 1,500.00	\$ 1,500.00
*	*NA	LANDSCAPE RESTORATION (DRY-MESIC OAK WOODLAND SEED MIXTURE)	SQ YD	1471	\$37.00	\$ 54,427.00	\$ 15.28	\$ 22,476.88	\$ 14.00	\$ 20,594.00	\$ 5.00	\$ 7,355.00	\$ 10.00	\$ 14,710.00	\$ 10.00	\$ 14,710.00
*	*NA	LANDSCAPE RESTORATION (ROADSIDE)	SQ YD	138	\$37.00	\$ 5,106.00	\$ 7.62	\$ 1,051.56	\$ 12.25	\$ 1,690.50	\$ 15.00	\$ 2,070.00	\$ 9.00	\$ 1,242.00	\$ 10.00	\$ 1,380.00
*	*NA	SILTATION FENCE	FOOT	594	\$5.00	\$ 2,970.00	\$ 8.07	\$ 4,793.58	\$ 6.80	\$ 4,039.20	\$ 4.00	\$ 2,376.00	\$ 1.00	\$ 594.00	\$ 10.00	\$ 5,940.00
	*NA	STRAW WATTLES	FOOT	1228	\$7.00	\$ 8,596.00	\$ 3.29	\$ 4,040.12	\$ 6.50	\$ 7,982.00	\$ 10.00	\$ 12,280.00	\$ 4.50	\$ 5,526.00	\$ 10.00	\$ 12,280.00
	*NA	WALL STAIN AND ANTI-GRAFFITI COATING	SQ FT	2800	\$7.00	\$ 19,600.00	\$ 3.16	\$ 8,848.00	\$ 8.25	\$ 23,100.00	\$ 12.00	\$ 33,600.00	\$ 7.50	\$ 21,000.00	\$ 5.00	\$ 14,000.00
	*NA	ITEMS ORDERED BY ENGINEER	DOLLAR	20000	\$1.00	\$ 20,000.00	\$ 1.00	\$ 20,000.00	\$ 1.00	\$ 20,000.00	\$ 1.00	\$ 20,000.00	\$ 1.00	\$ 20,000.00	\$ 1.00	\$ 20,000.00
					AS CALCULATED:	\$ 856,414.00	\$ 426,155.19	\$ 479,777.70	\$ 479,777.70	\$ 577,206.00	\$ 577,206.00	\$ 632,768.40	\$ 632,768.40	\$ 1,187,830.00	\$ 1,187,830.00	\$ 1,187,830.00
					AS READ:	\$ 856,414.00	\$ 426,127.76	\$ 479,777.70	\$ 479,777.70	\$ 577,206.00	\$ 577,206.00	\$ 632,768.40	\$ 632,768.40	\$ 1,187,830.00	\$ 1,187,830.00	\$ 1,187,830.00
					DIFFERENCE:	\$ -	\$ (27.43)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
					% OVER/UNDER	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	

\*INDICATES SPECIAL PROVISION

INDICATES CALCULATED DEVIATION FROM AS READ TOTAL BASED ON UNIT PRICES SUBMITTED





# Village of Algonquin

The Gem of the Fox River Valley

## CONTRACT

### EDGEWOOD RETAINING WALL PROJECT

## SIGNATURE FORM

This AGREEMENT is made and entered into this 16<sup>th</sup> day of July, 2024, by and between the Village of Algonquin, 2200 Harnish Drive, Algonquin, IL, 60102 (VILLAGE) and Martam Construction, Inc., 1200 Gasket Drive, Elgin, IL 60120.

### WITNESSETH

Whereas, the VILLAGE has prepared certain plans and specifications dated June 13, 2024 for the Edgewood Retaining Wall Project- under the terms and conditions fully stated and set forth, and;

Whereas, said plans, specifications, and BID fully describe the terms and conditions upon which the CONTRACTOR offers to perform and furnish all labor, materials, insurance, bonds, and equipment, to complete the work specified:

NOW, THEREFORE, IT IS AGREED:

1. VILLAGE hereby accepts the BID of the CONTRACTOR for the work in the sum of \$479,777.70 (FOUR HUNDRED SEVENTY-NINE THOUSAND SEVEN HUNDRED SEVENTY-SEVEN DOLLARS AND SEVENTY CENTS)
2. CONTRACTOR agrees to complete **ALL** work within/by **August 12, 2024- October 31, 2024**.
3. This Contract consists of the following component parts which are made a part of this agreement and Contract as fully and absolutely as if they were set out in detail in the Contract:
  - a. Edgewood Retaining Wall Project plans prepared by the VILLAGE, prepared by Christopher B. Burke Engineering, Ltd., dated June 13 2024.
  - b. The State of Illinois Standard Specifications for Road and Bridge Construction, adopted January 1, 2022, the Supplemental Specifications and applicable Special Provisions effective on the date of the BID and the Standard Specifications for Sewer and Watermain Construction in Illinois, June 2014 as well as the Village of Algonquin Standard Specifications & Details Guide for Public Improvements, June 25, 2022, except as modified by these documents
  - c. All Bidding Documents
4. Two (2) copies of this Contract shall be fully executed by all of the parties hereto.

Continued on next page.



# Village of Algonquin

The Gem of the Fox River Valley

## CONTRACT

In Witness Whereof, the following parties have signed this Contract effective on the date first written above.

VILLAGE OF ALGONQUIN:

CONTRACTOR:

By: \_\_\_\_\_  
Debby Sosine, Village President

By: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

ATTEST:

ATTEST:

By: \_\_\_\_\_  
Fred Martin, Village Clerk

By: \_\_\_\_\_  
(Company Official)

(SEAL)

(NOTARY)



# Village of Algonquin

The Gem of the Fox River Valley

## CONTRACT

### EDGEWOOD RETAINING WALL PROJECT **INSURANCE CERTIFICATE**

ATTACH CERTIFICATE(S)  
&  
ANY REQUIRED ENDORSEMENT(S)



# Village of Algonquin

The Gem of the Fox River Valley

## CONTRACT

**Edgewood Retaining Wall Project**

**BOND No.**

---

## **PAYMENT & PERFORMANCE BOND**

Know all men and women by these presents that  
Martam Construction, Inc.  
1200 Gasket Drive  
Elgin, Illinois 60120

as Principal, hereinafter called the CONTRACTOR, and

as Surety, hereinafter called the SURETY, are held and firmly bound unto the  
Village of Algonquin  
2200 Harnish Drive  
Algonquin, IL 60102

as Obligee, hereinafter called the VILLAGE, in the amount of  
\$479,777.70 (FOUR HUNDRED SEVENTY-NINE THOUSAND SEVEN HUNDRED SEVENTY-SEVEN  
DOLLARS AND SEVENTY CENTS)  
that represents 100% of the Contract Price for the payment whereof CONTRACTOR & SURETY bind  
themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these  
presents.

Whereas, the CONTRACTOR has by written agreement dated (July 16, 2024) entered into a contract with the  
VILLAGE for the project known as for Edgewood Retaining Wall Project in accordance with drawings, and  
specifications prepared by the VILLAGE, which Contract is by reference made a part hereof, and is hereinafter  
referred to as the CONTRACT.

Now, therefore, the conditions of this obligation are such that if the CONTRACTOR shall promptly and  
faithfully perform said CONTRACT, then the obligation of this bond shall be null and void; otherwise, it shall  
remain in full force and effect.

- A. The SURETY hereby waives notice of any alteration of extension of time made by the VILLAGE
- B. Whenever CONTRACTOR shall be and is declared by the VILLAGE to be in default under the  
CONTRACT, the VILLAGE having performed VILLAGE's obligations there under, the SURETY may  
promptly remedy the default, or shall promptly:



# Village of Algonquin

The Gem of the Fox River Valley

## CONTRACT

1. Complete the CONTRACT in accordance with its terms and conditions, or
2. Obtain a bid or bids for submission to VILLAGE for completing the CONTRACT in accordance with its terms and conditions, and upon determination by VILLAGE and SURETY of the lowest responsible bidder, arrange for a contract between such bidder and VILLAGE, and make available as work progresses (even though there should be a default or a succession of defaults under the CONTRACT or CONTRACTS of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the CONTRACT price. The term “balance of the CONTRACT price”, as used in this paragraph shall mean the total amount payable by VILLAGE to CONTRACTOR. It is the intention of this undertaking that the total cost and expenditure by VILLAGE shall not exceed the CONTRACT price.

C. No right of action shall accrue to or for the use of any person or corporation other than the VILLAGE named herein or the heirs, executors, administrators or successors of the VILLAGE

It is a further condition of this obligation that the CONTRACTOR and SURETY shall pay to all person, firms, or corporations having contracts directly with the CONTRACTOR or with subcontractors, all just claims due them for labor performed or materials furnished in the performance of the CONTRACT on account of which this bond is given

Signed and Sealed this \_\_\_\_\_ day of \_\_\_\_\_, 2024, A.D.

In the Presence of:

\_\_\_\_\_  
Witness (Print)

\_\_\_\_\_  
Principal (Signature)

\_\_\_\_\_  
Witness (Signature)

\_\_\_\_\_  
Title

\_\_\_\_\_  
Surety (Signature)

\_\_\_\_\_  
Surety (Print)

\_\_\_\_\_  
Title





**VILLAGE OF ALGONQUIN**  
*PUBLIC WORKS DEPARTMENT*

**– M E M O R A N D U M –**

DATE: July 9, 2024

TO: Nadim Badran, Public Works Director  
Tim Schloneger, Village Manager

FROM: Michele Zimmerman, Assistant public Works Director

SUBJECT: Kane County 2024 Natural Hazard Mitigation Plan Adoption

---

Attached please find 2024 Kane County Natural Hazard Mitigation Plan which was adopted by the Kane County Board on June 11, 2024. FEMA requires that this plan be developed in order to receive different types of non-emergency disaster assistance funds.

In order to promote cooperation and joint planning efforts for natural hazards, the County coordinates and writes the plan, with local entities engaging in the planning process. Once completed, the Village must officially adopt the plan to be eligible for funding opportunities that will help reduce or eliminate the long-term risk to human life and property from natural disasters.

The Village of Algonquin participated in the McHenry County Natural Hazard Mitigation Plan, and has adopted that plan. However, we must adopt a plan for all the counties that are within the Village limits.

Therefore, we recommend the Committee of the Whole take action to approve the 2024 Kane County Hazard Mitigation Plan and move this matter to the Village Board to officially adopt the plan.



# Kane County, Illinois



## Natural Hazard Mitigation Plan

# 2024

**Natural Hazard Mitigation Plan  
Kane County, Illinois**

**March 2024**

**Prepared for:**

**Kane County Department of Environmental & Water Resources & Kane County Office of  
Emergency Management**



FEMA

April 1, 2024

Zachary Krug  
Hazard Mitigation Section Manager  
Illinois Emergency Management Agency  
1035 Outer Park Drive  
Springfield, IL 62704

Dear Mr. Krug,

Thank you for submitting the Kane County Natural Hazard Mitigation Plan update for our review. The plan was reviewed based on the local plan criteria contained in 44 CFR Part 201, as authorized by the Disaster Mitigation Act of 2000. The Kane County Natural Hazard Mitigation Plan met the required criteria for a multi-jurisdiction hazard mitigation plan. Formal approval of this plan is contingent upon the adoption by the participating jurisdictions of this plan. Once FEMA Region 5 receives documentation of adoption from the participating jurisdictions, we will send a letter of official approval to your office.

An approved local mitigation plan, including adoption by the local government, is one of the conditions for applying for and/or receiving FEMA mitigation grants from the following programs:

- Hazard Mitigation Grant Program (HMGP)
- HMGP Post-Fire
- Building Resilient Infrastructure and Communities
- Flood Mitigation Assistance

Please note that participating jurisdictions that adopt the plan more than one year after APA status has been issued must either:

- Validate that their information in the plan remains current with respect to both the risk assessment (no recent hazard events, no changes in development) and their mitigation strategy (no changes necessary); or
- Make the necessary updates before submitting the adoption resolution to FEMA.

We look forward to receiving the adoption resolution(s) and discussing options for implementing this mitigation plan. If there are any questions from either you or the communities, please contact Maria Freeman at (202) 793-0810 or email at [maria.freeman@fema.dhs.gov](mailto:maria.freeman@fema.dhs.gov).

Sincerely,

JOHN A  
WETHINGTON

Digitally signed by  
JOHN A WETHINGTON  
Date: 2024.04.01  
19:05:15 -05'00'

John Wethington  
Chief, Risk Analysis Branch  
Mitigation Division

**Table of Contents**

**Chapter 1: Introduction ..... 15**

    1.1 Purpose ..... 16

    1.2 Hazard Mitigation and Hazards..... 16

        1.2.1 Hazard Mitigation ..... 16

        1.2.1 Hazards ..... 17

    References ..... 17

**Chapter 2: Plan Process ..... 18**

    2.1 Defining the Planning Area..... 19

    2.2 Plan Participation ..... 19

        2.2.1 Core Planning Team..... 19

        2.2.2 Steering Committee ..... 20

        2.2.3 Local Jurisdiction Participation..... 20

        2.2.4 Annual Reports..... 21

        2.3.5 Mitigation Workshop..... 22

        2.3.6 Other Stakeholders and Organizations ..... 22

        2.3.7 Neighboring Jurisdictions ..... 22

    2.4 Public Involvement and Participation ..... 23

        2.4.1 Community Preparedness and Mitigation Survey..... 23

        2.4.2 Public Forum & Outreach..... 23

        2.4.3 Kane County Website and Communitywide Newsletter ..... 23

        2.4.4 Public Plan Review and Feedback on Draft of the Plan ..... 24

        2.4.5 How Public Input was Incorporated into the Plan ..... 26

    2.5 Equity Considerations for Underserved Communities and Socially Vulnerable Populations ..... 26

    2.6 Existing Plans, Studies, and Reports..... 28

    References ..... 28

**Chapter 3: Community Profile ..... 29**

    3.1 Historical Overview ..... 29

    3.2 General Land Use ..... 29

    3.3 Cities, Towns, and Unincorporated Areas ..... 30

    3.4 Climate ..... 30

    3.5 Geology, Watersheds, and Topography ..... 31

    3.6 Land Use ..... 32

    3.7 Housing Trends ..... 34

    3.8 Transportation Network..... 34

    3.9 Population and Demographic Characteristics..... 37

    3.10 Economic Characteristics ..... 40

    3.11 FEMA Community Risk Index..... 41



3.12 FEMA Community Resilience Rating .....	42
3.13 Social Vulnerability and Underserved Populations .....	42
3.14 Community Services / Organizations .....	46
3.15 Critical Assets .....	46
References .....	52
<b>Chapter 4: Risk Assessment.....</b>	<b>53</b>
4.1 Historical Overview .....	53
4.1.1 Presidential Disaster (DR) and Emergency Declarations (EM) in Kane County .....	53
4.2 Risk Assessment Methodology .....	55
4.2.1 Probability of Occurrence.....	55
4.2.2 Extent .....	55
4.2.3 Vulnerability .....	56
4.2.4 Impact.....	56
4.3 FEMA NRI Risk Scores .....	59
4.3.1 FEMA National Risk Index Score .....	59
4.3.2 Social Vulnerability .....	60
4.3.3 Community Resilience .....	60
4.3.4 Community Resilience Challenges Index (CCRI) Percentile .....	61
4.3.5 Expected Annual Loss.....	61
4.4 Overall Risk Scores.....	61
4.4.1 Kane County Overall Risk Scores.....	62
4.5 Drought.....	64
4.5.1 Hazard Description.....	64
4.5.2 Hazard Location .....	64
4.5.3 Hazard Extent/Intensity .....	64
4.5.4 Probability and Frequency .....	66
4.5.5 Past Events .....	67
4.5.6 Vulnerability and Impacts .....	68
4.5.7 FEMA NRI Expected Annual Loss Estimates.....	71
4.5.8 FEMA Hazard-Specific Risk Index Table .....	71
4.6 Earthquakes .....	72
4.6.1 Hazard Description.....	72
4.6.2 Hazard Location .....	73
4.6.3 Hazard Extent/Intensity .....	73
4.6.4 Probability and Frequency .....	75
4.6.5 Past Events .....	77
4.6.6 Vulnerability and Impacts .....	79
4.6.7 FEMA NRI Expected Annual Loss Estimates.....	80
4.6.8 FEMA Hazard-Specific Risk Index Table .....	81
4.7 Extreme Heat .....	82
4.7.1 Hazard Description.....	82
4.7.2 Hazard Location .....	82
4.7.3 Hazard Extent/Intensity .....	82
4.7.4 Probability and Frequency .....	83
4.7.5 Past Events .....	83
4.7.6 Vulnerability and Impacts .....	84

4.7.7 FEMA NRI Expected Annual Loss Estimates..... 89

4.7.8 FEMA Hazard-Specific Risk Index Table ..... 89

4.8 Ground Failure ..... 90

    4.8.1 Hazard Description..... 90

    4.8.2 Hazard Location ..... 92

    4.8.3 Hazard Extent/Intensity ..... 92

    4.8.4 Probability and Frequency ..... 92

    4.8.5 Past Events ..... 92

    4.8.6 Vulnerability and Impacts ..... 93

4.9 Flooding ..... 94

    4.9.1 Hazard Description..... 94

    4.9.2 Hazard Location ..... 95

    4.9.3 Hazard Extent/Intensity ..... 102

    4.9.4 Probability and Frequency ..... 102

    4.9.5 Past Events ..... 103

    4.9.6 Vulnerability and Impacts ..... 105

    4.9.7 Property Damage and Critical Infrastructure..... 110

    4.9.8 FEMA NRI Expected Annual Loss Estimates..... 119

    4.9.9 FEMA Hazard-Specific Risk Index Table ..... 119

4.10 High Hazard Dams ..... 120

    4.10.1 Hazard Description..... 120

    4.10.2 Hazard Location ..... 122

    4.10.3 Hazard Extent/Intensity ..... 138

    4.10.4 Probability and Frequency ..... 139

    4.10.5 Past Events ..... 139

    4.10.6 Vulnerability and Impacts ..... 139

    4.10.7 FEMA NRI Expected Annual Loss Estimates and Hazard-Specific Risk..... 144

4.11 Severe Summer Storms ..... 145

    4.11.1 Hazard Description..... 145

    4.11.2 Hazard Location ..... 146

    4.11.3 Hazard Extent/Intensity ..... 146

    4.11.4 Hailstorms..... 146

    4.11.5 Probability and Frequency..... 150

    4.11.6 Past Events ..... 154

    4.11.7 Vulnerability and Impacts ..... 164

    4.11.8 FEMA NRI Expected Annual Loss Estimates..... 167

    4.11.9 FEMA Hazard Specific Risk Index..... 168

4.12 Severe Winter Storms ..... 169

    4.12.1 Hazard Description..... 169

    4.12.2 Hazard Location ..... 169

    4.12.3 Hazard Extent/Intensity ..... 169

    4.12.4 Probability and Frequency ..... 171

    4.12.5 Past Events ..... 173

    4.12.6 Vulnerability and Impacts ..... 175

    4.12.7 FEMA NRI Expected Annual Loss Estimates..... 178

    4.12.8 FEMA Hazard-Specific Risk Index Table ..... 179

4.13 Tornado ..... 180

    4.13.1 Hazard Description..... 180

    4.13.2 Hazard Location ..... 180

4.13.3 Hazard Extent/Intensity .....	180
4.13.4 Probability and Frequency .....	181
4.13.5 Past Events .....	181
4.13.6 Vulnerability and Impacts .....	183
4.13.7 FEMA NRI Expected Annual Loss Estimates.....	191
4.13.8 FEMA Hazard-Specific Risk Index Table .....	191
References .....	192
<b>Chapter 5: Capabilities and Integration of Mitigation Measures.....</b>	<b>195</b>
5.1 Preventative Measures .....	195
5.1.1 Building Codes .....	195
5.1.2 Code Administration .....	196
5.1.3 Planning and Zoning .....	197
5.1.4 Manufactured Homes.....	208
5.1.5 Subdivision Regulations.....	209
5.1.6 Open Space Preservation.....	210
5.1.7 Stormwater Management.....	212
5.1.8 Development in the Floodplain .....	216
5.2 Property Protection .....	217
5.2.1 Barriers, Elevation, Relocation, and Acquisition .....	217
5.2.2 Repetitive Loss Properties and Analysis .....	218
5.3 Natural Resource Protection.....	223
5.3.1 Wetland Protection.....	223
5.3.2 Erosion and Sedimentation Control .....	224
5.3.3 River Restoration .....	225
5.4 Structural Projects.....	226
5.4.1 CRS Criteria .....	227
5.4.2 Reservoirs and Detention.....	230
5.4.3 Levees and Floodwalls.....	232
5.4.4 Channel Improvements .....	233
5.4.5 Crossings and Roadways .....	234
5.4.6 Drainage and Storm Sewer Improvements.....	237
5.4.7 Drainage System Maintenance.....	237
5.5 Emergency Services .....	238
5.5.1 Public Information and Warning Capabilities .....	239
5.5.2 StormReady Program .....	240
5.5.3 Response Capabilities .....	241
5.6 Public Outreach.....	242
<b>Chapter 6: Mitigation Goals and Changes in Priority.....</b>	<b>243</b>
6.1 Community Priorities .....	243
6.2 Goals .....	243
6.2.1 Hazard Mitigation Goals.....	243
6.2.2 Kane County Mission & Vision and Plan Integration .....	244
6.3 Changes in Priority .....	245
<b>Chapter 7: Mitigation Strategies and Actions .....</b>	<b>247</b>
7.1 Mitigation Action Plan.....	247

7.1.1 Mitigation Strategy/Action Timeline Parameters ..... 247

7.1.2 Mitigation Strategy/Action Benefit Analysis Parameters ..... 248

7.1.3 Mitigation Strategy/Action Estimated Cost Parameters ..... 248

7.1.4 Mitigation Strategy/Action Prioritization Process and Priority & Level of Importance ..... 248

7.2 Mitigation Projects ..... 252

**Chapter 8: Plan Maintenance ..... 253**

8.1 Formal Review Process ..... 253

8.2 Continued Public Involvement..... 254

8.3 Monitoring, Evaluation, and Updating the Plan..... 255

8.3.1 The Five-Year Action Plan..... 256

8.4 Annual Natural Hazard Mitigation Steering Committee Planning Meetings..... 258

8.4.1 Plan Evaluation ..... 258

8.4.2 Review of Mitigation Actions ..... 258

8.4.3 Meeting Documentation ..... 258

8.5 Implementation through Existing Programs ..... 258

References ..... 259

**Appendix A: Stakeholder Participation and Documentation ..... 260**

A.1 Local representatives, participation activities, and planning documents to facilitate the planning process..... 260

A.1.1 Plan Participants and Representatives..... 260

A.1.2 Stakeholders ..... 263

A.1.3 Mitigation Workshops ..... 264

A.1.4 Mitigation Webinar Participation ..... 277

A.1.5 Mitigation Participation Crosswalk ..... 278

**Appendix B: Public Involvement Activities and Documentation ..... 279**

B.1 Survey Outreach..... 279

B.2 Public Outreach Activities ..... 281

**Appendix C: Hazard Mitigation Questionnaire..... 299**

**Appendix D: Disadvantaged Communities ..... 360**

**List of Tables**

Table 2-1. Core Planning Team ..... 19

Table 2-2. Steering Committee ..... 20

Table 2-3. Participating Jurisdictions ..... 21

Table 2-4. Jurisdictions NOT Participating..... 21

Table 2-5. Neighboring Jurisdictions..... 22

Table 3-1. Housing Trends: Kane County Housing Data (2023)..... 34

Table 3-2. Kane County Population and Demographic Characteristics (2023) ..... 39

Table 3-3. IDPH Population Projections for Illinois (2010-2030)..... 40

Table 3-4. FEMA National Risk Index: Risk Components & Factors ..... 41

Table 3-5. Kane County Neighborhoods At-Risk Table ..... 43

Table 3-6. Kane County Disadvantaged Census Tracts ..... 44

Table 4-1. Federal Disaster Declarations for Kane County..... 54

Table 4-2. State Declarations for Kane County..... 54

Table 4-3. Overall FEMA NRI Score ..... 59

Table 4-4. Social Vulnerability FEMA NRI Score ..... 60

Table 4-5. Community Resilience FEMA NRI Score ..... 60

Table 4-6. FEMA Community Resilience Challenges Index (CRCI) Percentile ..... 61

Table 4-7. Expected Annual Loss FEMA NRI Score (All Natural Hazards) ..... 61

Table 4-8. 2024 Hazard Risk Scores for Kane County ..... 62

Table 4-9. Hazard Risk Scores Legend ..... 63

Table 4-10. Drought Activity in Kane County, IL (2012-2022) ..... 68

Table 4-11. Drought Indemnities Paid in Kane County, IL (1995-2020)..... 69

Table 4-12. 25-Year Climate Projections for Kane County..... 69

Table 4-13. Future Climate Indicators for Kane County ..... 70

Table 4-14. Kane County Expected Annual Loss Table ..... 71

Table 4-15. Kane County Hazard Specific Risk Index Table..... 71

Table 4-16. Earthquake Events in Northern Illinois (2013-2023) ..... 78

Table 4-17. Kane County Expected Annual Loss Table ..... 80

Table 4-18. Kane County Hazard Specific Risk Index Table..... 81

Table 4-19. Extreme Heat Events in Northern IL (1995-2017)..... 84

Table 4-20. Extreme Heat Activity in Kane County, Illinois (2017-2022)..... 84

Table 4-21. Heat-related Indemnities Paid in Kane County, IL (1995-2020)..... 87

Table 4-22. 25-Year Climate Projections for Kane County..... 87

Table 4-23. Future Climate Indicators for Kane County ..... 88

Table 4-24. Kane County Expected Annual Loss Table ..... 89

Table 4-25. Kane County Hazard Specific Risk Index Table..... 89

Table 4-26. Kane County Recorded Flood Events (2013-2023)..... 103

Table 4-27. Kane County Recorded Flash Flood Event (2013-2023)..... 104

Table 4-28. HAZUS 100-year Expected Building Damage by Occupancy ..... 110

Table 4-29. HAZUS 100-year Expected Damage to Essential Facilities ..... 110

Table 4-30. HAZUS 100-year Building-Related Economic Loss Estimates ..... 110

Table 4-31. NFIP Policies In-Force ..... 112

Table 4-32. Repetitive loss properties in Kane County ..... 114

Table 4-33. 25-Year Precipitation Projections for Kane County ..... 117

Table 4-34. Future Climate Indicators for Kane County ..... 118

Table 4-35. Kane County Expected Annual Loss Table ..... 119

Table 4-36. Kane County Hazard Specific Risk Index Table..... 119

Table 4-37. List of (High and Significant Risk) Dams within Kane County ..... 122

Table 4-38. 25-Year Precipitation Projections for Kane County ..... 143

Table 4-39. Future Climate Indicators for Kane County ..... 143

Table 4-40. National Weather Service Hail Descriptions .....	145
Table 4-41. Beaufort Wind Scale .....	150
Table 4-42. Hailstorm Events in Kane County, Illinois (2012-2022) .....	155
Table 4-43. Lightning Events in Kane County, Illinois (2012-2022) .....	156
Table 4-44. Microburst/High Winds Events in Kane County, Illinois (2012-2022) .....	157
Table 4-45. Thunderstorm Wind Events in Kane County, Illinois (2012-2022) .....	159
Table 4-46. Severe Summer Storms Indemnities Paid in Kane County, IL (1995-2020) .....	165
Table 4-47. 25-Year Precipitation Projections for Kane County .....	166
Table 4-48. Future Climate Indicators for Kane County .....	166
Table 4-49. Kane County Expected Annual Loss Table .....	167
Table 4-50. Kane County Hazard Specific Risk Index Table .....	168
Table 4-51. Extreme Cold Events in Kane County, Illinois (2012-2022) .....	173
Table 4-52. Ice Storm Events in Kane County, Illinois (2012-2022) .....	174
Table 4-53. Winter Storm Events in Kane County, Illinois (2012-2022) .....	174
Table 4-54. Severe Winter Storm Exposure and Loss Estimate for Kane County .....	176
Table 4-55. Severe Winter Storm Indemnities Paid in Kane County, IL (1995-2020) .....	176
Table 4-56. 25-Year Climate Projections for Kane County .....	177
Table 4-57. Future Climate Indicators for Kane County .....	177
Table 4-58. Kane County Expected Annual Loss Table .....	178
Table 4-59. Kane County Hazard Specific Risk Index Table .....	179
Table 4-60. Enhanced Fujita Scale and Associated Damage .....	180
Table 4-61. Tornado Activity in Kane County, Illinois (1950-2023) .....	182
Table 4-62. 25-Year Climate Projections for Kane County .....	190
Table 4-63. Kane County Expected Annual Loss Table .....	191
Table 4-64. Kane County Hazard Specific Risk Index Table .....	191
Table 5-1. Building Codes Used in Kane County .....	196
Table 5-2. Kane County Planning and Land Use Ordinances .....	206
Table 5-3. Kane Countywide Stormwater and Flood Plain Ordinance Waiver Status .....	213
Table 5-4. Communities Participating in the National Flood Insurance Program in Kane County .....	216
Table 5-5. Kane County Repetitive Loss Properties .....	218



**List of Figures**

Figure 2-1 Kane County Mitigation Web page ..... 24

Figure 2-2 Kane County Mitigation Web page and Draft Plan ..... 25

Figure 3-1. Map of Illinois ..... 29

Figure 3-2. Climate - Kane County Average Temperature (May 2017-April 2022) ..... 31

Figure 3-3. Land Use: Kane County Land Use ..... 33

Figure 3-4. Transportation Network: Kane County Highway Map ..... 36

Figure 3-5: Kane County Total Population By Census Tract ..... 37

Figure 3-6: Kane County 2020 Census Tract Boundaries ..... 38

Figure 3-7: Kane County Employment by Sector Type ..... 41

Figure 3-8: Kane County Community Resilience Index Story Map ..... 45

Figure 3-9: Kane County Hazardous Materials Sites ..... 48

Figure 3-10: Critical Infrastructure in Kane County ..... 49

Figure 3-11: Emergency Response Facilities in Kane County ..... 50

Figure 3-12: Schools and Universities in Kane County ..... 51

Figure 4-1. Palmer Drought Severity Index (PDSI) ..... 64

Figure 4-2. U.S. Drought Severity Index by Division ..... 65

Figure 4-3. U.S. Drought Monitor – Illinois (2023) ..... 66

Figure 4-4. U.S. Drought Monitor – Kane County, Illinois (2000-2023) ..... 67

Figure 4-5. Earthquakes ..... 72

Figure 4-6. Earthquake Layers ..... 73

Figure 4-7. Earthquake with epicenters in Illinois, 1795-2023 (IEMA, 2023) ..... 74

Figure 4-8. Modified Mercalli Scale vs. Richter Scale ..... 75

Figure 4-9. USGS Seismic Hazard Map – Illinois (2014) ..... 76

Figure 4-10. Forecast for Damage from Natural and Induced Earthquakes in 2017 ..... 76

Figure 4-11. USGS Forecast for Ground Shaking Intensity from Natural / Induced Earthquakes – 2017.. 77

Figure 4-12. Recorded Earthquake Events in Northern Illinois from 2013 to 2023 ..... 79

Figure 4-13. National Oceanic and Atmospheric Administration National Weather Service Heat Index .... 83

Figure 4-14. Expected Deaths from Increased Extreme Heat Events ..... 85

Figure 4-15. Types of Erosion ..... 90

Figure 4-16. Karst Landscape in Illinois ..... 91

Figure 4-17. How A Sinkhole Forms ..... 92

Figure 4-18. Flood Depths ..... 95

Figure 4-19. Creeks in Kane County, Illinois ..... 96

Figure 4-20. Fox River, Illinois ..... 97

Figure 4-21. Watersheds in Kane County, Illinois ..... 98

Figure 4-22. Flood Way in Kane County, Illinois ..... 99

Figure 4-23. 100 Year Flood Plain in Kane County, Illinois ..... 100

Figure 4-24. 500 Year Flood Plain in Kane County, Illinois ..... 101

Figure 4-25. NFIP Flood Recurrence Intervals ..... 102

Figure 4-26. 1996 Flood ..... 105

Figure 4-27: Kane County CRCI Tract 17089851500 ..... 107

Figure 4-28: Kane County CRCI Tract 17089854600 ..... 108

Figure 4-29: Flooding Impacts to CRCI Tracts in Kane County ..... 109

Figure 4-30: Flooding Impacts to Critical Infrastructure in Kane County ..... 115

Figure 4-31: Flooding Impacts to Schools and Universities in Kane County ..... 116

Figure 4-32. Causes of Dam Failure Incidents, 2010-2019\*\* ..... 121

Figure 4-33. Dam Failure Incident Driver, 2010-2019 ..... 121

Figure 4-34. West Lake Dam ..... 124

Figure 4-35. Patriot Parkway Dam ..... 125

Figure 4-36. Lake Prestbury Dam ..... 126

Figure 4-37. Pine Lake Dam ..... 127

Figure 4-38. Mill Creek Water Reclamation District Dam ..... 128

Figure 4-39. Renee Drive Detention Dam..... 129

Figure 4-40. Tara Lake Dam ..... 130

Figure 4-41. Mooseheart Lake Dam ..... 131

Figure 4-42. Kimball Street Dam..... 132

Figure 4-43. Montgomery Dam ..... 133

Figure 4-44. St. Charles Dam ..... 134

Figure 4-45. Batavia Dam ..... 135

Figure 4-46. North Aurora Dam..... 136

Figure 4-47. Lower Batavia Dam ..... 137

Figure 4-48. Dams in the Study Area..... 142

Figure 4-49. TORRO Hailstorm Intensity Scale ..... 147

Figure 4-50. TORRO Hail Size and Diameter ..... 147

Figure 4-51. Severe Hail Threat Level ..... 148

Figure 4-52. NWS Lightning Activity Level..... 149

Figure 4-53. Kane County Hailstorm Events (2012-2022)..... 150

Figure 4-54. Kane County Hailstorms Events Summary (2012-2022) ..... 151

Figure 4-55. Average yearly cloud to ground lightning strikes (NCEI) ..... 151

Figure 4-56. Kane County Lightning Events (2012-2022) ..... 152

Figure 4-57. Kane County Significant Lightning Events Summary (2012-2022) ..... 152

Figure 4-58. Kane County Microburst/High Wind Events (2012-2022) ..... 152

Figure 4-59. Kane County Microburst/High Wind Events Summary (2012-2022) ..... 153

Figure 4-60. Kane County Thunderstorm Wind Events (2012-2022) ..... 153

Figure 4-61. Kane County Thunderstorm Wind Events Summary (2012-2022)..... 154

Figure 4-62. National Weather Service Wind Chill Chart..... 170

Figure 4-63. NOAA National Center for Environmental Information Regional Snowfall Index (RSI) ..... 170

Figure 4-64. Kane County Extreme Cold Events Summary (2012-2022)..... 172

Figure 4-65. Kane County Ice Storm Events Summary (2012-2022) ..... 172

Figure 4-66. Kane County Winter Storm Events Summary (2012-2022) ..... 173

Figure 4-67. Kane County Tornado Events Summary (2012-2022)..... 181

Figure 4-68: Tornado Impacts to CRCI Tracts in Kane County..... 185

Figure 4-69: Tornado Impacts to Manufactured Homes in Kane County..... 187

Figure 4-70: Tornado Impacts to Critical Infrastructure in Kane County ..... 188

Figure 4-71: Tornado Impacts to Schools and Universities in Kane County..... 189

Figure 8-1 Kane County Mitigation Web page and Draft Plan..... 255

Figure D-1. Kane County Census Tract 17089850301 ..... 360

Figure D-2. Kane County Census Tract 17089851301 ..... 361

Figure D-3. Kane County Census Tract 17089851302..... 362

Figure D-4. Kane County Census Tract 17089851400..... 363

Figure D-5. Kane County Census Tract 17089851500..... 364

Figure D-6. Kane County Census Tract 17089851600..... 365

Figure D-7. Kane County Census Tract 17089852904..... 366

Figure D-8. Kane County Census Tract 17089852905..... 367

Figure D-9. Kane County Census Tract 17089852907..... 368

Figure D-10. Kane County Census Tract 17089853008..... 369

Figure D-11. Kane County Census Tract 17089853100..... 370

Figure D-12. Kane County Census Tract 17089853200..... 371

Figure D-13. Kane County Census Tract 17089853300..... 372

Figure D-14. Kane County Census Tract 17089853400..... 373

Figure D-15. Kane County Census Tract 17089853500..... 374

Figure D-16. Kane County Census Tract 17089853600..... 375

Figure D-17. Kane County Census Tract 17089854100..... 376  
Figure D-18. Kane County Census Tract 17089854200..... 377  
Figure D-19. Kane County Census Tract 17089854301..... 378  
Figure D-20. Kane County Census Tract 17089854600..... 379  
Figure D-21. Kane County Census Tract 17089854700..... 380

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## Chapter 1: Introduction

Kane County, Illinois, is subject to natural hazards that threaten life, health, property, and the environment. The Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, and 44 CFR Part 201, require local governments to develop a Hazard Mitigation Plan (Plan or HMP) that identifies strategies to minimize the impact of these hazards in order to be eligible for pre- or post-disaster mitigation funding.

This Natural Hazards Mitigation Plan was first developed under the guidance of a Natural Hazards Mitigation Planning Committee, created by a resolution of the Kane County Board on November 12, 2002. The original plan was created in 2003. Capitalizing on the success of the original planning process, the 2015 plan review team incorporated a similar strategy employing a whole-community approach. Representatives from the County government, the participating municipalities, and public/private sector stakeholder organizations reviewed the plan document and suggested areas that required revisions.

The 2024 Plan represents the latest iteration of the Kane County Natural Hazard Mitigation Plan. The following communities are participating in the 2024 plan.

Jurisdiction
Kane County
Algonquin
Aurora
Batavia
Big Rock
Burlington
Campton Hills
Carpentersville
East Dundee
Elburn
Elgin
Geneva
Gilberts
Hampshire
Huntley
Lily Lake
Maple Park
Montgomery
North Aurora
Pingree Grove
Sleepy Hollow
South Elgin
St. Charles
Sugar Grove
Virgil
Wayne (Not participating in Plan)
West Dundee

This is a multi-jurisdictional hazard mitigation plan, and seeks to identify the county's and individual communities' hazards and understand their impact on vulnerable assets, including residents and property. With that understanding, the plan sets forth solutions that, if implemented,

have the potential to reduce threats to life and property significantly. The plan is based on the premise that hazard mitigation works. With increased attention to managing natural hazards, communities can reduce the threats to citizens and, through proper land use and emergency planning, can avoid creating new problems in the future. Many solutions can be implemented at minimal cost and social impact.

This is not an emergency response or management plan. Certainly, the plan can be used to identify weaknesses and refocus emergency response planning. Enhanced emergency response planning is an important mitigation strategy. However, the focus of this plan is to support better decision-making directed toward the avoidance of future risk and the implementation of activities or projects that will eliminate or reduce the risk for those who may already have exposure to a hazard threat.

The Kane County Natural Hazard Mitigation Plan was also created with the goal of substantially and permanently reducing the county's vulnerability to hazards through sound public policy. By increasing public awareness of potential harm, documenting resources for risk reduction and loss prevention, and identifying activities to guide the development of less vulnerable and more sustainable communities, this plan aims to protect citizens, critical facilities, infrastructure, private property, and the natural environment.

## **1.1 Purpose**

This plan exists to identify natural hazard threats to the community, prepare mitigation management strategies to address those threats, develop short-term and long-term goals and objectives for mitigation planning, and to fulfill federal, state, and local hazard mitigation planning obligations. This plan intends to enhance awareness of and provide mitigation strategies for elected officials, agencies, and the public and develop actions that will minimize negative outcomes to Kane County's citizens, the economy, and the environment due to potential natural hazard threats. The well-being of the county and local communities rests on reducing risks to life and property in the event of a hazard event or emergency/disaster.

## **1.2 Hazard Mitigation and Hazards**

### **1.2.1 Hazard Mitigation**

Hazard mitigation is defined as cost-effective actions that have the effect of reducing, limiting, or preventing the vulnerability of people, culture, property, and the environment to potentially damaging, harmful, or costly hazards. Hazard mitigation measures, which can be used to eliminate or minimize the risk to life, culture, and property, fall into three categories:

1. Those that keep the hazard away from people, property, and structures.
2. Those that keep people, property, or structures away from the hazards and
3. Those that reduce the impact of the hazard on victims, e.g., insurance.

Hazard mitigation measures must be practical, cost-effective, culturally, environmentally, and politically acceptable. Actions taken to limit the vulnerability of society to hazards must not, in themselves, be costlier than the anticipated damages.

Hazard mitigation planning must be based on vulnerabilities, and its primary focus must be on the point where capital investment and land use decisions are made. The placement of capital



investments, whether for homes, roads, public utilities, or public works, determines, to a large extent, the nature and degree of a community's hazard vulnerability. Once a capital facility is in place, there is little opportunity to reduce hazard vulnerability by correcting errors in location or construction. This is why the most effective mitigation tools are often zoning and other ordinances that manage development in high-vulnerability areas and building codes that ensure new buildings are constructed to withstand the damaging forces of anticipated hazards.

### **1.2.1 Hazards**

The hazards analyzed in this plan include the following:

#### **Natural Hazards**

- Flood: Riverine Flooding, Urban/Flash Flooding
- Severe Summer Storms: Thunderstorms, Lightning, Hail, High Winds, Microbursts,
- Severe Winter Storms: Blizzards, Extreme Cold, Ice Storms,
- Tornadoes
- Drought
- Earthquakes
- Extreme Heat
- High Hazard Dams
- Ground Failure/Erosion

### **References**

Federal Emergency Management Agency (FEMA). (2022, April 19). *Local Mitigation Planning Policy Guide*. Retrieved on March 28, 2023. Retrieved from: [https://www.fema.gov/sites/default/files/documents/FEMA\\_local-mitigation-planning-policy-guide\\_042022.pdf](https://www.fema.gov/sites/default/files/documents/FEMA_local-mitigation-planning-policy-guide_042022.pdf)

## Chapter 2: Plan Process

The Plan was prepared to provide a basis for identifying and managing natural hazards and to meet federal, state, and local requirements for hazard mitigation and FEMA mitigation grant funding.

Updating the Plan began with an initial kickoff meeting with the Kane County Office of Emergency Management (OEM) and Kane County Department of Environmental and Water Resources Planning Team held on April 28<sup>th</sup>, 2023. Following this meeting, the planning process involved a review of the existing Plan, updating Kane County's hazard history and risk assessment, gathering information on local hazards from individual communities, gathering input on hazard priorities, identifying specific vulnerabilities, impacts, and desired mitigation strategies; evaluating the previous Plan goals, and mitigation strategies; determining the status of previous mitigation strategies and Action Plans; identifying repetitive loss properties; facilitating the activities of the steering committee and conducting multiple stakeholder and public meetings, including outreach activities.

Information regarding hazards in the county and applicable mitigation strategies were obtained from four webinars held on May 31<sup>st</sup>, 2023, June 1<sup>st</sup>, 2023, and June 8<sup>th</sup>, 2023, and two workshops held in the county on June 28<sup>th</sup>, 2023, and June 29<sup>th</sup>, 2023.

In summary, the planning process consisted of the following key tasks:

### **Task 1: Organize Resources**

Kane County Office of Emergency Management and the Kane County Department of Environmental and Water Resources created a planning team to attend meetings, gather data and historical information, review drafts, and participate in mitigation brainstorming sessions. In addition to the core planning team, a steering committee was formed to provide overall guidance and direction throughout the mitigation planning process (see Steering Committee).

### **Task 2: Risk Assessment**

The planning team identified the natural hazards to include in this Plan and hazard profiles to address the probability, extent, vulnerabilities, and impacts associated with each hazard. The team then used local resources to inventory the county's assets and estimate losses. The core planning team, steering committee, and jurisdictional representatives provided input and subject-matter expertise throughout this process.

### **Task 3: Public Involvement**

A comprehensive public survey was conducted and reached 310 residents. As part of this survey, steering committee members, community representatives, and the general public were asked to rate each hazard regarding perceived risk. They were also asked to rate "mitigation importance" for each identified hazard in the Plan. Local jurisdictions shared the meeting information on their websites, Facebook pages, X (formerly known as Twitter) accounts, and community newsletters. Information from this survey was used to inform the hazard risk prioritization process and to ensure the Plan adequately addressed the public's concerns and priorities. All meetings, including the workshops, were made public to allow local residents to provide input into the Plan. A draft of the Plan was made available on the Kane County OEM website for review and comment.

## Task 4: Develop Mitigation Strategies

The planning team met with representatives of each participating community to develop and prioritize mitigation strategies and action items that would reduce the costs of disaster response and recovery, protect people and infrastructure, and minimize overall disruption to the county in the event of a disaster (see Chapter 7: Mitigation Strategies and Actions). Volume II of the plan includes the jurisdiction-specific annexes.

## Task 5: Complete the Plan

The core planning team compiled all of the relevant sections of the Plan to produce a draft plan for review. The Plan was submitted to the Illinois Emergency Management Agency (IEMA) and FEMA for approval.

## Task 6: Plan Adoption

The Kane County OEM and Kane County Department of Environmental and Water Resources coordinated the effort to ensure each participating jurisdiction formally adopted the Plan.

## 2.1 Defining the Planning Area

The planning area was initially defined as all incorporated and unincorporated areas of Kane County and incorporated areas that cross county boundaries. As noted in Chapter 1: Introduction, there were three communities, Barrington Hills, Bartlett, and Wayne, that opted not to participate because they are participating in another county’s hazard mitigation plan (The counties of DuPage, McHenry, Lake, Cook, Will, Kendall, and DeKalb). As such, Kane County, which includes the unincorporated areas in the County, and 25 participating jurisdictions intend to adopt and implement the Plan. All partners to this Plan have jurisdictional authority within this planning area.

## 2.2 Plan Participation

### 2.2.1 Core Planning Team

The core planning team comprised key members from Kane County OEM, Kane County Department of Environmental and Water Resources, and Integrated Solutions Consulting. Meetings were held bi-weekly throughout the planning process. The core planning team also served on the steering committee and helped guide the process.

*Table 2-1. Core Planning Team*

Name	Title	Organization
Jon Mensching	Acting Director	Kane County OEM
Anne Wilford	Water Sources Engineer	Kane County Department of Environmental & Water Resources

### 2.2.2 Steering Committee

Hazard mitigation planning enhances collaboration and support among diverse parties whose interests can be affected by hazard losses.

During the 2024 update of the Plan, the steering committee agreed to meet as often as needed throughout the course of the plan’s development. The core planning team facilitated each meeting, which addressed a set of objectives based on the work plan established for the Plan.

The steering committee was responsible for:

- The updating and prioritizing of natural hazards that impact Kane County.
- Defining critical facilities and providing necessary updates.
- Updating the plan’s mission, goals, and priorities.
- The overall planning area’s capability assessment and consideration of mitigation alternatives.
- The identification of new mitigation actions and the update of past countywide mitigation action items.
- Coordination and outreach with key stakeholders and planning partners.

The steering committee that supported the 2024 Kane County NHMP update is detailed in the following table:

*Table 2-2. Steering Committee*

<b>Name</b>	<b>Title</b>	<b>Organization</b>
Jon Mensching	Acting Director	Kane County OEM
Anne Wilford	Water Sources Engineer	Kane County Department of Environmental and Water Resources
Jason Verachtert	Kane County GIS	GIS Manager
Robert Linke	Senior Water Resources Engineer	Kane County Department of Environmental and Water Resources
Thomas Nicoski	Kane County GIS	Chief of GIS-Technologies

### 2.2.3 Local Jurisdiction Participation

The following local jurisdictions participated in the 2024 NHMP (see Table 2-3). Local representatives, participation activities, and planning documents to facilitate the planning process are provided in Appendix A: Stakeholder Participation and Documentation.

Table 2-3. Participating Jurisdictions

Jurisdiction	2023 Hazard Mitigation Plan Webinar	2023 Hazard Mitigation Plan Workshop	Other Participating Activities (Public Survey)	Hazard Analysis	New Mitigation Action	Reviewed/Updated Past Mitigation Project(s), as applicable
Kane County	X	X	X	X	X	X
Algonquin	X	-	X	X	X	X
Aurora	X	X	X	X	X	X
Batavia	X	-	X	X	X	X
Big Rock	X	-	X	X	X	X
Burlington	-	X	X	X	X	X
Campton Hills	-	-	X	X	X	X
Carpentersville	-	X	X	X	X	X
East Dundee	X	-	X	X	X	X
Elburn	X	X	X	X	X	X
Elgin	X	X	X	X	X	X
Geneva	X	-	X	X	X	NA
Gilberts	X	-	X	X	X	X
Hampshire	X	-	X	X	X	X
Huntley	X	X	X	X	X	NA
Lily Lake	X	-	X	X	X	X
Maple Park	-	X	X	X	X	X
Montgomery	X	-	X	X	X	X
North Aurora	X	X	X	X	X	X
Pingree Grove	-	-	X	X	X	X
Sleepy Hollow	X	X	X	X	X	X
South Elgin	X	X	X	X	X	X
St. Charles	X	X	X	X	X	X
Sugar Grove	X	X	X	X	X	NA
Virgil	-	X	X	X	X	X
West Dundee	-	X	X	X	X	X

Table 2-4. Jurisdictions NOT Participating

Jurisdiction	Reason
Wayne	Participating in another county's plan
Barrington Hills	Participating in another county's plan
Bartlett	Participating in another county's plan

The following sections explain, in greater detail, the key activities and supporting documentation. More information about each of these activities is also provided in Appendix A: Stakeholder Participation and Documentation.

### 2.2.4 Annual Reports

Following the update to the 2015 Kane County Natural Hazard Mitigation Plan, an annual report was developed to document and track mitigation progress, updates, and implementation. To access the 2016 hazard mitigation annual report, please double-click the icon.



Natural Hazard Mitigation\_2016 Anr

### 2.3.5 Mitigation Workshop

Two workshops were held in Kane County to identify hazards and update and consider new mitigation strategies. In addition, individual meetings were held with jurisdictions that were unable to bring their local planning teams to these workshops or needed additional guidance and support. Prior to the workshops, four webinars were held to provide information to prepare the jurisdictions for the workshop. See Appendix A: Stakeholder Participation and Documentation for a list of the individuals who attended the Workshops and for copies of the sign-in sheets.

The purpose of the workshop was to ensure local jurisdictions had the opportunity to identify their communities' risks and to identify/update their mitigation strategies and priorities. These workshops included local planning members from each of the communities. Participants validated the county's risk assessment findings, described specific hazard risks and concerns for their own communities, updated existing mitigation actions/strategies from the 2015 Plan, and worked with their local planning team to identify new mitigation initiatives.

### 2.3.6 Other Stakeholders and Organizations

Throughout the planning process, key stakeholders, departments, and community organizations were involved in providing key inputs, disseminating information about the Plan, and reviewing the plan draft. See Appendix A: Stakeholder Participation and Documentation for a list of those organizations.

### 2.3.7 Neighboring Jurisdictions

The neighboring counties were kept apprised of plan development milestones and were invited to review and comment on the draft plan.

Table 2-5. Neighboring Jurisdictions

Neighboring Jurisdiction	Organization	Participation Description
McHenry County, IL	Emergency Management Agency	Invited to review and comment on the draft plan.
Lake County, IL	Emergency Management Agency	Invited to review and comment on the draft plan.
Cook County, IL	Emergency Management and Regional Security	Invited to review and comment on the draft plan.
DuPage County, IL	Office of Homeland Security and Emergency Management	Invited to review and comment on the draft plan.
Will County, IL	Emergency Management Agency	Invited to review and comment on the draft plan.
Kendall County, IL	Emergency Management Agency	Invited to review and comment on the draft plan.
DeKalb County, IL	Emergency Services and Disaster Administration	Invited to review and comment on the draft plan.



## **2.4 Public Involvement and Participation**

Broad public participation in the planning process helps ensure that diverse points of view about the planning area's needs are considered and addressed. The public must have opportunities to comment on disaster mitigation plans during the drafting stages and before plan approval (44 CFR, Section 201.6(b)(1)). As such, a number of public outreach activities were organized to ensure public participation and input were obtained. The following sections explain, in greater detail, the key activities and supporting documentation. More information about each of these activities is also provided in Appendix B: Public Involvement Activities and Documentation.

### **2.4.1 Community Preparedness and Mitigation Survey**

Surveys were distributed through a variety of methods, including e-mail blasts and social media platforms, such as Facebook. Community organizations were critical in connecting county and city residents with the survey, and the Kane County OEM utilized their broad-based distribution lists of community stakeholders and partners to disseminate the survey to residents and leaders of underserved communities and organizations. In total, 310 residents participated in the 30-question survey. Results helped to validate the hazards included in the plan, the hazard ranking process, and areas where the county and municipalities could further improve outreach and education efforts.

### **2.4.2 Public Forum & Outreach**

All meetings, including the workshops, were made public to allow local residents to provide input into the Plan. The purpose of the meetings was to provide an overview of the project, share and validate the hazard risk findings, and receive public input on important mitigation initiatives. Attendees were given access to important information regarding the Plan and an opportunity to provide input regarding the Plan and planning process.

### **2.4.3 Kane County Website and Communitywide Newsletter**

A dedicated web page (<http://www.kcoem.org/Pages/mitigation.aspx>) was utilized to update stakeholders and the general public regarding the Plan update. Social media and outreach activities directed participants to this site. Kane County Connects, a countywide newsletter, was utilized to share updates on the hazard mitigation plan. Participating jurisdictions were also requested to share the survey and the invitation to the public workshops.

Figure 2-1 Kane County Mitigation Web page



**Kane County Emergency Management**

Home Preparedness Mitigation Public Warning Seasonal Awareness LEPC Volunteer Program ICS Training Links

## Mitigation

Kane County is subject to natural hazards that threaten life and health and have caused extensive property damage. While these hazards are acts of nature, the impacts on residents, public facilities, businesses, and private property can be diminished through proper hazard mitigation planning.

The Kane County Office of Emergency Management and Kane County Division of Environmental and Water Resources, together with representatives from municipal, township, and nonprofit agencies, developed a Natural Hazards Mitigation Plan for Kane County. The plan and the subsequent hazard mitigation work is being coordinated by the Kane County Hazard Mitigation Planning Committee, created by the Kane County Board on November 12, 2002. The Committee's members include representatives of County offices, interested municipalities, property owner associations, and public organizations.

### 2024 Kane County Natural Hazard Mitigation Plan

**Purpose of the Hazard Mitigation Plan**

- Ensure Kane County, Illinois and the participating cities and villages qualify for federal funding, before and after a disaster occurs.
- Identify common threats and hazards the County faces.
- Develop common mitigation strategies, ensuring a comprehensive and county-wide approach is used.
- Develop intergovernmental partnerships within the County.
- Gain public insight and share public information, increasing residents' knowledge and preparedness against the County's threats and hazards.

#### 2.4.4 Public Plan Review and Feedback on Draft of the Plan

At the conclusion of the planning process, the public was offered an opportunity to provide feedback on the draft Plan. The public version of the plan was made available at the following site: <http://www.kcoem.org/Pages/mitigation.aspx>

As future needs and concerns arise, or if the public would like to provide feedback regarding the latest version of the Kane County Natural Hazard Mitigation Plan, the public is invited to use the form below (which is provided on the web site) to provide comments.

- **Link to Plan Comment Form:**  
<https://integratedsolutions.wufoo.com/forms/comment-form-kane-county-mitigation-plan/>

Figure 2-2 Kane County Mitigation Web page and Draft Plan

### 2024 Plan Update

Kane County Office of Emergency Management and Kane County Department of Environmental and Water Resources, in conjunction with the participating cities and villages, completed the 5-year update of the Kane County Natural Hazard Mitigation Plan. Kane County is dedicated to involving the public directly in the review and update of the plan.

A draft of the plan can be accessed by clicking the link below. Upon state and FEMA approval, the final draft of the plan will replace the draft version of the plan.

### PDF LINK TO PLAN:

- [2024 Kane County NHMP Volume I and II DRAFT \(Public Version\).pdf](#)
- [Full Plan Link](#)

### Continued Public Involvement

Kane County is dedicated to involving the public directly in the review and updates of the Plan. The public will have the opportunity to provide input into future Plan revisions and updates. Copies of the Plan will be kept by appropriate county departments and outside agencies.

Public meetings will be held when deemed necessary by the Steering Committee. The meetings will provide a forum where the public can express concerns, opinions, or new alternatives that can then be included in the Plan.

To further facilitate continued public involvement in the planning process, the public has the opportunity to provide continual feedback and input. As future needs and concerns arise, or if you would like to provide feedback regarding the latest version of the Kane County Natural Hazard Mitigation Plan, please use the form below to provide your comments.

**LINK TO FORM:** <https://integratedsolutions.wufoo.com/forms/comment-form-kane-county-mitigation-plan/>

The draft Plan was made available on the web page until the Plan was formally approved and adopted.

### **2.4.5 How Public Input was Incorporated into the Plan**

Information and feedback gained from the survey and workshops provided valuable data to validate and confirm the risk assessment findings and potential mitigation strategies. Specifically, feedback from the survey offered greater insights into the public's concerns regarding specific hazards and their impacts. The public also offered specific initiatives to create greater resiliency for the county and its residents.

Survey results helped to validate the hazards included in the plan, the hazard ranking process, and areas where the county and municipalities could further improve outreach and education efforts. Open-ended responses, specifically regarding their experience with damages from past hazards, helped to validate hazard-specific impact data in Chapter 4: Risk Assessment. These and related findings helped the planning team determine meaningful mitigation projects.

## **2.5 Equity Considerations for Underserved Communities and Socially Vulnerable Populations**

Some disasters occur on larger scales and are more impacted by built environments and are most likely to continually impact those most at risk because of existing health conditions, lack of resources, being underserved by past mitigation planning work, facing historical disinvestment in their communities, or other factors. In this case, people in widely different locations can be harmed most by repeating disaster cycles, so mitigation strategies should also work to break cycles of loss caused by social and economic disparities. Hazard mitigation strategies can reduce existing risk by, for example, relocating a building out of an area that frequently floods. In each case, an attempt has been made to lessen the harm of a future flood before the event happens. Strategies may also make future development less vulnerable to hazards when it is built. Examples would be requiring new structures to be elevated above predicted flood levels or building structures to withstand future hazards better. Hazard mitigation plans are designed to involve the input of stakeholders from different perspectives to ensure plans use the best available data, are aligned with the needs of the entire community, and align with other plans, such as comprehensive plans, capital improvement plans, and climate action plans.

This Plan continues to recognize that all community members are not impacted similarly by natural disasters. Some community members are at more risk, for a number of possible reasons. A mitigation strategy that uses a 'one size fits all' approach and does not recognize different levels of risk will not adequately or efficiently support historically underserved populations and can actually make inequalities worse after a disaster.

This version of the Plan highlights equity as a key part of the overall plan vision. This Plan update seeks to continue to develop a shared understanding among participants of how hazard mitigation can be made more inclusive and be proactive in creating strategies that reduce existing disparities in risk and hazard recovery. Addressing the whole community requires an understanding that while a single solution for all seems fair, it does not address historical inequalities and current differences in age, financial resources, housing stability, neighborhood investment, health or ability, and access to government services. In mitigation planning, this means that successfully reducing risk in the most meaningful and efficient way requires understanding how the distribution of resources will actually reduce risk and for whom.

Equitable mitigation success should be measured by assessing who was most impacted in loss of life or financial harm by past and future disasters, quantifiable reductions of vulnerability to

those most at risk, and increasing engagement with historically underserved populations and community organizations to better understand how plans and processes and natural hazard events are affecting different communities.

**Chapter 3: Community Profile** describes different demographic and economic factors in Kane County. This section includes FEMA’s National Risk Index scores for Kane County for social vulnerability and community resilience. Social vulnerability is defined as the susceptibility of social groups to the adverse impacts of natural hazards, including disproportionate death, injury, loss, or disruption of livelihood (FEMA, 2023).

Community resilience is defined as the ability of a community to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions (FEMA, 2023).

The Community Profile section also included an analysis of the 21 (out of 235) census tracts in Kane County, which are identified as “disadvantaged” by the U.S. Council on Environmental Quality (ACEQ). According to the U.S. Council on Environmental Quality (ACEQ), a community is identified as “disadvantaged” if it is located in a census tract that is at or above the threshold for one or more environmental, climate, or other burdens and at or above the threshold for associated socioeconomic burdens, including poverty and language barriers (U.S. Council on Environmental Quality, 2022). The total population of these 21 census tracts is 112,641, which is 22% of the total Kane County population. Each census tract is further identified in **Appendix D: Disadvantaged Communities**, illustrating the specific socioeconomic burdens of each census tract. This information was used in the hazard risk ranking process to determine potential inequities and disparities regarding potential impacts from natural hazards.

**Chapter 4: Risk Assessment** includes a hazard ranking methodology that specifically assesses the impact of natural hazards on underserved populations. Furthermore, each hazard profile included FEMA’s Expected Annual Loss analysis and National Risk Index score for the county. The Risk Index score is based on the following components: Social Vulnerability, Community Resilience, and Estimate Annual Loss (EAL), with EAL based on Exposure, Annualized Frequency, and Historic Loss Ratio (HLR) factors, for a total of five risk factors (FEMA, 2023).

Mitigation goals were updated to encourage greater participation and engagement from underserved populations and groups. During stakeholder meetings, in which new and ongoing mitigation strategies were discussed, jurisdictional representatives were encouraged to consider how the mitigation actions directly and/or indirectly resulted in equitable outcomes.

During the plan update process, a comprehensive community preparedness questionnaire was developed and disseminated. The questionnaire was developed with a specific focus to better understand the challenges and concerns related to access and functional needs, access to information, ability to recover, and services needed, especially for those who may be underserved or lack access to key resources.

The county and participating jurisdictions have a responsibility to ensure equitable outcomes in the implementation of this Plan and to ensure that action is taken to reduce vulnerabilities to disasters experienced disproportionately by marginalized populations.

When conducting community engagement related to the implementation of or update to this Plan, the county will ensure that the whole community can participate in the process and discussion. FEMA defines the “whole community” as “individuals and families, including those with access

and functional needs, businesses, faith-based and community organizations, nonprofit groups, schools and academia, media outlets, and all levels of government, including state, local, tribal, territorial, and federal partners that have a shared responsibility in emergency preparedness and mitigation” (FEMA, 2011).

## 2.6 Existing Plans, Studies, and Reports

Hazard mitigation planning must include a review and incorporation, if appropriate, of existing plans, studies, reports, and technical information (44 CFR, Section 201.6(b)(3)). **Chapter 5: Capabilities and Integration of Mitigation Measures** reviews key studies, plans, laws, and ordinances in effect within the planning area that can affect hazard mitigation actions. All these documents were reviewed as part of the plan update process. Additionally, each chapter in this Plan includes its own reference section, which also acknowledges key plans, studies, and technical information utilized in this Plan.

## References

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## Chapter 3: Community Profile

### 3.1 Historical Overview

Kane County is located in northern Illinois and offers a blend of historical features, city living, and picturesque landscapes. Kane County was founded on January 16, 1836, with a rich history dating back to the early settlers who transformed the area into a thriving community. The region's history dates back to the early 19<sup>th</sup> century when European immigrants migrated. Before their arrival, the county was inhabited by Native American tribes, including the Potawatomi and Miami. The arrival of settlers led to the establishment of towns, the development of agriculture, and the growth of industries that shaped the county's identity. The county was eventually named in honor of Elias Kane, a United States Senator from Illinois, the first Illinois Secretary of State.

Geographically, Kane County encompasses an area of approximately 524 square miles and is situated within the northern portion of Illinois, near Wisconsin. To the north, Kane is bordered by McHenry County, while DuPage County lies to the east. Kendall County bounds it on the south, and to the west is DeKalb County. Kane County's topography slopes from rolling hills in the northwestern part of the County to the Fox River Valley which runs north to south through the eastern quarter of the County.

Kane County played a significant role in the development of the American Midwest. The county's early settlers were primarily of European descent, with many coming from New England and New York. These pioneers brought agricultural practices, establishing prosperous farms that fueled the county's growth.

During the mid-19<sup>th</sup> century, Kane County experienced an industrial boom. The construction of railroads and the abundance of natural resources attracted manufacturing and milling industries. Elgin, one of the county's largest cities, became known as the "Watch City" due to its production of timepieces. This period of industrialization brought prosperity to the region, establishing thriving communities and a diverse economy.

Figure 3-1. Map of Illinois



### 3.2 General Land Use

Kane County has a diverse range of land uses, reflecting urban and rural characteristics. The county's land is predominantly residential, comprising single-family homes, townhouses, and apartment complexes. Commercial districts, cultural centers, and industrial parks characterize urban areas.

In addition to urban development, Kane County showcases vast agricultural areas. The fertile soils and favorable climate make it conducive for farming activities, with crops like corn, soybeans, and wheat being common. The county's agricultural heritage is preserved through farmland preservation programs and the presence of farmers' markets, promoting locally grown produce.

### 3.3 Cities, Towns, and Unincorporated Areas

Kane County consists of several incorporated cities and villages. Aurora, the second-largest city in Illinois, serves as a central economic hub with its thriving downtown, educational institutions, and industrial sectors. Elgin is recognized for its historic architecture, while St. Charles offers a picturesque downtown and scenic riverfront.

The county is home to various cities and villages, including Geneva, renowned for its charming shops and historical homes; Batavia, which has a rich industrial heritage and vibrant arts scene; and Carpentersville, a culturally diverse community with recreational amenities. Additionally, there are unincorporated areas within Kane County with a more rural character, vast farmlands, and close-knit communities.

### 3.4 Climate

Kane County, Illinois, experiences a continental climate characterized by distinct seasonal variations and moderate precipitation. In addition, the county's climate is influenced by its proximity to the Great Lakes, which can moderate temperatures and contribute to the formation of lake-effect snowfall during winter.

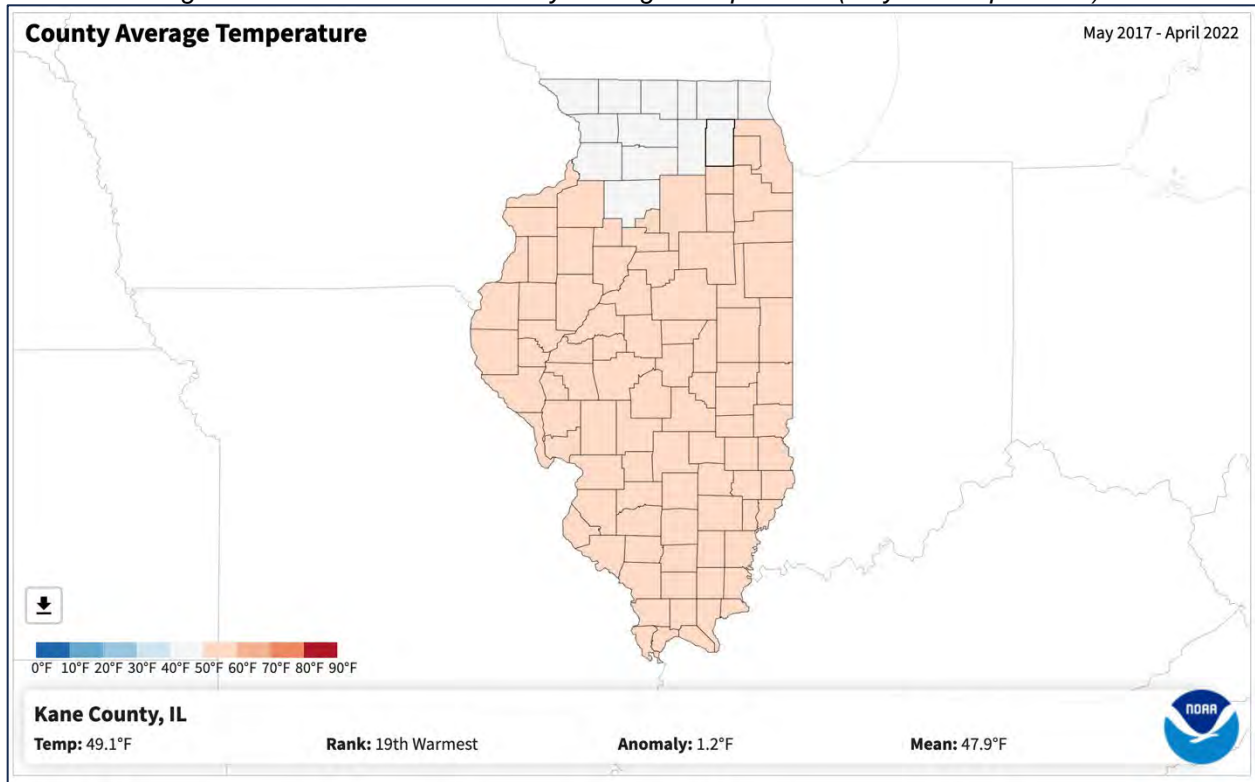
The summers in Kane County are generally warm and humid. Average high temperatures range from the mid-80s (Fahrenheit) to the low 90s during the peak months of July and August. Humidity levels can be moderate to high, creating occasional heat index values that make the air feel warmer than the actual temperature. Thunderstorms are common during the summer, with occasional severe weather events such as heavy rainfall, strong winds, and lightning.

Winter in Kane County is cold, with average high temperatures in the 30s to low 40s during the coldest months of December and January. Sub-freezing temperatures are typical, and snowfall is a regular occurrence. The lake-effect snow, influenced by the proximity to Lake Michigan, can enhance snowfall amounts in certain county areas. Winter storms and occasional periods of extreme cold are not uncommon.

Spring and autumn in Kane County are transitional seasons characterized by mild temperatures. Spring brings gradual warming, with average highs in the 50s to 60s and increasing precipitation. Autumn features cooler temperatures with average highs in the 60s to 70s and vibrant foliage as the leaves change color.

Figure 3-2 shows the average climate in Kane County between 2017 and 2022, according to the National Oceanic and Atmospheric Administration (NOAA).

Figure 3-2. Climate - Kane County Average Temperature (May 2017-April 2022)



### 3.5 Geology, Watersheds, and Topography

**Geology:** Kane County's diverse geological history has shaped its current landscape. The county is situated within the Northern Morainal Section of the state, characterized by glacial deposits left behind by the Wisconsin glaciation. Glacial till, composed of clay, sand, gravel, and boulders, forms the foundation of much of the county. The retreat of glaciers created a rolling terrain with moraines, kames, eskers, and drumlins, contributing to the county's unique topography.

**Watersheds:** Kane County is encompassed by two major watersheds: the Fox River Watershed, and the Kishwaukee River Watershed. The Fox River Watershed, the largest and most significant, the Fox River, located in the eastern portion of the county, flows southerly through the entire length of the county, providing valuable water resources and recreational opportunities. The Kishwaukee River Watershed covers a portion of the county's northwestern corner. These watersheds are crucial in maintaining the county's water supply, supporting aquatic ecosystems, and influencing land use and development.

**Topography:** Kane County's topography is diverse and influenced by glacial and riverine processes. The county's landscape includes rolling hills, fertile valleys, and higher-elevation areas. Moraines, formed by glacial deposits, create undulating terrain with gentle slopes. The Fox River, a prominent geographic feature, meanders through the county, carving out river valleys and contributing to the overall topography. The County's topographic variations provide outdoor recreation opportunities and diverse habitats for plant and animal species.

### 3.6 Land Use

Kane County is located in northeastern Illinois and encompasses a mix of suburban, rural, and agricultural areas. The county is characterized by a diverse range of land uses influenced by its proximity to the Chicago metropolitan area.

**Land Use and Zoning Control:** Kane County utilizes land use and zoning controls to regulate the development and use of land within its boundaries. The county has established zoning ordinances and regulations to guide land use decisions and promote orderly growth. Through its Planning Division, the Kane County Development Department is responsible for administering and enforcing these regulations. Zoning districts are designated throughout the county, each with specific requirements and restrictions related to land use, building density, setbacks, and other development standards. The 2040 Land Resource Management Plan, adopted in 2012, contains countywide planning goals.

**Uses of Land:** The land in Kane County is utilized for various purposes, including agricultural, residential, commercial, industrial, and recreational uses. The percentages of these land uses are as follows:

**Agricultural:** Kane County has a rich agricultural heritage, and agricultural land use remains prominent. Approximately 83% of the county's land is dedicated to farming activities, including crop production, livestock farming, and agricultural support services.

**Residential:** Residential land use accounts for approximately 8% of Kane County's land. Within this 8%, nearly 99% of residential development is single-family homes.

**Natural Areas and Open Space:** Natural areas and open space comprise a substantial portion of Kane County's land, comprising roughly 3% of the county. These areas include forest preserves, parks, wetlands, and other environmentally sensitive lands preserved for conservation, recreation, and ecosystem services.

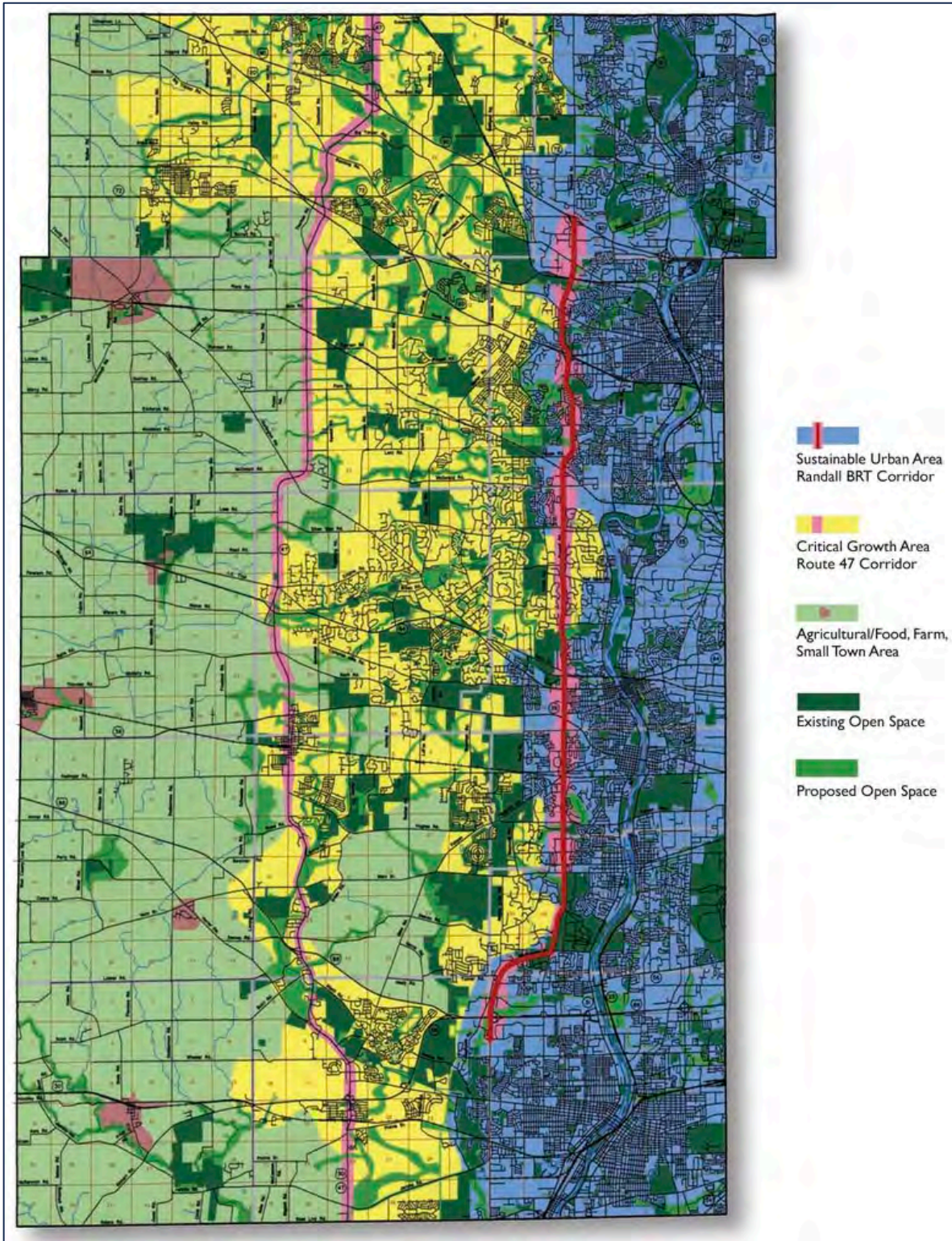
**Commercial and Industrial:** Commercial and industrial land uses collectively occupy >1% of Kane County's land. The county has various commercial centers, retail establishments, office parks, and industrial facilities.

**Institutional and Public Uses:** Institutional and public land uses, including schools, hospitals, government buildings, and utilities, comprise approximately 1% of the county's land. These facilities provide essential services and infrastructure to the residents of Kane County.

Figure 3-3 shows existing land use within Kane County and critical growth areas identified along the Route 47 Corridor (Regional Planning Commission, 2010).



Figure 3-3. Land Use: Kane County Land Use



### 3.7 Housing Trends

Since 2018, Kane County has experienced significant growth and development, contributing to changes in its housing market.

**Homeownership Rates:** Since 2018, Kane County has seen a slight decrease in homeownership rates. According to the U.S. Census Bureau, the homeownership rate in the county stood at 67.8% in 2018. However, by 2022, the rate had decreased to 65.4%. This decline may be attributed to several factors, including rising home prices, increased demand for rental housing, and a growing population of younger adults who prefer the flexibility of renting.

**Single-Family/Multi-Unit Residential:** The housing stock in Kane County has shown steady growth since 2018. The U.S. Census Bureau shows the county's total number of housing units increasing from 186,463 in 2018 to 195,687 in 2022, representing a growth rate of approximately 4.9%.

**Housing Affordability:** Housing affordability has been a concern in Kane County, as rising home prices have outpaced income growth in recent years. The U.S. Census Bureau shows that the median home value in the county increased from \$237,400 in 2018 to \$267,800 in 2022, reflecting a rise of approximately 12.8% over the five years.

Table 3-1 illustrates Kane County housing data reported by the U.S. Census Bureau.

Table 3-1. Housing Trends: Kane County Housing Data (2023)

KANE COUNTY, IL US CENSUS BUREAU - HOUSING DATA (2023)	
Housing units, July 1, 2022, (V2022)	190,820
Owner-occupied housing unit rate, 2017-2021	75.1%
Median value of owner-occupied housing units, 2017-2021	\$255,900
Median selected monthly owner costs: with a mortgage, 2017-2021	\$1,993
Median selected monthly owner costs: without a mortgage, 2017-2021	\$821
Median gross rent, 2017-2021	\$1,230
Building permits, 2022	1,411
SOURCE: <a href="#">U.S. Census Bureau (2023)</a>	

### 3.8 Transportation Network

Kane County is part of the greater Chicago metropolitan area and benefits from its extensive transportation infrastructure.

**Highway Systems:** Kane County is traversed by major interstates, including I-90 and I-88, providing efficient access to downtown Chicago, neighboring counties, and more. In addition, several state routes, such as IL-31 and IL-38, crisscross the county, enhancing regional connectivity and facilitating the movement of goods and people.

Figure 3-4 illustrates a map of highway systems in Kane County.

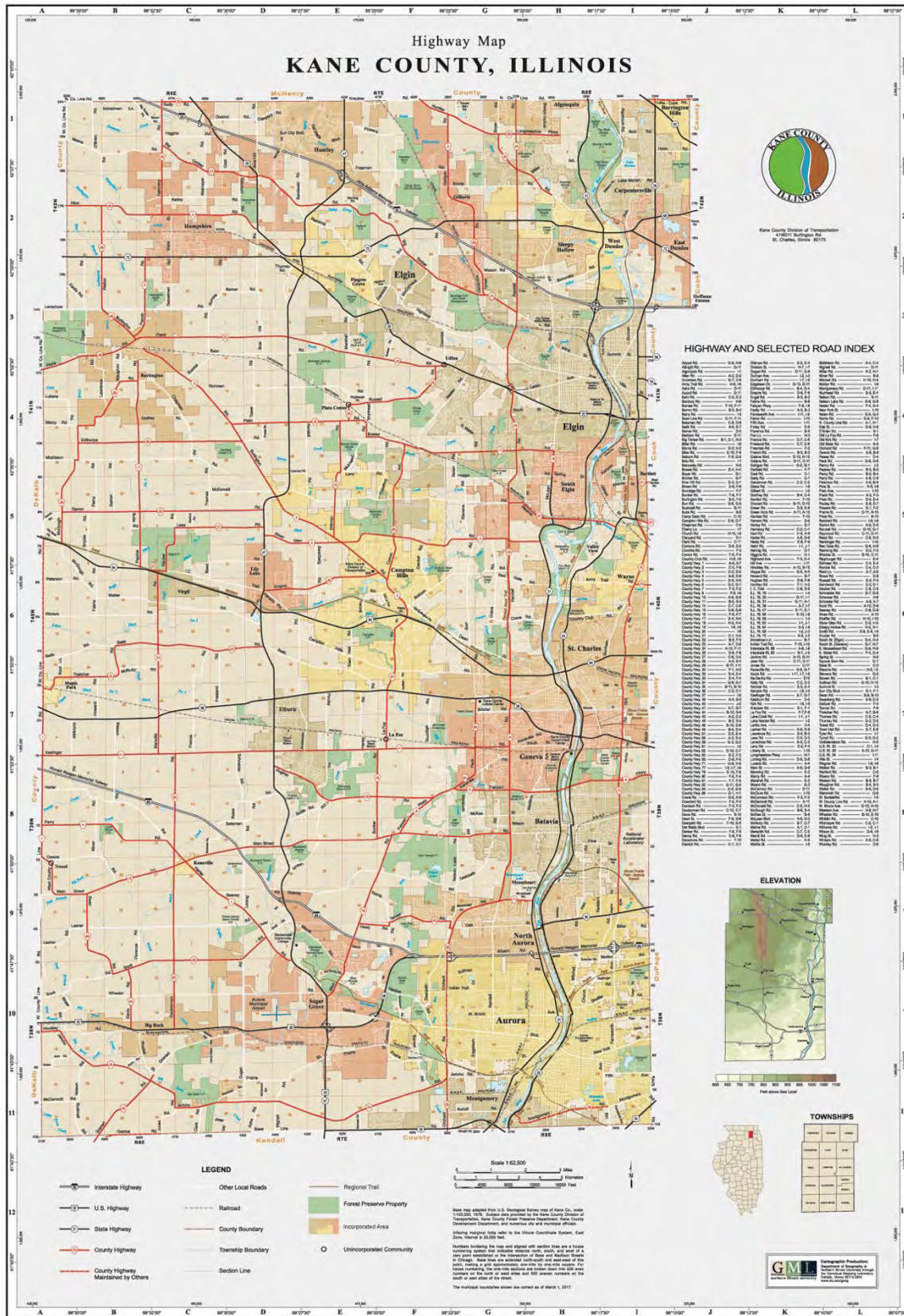
**Public Transit:** Public transit plays a crucial role in the transportation network of Kane County. The Regional Transportation Authority (RTA) oversees public transit services in the Chicago metropolitan area, including Kane County. The Kane County Division of Transportation (KDOT) collaborates with regional transit agencies like Metra and Pace Bus to provide efficient and accessible public transportation options. Metra operates multiple commuter rail lines, including the Union Pacific West Line and the Milwaukee District West Line, connecting residents to downtown Chicago and other suburbs. Pace Bus operates bus services throughout the county, offering convenient connections within Kane County and neighboring areas.

**Airports:** Kane County benefits from its proximity to several airports, providing air travel options for residents and businesses. The closest major airport is O'Hare International Airport, located approximately 30 miles east of the county. Midway International Airport, located about 40 miles southeast of Kane County, also provides an additional air travel option.

**Non-Motorized Transportation:** Kane County supports non-motorized transportation options, such as walking, biking, and recreational trails. The county has been actively developing a network of multi-use trails, including the Fox River Trail, which spans the length of the county along the Fox River, providing opportunities for outdoor recreation and active transportation. Wisconsin and Illinois have partnered with the National Park Service to create the Fabulous Fox River Water Trail, welcoming kayaking and canoeing. The county has 14 miles of an abandoned railway from St. Charles to the DeKalb County Line for bicycling and hiking, as part of the Great Western Trail.



Figure 3-4. Transportation Network: Kane County Highway Map

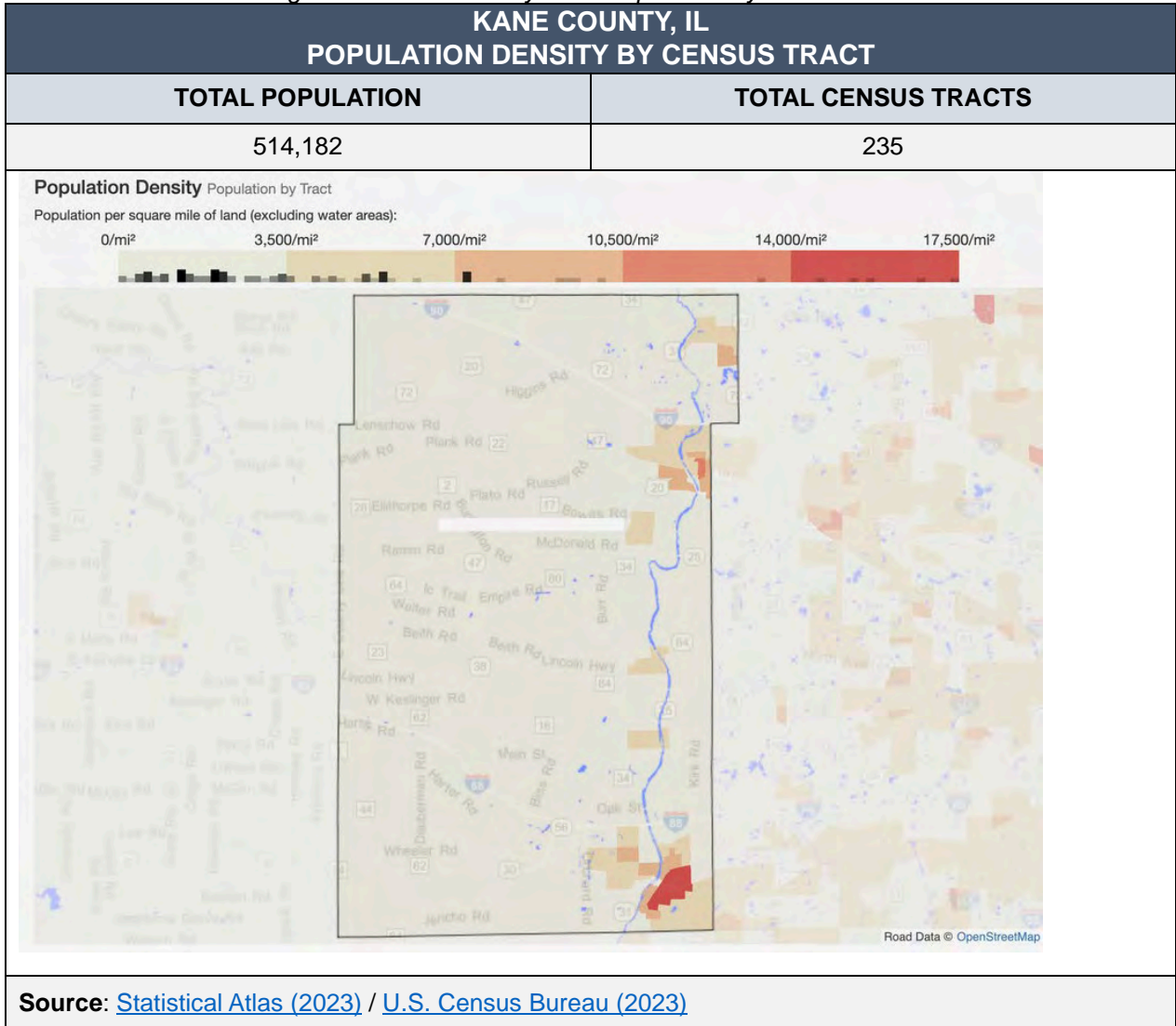


### 3.9 Population and Demographic Characteristics

Kane County ranks as the fifth most populous county in Illinois. The population is 514,182 as of July 1, 2022 (U.S. Census Bureau, 2023).

Figure 3-5 illustrates population density by census tract.

Figure 3-5: Kane County Total Population By Census Tract



Source: [Statistical Atlas \(2023\)](#) / [U.S. Census Bureau \(2023\)](#)

Figure 3-6 illustrates Kane County census tract boundaries as of 2020.





Table 3-2. Kane County Population and Demographic Characteristics (2023)

<b>KANE COUNTY, IL POPULATION AND DEMOGRAPHIC CHARACTERISTICS</b>	
<b>POPULATION</b>	
Population Estimates, July 1, 2022, (V2022)	514,182
Population estimates base, April 1, 2020, (V2022)	516,520
Population, percent change - April 1, 2020 (estimates base) to July 1, 2022, (V2022)	-0.50%
Population, Census, April 1, 2020	516,522
Population, Census, April 1, 2010	515,269
<b>AGE &amp; GENDER</b>	
Persons under 5 years, percent	5.90%
Persons under 18 years, percent	24.40%
Persons 65 years and over, percent	14.90%
Female persons, percent	49.90%
<b>RACE AND HISPANIC ORIGIN</b>	
White alone, percent	86.20%
Black or African American alone, percent	6.00%
American Indian and Alaska Native alone, percent	1.10%
Asian alone, percent	4.50%
Native Hawaiian and Other Pacific Islander alone, percent	0.10%
Two or More Races, percent	2.10%
Hispanic or Latino, percent	32.70%
White alone, not Hispanic or Latino, percent	56.10%
<b>POPULATION AND CHARACTERISTICS</b>	
Veterans, 2017-2021	20,056
Foreign born persons, percent, 2017-2021	17.10%
<b>HOUSING</b>	
Housing units, July 1, 2022, (V2022)	190,820
Owner-occupied housing unit rate, 2017-2021	75.10%
Median value of owner-occupied housing units, 2017-2021	\$255,900
Median selected monthly owner costs -with a mortgage, 2017-2021	\$1,993
Median selected monthly owner costs -without a mortgage, 2017-2021	\$821
Median gross rent, 2017-2021	\$1,230
Building permits, 2022	1,411
<b>FAMILIES AND LIVING ARRANGEMENTS</b>	
Households, 2017-2021	181,263
Persons per household, 2017-2021	2.83
Living in same house 1 year ago, percent of persons age 1 year+, 2017-2021	88.20%
Language other than English spoken at home, percent of persons age 5 years+, 2017-2021	31.30%
<b>Source:</b> <a href="#">U.S. Census Bureau (2023)</a>	

Table 3-3 illustrates population projections for Illinois from 2010-2030 according to the Illinois Department of Public Health (IDPH, 2023).

Table 3-3. IDPH Population Projections for Illinois (2010-2030)

Table 1. Population Projections for Illinois by Age and Sex: 2010 to 2030 (as of July 1 of the specified years, except as noted)					
Illinois Sex and Age	Census	Estimate	Projections		
	April 1, 2010 <sup>1</sup>	2015	2020	2025	2030
Both Sexes					
<b>Total</b>	12,830,632	12,859,995	12,805,000	12,800,000	12,790,000
0-4	835,577	783,662	769,480	750,535	721,052
5-9	859,405	817,544	763,229	756,403	742,493
10-14	879,448	841,064	797,603	750,878	749,101
15-19	922,092	852,457	817,422	782,055	740,431
20-24	878,964	899,794	821,987	795,858	765,813
25-29	910,273	886,919	885,137	814,343	793,684
30-34	865,684	887,422	859,094	865,536	800,619
35-39	855,790	843,123	858,447	838,615	850,663
40-44	870,100	826,693	814,890	837,823	823,683
45-49	940,094	844,829	799,673	795,226	823,432
50-54	930,785	901,595	811,737	774,923	775,897
55-59	807,778	886,115	857,676	778,131	747,411
60-64	665,429	758,501	830,895	811,100	739,895
65-69	485,060	609,084	697,444	771,929	758,560
70-74	364,475	429,745	546,353	632,531	706,443
75-79	289,385	309,042	365,787	470,377	549,690
80-84	235,381	223,689	241,681	289,523	376,423
85+	234,912	258,717	266,467	284,212	324,711
65+	1,609,213	1,830,277	2,117,732	2,448,572	2,715,826

Source: [Illinois Department of Public Health \(April 2021\)](#)

### 3.10 Economic Characteristics

The economy of Kane County, IL, employs 271,000 people. The largest industries in Kane County, IL are manufacturing (42,666 people), retail trade (30,847 people), and health care & social assistance (27,809 people), and the highest paying industries are Utilities (\$92,614), Management of Companies & Enterprises (\$85,962), and Mining, Quarrying, & Oil & Gas Extraction (\$77,159) (U.S. Census Bureau, 2023).

Males in Illinois have an average income of 1.34 times higher than the average income of females, which is \$57,880. As a result, the income inequality in Illinois (measured using the Gini index) is 0.479, higher than the national average (U.S. Census Bureau, 2023).

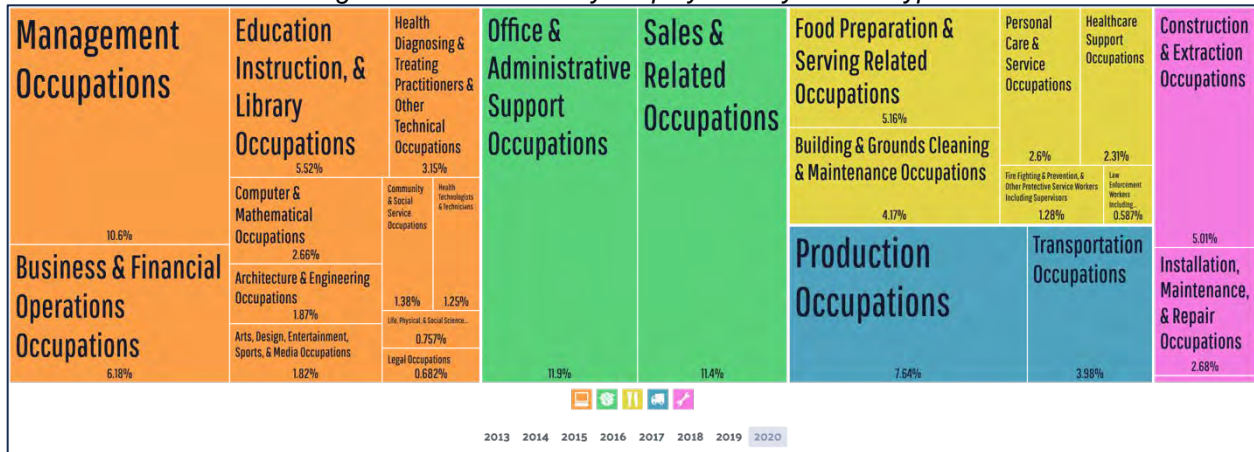
**Employment:** From 2019 to 2020, jobs in Kane County, IL, grew at 0.753%, from 268k employees to 271k employees (U.S. Census Bureau, 2023).

The most common job groups are office and administrative support occupations (32,182 people), sales & related occupations (30,870 people), and management occupations (28,619 people). This chart illustrates the share breakdown of the primary jobs held by residents of Kane County, IL (U.S. Census Bureau, 2023).

Figure 3-7 illustrates Kane County employment by sector type.



Figure 3-7: Kane County Employment by Sector Type



### 3.11 FEMA Community Risk Index

According to FEMA, Kane County has a Community Risk Index Rating of “**Relatively Moderate**” and a Community Risk Index Score of “**90.0**” (FEMA , 2023).

The Risk Index score is based on the following components: Social Vulnerability, Community Resilience, and Estimate Annual Loss (EAL), with EAL based on Exposure, Annualized Frequency, and Historic Loss Ratio (HLR) factors, for a total of five risk factors (FEMA , 2023).

Each risk factor contributes to either the likelihood or consequence aspect of risk and can be classified as one of two risk types: risk based on geographic location or risk based on the nature and historical occurrences of natural hazards. The five risk factors are summarized in Table 3-4. (FEMA , 2023).

Table 3-4. FEMA National Risk Index: Risk Components & Factors

FEMA NATIONAL RISK INDEX				
RISK COMPONENTS & FACTORS				
Risk Component	Risk Factors	Risk Factor Description	Risk Contribution	Risk Type Assignment
Social Vulnerability	Social Vulnerability	Consequence Enhancer	Consequence	Geographic Risk
Community Resilience	Community Resilience	Consequence Reducer	Consequence	Geographic Risk
Expected Annual Loss	Exposure	Expected Consequence	Consequence	Natural Hazard Risk
Expected Annual Loss	Annualized Frequency	Probability of Occurrence	Likelihood	Natural Hazard Risk
Expected Annual Loss	Historic Loss Ratio	Expected Consequence	Consequence	Natural Hazard Risk

### 3.12 FEMA Community Resilience Rating

According to FEMA, Kane County has a Community Resilience Rating of “**Relatively High**” and a Community Resilience Score of “**69.9**” (FEMA National Risk Index, 2023).

Community resilience is defined as the ability of a community to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions (FEMA National Risk Index, 2023).

The “Community Resilience Score” and “Community Resilience Rating” represent the relative level of a community’s resilience compared to all other communities at the same level. The Community Resilience Score is inversely proportional to a community’s risk. A higher Community Resilience Score results in a lower Risk Index Score (FEMA National Risk Index, 2023).

### 3.13 Social Vulnerability and Underserved Populations

According to FEMA, Kane County has a Social Vulnerability Rating of “**Relatively Moderate**” and a Social Vulnerability Score of “**49.4**” (FEMA National Risk Index, 2023).

Social vulnerability is defined as the susceptibility of social groups to the adverse impacts of natural hazards, including disproportionate death, injury, loss, or disruption of livelihood (FEMA National Risk Index, 2023).

The “Social Vulnerability Score” and “Rating” represent the relative level of a community’s social vulnerability compared to all other communities at the same level. A community’s Social Vulnerability Score is proportional to a community’s risk. A higher Social Vulnerability Score results in a higher Risk Index Score (FEMA National Risk Index, 2023).

Social vulnerability is one of five components included in the formulation of the “National Risk Index Score” in addition to Community Resilience, Estimated Annual Loss (EAL) based on Exposure, Annualized Frequency, and Historic Loss Ratio (HLR) factors (FEMA National Risk Index, 2023).

Table 3-5 illustrates at-risk populations in Kane County as compared to U.S. percentages and the differences thereof. Table 3-5 shows that Kane County demonstrates higher percentages of at-risk/disadvantaged individuals in four of ten categories.



Table 3-5. Kane County Neighborhoods At-Risk Table

NEIGHBORHOODS AT-RISK TABLE				
KANE COUNTY, IL				
Indicators 2021*	Kane County Population	Kane County Percentage	U.S. Percentage	Percent Difference (Kane County vs. U.S.)
People under 5 years	31,939	6.2%	5.9%	0.3%
People over 65 years	71,843	13.9%	16.0%	(-2.1%)
People of color (including Hispanic)	226,810	43.7%	40.6%	3.1%
People who don't speak English well	27,481	5.6%	4.1%	1.5%
People without a high school degree	47,621	14.0%	11.1%	2.9%
Families in poverty	7,972	6.1%	8.9%	(-2.8)
Housing units that are rentals	45,128	24.9%	35.4%	(-10.5%)
Households with no car	8,095	4.5%	8.3%	(-3.8%)
People with disabilities	44,557	8.6%	12.6%	(-4.0%)
People without health insurance	40,545	7.9%	8.5%	(0.6%)
<p>High Reliability: Data with coefficients of variation (CVs) &lt; 12% are in black to show that the sampling error is small.                      Medium Reliability: Data with CVs between 12 &amp; 40% are in orange. These values should be interpreted with caution.                      Low Reliability: Data with CVs &gt; 40% are displayed in red to indicate that the estimate is considered very unreliable.</p> <p>* ACS 5-year estimates: 2021 represents average characteristics from 2017-2021.                      CITATION: U.S. Department of Commerce. 2022. Census Bureau, American Community Survey Office, Washington D.C., reported by Headwaters Economics' Neighborhoods at Risk, headwaterseconomics.org/par.</p> <p>Source: <a href="#">Neighborhoods At Risk</a> (2023)</p>				

Table 3-6 illustrates 21 (out of 235) Kane County census tracts identified as “disadvantaged”. According to the Council on Environmental Quality (ACEQ), a community is identified as “disadvantaged” if it is located in a census tract that is at or above the threshold for one or more environmental, climate, or other burdens *and* at or above the threshold for associated socioeconomic burdens, including poverty and language barriers.

The total population of these 21 census tracts is 112,641, 22% of the total Kane County population (Neighborhoods At Risk, 2023). Each census tract is further identified in Appendix D – Disadvantaged Communities, illustrating the specific socioeconomic burdens of each census tract.

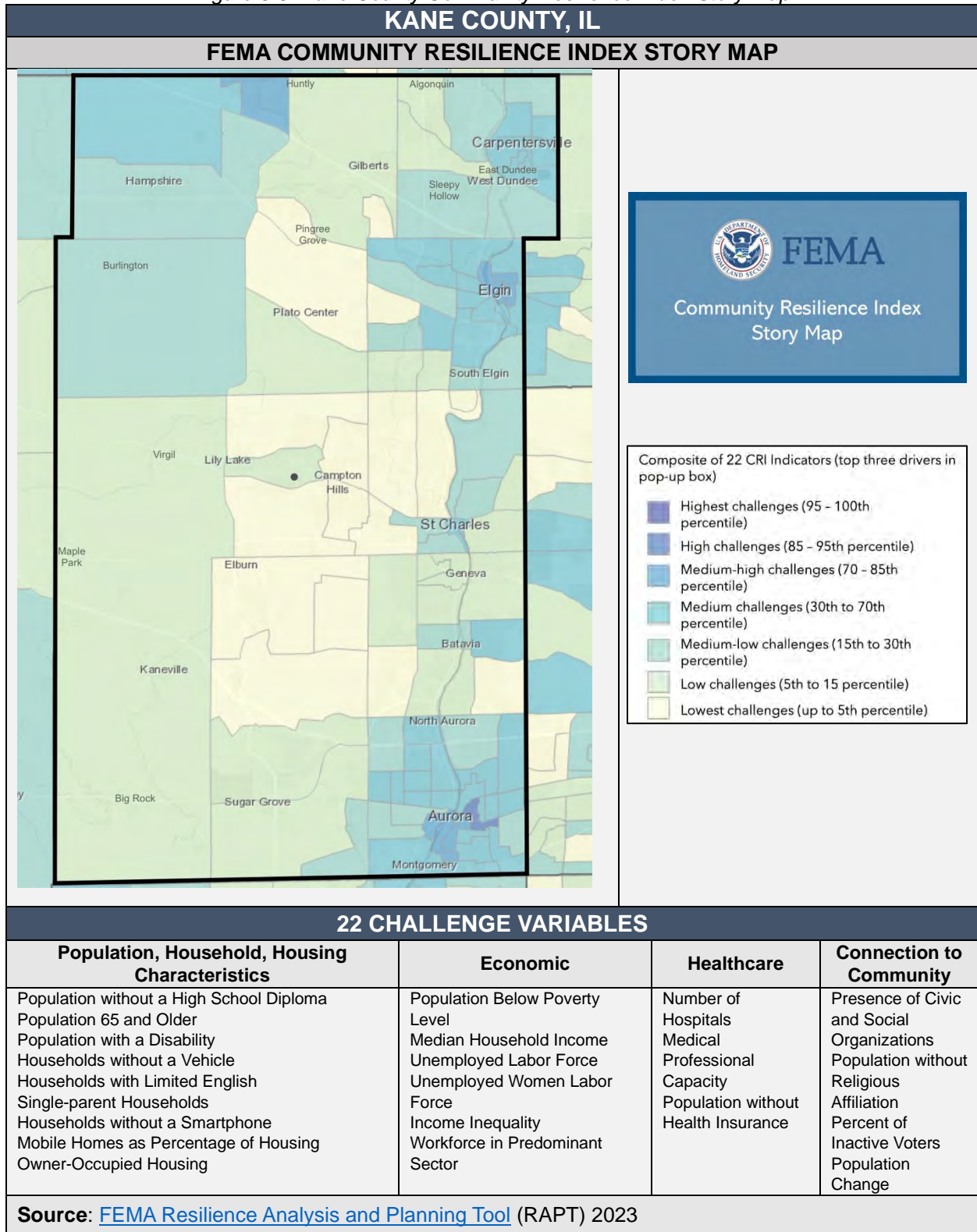
Table 3-6. Kane County Disadvantaged Census Tracts

KANE COUNTY, IL CLIMATE & ECONOMIC JUSTICE SCREENING TOOL - DISADVANTAGED CENSUS TRACTS		
CENSUS TRACT 2010 ID	CENSUS TRACT POPULATION	LOW INCOME TRACT?
17089850301	8372	TRUE
17089851301	3766	TRUE
17089851302	3432	TRUE
17089851400	6585	TRUE
17089851500	1163	TRUE
17089851600	6760	TRUE
17089852904	2859	TRUE
17089852905	4695	TRUE
17089852907	7122	TRUE
17089853008	4467	FALSE
17089853100	3272	TRUE
17089853200	6591	TRUE
17089853300	5080	TRUE
17089853400	9252	TRUE
17089853500	6572	TRUE
17089853600	7796	TRUE
17089854100	5360	TRUE
17089854200	5881	TRUE
17089854301	7156	TRUE
17089854600	4199	TRUE
17089854700	2261	TRUE
<b>Total Population in Disadvantaged Census Tracts: 112,641</b>		
<p>The Climate and Economic Justice Screening Tool (CEJST) highlights disadvantaged census tracts across all 50 states, the District of Columbia, and the U.S. territories. Communities are considered disadvantaged:</p> <ul style="list-style-type: none"> <li>• If they are in census tracts that meet the thresholds for at least one of the tool's categories of burden, or</li> <li>• If they are on land within the boundaries of Federally Recognized Tribes.</li> </ul> <p>The CEJST tool uses datasets as indicators of burdens. The burdens are organized into categories. A community is highlighted as disadvantaged if it is located in a census tract that is:</p> <ol style="list-style-type: none"> <li>(1) At or above the threshold for one or more environmental, climate, or other burdens, and,</li> <li>(2) At or above the threshold for an associated socioeconomic burden.</li> </ol> <p>In addition, a census tract that is completely surrounded by disadvantaged communities and is at or above the 50% percentile for low income is also considered disadvantaged.</p>		
<b>Source:</b> <a href="#">U.S. Council on Environmental Quality</a> - Climate & Economic Justice Screening Tool (2023)		

Figure 3-8 illustrates the Kane County Community Resilience Index Story Map. This map shows each participating jurisdiction with density mapping used to identify community areas that are

overburdened by the 22 challenges identified by the FEMA Community Resilience Challenges Index.

Figure 3-8: Kane County Community Resilience Index Story Map



### 3.14 Community Services / Organizations

Kane County has numerous community-based organizations and services which contribute to the well-being and development of the region:

1. **Kane County Office of Community Reinvestment:** The Kane County Office of Community Reinvestment is a primary resource for social service agencies and municipalities to access federal and state funds for workforce development, homeless services, affordable housing, and community development projects. Additionally, the Office of Community Reinvestment provides some direct services, including housing programs, homeless prevention programs, First-Time Homebuyers program, jobseeker services, youth services related to education and employment, and recruitment assistance for businesses.
2. **Kane County Health Department:** The Kane County Health Department promotes public health and well-being. It offers various services, including vaccinations, health education programs, disease prevention and control, and environmental health services. In addition, the department collaborates with other community organizations to address health concerns effectively.
3. **Kane County Community Services:** Kane County has several non-profit organizations that focus on providing essential services to vulnerable populations. Their programs include food assistance and emergency shelter.
4. **Kane County Forest Preserve District:** The Kane County Forest Preserve District is responsible for conserving and preserving natural areas within the county. It manages a network of parks, preserves, and trails that offer recreational opportunities for residents and visitors. The district also conducts educational programs, wildlife restoration, and environmental initiatives.
5. **Kane County United Way:** Kane County United Way is a non-profit organization that mobilizes resources and supports various community initiatives. They focus on improving education, income stability, and health outcomes for individuals and families in Kane County. The United Way collaborates with partner agencies, volunteers, and donors to implement programs and services that address community needs.
6. **Kane County Veterans Assistance Commission:** The Kane County Veterans Assistance Commission is dedicated to providing support and assistance to veterans and their families. They help veterans navigate through available benefits, provide financial aid, and offer referral services for mental health counseling, employment, and housing. As a result, the commission ensures that veterans receive the resources and support they need to lead fulfilling lives.

### 3.15 Critical Assets

Critical facilities are buildings and infrastructure whose exposure or damage can affect the well-being of a larger group. For example, the impact of a flood or tornado on a hospital is more significant than on a home or most businesses.

Generally, critical facilities fall into two categories:

- Buildings or locations vital to public safety and the disaster response and recovery effort, such as police and fire stations, telephone exchanges, and
- Buildings or locations that, if damaged, would create secondary disasters. Examples of such buildings or sites are hazardous materials facilities and nursing homes.

Any agency does not strictly define critical facilities. For this mitigation planning effort, seven categories of critical facilities were used:

1. Hazardous materials sites. These have been broken into two categories based on USEPA classifications: those with “extremely hazardous substances” (EHS) and those without. These definitions are in 40 CFR Part 355, which also defines their “threshold planning quantities,” i.e., how much of the substance qualifies as a concern. EHS includes well over 100 substances, from acetone to zinc phosphide
2. Health facilities: hospitals and nursing homes.
3. Emergency response facilities: police and fire stations, public works sites, etc.
4. Utilities: water and wastewater treatment plants, electrical substations, etc.
5. Schools.
6. Places of assembly.
7. Bridges that would be inundated during the base or 100-year flood.

The following critical facilities are shown in maps immediately following this page:

- Hazardous Materials Sites
- Health Facilities
- Emergency Response Facilities
- Schools



Figure 3-9: Kane County Hazardous Materials Sites

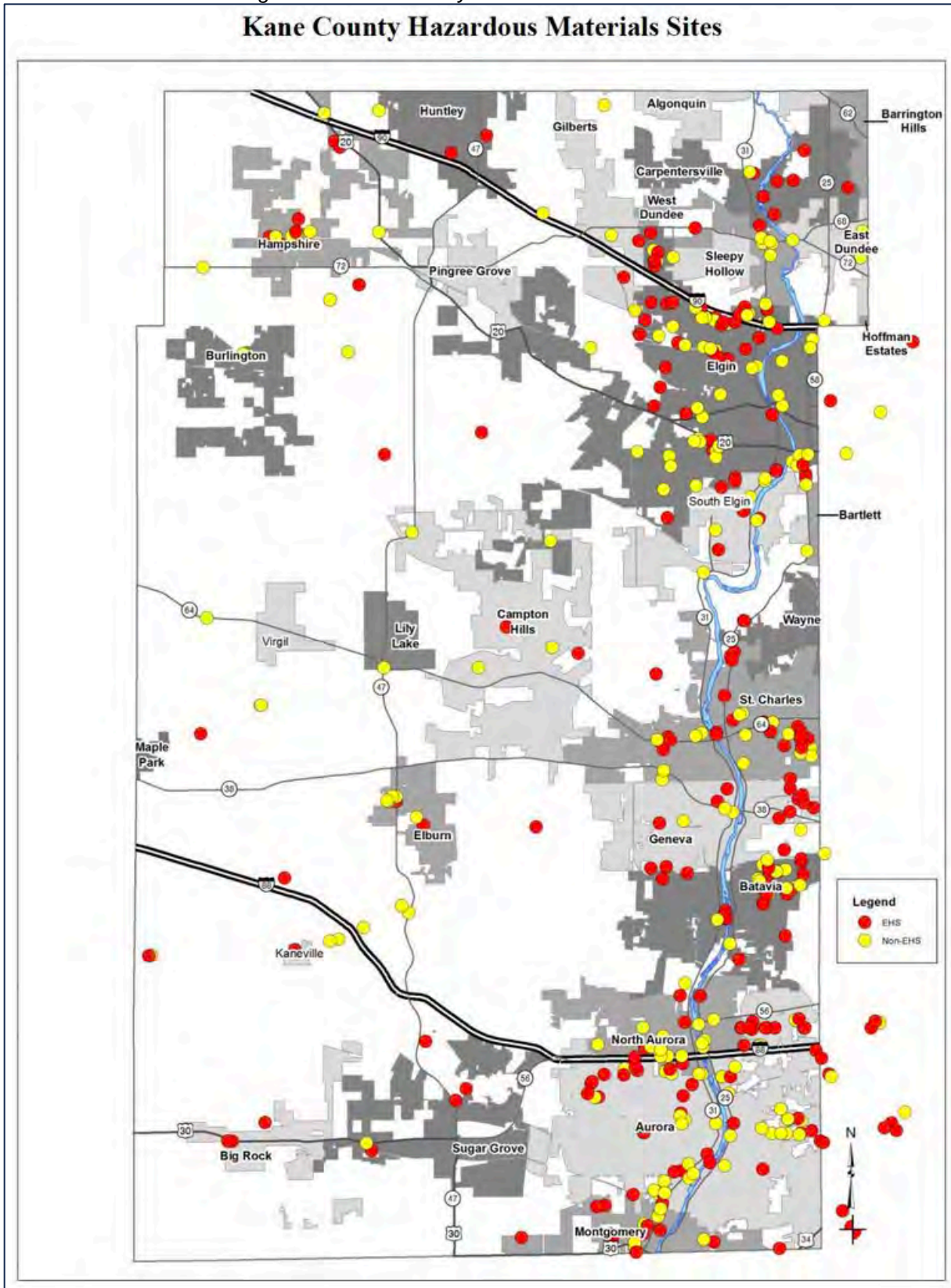


Figure 3-10: Critical Infrastructure in Kane County

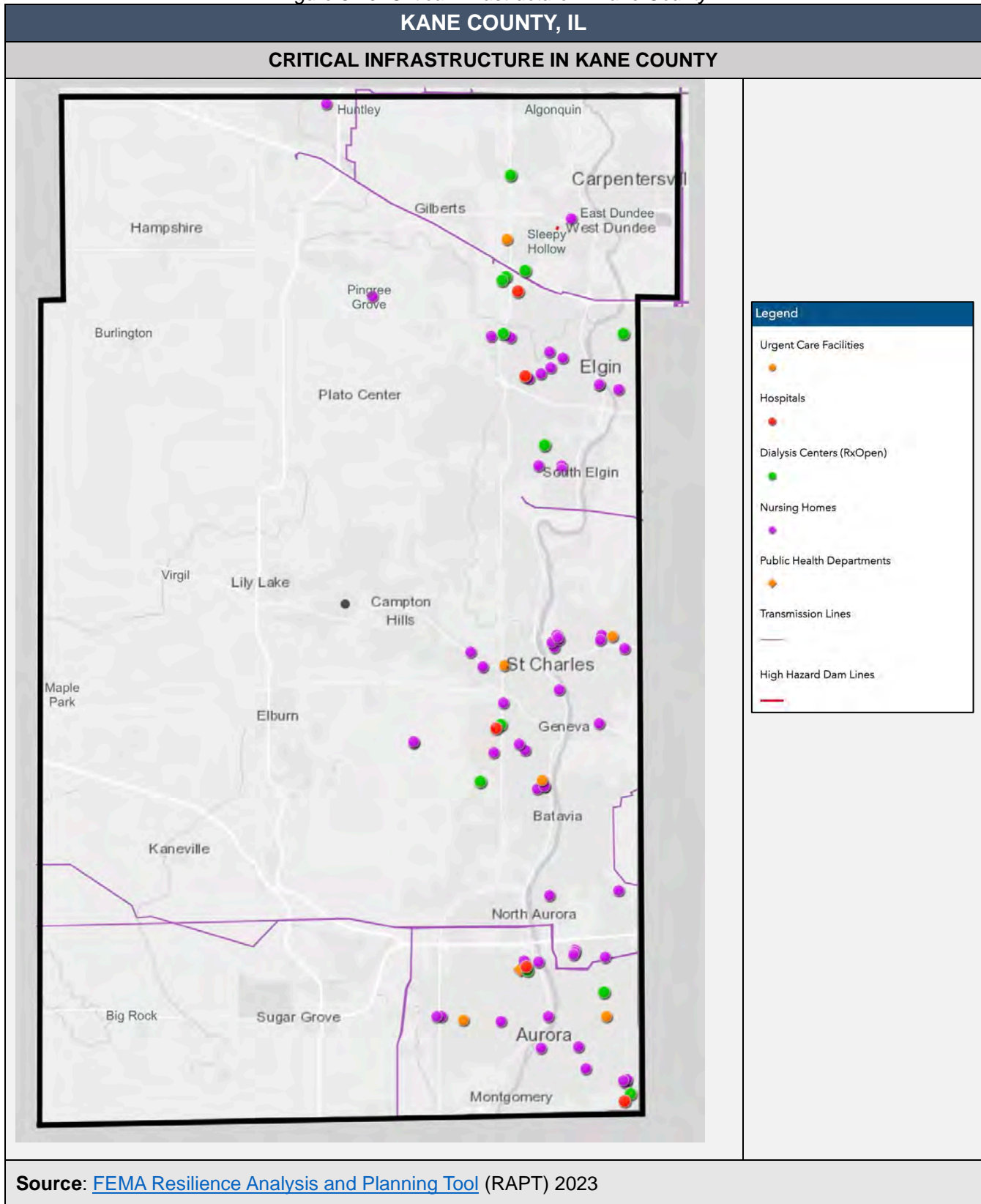




Figure 3-11: Emergency Response Facilities in Kane County

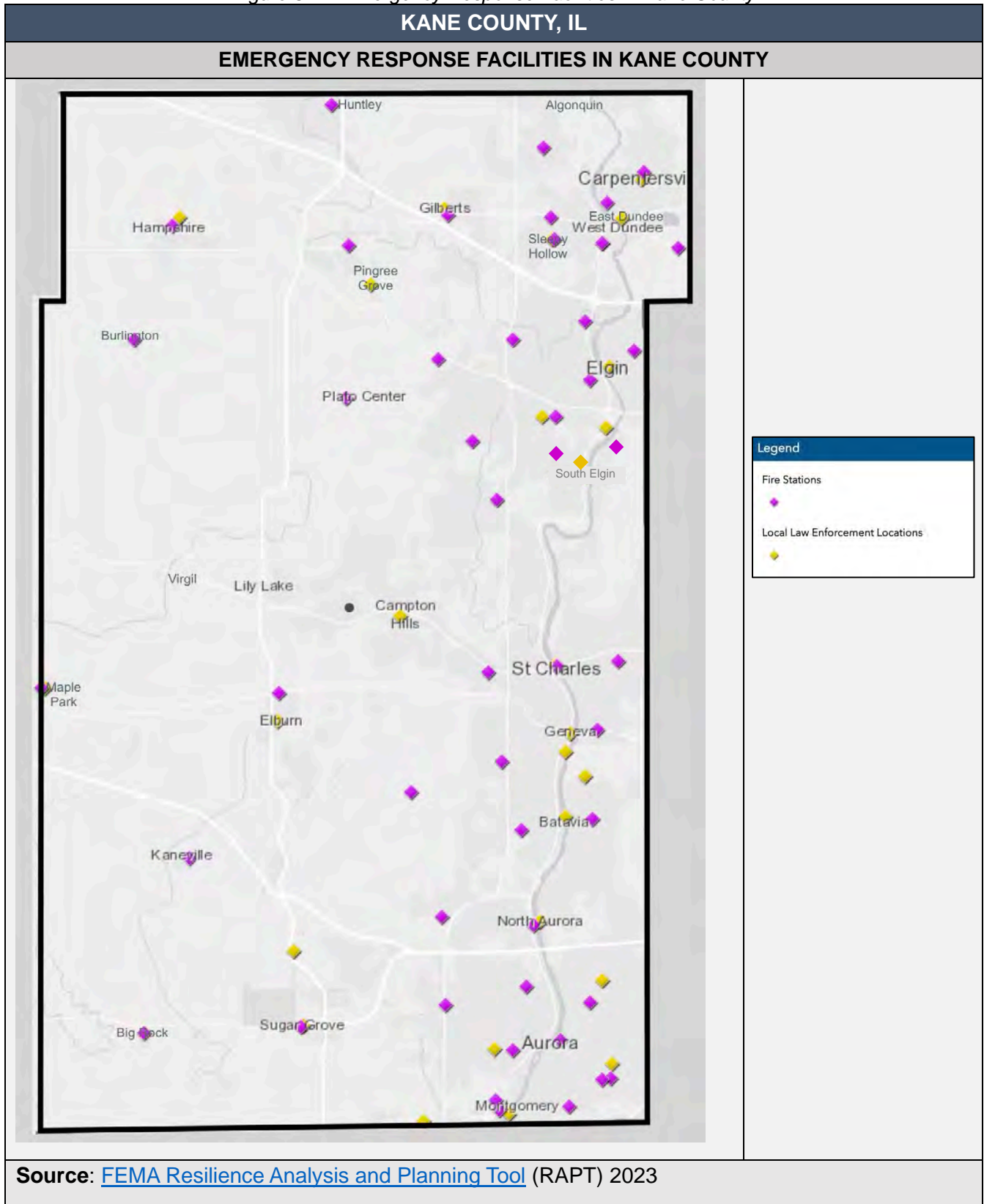
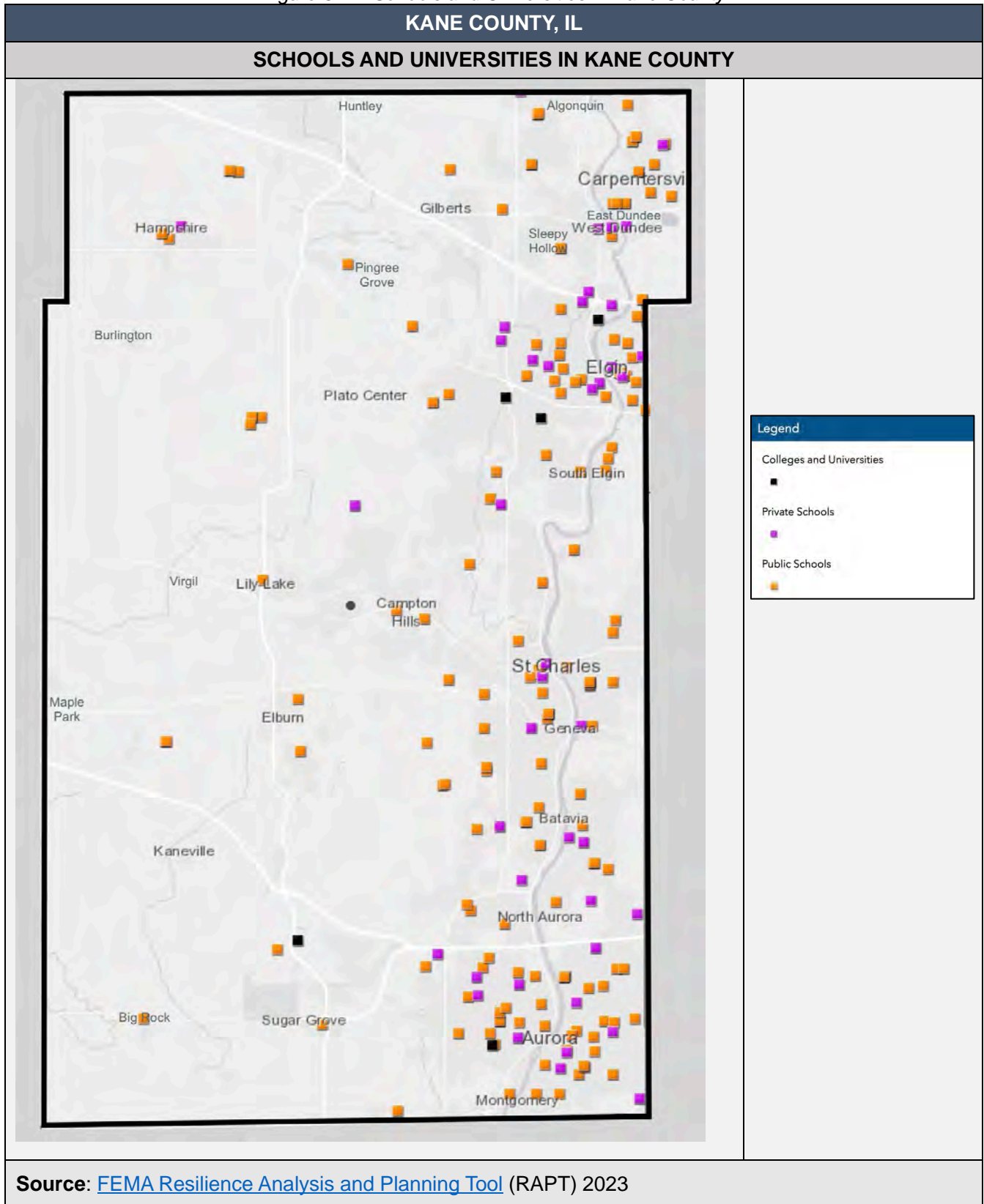


Figure 3-12: Schools and Universities in Kane County



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## Chapter 4: Risk Assessment

### 4.1 Historical Overview

This Plan evaluated 15 natural hazards during the 2024 HMP Update. Risks were identified using a combination of historical research, surveys, workshops, community, and public meetings, and the 2015 Plan. Based on this evaluation, specific hazards were identified as requiring additional consideration and therefore are the focus of this Mitigation Plan. These hazards were selected to represent both County-wide and local community concerns. Evaluation of these hazards does not reduce the significance of a hazard event from any of the hazards evaluated but provides a method for Kane County to focus mitigation activities and resources.

Some hazards were consolidated into similar groupings (e.g., all forms of severe summer storms and severe winter storms were combined). Per FEMA's mandate to address all natural hazards, the following natural hazards were not included because these hazards do not directly impact the County. They are:

- Hurricanes
- Sea Level Rise
- Storm Surge
- Tsunami
- Wildfire

While this section provides a detailed description and profile of each hazard, the analysis is provided at the county level. The hazards that are addressed in this section are:

#### Natural Hazards

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Drought</li> <li>• Earthquakes</li> <li>• Extreme Heat</li> <li>• Ground Failure</li> <li>• Flood                         <ul style="list-style-type: none"> <li>○ Riverine</li> <li>○ Flash/Urban</li> </ul> </li> <li>• High Hazard Dams</li> </ul> | <ul style="list-style-type: none"> <li>• Severe Summer Storms                         <ul style="list-style-type: none"> <li>○ Hail</li> <li>○ High Winds</li> <li>○ Lightning</li> <li>○ Thunderstorms</li> </ul> </li> <li>• Severe Winter Storms                         <ul style="list-style-type: none"> <li>○ Extreme Cold</li> <li>○ Ice Storms</li> <li>○ Winter Storms</li> </ul> </li> <li>• Tornado</li> </ul> |
|--|--|

#### 4.1.1 Presidential Disaster (DR) and Emergency Declarations (EM) in Kane County

Table 4-1 lists all disaster and emergency declarations in Kane County since 1950, according to FEMA. This list shows the foundation for identifying what hazards pose the most significant risk within Kane County.

While natural hazards (tornado, flooding, severe storms) have been the most significant hazards Kane County has experienced since 1950, biological hazards (COVID-19 Pandemic) have been the only hazard type that has received a federal disaster declaration since 2013 in Kane County.

Table 4-1. Federal Disaster Declarations for Kane County

Incident Type	Declaration Title	Declaration Date	FEMA Disaster Number	Location	Declaration Type
Tornado	Tornado	1967-04-25	227	IL	DR
Flood	Severe Storms & Flooding	1973-04-26	373	IL	DR
Flood	Severe Storms & Flooding	1974-06-10	438	IL	DR
Snowstorm	Blizzards & Snowstorms	1979-01-16	3068	IL	EM
Flood	Severe Storms & Flooding	1986-10-07	776	IL	DR
Tornado	Tornado	1990-08-29	878	IL	DR
Severe Storm	Severe Storms & Flooding	1996-07-25	1129	IL	DR
Snowstorm	Illinois Winter Storm 1/1/99	1999-01-08	3134	IL	EM
Snowstorm	Illinois Winter Snowstorms	2001-01-17	3161	IL	EM
Hurricane	Hurricane Katrina Evacuation	2005-09-07	3230	IL	EM
Severe Storm	Severe Storms & Flooding	2007-09-25	1729	IL	DR
Severe Storm	Severe Storms & Flooding	2008-10-03	1800	IL	DR
Snowstorm	Severe Winter Storm & Snowstorm	2011-03-17	1960	IL	DR
Flood	Severe Storms, Straight line Winds& Flooding	2013-05-10	4116	IL	DR
Biological	COVID-19	2020-03-13	3435	IL	EM
Biological	COVID-19 Pandemic	2020-03-26	4489	IL	DR

Table 4-2. State Declarations for Kane County

Date Declared	Event
1/31/2011	Winter Weather
4/25/2011 5/25/2011	High Wind, Tornadoes, Torrential Rain
4/18/2013 4/20/2013 4/21/2013 4/25/2013 4/30/2013	Severe Storms, Heavy Rainfall, Flooding, Straight-line Winds
1/6/2014	Heavy Snowfall, Frigid Temperatures
7/12/2017 7/14/2017	Thunderstorms, Heavy Rainfall, Flooding
1/29/2019	Winter Storm
3/12/2020 – 5/11/2023	COVID-19
2/16/2021	Winter Storms

2/1/2022	Winter Storms
8/1/2022 (reissued monthly through 10/28/2022)	Monkeypox

## 4.2 Risk Assessment Methodology

### 4.2.1 Probability of Occurrence

The probability of occurrence of a hazard is indicated by a probability factor based on the likelihood of annual occurrence:

- **High:** Significant hazard event is likely to occur annually (Probability Factor = 3)
- **Medium:** Significant hazard event is likely to occur within 25 years (Probability Factor = 2)
- **Low:** Significant hazard event is likely to occur within 100 years (Probability Factor = 1)
- **Unlikely:** There is little to no probability of significant occurrence, or the recurrence interval is greater than every 100 years (Probability Factor = 0)

The assessment of hazard frequency is generally based on past hazard events in the area.

### 4.2.2 Extent

Extent was assessed in two categories: extent/intensity and catastrophic potential of the hazard. Numerical impact factors were assigned as follows:

**Extent/Intensity:** Extent is the range of anticipated intensities of the identified hazards. Extent is most commonly expressed using various scientific scales, such as the Enhanced Fujita scale.

- **High:** Historical and/or probabilistic models/studies for this hazard indicate the possibility of a high-intensity incident (Extent Factor = 3)
- **Medium:** Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident (Extent Factor = 2)
- **Low:** Historical and/or probabilistic models/studies for this hazard indicate the possibility of a low-intensity incident (Extent Factor = 1)
- **Unlikely:** Historical and/or probabilistic models/studies for this hazard indicate the possibility of little to no intensity (Extent Factor = 0)

**Catastrophic Factor:** The potential that an occurrence of this hazard could be catastrophic.

- **High:** High potential that this hazard could be catastrophic (Extent Factor = 3)
- **Medium:** Medium potential that this hazard could be catastrophic (Extent Factor = 2)
- **Low:** Low potential that this hazard could be catastrophic (Extent Factor = 1)
- **Unlikely:** Virtually no potential that this hazard could be catastrophic (Extent Factor = 0)

Each category was assigned a weighting factor to reflect its significance, consistent with those typically used for measuring the benefits of hazard mitigation actions: a weighting factor of 3 was assigned for *Extent/Intensity* and its potential for *Catastrophe*.

### 4.2.3 Vulnerability

Vulnerabilities were assessed in three categories: population exposure, property exposure, and exposure based on changes in development. Numerical impact factors were assigned as follows:

**People:** Values were assigned based on the percentage of the total population exposed to the hazard event.

- **High:** 30% or more of the population is exposed to this hazard (Vulnerability Factor = 3)
- **Medium:** 15% to 29% of the population is exposed to this hazard (Vulnerability Factor = 2)
- **Low:** 14% or less of the population is exposed to this hazard (Vulnerability Factor = 1)
- **No Vulnerability:** None of the population is exposed to this hazard (Vulnerability Factor = 0)

**Property Exposed:** Values were assigned based on the percentage of the total property value exposed to the hazard event.

- **High:** 25% or more of the total assessed property value is exposed to the hazard (Vulnerability Factor = 3)
- **Medium:** 10% to 24% of the total assessed property value is exposed to the hazard (Vulnerability Factor = 2)
- **Low:** 9% or less of the total assessed property value is exposed to the hazard (Vulnerability Factor = 1)
- **No Vulnerability:** None of the total assessed property value is exposed to the hazard (Vulnerability Factor = 0)

**Changes in Development Factor:** Changes in development since the previous plan was approved have increased or decreased the community's vulnerability/exposure to this hazard.

- **High:** Changes in development have significantly increased the vulnerability/exposure of the community to this hazard (Vulnerability Factor = 3)
- **Medium:** Changes in development have increased the vulnerability/exposure of the community to this hazard, but not significantly (Vulnerability Factor = 2)
- **Low:** Changes in development have minimally increased the vulnerability/exposure of the community to this hazard (Vulnerability Factor = 1)
- **No Vulnerability:** Changes in development have had no effect and/or have decreased the vulnerability/exposure of the community to this hazard (Vulnerability Factor = 0)

Each category was assigned a weighting factor to reflect its significance, consistent with those typically used for measuring the benefits of hazard mitigation actions: a weighting factor of 3 was assigned for *People*, and a weighting factor of 1 was assigned for *Property Exposed* and *Changes in Development*.

### 4.2.4 Impact

Hazard impacts were assessed in eight categories: population and life/safety, underserved/equity, property damages, economic, environmental, essential operations, future development, and climate change. Numerical impact factors were assigned as follows:



**Population and Life/Safety:** Values were assigned based on (1) best available historical and probabilistic data for individuals vulnerable to the hazard event and (2) the likelihood to experience adverse impacts in the event of its occurrence.

- **High:** Populations exposed to this hazard are likely to experience significant adverse impacts (Impact Factor = 3)
- **Medium:** Populations exposed to this hazard are likely to experience some adverse impacts (Impact Factor = 2)
- **Low:** Populations exposed to this hazard are likely to experience minimal adverse impacts (Impact Factor = 1)
- **No impact:** Populations exposed to this hazard are not likely to experience significant adverse impacts (Impact Factor = 0)

**Underserved/Equity:** Values were assigned based on the best available data for underserved populations vulnerable to the hazard event and likely to experience adverse or disproportionate impacts. As a result of the hazard incident, these populations may suffer from greater disparities in equity.

- **High:** Underserved populations exposed to this hazard are likely to experience significant adverse/disproportionate impacts (Impact Factor = 3)
- **Medium:** Underserved populations exposed to this hazard are likely to experience some adverse/disproportionate impacts (Impact Factor = 2)
- **Low:** Underserved populations exposed to this hazard are likely to experience minimal adverse/disproportionate impacts (Impact Factor = 1)
- **No impact:** Underserved populations exposed to this hazard are not likely to experience significant adverse/disproportionate impacts (Impact Factor = 0)

**Property Damages:** Values were assigned based on the expected total property damages incurred from a hazard incident. It is important to note that values represent estimates of the loss from a significant incident based on historical data or probabilistic models/studies.

- **High:** More than \$5,000,000 in property damages is expected from a single major hazard event, or damages are expected to incur 15% or more of the property value within the jurisdiction (Impact Factor = 3)
- **Medium:** More than \$500,000, but less than \$5,000,000 in property damages is expected from a single major hazard event, or anticipated damages are expected to be more than 5% but less than 15% of the property value within the jurisdiction (Impact Factor = 2)
- **Low:** Less than \$500,000 in property damages is expected from a single major hazard event or less than 15% of the property value within the jurisdiction (Impact Factor = 1)
- **No impact:** Little to no property damage is expected from a single major hazard event (Impact Factor = 0)

**Economic Factor:** An estimation of the impact (in USD) on the local economy is based on the projected loss of business revenue, crops, worker wages, and local tax revenues or the impact on the regional gross domestic product (GDP).

- **High:** Where the total economic impact is likely to be greater than \$10 million (Impact Factor = 3)
- **Medium:** Where the total economic impact is likely to be greater than \$100,000 but less than or equal to \$10 million (Impact Factor = 2)
- **Low:** Where the total economic impact is not likely to be greater than \$100,000 (Impact Factor = 1)
- **No Impact:** Where there is virtually no significant economic impact (Impact Factor = 0)

**Environmental Factor:** Environmental impact from a major hazard event requiring outside resources and support; and/or repair, clean-up, restoration, and/or preservation work.

- **High:** Environmental impact from a single major hazard event is likely to be significant, requiring extensive outside resources and support; and/or repair, clean-up, restoration, and/or preservation work (Impact Factor = 3)
- **Medium:** Environmental impact from a single major hazard event is likely to be localized, requiring some outside resources and support; and/or repair, clean-up, restoration, or preservation work (Impact Factor = 2)
- **Low:** Environmental impact from a single major hazard event is likely to be minimal, requiring little to no outside resources and support, and/or minimal repair, clean-up, restoration, or preservation work (Impact Factor = 1)
- **No impact:** No environmental impacts from a single major hazard event is likely (Impact Factor = 0)

**Essential Operations Factor:** Impact on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single major hazard event.

- **High:** Significant impact on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single major hazard event (Impact Factor = 3)
- **Medium:** Some impact on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single major hazard event (Impact Factor = 2)
- **Low:** Minimal impact on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single major hazard event (Impact Factor = 1)
- **No Impact:** No impact on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single major hazard event (Impact Factor = 0)

**Future Development Factor:** The potential that future development will have on increasing or decreasing the impact/consequence of this hazard.

- **High:** Future development trends will significantly increase the impact/consequence of this hazard (Impact Factor = 3)
- **Medium:** Future development trends will increase the impact/consequence of this hazard, but not significantly (Impact Factor = 2)
- **Low:** Future development trends will minimally increase the impact/consequence of this hazard (Impact Factor = 1)

- **No Impact:** Future development trends will not increase the impact/consequence of this hazard and/or may even decrease the impact/consequence of this hazard (Impact Factor = 0)

**Climate Change Factor:** The potential that Climate Change will increase the risk of this hazard (i.e., type, location, and range of anticipated intensities of the identified hazard and impacts)

- **High:** Climate Change trends will significantly increase the risk of this hazard and its impacts (Impact Factor = 3)
- **Medium:** Climate Change trends will increase the risk of this hazard and its impacts, but not significantly (Impact Factor = 2)
- **Low:** Climate Change trends will minimally increase the risk of this hazard and its impacts (Impact Factor = 1)
- **No Impact:** Climate Change trends will not increase the risk of this hazard and its impacts (Impact Factor = 0)

Each category was assigned a weighting factor to reflect its significance, consistent with those typically used for measuring the benefits of hazard mitigation actions: a weighting factor of 3 was assigned for *Population and Life Safety* and *Underserved/Equity*, and a weighting factor of 2 was assigned for *Property Damages*. In addition, a weighting factor of 1 was assigned for *Economic, Environmental, Essential Operations, Future Development, and Climate Change*.

### 4.3 FEMA NRI Risk Scores

The National Risk Index (NRI) is a dataset and online tool to help illustrate the United States communities most at risk for 18 natural hazards: Avalanche, Coastal Flooding, Cold Wave, Drought, Earthquake, Hail, Heat Wave, Hurricane, Ice Storm, Landslide, Lightning, Riverine Flooding, Strong Wind, Tornado, Tsunami, Volcanic Activity, Wildfire, and Winter Weather. Because not all hazards apply to the county, only those with a defined risk to the county are included.

The National Risk Index leverages available source data for Expected Annual Loss due to these 18 hazard types, Social Vulnerability and Community Resilience, to develop a baseline relative risk measurement for each United States county and census tract. These measurements are calculated using average past conditions but cannot be used to predict future outcomes for a community. The National Risk Index is intended to fill gaps in available data and analyses to better inform federal, state, local, tribal, and territorial decision-makers as they develop risk reduction strategies.

#### 4.3.1 FEMA National Risk Index Score

Table 4-3. Overall FEMA NRI Score

KANE COUNTY, IL FEMA OVERALL NRI SCORE	
FEMA Overall NRI Score	FEMA Overall NRI Rating
90.0 / 100	Relatively Moderate
<i>Risk Index Scores are calculated using an equation that combines scores for Expected Annual Loss due to natural hazards, Social Vulnerability and Community Resilience. (Expected Annual Loss X Social Vulnerability / Community Resilience = Risk Index).</i>	

**Source:** <https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataIDs=C26125>

### 4.3.2 Social Vulnerability

Social Vulnerability measures the susceptibility of social groups to the adverse impacts of natural hazards, including disproportionate death, injury, loss, or disruption of livelihood.

Per the FEMA National Risk Index, Kane County has a Social Vulnerability Rating of “**Relatively Moderate**” and a Social Vulnerability Score of “**49.4**” out of 100 (FEMA, 2023).

The “Social Vulnerability Score” and “Rating” represent the relative level of a community’s social vulnerability compared to all other communities at the same level. A community’s Social Vulnerability Score is also proportional to a community’s risk. A higher Social Vulnerability Score results in a higher Risk Index Score (FEMA, 2023).

Social vulnerability is one of five components included in the formulation of the “National Risk Index Score” in addition to community resilience, estimated annual loss (EAL) based on exposure, annualized frequency, and Historic Loss Ratio (HLR) factors (FEMA, 2023).

Table 4-4. Social Vulnerability FEMA NRI Score

KANE COUNTY, IL FEMA NRI SOCIAL VULNERABILITY SCORE	
Social Vulnerability Score	Social Vulnerability Rating
49.4 / 100	Relatively Moderate
<i>Social Vulnerability is measured using the Social Vulnerability Index (SoVI) published by the University of South Carolina's Hazards and Vulnerability Research Institute (HVRI).</i>	
<b>Source:</b> <a href="https://hazards.fema.gov/nri/social-vulnerability">hazards.fema.gov/nri/social-vulnerability</a>	

### 4.3.3 Community Resilience

Community Resilience measures a community's ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions.

Table 4-5. Community Resilience FEMA NRI Score

KANE COUNTY, IL FEMA NRI COMMUNITY RESILIENCE SCORE	
Community Resilience Score	Community Resilience Rating
69.9 / 100	Relatively High
<i>Community Resilience is measured using the Baseline Resilience Indicators for Communities (HVRI BRIC) published by the University of South Carolina's Hazards and Vulnerability Research Institute (HVRI).</i>	
<b>Source:</b> <a href="https://hazards.fema.gov/nri/community-resilience">hazards.fema.gov/nri/community-resilience</a>	

### 4.3.4 Community Resilience Challenges Index (CCRI) Percentile

Table 4-6. FEMA Community Resilience Challenges Index (CRCI) Percentile

KANE COUNTY, IL FEMA CRCI PERCENTILE	
Community Resilience Challenges Index Percentile	
9.0 / 100%	
<i>The FEMA CRCI index provides a relative composite value by county and by census tract, measured as an average of counts of standard deviations from the national mean for each indicator. The 2023 update to the FEMA CRCI uses the most currently available census data, the 2017-2021 ACS 5-year estimates, and is updated annually.</i>	
<b>Source:</b> <a href="https://fema.maps.arcgis.com/apps/webappviewer/index.html?id=90c0c996a5e242a79345cdbc5f758fc6">https://fema.maps.arcgis.com/apps/webappviewer/index.html?id=90c0c996a5e242a79345cdbc5f758fc6</a>	

### 4.3.5 Expected Annual Loss

Expected Annual Loss (EAL) represents the expected economic damage likely to occur yearly due to hazard events.

Table 4-7. Expected Annual Loss FEMA NRI Score (All Natural Hazards)

KANE COUNTY, IL FEMA NRI EXPECTED ANNUAL LOSS SCORE	
Expected Annual Loss Score	Expected Annual Loss Rating
91.0 / 100	Relatively Moderate
<i>Expected Annual Loss scores are calculated using an equation that combines values for exposure, annualized frequency, and historic loss ratios (Expected Annual Loss = Exposure x Annualized Frequency x Historic Loss Ratio).</i>	
<b>Source:</b> <a href="https://hazards.fema.gov/nri/expected-annual-loss">hazards.fema.gov/nri/expected-annual-loss</a>	

### 4.4 Overall Risk Scores

The following tables represent the new overall risk scores for Kane County based on the described methodology above. Following a data-driven quantitative assessment, the planning team utilized subject matter knowledge and expertise and further refined the scores. FEMA NRI Scores were used as appropriate and applicable to inform the analysis.

### 4.4.1 Kane County Overall Risk Scores

Table 4-8. 2024 Hazard Risk Scores for Kane County

Hazard Event	Probability	Consequence				Total Risk
	Probability Factor	Sum of Weighted Extent Factors	Sum of Weighted Vulnerability Factors	Sum of Weighted Impact Factors	Consequence Score	Total Risk Score (Probability x Consequence)
Flooding: Urban/Depressional	3	9	11	24	44	63
Severe Summer Storms: Microbursts/High Winds	3	12	10	15	37	55
Severe Winter Storms: Winter Storms	3	9	11	16	36	54
Flooding: Riverine	2	15	6	29	50	50
Tornado	2	15	6	28	49	49
Severe Winter Storms: Ice Storms	2	9	15	19	43	44
Severe Summer Storms: Thunderstorms	3	3	10	13	26	41
Severe Summer Storms: Hailstorms	3	3	10	13	26	41
Extreme Heat	2	9	9	17	35	37
Severe Winter Storms: Extreme Cold	2	9	11	14	34	36
Drought	2	9	9	15	33	35
Severe Summer Storms: Lightning	3	3	5	12	20	32
High Hazard Dams	1	12	6	22	40	23
Earthquakes	1	3	16	12	31	19
Ground Failure	1	3	5	13	21	13



Table 4-9. Hazard Risk Scores Legend

Probability Factor		Sum of Weighted Extent Factors		Sum of Weighted Vulnerability Factors		Sum of Weighted Impact Factors		Consequence Score		Total Risk Score	
1	Low (L)	0–6	Low (L)	0–6	Low (L)	0–12	Low (L)	0–25	Low (L)	0–24	Low (L)
2	Medium (M)	7–12	Medium (M)	7–12	Medium (M)	13–26	Medium (M)	26–50	Medium (M)	25–59	Medium (M)
3	High (H)	13–18	High (H)	13–18	High (H)	27–39	High (H)	51–75	High (H)	60–100	High (H)
<p>* The <b>Legend</b> – specifically the assignment of low, medium, and high—provides an additional means to <u>qualitatively</u> assess the probability factor, sum of weighted factors, and the total risk scores for each hazard.</p> <p>The <b>Consequence Score</b> represents the sum of the Extent, Vulnerability, and Impact Factors.</p> <p>The <b>Total Risk Score</b> is a measure of Probability and Consequence.</p>											

**Note:** If you are accessing the Microsoft Word version of this Plan, double-click on the icon below to access the entire assessment. The first tab includes the assessment, and the second includes the final scores.



Kane County HMP  
Hazard Rankings.xls

## 4.5 Drought

### 4.5.1 Hazard Description

Drought is a normal and a recurrent feature of climate, however, it is only a temporary feature of climate. Drought characteristics vary from one region to another, rather drought occurs almost everywhere. All societies are vulnerable to this natural hazard; drought can affect vast territorial regions and large population numbers. A drought may not have a distinct start, and its termination may be difficult to recognize. Weather conditions, soil moisture, runoff, water table conditions, water quality and stream flow are all natural factors that are important in determining drought. High temperature, high wind and low relative humidity can significantly aggravate its severity.

Droughts originate from a deficiency of precipitation over an extended period of time, usually a season or more. This deficiency results in a water shortage for some activity, group or environmental sector.

### 4.5.2 Hazard Location

Drought could occur anywhere in Kane County, likely affecting the entire county.

### 4.5.3 Hazard Extent/Intensity

Figure 4-1 displays the precipitation conditions for the United States using the Palmer Drought Severity Index (PDSI), taken from the National Weather Service (NWS). The PDSI quantifies drought in terms of prolonged and abnormal moisture deficiency or excess. This index indicates general conditions and not local variations caused by isolated rain. The PDSI is an important climatological tool for evaluating the scope, severity, and frequency of prolonged periods of abnormally dry or wet weather. In addition, it can help delineate disaster areas and indicate the availability of irrigation water supplies, reservoir levels, range conditions, amount of stock water, and potential intensity of forest fires (NCAR, 2023).

The PDSI compares moisture deficiency and excess on a numerical scale that usually ranges from positive five to negative five. Positive values reflect excess moisture supplies, while negative values indicate moisture demands in excess of supplies.

Figure 4-1. Palmer Drought Severity Index (PDSI)

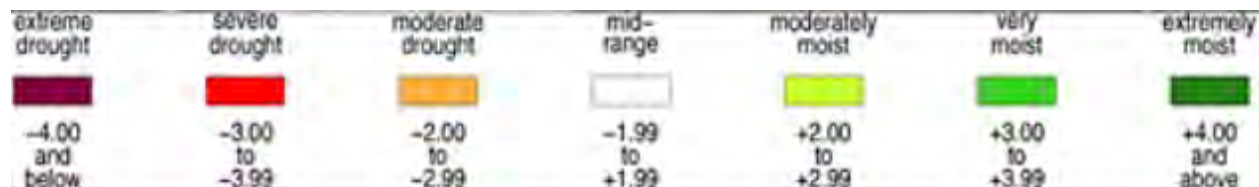
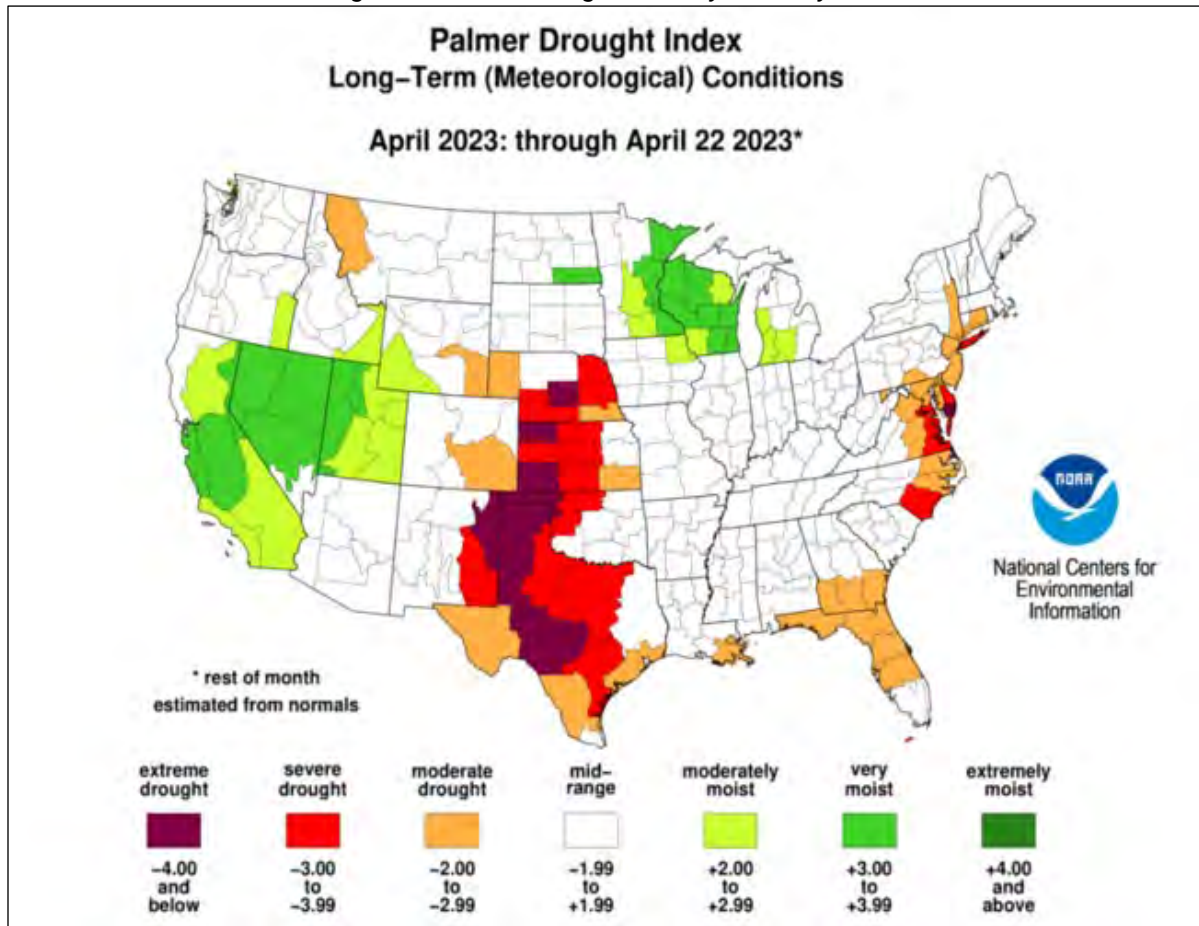
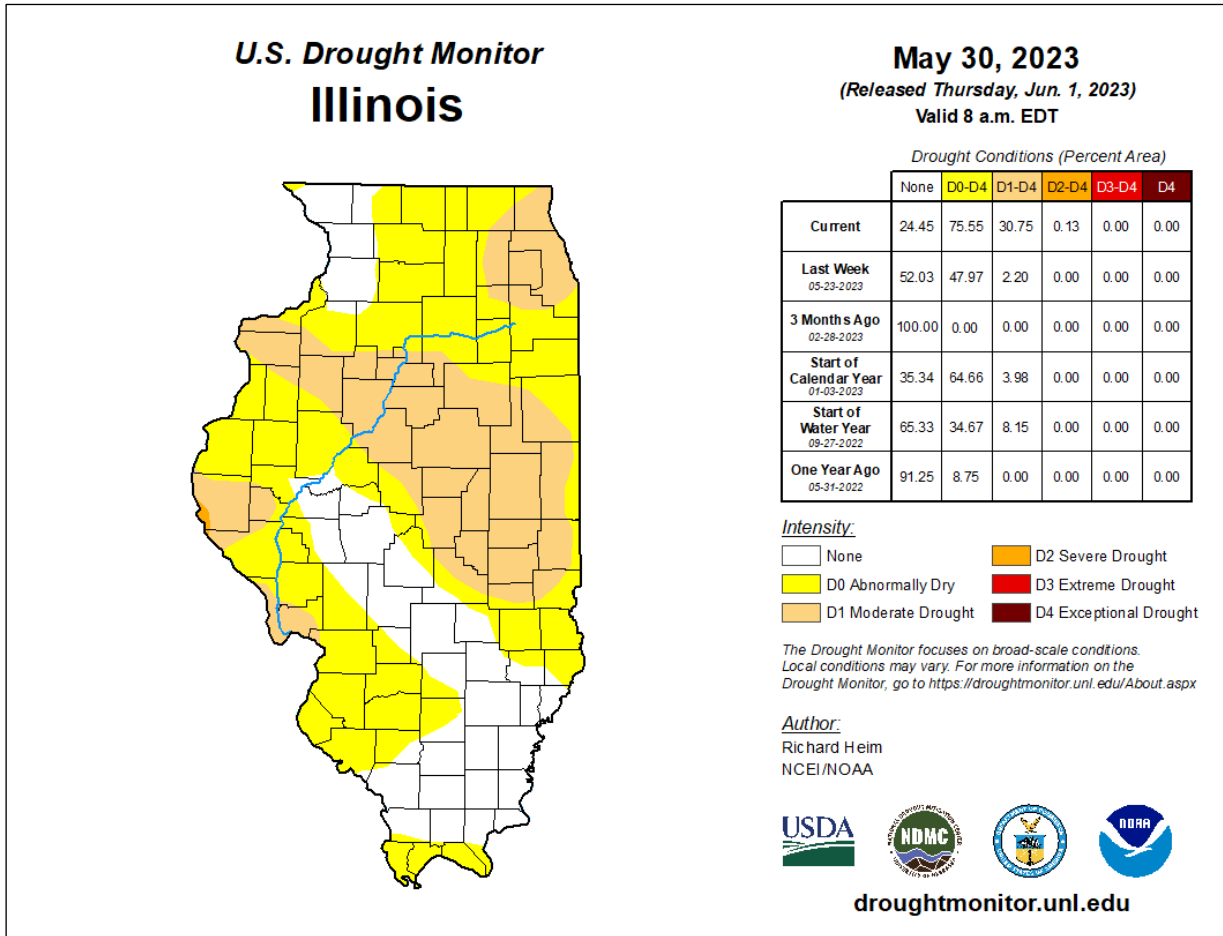


Figure 4-2. U.S. Drought Severity Index by Division



The National Drought Mitigation Center also rates drought nationwide by intensity using a D0 (Abnormally Dry) to D4 (Exceptional Drought) scale, as seen in Figure 4-3 in the map of Illinois.

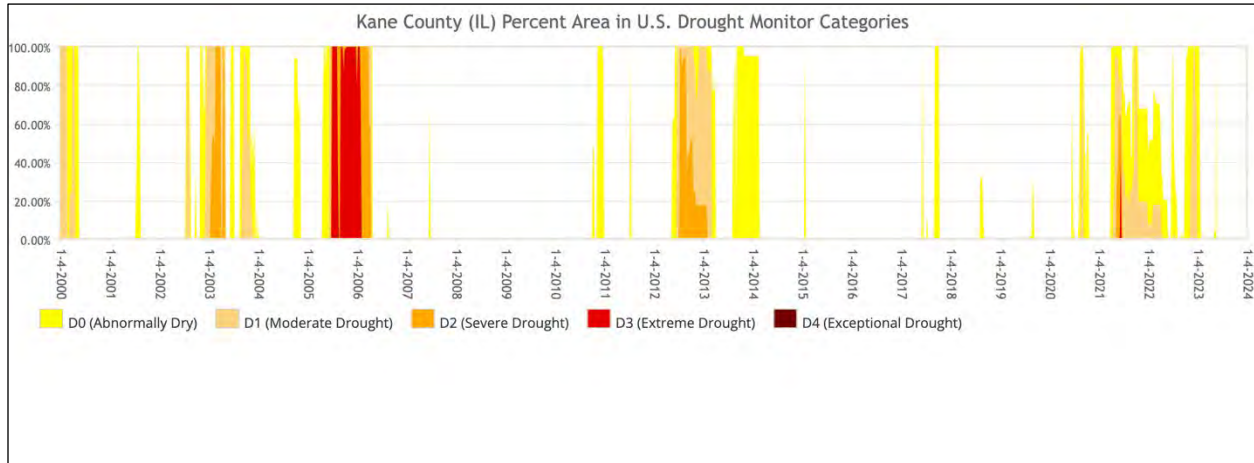
Figure 4-3. U.S. Drought Monitor – Illinois (2023)



#### 4.5.4 Probability and Frequency

“Meteorological drought can begin and end rapidly, while hydrological drought takes much longer to develop and recover. Over the decades, many indices have been developed to measure drought in these various sectors. For example, the U.S. Drought Monitor depicts drought integrated across all time scales and differentiates between agricultural and hydrological impacts (NOAA, 2023).” The NOAA uses the PDSI to measure drought conditions, illustrated in Figure 4-1. Subsequently, Figure 4-4 shows the percent area in U.S. Drought Monitor Categories between the year 2000 and the year 2024.

Figure 4-4. U.S. Drought Monitor – Kane County, Illinois (2000-2023)



### 4.5.5 Past Events

**(May 18-31, 2021):** After a dry Spring, severe drought conditions developed across far northeast Illinois during the middle of May and continued through the end of May. For Chicago O'Hare Airport, rainfall for the Spring season (March, April and May) was 3.75 inches which was 6.94 inches below normal. For Chicago Midway Airport, rainfall for the Spring season was 5.15 inches, which was 4.39 inches below normal. For Rockford, rainfall for the Spring season was 5.51 inches which was 4.82 inches below normal. For Waukegan Airport, rainfall for the Spring season was 2.96 inches, which was 6.95 inches below normal. For DuPage Airport, rainfall for the Spring season was 3.99 inches, which was 5.76 inches below normal. For Chicago Executive Airport, rainfall for the Spring season was 3.03 inches, which was 5.88 inches below normal.

**(June 1-28, 2021):** Severe drought conditions continued across far northeast Illinois through much of June. During the middle of June, extreme drought conditions developed over Boone, McHenry, Lake, northwest Cook, northern Kane and northeast DeKalb Counties. Heavy rains returned to some of the drought area at the end of the month. Severe drought conditions were confined to mainly Boone, McHenry and Lake Counties at the end of June with a small area of extreme drought conditions near the Illinois Wisconsin state line.

For the month of June, Chicago O'Hare Airport rainfall was 6.78 inches, which was 2.78 inches above normal. Chicago Midway Airport rainfall was 6.23 inches, which was 2.22 inches above normal. Rockford rainfall was only 1.26 inches, which was 3.97 inches below normal. Waukegan Airport rainfall was 3.69 inches, which was 0.75 inches below normal. DuPage Airport rainfall was 6.71 inches which was 3.06 inches above normal. Chicago Executive Airport rainfall was 5.63 inches, which was 1.66 inches above normal.

Table 4-10 shows the recorded drought events for Kane County from 2012 to 2022, as recorded by NOAA's National Climate Data Center. From 2012 to 2022, Kane County recorded two events with no associated injuries or deaths.

Table 4-10. Drought Activity in Kane County, IL (2012-2022)

Location	County/Zone	St.	Date	Type	Dth	Inj	PrD	CrD
<b>Totals:</b>					<b>0</b>	<b>0</b>	<b>0.00K</b>	<b>0.00K</b>
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	05/18/2021	Drought	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	06/01/2021	Drought	0	0	0	0.00K
<b>Totals:</b>					<b>0</b>	<b>0</b>	<b>0.00K</b>	<b>0.00K</b>

In September 1983, all 102 counties in Illinois, including Kane County, were proclaimed state disaster areas because of high temperatures and insufficient precipitation beginning in mid-June. Precipitation of less than 88 percent of normal also occurred in all of Illinois in September of 1994.

A severe drought struck Illinois in 2005-06, especially in the northern half of the state. Dry conditions in 2005 reached a historic level of severity in some parts of Illinois and ranked as one of the three most severe droughts in Illinois in 112 years of record. The timing of the dryness during the spring and summer, when water demand and use are high, ensured substantial impacts on agriculture and other sectors. The drought also had several unusual characteristics. The drought area was long and narrow, extending from south Texas to the Great Lakes, but within the Midwest, the drought had relatively minor impacts on states other than Illinois.

In 2012 another severe drought occurred in Illinois, affecting a large majority of the state. The drought conditions intensified throughout the summer months and into early fall.

#### 4.5.6 Vulnerability and Impacts

**Life Safety and Health:** Droughts affect life safety and public health in several ways. Health problems can arise from poor water quality, poor food quality, and increased dust in the air. In addition, droughts make fires more likely, spread more quickly, and make them more challenging. In addition, poor air quality and a lack of water may reduce residents’ engagement in recreational activities, reducing overall mental and physical well-being (NDMC, 2023). No injuries or fatalities were reported by the NCEI Storm Events Database between 1996 and 2022.

**Property Damage and Critical Infrastructure:** Drought has a negligible impact on buildings. Possible losses/impacts to critical facilities include the loss of essential functions due to low water supplies. Severe droughts can negatively affect drinking water supplies. Should a public water system be involved, the losses could total millions if outside water is shipped. Possible losses to infrastructure include the loss of potable water. No property damage was reported by the NCEI Storm Events Database between 1996 and 2022. It is reasonable to expect that drought would cause limited to zero property damage in the future.

**Economy:** Limited data demonstrate the economic impact of past drought events on Kane County. The most significant economic effect of drought is on agriculture, which is an essential economic driver in Kane County.



Table 4-11. Drought Indemnities Paid in Kane County, IL (1995-2020)

Cause of Loss	Premium subsidies 1995-2020	Percent Cause of Loss (Heat, Excess Moisture, Hail, Drought, Flood, Cold Winter, Freeze, Other, etc.)
Drought	\$20,085,673	31.16%
<p><i>The premium subsidies by cause of loss in the table are lower than total premium subsidies because the USDA Risk Management Agency only reports premium subsidies by cause of loss for policies that paid an indemnity. Non-indemnified policies and their associated premium subsidies are not reported by cause of loss. The driving force behind a decline in crop yield or revenue that triggers an indemnity payment is called the “cause of loss” – an event or circumstance that damages crop yield, such as drought, hail or too much rain, or that damages the price side of farmer revenues, like a decline in crop price.</i></p>		

**Changes in Development and Impact of Future Development:** No data exists demonstrating the impact of drought on future development in Kane County. However, excessive drought can result in water shortages and increased competition for limited water resources, which can limit the ability of developers to expand projects within the county.

**Effects of Climate Change on Severity of Impacts:** According to University Corporation for Atmospheric Research (UCAR), climate change is causing more extreme weather events, including severe drought. UCAR explains that warmer temperatures cause more evaporation, turning water into vapor in the air and causing drought in some areas of the world. Places prone to drought are expected to become even drier over the following century (UCAR, 2023).

**Climate Change Impact on Drought in Kane County:** Higher temperatures, increasing variation in precipitation patterns, and changes in lake levels are likely to increase the vulnerability of cities to extreme events (including flooding, drought, heat waves, and more intense urban heat island effects), compounding already existing stressors.

Per the latest Illinois Hazard Mitigation Plan, while the frequency of long-duration (i.e., > 1 water year) droughts may continue to decrease in the future, projections suggest a potential higher risk of short-duration flash drought conditions during the growing season by mid- and late-century. Drought prediction, early warning, and monitoring systems should be adapted to the potential changing drought characteristics across Illinois, including expanded soil moisture measurements, water infrastructure resilience initiatives, and more frequent updates to state- and local-level drought plans.

Table 4-12. 25-Year Climate Projections for Kane County

25-YEAR CLIMATE PROJECTIONS FOR KANE COUNTY, IL
<b>HIGHER EMISSIONS (RCP8.5)</b>
Kane County is expected to experience a 142% increase in extremely hot days within 25 years.
By 2048, Kane County is expected to experience 11 more days that reach above 95°F (from 7 days to 18 days per year).
<b>LOWER EMISSIONS (RCP4.5)</b>
Kane County is expected to experience a 93% increase in extremely hot days within 25 years.
By 2048, Kane County is expected to experience 6 more days that reach above 95°F (from 7 days to 13 days per year).
<b>Source:</b> Neighborhoods at Risk ( <a href="https://nar.headwaterseconomics.org/17089/explore/climate">https://nar.headwaterseconomics.org/17089/explore/climate</a> )

Table 4-13. Future Climate Indicators for Kane County

<b>FUTURE CLIMATE INDICATORS FOR KANE COUNTY, IL</b>							
<i><b>Indicator</b></i>	<b>Modeled History</b> (1976-2005)	<b>Early Century</b> (2015-2044)		<b>Mid Century</b> (2035-2064)		<b>Late Century</b> (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
<b>Precipitation</b>							
<i>Average Annual Total Precipitation</i>	<b>35"</b>	<b>36"</b>	<b>36"</b>	<b>36"</b>	<b>37"</b>	<b>37"</b>	<b>38"</b>
	33-35	33-39	32-40	32-41	31-42	32-41	33-43
<i>Days Per Year With Precipitation</i>	<b>175 days</b>	<b>173 days</b>	<b>172 days</b>	<b>172 days</b>	<b>171 days</b>	<b>171 days</b>	<b>168 days</b>
	170-179	161-181	156-180	160-182	151-185	160-182	134-187
<i>Days Per Year With No Precipitation</i>	<b>191 days</b>	<b>192 days</b>	<b>193 days</b>	<b>193 days</b>	<b>194 days</b>	<b>194 days</b>	<b>197 days</b>
	186-195	184-204	185-209	183-205	180-214	183-205	178-231
<i>Maximum Number Of Consecutive Dry Days</i>	<b>13 days</b>	<b>13 days</b>	<b>14 days</b>	<b>14 days</b>	<b>14 days</b>	<b>14 days</b>	<b>15 days</b>
	11-14	12-16	12-17	12-16	12-18	12-17	12-19
<b>Temperature Thresholds</b>							
<i>Annual days with Maximum temperature &gt; 90°</i>	<b>11 days</b>	<b>29 days</b>	<b>32 days</b>	<b>39 days</b>	<b>48 days</b>	<b>49 days</b>	<b>80 days</b>
	11-15	17-50	20-50	19-68	29-75	24-84	44-111
<i>Annual days with Maximum temperature &gt; 100°</i>	<b>0 days</b>	<b>1 day</b>	<b>2 days</b>	<b>3 days</b>	<b>5 days</b>	<b>5 days</b>	<b>21 days</b>
	0-0	0-6	0-5	0-13	1-19	0-13	1-64
<b>Source:</b> <a href="#">Climate Mapping for Resilience and Adaptation</a> (2023)							

### 4.5.7 FEMA NRI Expected Annual Loss Estimates

Table 4-14. Kane County Expected Annual Loss Table

KANE COUNTY, IL FEMA NRI EXPECTED ANNUAL LOSS TABLE FOR DROUGHT EVENTS							
Annualized Frequency	Population	Population Equivalence	Building Value	Agriculture Value	Total Value	Expected Annual Loss Score	Expected Annual Loss Rating
9.2 events per year	N/A	N/A	N/A	\$19,325	\$19,325	43.9	Very Low
<p><b>Annualized Frequency:</b> The natural hazard annualized frequency is defined as the expected frequency or probability of a hazard occurrence per year. Annualized frequency is derived either from the number of recorded hazard occurrences each year over a given period or the modeled probability of a hazard occurrence each year.</p> <p><b>Population:</b> Population exposure is defined as the estimated number of people determined to be exposed to a hazard according to a hazard type-specific methodology.</p> <p><b>Expected Annual Loss</b> scores are calculated using an equation that combines values for exposure, annualized frequency, and historic loss ratios (<math>\text{Expected Annual Loss} = \text{Exposure} \times \text{Annualized Frequency} \times \text{Historic Loss Ratio}</math>). Source: <a href="https://hazards.fema.gov/nri/expected-annual-loss">hazards.fema.gov/nri/expected-annual-loss</a></p>							
<p>Source: FEMA <a href="https://www.fema.gov/national-risk-index">National Risk Index</a> (2023)</p>							

### 4.5.8 FEMA Hazard-Specific Risk Index Table

Table 4-15. Kane County Hazard Specific Risk Index Table

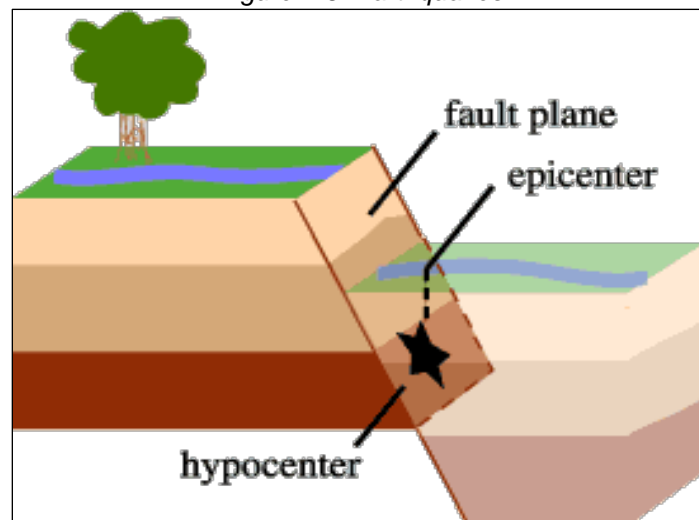
KANE COUNTY, IL FEMA HAZARD SPECIFIC RATINGS - DROUGHT		
Risk Index Score	Social Vulnerability Rating	Community Resilience Rating
42.7 / 100	Relatively Moderate	Relatively High
<p><b>Risk Index Scores:</b> are a quantitative rating calculated using data for only a single hazard type. Risk Index Scores are calculated using data for only a single hazard type, and reflect a community's Expected Annual Loss value, community risk factors, and the adjustment factor used to calculate the risk value.</p> <p><b>Social Vulnerability Ratings:</b> are a qualitative rating that describe the community in comparison to all other communities at the same level, ranging from "Very Low" to "Very High." Social Vulnerability is measured using the Social Vulnerability Index (SVI) published by the Centers for Disease Control and Prevention (CDC).</p> <p><b>Community Resilience Ratings:</b> are a qualitative rating that describe the community in comparison to all other communities at the same level, ranging from "Very Low" to "Very High." Community Resilience is measured using the Baseline Resilience Indicators for Communities (HVRI BRIC) published by the University of South Carolina's Hazards and Vulnerability Research Institute (HVRI).</p>		
<p>Source: FEMA <a href="https://www.fema.gov/national-risk-index">National Risk Index</a> (2023)</p>		

## 4.6 Earthquakes

### 4.6.1 Hazard Description

According to the U.S. Geological Survey (USGS), an earthquake happens when two earth blocks suddenly slip past one another. The surface where they slip is called the fault or fault plane. The location below the earth's surface where the earthquake starts is called the hypocenter, and the area directly above it on the surface of the earth is called the epicenter (USGS, 2023). Figure 4-5 illustrates how this phenomenon occurs.

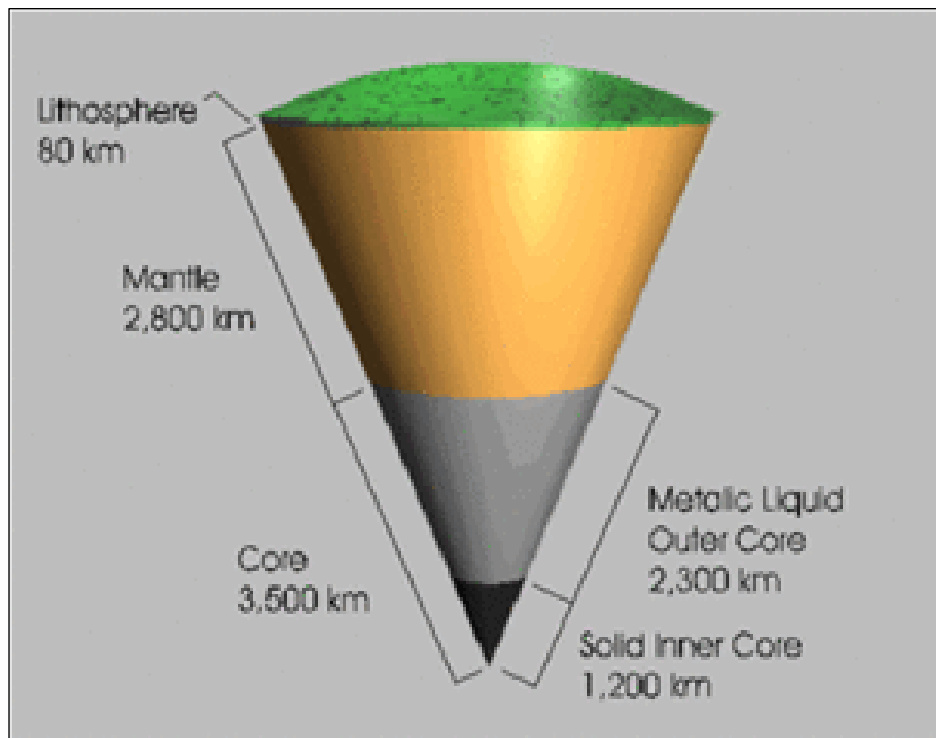
Figure 4-5. Earthquakes



According to USGS, sometimes an earthquake has foreshocks. These more minor earthquakes happen in the same place as the larger earthquake that follows. Scientists can't tell if an earthquake is a foreshock until a larger earthquake happens. The largest main earthquake is called the mainshock. Mainshocks always have aftershocks that follow. Aftershocks are smaller earthquakes that occur afterward in the same place as the mainshock. Depending on the size of the mainshock, aftershocks can continue for weeks, months, and even years after the mainshock occurs.

The Earth has four primary layers: the inner core, outer core, mantle, and crust (the lithosphere). The crust and the top portion of the mantle make up a thin skin on the surface of our planet. This skin comprises many pieces, like a puzzle covering the earth's surface. These puzzle pieces slowly and constantly move around, sliding past and bumping into each other. These puzzle pieces are called tectonic plates, and the edges of the plates are called the plate boundaries. The plate boundaries come together to make up fault lines. Most of the earthquakes around the world occur on these fault lines. Since the edges of the plates are rough, some parts get caught on each other while the rest of the plate keeps moving. When the plate has moved far enough, the edges unstuck on one of the faults, and the unsticking is what causes an earthquake. Figure 4-6 illustrates these layers.

Figure 4-6. Earthquake Layers



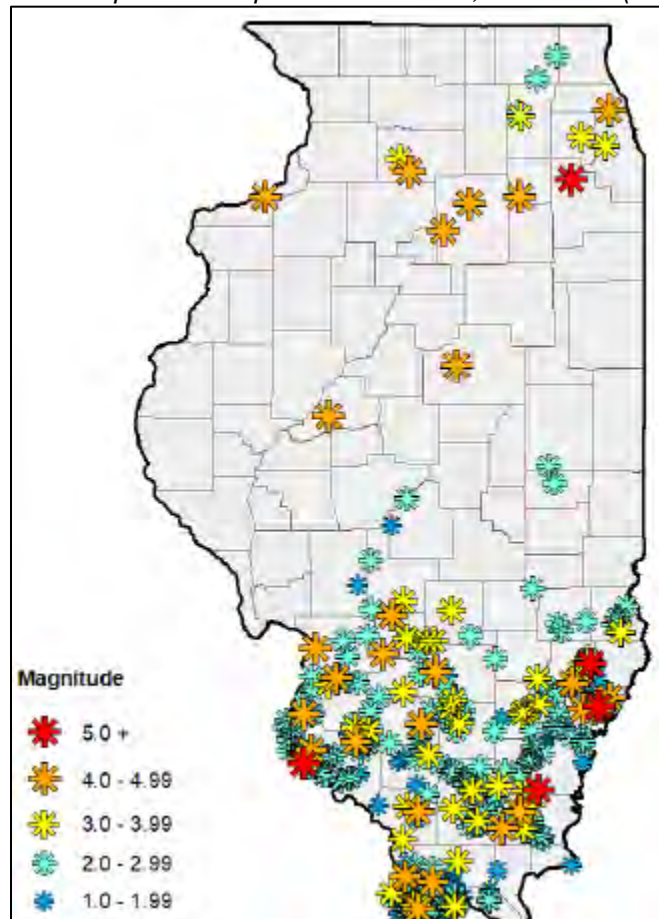
#### 4.6.2 Hazard Location

Typically, an earthquake affects a large region, not a specific location. Because earthquakes typically have regional effects, the entire Kane County population could be affected. However, given the historic severity, only a fraction of the people would be affected by a specific event. There have been almost 500 reported earthquakes across the state since 1795, with 30 causing minor to moderate damage. Although earthquakes are felt occasionally in northern Illinois, they are more frequent in the southern parts of the state where two major fault systems – the New Madrid Seismic Zone and the Wabash Valley Seismic Zone – are to be found.

#### 4.6.3 Hazard Extent/Intensity

“Earthquakes are one of nature’s most dangerous hazards. Earthquakes, and the potential damage from earthquakes, are more widespread than people realize. Earthquakes are caused by the release of strain between or within the Earth’s tectonic plates. The severity of an earthquake depends on the amount of strain or energy released along a fault or at the epicenter of an earthquake. The energy released by an earthquake is sent to the earth’s surface and released (USGS, 2023)”.

Figure 4-7. Earthquake with epicenters in Illinois, 1795-2023 (IEMA, 2023)



**Earthquake Measurements:** There are several standard measures of earthquakes, including the Richter Scale and the Modified Mercalli Intensity (MMI) scale. The Richter Scale measures the magnitude or the amount of energy an earthquake releases, while seismographs measure magnitude. The Modified Mercalli Intensity is an observed measurement of the earthquake's intensity felt at the earth's surface. The MMI varies, depending on the observer's location at the earthquake's epicenter.

An earthquake's intensity depends on the area's geologic makeup and soil stability. The effects of earthquakes can be localized near its epicenter or felt significant distances away. For example, a 6.8-magnitude earthquake in the New Madrid Fault in Missouri would have a much broader impact than a similar event on the California Coast. The thick sandstone and limestone strata of the central United States behave as "conductors" of the earthquake's energy, and tremors can be felt hundreds of miles away. Figure 4-8 correlates the MMI intensity with the Richter scale and the effects of ground shaking.



Figure 4-8. Modified Mercalli Scale vs. Richter Scale

MMI Category	Effects	Richter Scale (approximate)
I. Instrumental	Not felt	1-2
II. Just perceptible	Felt by only a few people, especially on upper floors of tall buildings	3
III. Slight	Felt by people lying down, seated on a hard surface, or in the upper stories of tall buildings	3.5
IV. Perceptible	Felt indoors by many, by few outside; dishes and windows rattle	4
V. Rather strong	Generally felt by everyone; sleeping people may be awakened	4.5
VI. Strong	Trees sway, chandeliers swing, bells ring, some damage from falling objects	5
VII. Very strong	General alarm; walls and plaster crack	5.5
VIII. Destructive	Felt in moving vehicles; chimneys collapse; poorly constructed buildings seriously damaged	6
IX. Ruinous	Some houses collapse; pipes break	6.5
X. Disastrous	Obvious ground cracks; railroad tracks bent; some landslides on steep hillsides	7
XI. Very disastrous	Few buildings survive; bridges damaged or destroyed; all services interrupted (electrical, water, sewage, railroad); severe landslides	7.5
XII. Catastrophic	Total destruction; objects thrown into the air; river courses and topography altered	8

According to USGS, earthquakes can trigger other types of ground failures, which could contribute to the damage. These include landslides, dam failures, and liquefaction. Liquefaction occurs when shaking mixes groundwater and soil, liquefying and weakening the ground that supports buildings and severing utility lines. This is especially a problem in floodplains where the water table is relatively high, and the soils are more susceptible to liquefaction. Figure 4-11 outlines forecasted ground shaking from potential earthquakes.

#### 4.6.4 Probability and Frequency

According to the Central U.S. Earthquake Consortium, Kane County is in an earthquake intensity zone of VI (MMI Scale) for a 7.6-magnitude earthquake along the New Madrid Seismic Zone. There is a 19% – 29% chance that the County will be hit with an earthquake with a MMI intensity of VI over the next 35 years. This would be slightly less than a 1% chance in any given year (Kane County, 2015).

Historically, Kane County has had a low probability of experiencing significant earthquakes. While small tremors and minor seismic events can occur occasionally, they are infrequent and generally have negligible impact.

Figure 4-9 shows U.S. Seismic Hazard 2% in 50 years in Illinois.

Figure 4-9. USGS Seismic Hazard Map – Illinois (2014)

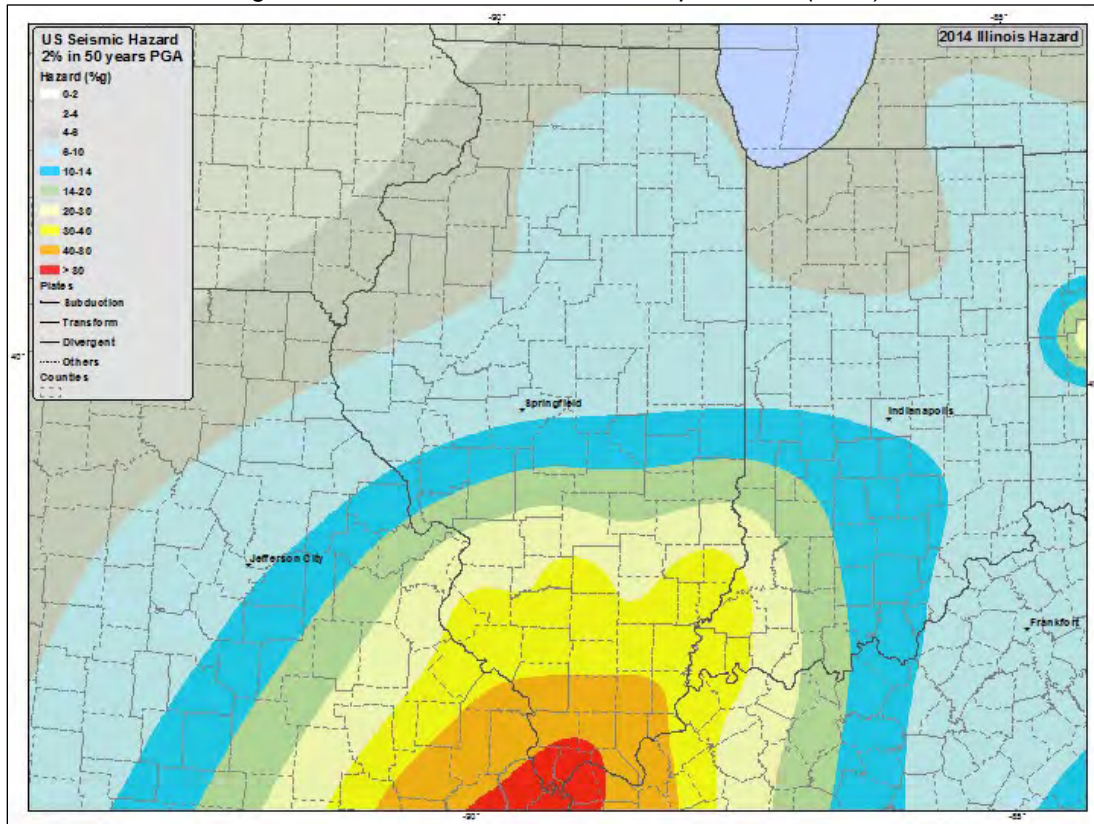


Figure 4-10. Forecast for Damage from Natural and Induced Earthquakes in 2017

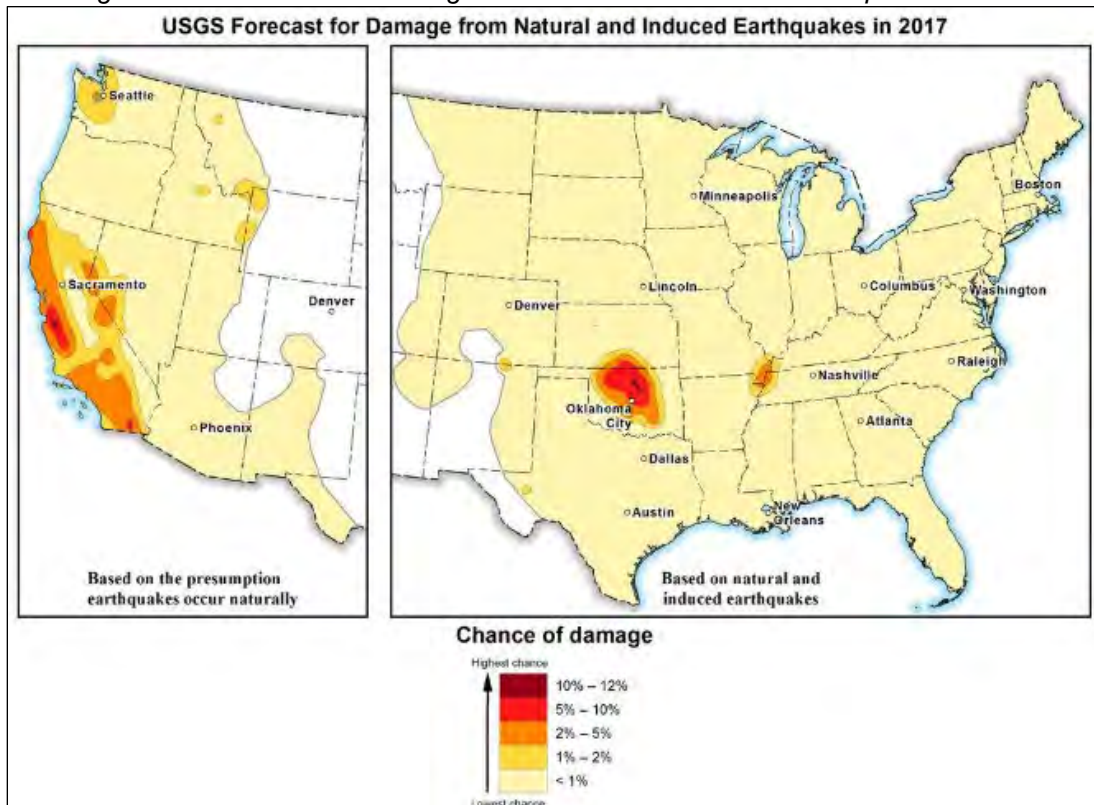
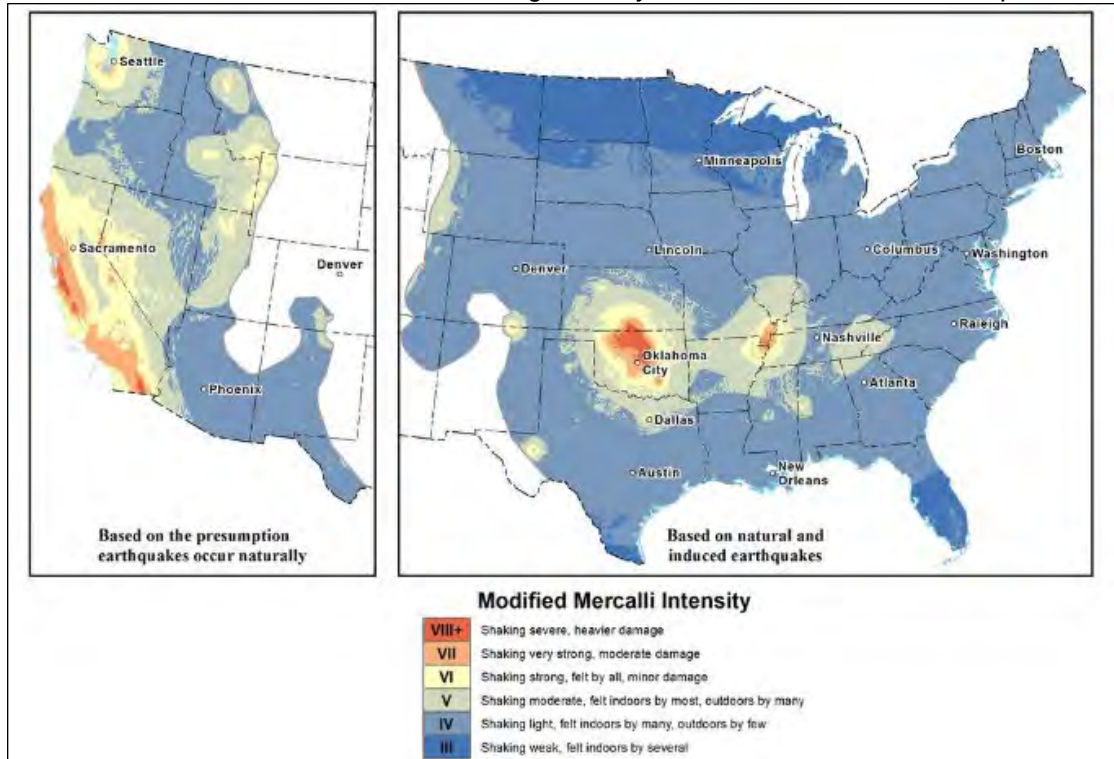


Figure 4-11. USGS Forecast for Ground Shaking Intensity from Natural / Induced Earthquakes – 2017



#### 4.6.5 Past Events

In the United States, the most frequent reports of earthquakes come from the West Coast, but the largest earthquakes felt in the U.S. occurred in Missouri in 1811 and 1812 along the New Madrid Fault (IEMA, 2013). The Great New Madrid Earthquakes are the benchmarks from which all earthquakes in the Midwest are measured. An important fact is that the earthquakes of 1811 and 1812 were not single events. Rather the earthquakes were a series of over 2,000 shocks in five months.

Five of these quakes were larger than a magnitude of 8.0 on the Richter Scale, which completely destroyed the town of New Madrid. The earthquakes caused the land to roll in visible waves that raised and sank land as much as 20 feet. The tremors of these earthquakes were no doubt felt throughout all of Illinois, since the quakes are said to have rung church bells in New England (IEMA, 2013).

Table 4-16 shows recorded earthquake events in Northern Illinois from 2013 to 2023, as recorded by U.S. Geological Survey's (USGS) Earthquake Hazards Program (USGS, 2023). From 2013 to 2023, Northern Illinois has had two events with no associated injuries or deaths.



Table 4-16. Earthquake Events in Northern Illinois (2013-2023)

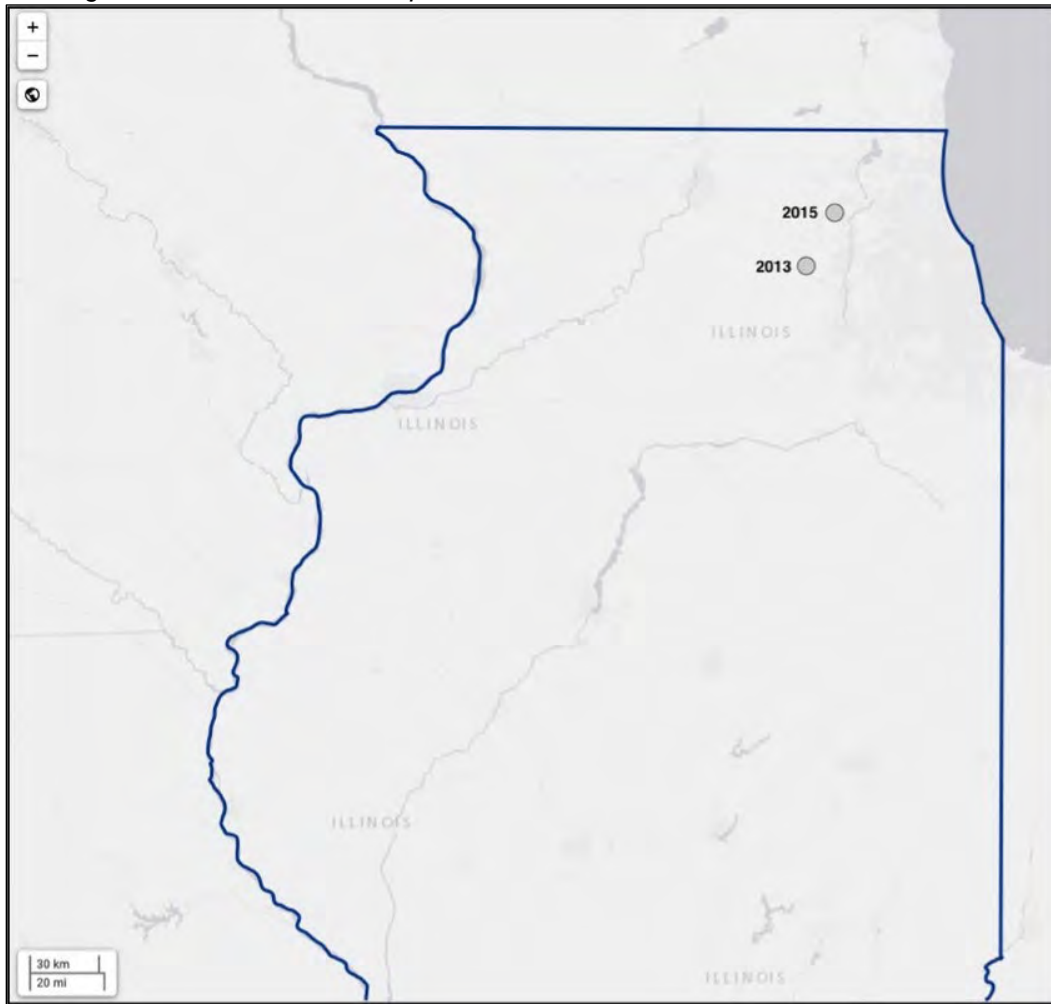
KANE COUNTY, IL PAST EARTHQUAKE EVENTS IN NORTHERN ILLINOIS (2013-2023)						
Date	Time	Location	Proximity to Kane County	Latitude/ Longitude	Magnitude	Depth
2015-03-25	23:08:51 (UTC)	3 km WNW of Lake in the Hills, Illinois	40km	2.188°N 88.366°W	2.9mblg	6.0km
2013-06-10	12:29:39 (UTC)	4 km NNE of Virgil, Illinois	13km	41.990°N 88.509°W	2.6mblg	5.0km
<b>Source:</b> <a href="#">US Geological Survey (2023)</a>						

**2015:** Felt (III) at Carpentersville, Cary, Crystal Lake, Fox River Grove, Huntley, Island Lake, Lake in the Hills, Machesney Park, Marengo, Orland Park, Rockton, Union, and Woodstock. Felt from South Beloit to Orland Park and from Chicago to Durand. Also felt at Hammond, Indiana and at Trevor, Wisconsin.

**2013:** Felt (III) at Elburn and Saint Charles and (II) at Geneva and Hampshire. Also felt at Batavia, Crystal Lake, Gilberts and South Elgin.

The map shown in Figure 4-12 illustrates each earthquake event documented in Table 4-16, as recorded by the USGS Earthquake Hazards Program (USGS, 2023).

Figure 4-12. Recorded Earthquake Events in Northern Illinois from 2013 to 2023



#### 4.6.6 Vulnerability and Impacts

**Life Safety and Health:** During an earthquake in Illinois, injuries in Kane County are expected to be few. However, should a significant earthquake impact southern Illinois, the damage would primarily impact water, sewer, and gas pipelines. This would be of most important concern in the winter in Illinois. No injuries or fatalities have been reported over the past 10 years for earthquakes felt in Kane County.

**Property Damage and Critical Infrastructure:** Generally, wood frame buildings and structures on solid ground fare best during an earthquake. Wood frame buildings are flexible enough to withstand ground shaking and swaying. Evaluations of recent earthquakes found that damage was primarily caused to:

- Unreinforced masonry structures.
- Older buildings with some degree of deterioration.
- Buildings without foundation ties.
- Multi-story structures with open or “soft” first floors.

Most building codes have standards related to the first three concerns. This means the most threatened buildings are older ones (built before current regulations), masonry ones, and taller ones with open first floors. Most other buildings, especially those made under a building code, would have little or no damage. However, some content damage can be expected if items fall from shelves.

In addition to the building type, the damage is related to the underlying soils. Buildings on solid ground fare better, while those on loose or sandy soils will suffer more from shaking. These can be found in floodplains. If enough water is present, the shaking can liquefy the underlying soils, removing the support under the foundation.

**Economy:** No data exists demonstrating the economic impact of earthquakes on Kane County. However, past earthquakes have resulted in repair costs associated with damaged infrastructure and buildings, lost productivity due to business disruptions, and increased demand for emergency services and supplies. The impact would be minimal in Kane County.

**Changes in Development and Impact of Future Development:** No data exists demonstrating the impact of earthquakes on future development in Kane County. However, past earthquakes have been shown to impact zoning regulations and building codes requiring developers to build structures more resistant to seismic activity.

**Effects of Climate Change on Severity of Impacts:** The exact nature and extent of this impact still need to be studied and fully understood regarding climate change.

#### 4.6.7 FEMA NRI Expected Annual Loss Estimates

Table 4-17. Kane County Expected Annual Loss Table

KANE COUNTY, IL FEMA NRI EXPECTED ANNUAL LOSS TABLE FOR EARTHQUAKE EVENTS							
Annualized Frequency	Population	Population Equivalence	Building Value	Agriculture Value	Total Value	Expected Annual Loss Score	Expected Annual Loss Rating
0.043% chance	0.03	\$330,027	\$1,415,132	N/A	\$1,745,159	84.9	Relatively Low
<p><b>Annualized Frequency:</b> The natural hazard annualized frequency is defined as the expected frequency or probability of a hazard occurrence per year. Annualized frequency is derived either from the number of recorded hazard occurrences each year over a given period or the modeled probability of a hazard occurrence each year.</p> <p><b>Population:</b> Population exposure is defined as the estimated number of people determined to be exposed to a hazard according to a hazard type-specific methodology.</p> <p><b>Expected Annual Loss</b> scores are calculated using an equation that combines values for exposure, annualized frequency, and historic loss ratios (Expected Annual Loss = Exposure x Annualized Frequency x Historic Loss Ratio). Source: <a href="https://hazards.fema.gov/nri/expected-annual-loss">hazards.fema.gov/nri/expected-annual-loss</a></p>							
Source: FEMA <a href="https://www.fema.gov/nri">National Risk Index</a> (2023)							



#### 4.6.8 FEMA Hazard-Specific Risk Index Table

Table 4-18. Kane County Hazard Specific Risk Index Table

KANE COUNTY, IL FEMA HAZARD SPECIFIC RATINGS - EARTHQUAKE		
Risk Index Score	Social Vulnerability Rating	Community Resilience Rating
85.4 / 100	Relatively Moderate	Relatively High
<p><b>Risk Index Scores:</b> are a quantitative rating calculated using data for only a single hazard type. Risk Index Scores are calculated using data for only a single hazard type, and reflect a community's Expected Annual Loss value, community risk factors, and the adjustment factor used to calculate the risk value.</p> <p><b>Social Vulnerability Ratings:</b> are a qualitative rating that describe the community in comparison to all other communities at the same level, ranging from "Very Low" to "Very High." Social Vulnerability is measured using the Social Vulnerability Index (SVI) published by the Centers for Disease Control and Prevention (CDC).</p> <p><b>Community Resilience Ratings:</b> are a qualitative rating that describe the community in comparison to all other communities at the same level, ranging from "Very Low" to "Very High." Community Resilience is measured using the Baseline Resilience Indicators for Communities (HVRI BRIC) published by the University of South Carolina's Hazards and Vulnerability Research Institute (HVRI).</p>		
<p><b>Source:</b> FEMA <a href="#">National Risk Index</a> (2023)</p>		

## 4.7 Extreme Heat

### 4.7.1 Hazard Description

According to the NOAA, "extreme heat" refers to excessively hot and humid weather, which may be accompanied by high ozone levels, that can cause significant health problems, particularly for vulnerable populations such as the elderly, young children, and those with pre-existing medical conditions. The threshold for extreme heat can vary depending on location but is generally defined as a heat index of 105°F or higher for at least two consecutive hours.

"The heat index measures how hot it feels when relative humidity is factored in with the actual air temperature. The relative humidity is the percentage of moisture in the air compared with the maximum amount of moisture the air can hold. Humidity is an important factor in how hot it feels because when humidity is high, water doesn't evaporate as easily, so it's harder for your body to cool off by sweating (US EPA, CDC, 2023)".

Figure 4-13 shows the NOAA's Heat Index (US EPA, CDC, 2023).

### 4.7.2 Hazard Location

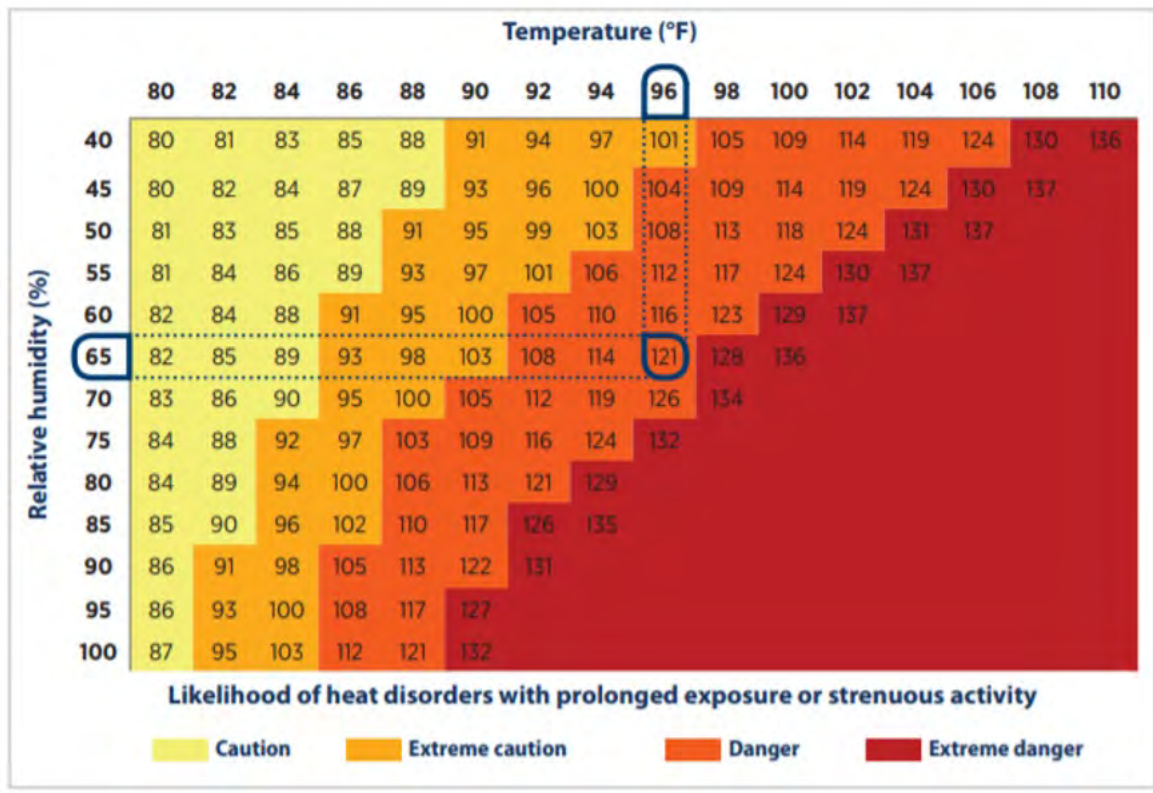
Extreme heat could occur anywhere in Kane County.

### 4.7.3 Hazard Extent/Intensity

When an extreme heat event occurs, the National Weather Service may issue an excessive heat warning, a heat watch, a heat advisory, or a heat outlook. The NWS defines these as the following:

- **Excessive Heat Warning: Take Action!** An Excessive Heat Warning is issued within 12 hours of the onset of extremely dangerous heat conditions. The general rule of thumb for this Warning is when the maximum heat index temperature is expected to be 105° or higher for at least two days, and nighttime air temperatures will not drop below 75°; however, these criteria vary across the country, especially for areas not used to extreme heat conditions. If you don't take precautions immediately during extreme conditions, you may become seriously ill or die.
- **Excessive Heat Watches: Be Prepared!** Heat watches are issued when conditions are favorable for an extreme heat event in the next 24 to 72 hours. A Watch is used when the risk of a heat wave has increased, but its occurrence and timing are still uncertain.
- **Heat Advisory: Take Action!** A Heat Advisory is issued within 12 hours of the onset of hazardous heat conditions. The general rule of thumb for this Advisory is when the maximum heat index temperature is expected to be 100° or higher for at least two days, and nighttime air temperatures will not drop below 75°; however, these criteria vary across the country, especially for areas that are not used to dangerous heat conditions. Take precautions to avoid heat illness. If you don't take precautions, you may become seriously ill or even die.
- **Excessive Heat Outlooks** are issued when the potential exists for an extreme heat event in the next three to seven days. An Outlook provides information to those needing considerable time to prepare for the event.

Figure 4-13. National Oceanic and Atmospheric Administration National Weather Service Heat Index



#### 4.7.4 Probability and Frequency

On average, the U.S. has been experiencing warmer summers throughout the past decade. This warming is correlated to recent changes in climate. “Without big steps to reduce greenhouse gas emissions, the average number of extremely hot days in the United States is projected to more than triple from the year 2050 to 2100 (US EPA, CDC, 2016, p. 6)”.

#### 4.7.5 Past Events

According to NOAA, northern Illinois experienced an intense heat wave during the first week of July 2012. High temperatures at ORD reached 102° on the 4<sup>th</sup>, 103° on the 5<sup>th</sup> and 6<sup>th</sup>, and 98° on the 7<sup>th</sup>. Low temperatures remained in the upper 70s to lower 80s during much of the heat wave, with a low temperature of just 82° on the morning of the 6<sup>th</sup>. As a result, maximum heat index values were mainly in the range of 105° to 115° each day across northeast Illinois. A cold front moved across the area during the late morning and early afternoon of July 7<sup>th</sup>, bringing several days of near-average temperatures for mid-July (NOAA, 2023).

The most severe event was in July 1995, which resulted in 583 fatalities. Most of the deaths occurred in Cook County. The temperatures soared to record highs in July, with the hottest weather occurring from July 12<sup>th</sup> to July 16<sup>th</sup>. The high of 106° on July 13<sup>th</sup> was the second warmest July temperature (the warmest being 110° set on July 23, 1934) since records began at Chicago Midway International Airport in 1928. Nighttime low temperatures were unusually high, in the upper 70’s and lower 80’s. Record humidity levels also accompanied the hot weather. The

heat index reached 119° at Chicago O’Hare International Airport and 125° at Chicago Midway International Airport.

Table 4-19. Extreme Heat Events in Northern IL (1995-2017)

Location	Date	Fatalities	Injuries
Northeast Illinois	July 12, 1995	583	0
Northeast Illinois	July 21, 1999	13	0
Northeast Illinois	July 28, 1999	99	0
Northeast Illinois	July 04, 2012	0	0

Table 4-20 shows the recorded extreme heat events for Kane County from 2017 to 2022, as recorded by NOAA’s National Climate Data Center. From 2017 to 2022, Kane County had one event with no associated injuries or deaths.

Table 4-20. Extreme Heat Activity in Kane County, Illinois (2017-2022)

Location	County/Zone	St	Date	Dth	Inj	PrD	CrD
<b>Totals:</b>				0	0	0.00K	0.00K
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	07/19/2019	Excessive Heat	0	0	0
<b>Totals:</b>				0	0	0.00K	0.00K

**2019:** Hot and humid conditions spread into northern Illinois during the late afternoon and early evening of July 18th and persisted through the late afternoon of July 20th when a cold front moved south across northern Illinois. High temperatures reached the lower to middle 90s on July 19th and in the middle 90s on July 20th. Peak afternoon heat indices were between 110 to 115 both days.

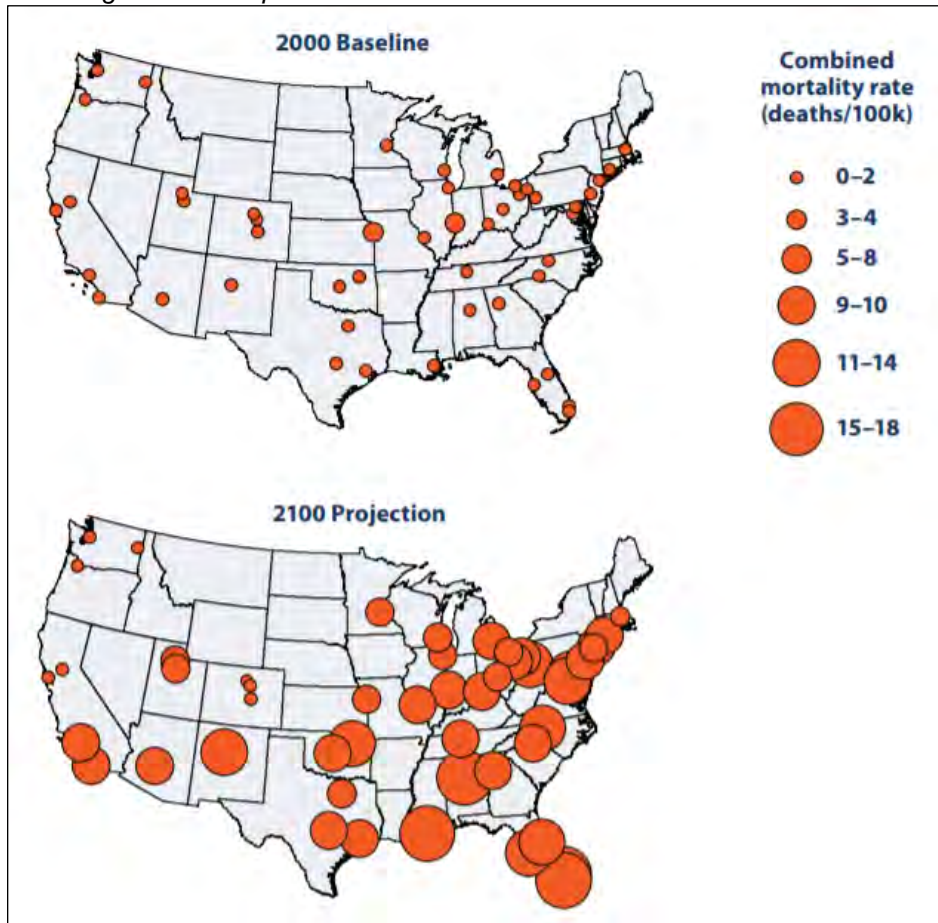
#### 4.7.6 Vulnerability and Impacts

**Life Safety and Health:** According to the Centers for Disease Control and Prevention (CDC), extreme heat is a serious threat to life safety and health. The CDC provides extensive information on this topic and outlines some of the ways that extreme heat can affect health and safety. For instance, high temperatures can cause heat exhaustion, leading to heat stroke if left untreated. Symptoms of heat exhaustion include heavy sweating, weakness, dizziness, headache, nausea, and vomiting. Extreme heat can also cause dehydration, leading to kidney damage, seizures, and even coma. Furthermore, it can stress the heart and blood vessels, increasing the risk of heart attack and stroke, particularly in people with preexisting cardiovascular conditions. Heat can also worsen respiratory problems such as asthma and chronic obstructive pulmonary disease (COPD), increasing the risk of respiratory infections.

Additionally, extreme heat can exacerbate other health issues, including diabetes, mental health, and skin conditions. In some severe cases, heat can cause death, particularly in vulnerable populations such as the elderly, young children, and those with preexisting health conditions. To stay safe during extreme heat, the CDC recommends staying hydrated, avoiding outdoor activities

during the hottest part of the day, wearing loose, lightweight clothing, and seeking out air-conditioned environments when possible.

Figure 4-14. Expected Deaths from Increased Extreme Heat Events



As extreme heat events become more common and more severe, the EPA and CDC estimate that deaths due to extreme heat events will increase. Figure 4-14 outlines the expected outcomes from increased events (US EPA, CDC, 2016, p. 8)”. In addition, conventional roofs and pavement reflect less and absorb more of the sun’s energy, which leads to higher temperatures near these structures. Lastly, tall buildings and narrow streets can reduce airflow, trapping the heat absorbed during the day and heat generated by vehicles, factories, and air conditioning vents.

According to FEMA, extreme heat can disproportionately impact disadvantaged or challenged communities in the following ways:

- **Heat Vulnerability:** Residents of disadvantaged communities may be more vulnerable to extreme heat due to factors such as age, pre-existing health conditions, or limited access to healthcare. They may also lack air conditioning or live in homes with poor ventilation, increasing their risk of heat-related illnesses.
- **Heat Islands:** Urban areas, where many disadvantaged communities are located, can experience higher temperatures due to the urban heat island effect. Asphalt, concrete, and limited green spaces absorb and retain heat, making these areas hotter than surrounding regions.

- **Limited Access to Cooling Centers:** Disadvantaged communities may have limited access to cooling centers or public facilities where individuals can seek relief from extreme heat. This can leave residents with few options to escape dangerously high temperatures.
- **Financial Constraints:** Low-income households may struggle to afford the increased energy costs associated with running air conditioning or cooling systems during heatwaves. This can lead to discomfort, health risks, and potential utility shutoffs.
- **Limited Mobility:** Some residents of disadvantaged communities may have limited mobility, making it difficult for them to leave their homes or access transportation to cooler areas during extreme heat events.
- **Community Infrastructure:** The quality of community infrastructure, including housing and public spaces, may be inadequate to cope with extreme heat. Insufficient green spaces, poor building design, and limited access to shade can exacerbate heat-related challenges.
- **Social Isolation:** Disadvantaged individuals may experience social isolation, reducing their support networks during extreme heat events. This isolation can impact their ability to seek help or assistance.
- **Language and Cultural Barriers:** Communities with non-English-speaking populations or cultural differences may face challenges in receiving and understanding heat advisories and instructions, hindering their ability to respond effectively.

Figure 3-8 in the Community Profile section illustrates the Kane County Community Resilience Index Story Map. This map shows each participating jurisdiction with density mapping used to identify community areas that are overburdened by the 22 challenges identified by the FEMA Community Resilience Challenges Index.

**Property Damage and Critical Infrastructure:** Intense heat can cause the surface of roads to deform as pavement expands in the heat. The pavement pushes up off the ground at its weak spots when there is no place for it to expand, or where cracks have weakened the pavement, particularly in areas of poor drainage. The risk for roads buckling is greatest when the temperature is over 90 degrees for extended periods. Airport runways are also vulnerable to extreme heat, which can cause asphalt to soften and deteriorate. Some airplanes themselves cannot fly in extremely high temperatures. While larger planes are able to operate in a wide range of temperature conditions, many smaller, regional aircraft cannot fly safely if temperatures exceed 118°F. Extreme heat can also cause rail lines to buckle (called “sun kinks”), causing derailments. When water supplies are depleted in drought, subsidence (the sinking of the ground) can occur as more groundwater is removed. This affects infrastructure, including roads, buildings, and water pipes, and can lead to the formation of sinkholes. Heat waves can increase demand for electricity, which can lead to power outages and blackouts, particularly in areas with aging or stressed energy infrastructure. Heat waves can impact communication systems, including cell phone towers, internet infrastructure, and other communication networks, due to equipment failures due to extreme heat, as well as disruptions to power and transportation systems.

**Economy:** Heat waves can have significant impacts on the economy. For areas that rely on outdoor recreation and tourism, they can experience reduced activity and visitors due to the heat. Heat waves can increase demand for electricity and other forms of energy, particularly for cooling purposes. This can lead to increased energy costs for homes and businesses. They can also impact labor productivity, particularly in outdoor occupations such as agriculture and construction. Other impacts on agriculture can include crop loss if extreme heat temperatures are sustained for long periods of time and may lead to drought.



Table 4-21. Heat-related Indemnities Paid in Kane County, IL (1995-2020)

Cause of Loss	Premium subsidies 1995-2020	Percent Cause of Loss (Heat, Excess Moisture, Hail, Drought, Flood, Cold Winter, Freeze, Other, etc.)
Heat	\$413,192	Less than 1%
<p><i>The premium subsidies by cause of loss in the table are lower than total premium subsidies because the USDA Risk Management Agency only reports premium subsidies by cause of loss for policies that paid an indemnity. Non-indemnified policies and their associated premium subsidies are not reported by cause of loss. The driving force behind a decline in crop yield or revenue that triggers an indemnity payment is called the “cause of loss” – an event or circumstance that damages crop yield, such as drought, hail or too much rain, or that damages the price side of farmer revenues, like a decline in crop price.</i></p>		

**Changes in Development and Impact of Future Development:** Given that heat has little or no impact on structures, extreme heat has no anticipated impact on future development.

**Effects of Climate Change on Severity of Impacts:** Average temperatures have increased by approximately 2.5°F since the beginning of the 20th century, leading to more frequent heatwaves. This increase in average temperature also means that heat waves are becoming more intense and lasting longer. Heatwaves can cause heat stress, dehydration, and other heat-related illnesses, particularly for vulnerable populations such as the elderly, young children, and those with chronic diseases.

**Climate Change Related to Extreme Heat in Kane County:**

Table 4-22. 25-Year Climate Projections for Kane County

25-YEAR CLIMATE PROJECTIONS FOR KANE COUNTY, IL
<b>HIGHER EMISSIONS (RCP8.5)</b>
Kane County is expected to experience a 142% increase in extremely hot days within 25 years.
By 2048, Kane County is expected to experience 11 more days that reach above 95°F (from 7 days to 18 days per year).
<b>LOWER EMISSIONS (RCP4.5)</b>
Kane County is expected to experience a 93% increase in extremely hot days within 25 years.
By 2048, Kane County is expected to experience 6 more days that reach above 95°F (from 7 days to 13 days per year).
<b>Source:</b> Neighborhoods at Risk ( <a href="https://nar.headwaterseconomics.org/17089/explore/climate">https://nar.headwaterseconomics.org/17089/explore/climate</a> )

Table 4-23. Future Climate Indicators for Kane County

<b>FUTURE CLIMATE INDICATORS FOR KANE COUNTY, IL</b>							
<i>Indicator</i>	<b>Modeled History</b> (1976-2005)	<b>Early Century</b> (2015-2044)		<b>Mid Century</b> (2035-2064)		<b>Late Century</b> (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
<b>Temperature Thresholds</b>							
<i>Annual Days With Maximum Temperature &gt;90°</i>	<b>11 days</b>	<b>29 days</b>	<b>32 days</b>	<b>39 days</b>	<b>48 days</b>	<b>49 days</b>	<b>80 days</b>
	11-15	17-50	20-50	19-68	29-75	24-84	44-111
<i>Annual Days With Maximum Temperature &gt;95°</i>	<b>2 days</b>	<b>8 days</b>	<b>10 days</b>	<b>13 days</b>	<b>19 days</b>	<b>20 days</b>	<b>47 days</b>
	1-3	3-21	3-22	3-36	8-46	6-54	15-87
<i>Annual Days With Maximum Temperature &gt;100°</i>	<b>0 days</b>	<b>1 day</b>	<b>2 days</b>	<b>3 days</b>	<b>5 days</b>	<b>5 days</b>	<b>21 days</b>
	0-0	0-6	0-5	0-13	1-19	0-13	1-64
<i>Annual Days With Maximum Temperature &gt;105°</i>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>1 day</b>	<b>1 day</b>	<b>7 days</b>
	0-0	0-1	0-0	0-1	0-3	0-2	0-29
<b>Annual Temperature</b>							
<i>Annual Single Highest Temperature °F</i>	<b>96°F</b>	<b>99°F</b>	<b>100°F</b>	<b>101°F</b>	<b>102°F</b>	<b>102°F</b>	<b>107°F</b>
	95-97	96-104	96-103	97-108	98-107	97-111	100-114
<i>Annual Highest Maximum Temperature Averaged Over a 5-Day Period</i>	<b>91°F</b>	<b>94°F</b>	<b>95°F</b>	<b>96°F</b>	<b>97°F</b>	<b>97°F</b>	<b>102°F</b>
	90-92	92-98	92-97	92-102	94-102	93-104	95-109
<i>Cooling Degree Days (CDD)</i>	<b>790 degree-days</b>	<b>1,138 degree-days</b>	<b>1,160 degree-days</b>	<b>1,281 degree-days</b>	<b>1,444 degree-days</b>	<b>1,462 degree-days</b>	<b>2,089 degree-days</b>
	751-868	902-1,421	950-1,338	967-1684	1,135-1,793	1,052-2,083	1,426-2,841
<b>Source:</b> <a href="#">Climate Mapping for Resilience and Adaptation</a> (2023)							

### 4.7.7 FEMA NRI Expected Annual Loss Estimates

Table 4-24. Kane County Expected Annual Loss Table

KANE COUNTY, IL FEMA NRI EXPECTED ANNUAL LOSS TABLE FOR EXTREME HEAT EVENTS							
Annualized Frequency	Population	Population Equivalence	Building Value	Agriculture Value	Total Value	Expected Annual Loss Score	Expected Annual Loss Rating
0.8 events per year	0.12	\$1,365,267	\$11,269	\$8,554	\$1,385,091	93.2	Relatively Moderate
<p><b>Annualized Frequency:</b> The natural hazard annualized frequency is defined as the expected frequency or probability of a hazard occurrence per year. Annualized frequency is derived either from the number of recorded hazard occurrences each year over a given period or the modeled probability of a hazard occurrence each year.</p> <p><b>Population:</b> Population exposure is defined as the estimated number of people determined to be exposed to a hazard according to a hazard type-specific methodology.</p> <p><b>Expected Annual Loss</b> scores are calculated using an equation that combines values for exposure, annualized frequency, and historic loss ratios (Expected Annual Loss = Exposure x Annualized Frequency x Historic Loss Ratio). Source: <a href="https://hazards.fema.gov/nri/expected-annual-loss">hazards.fema.gov/nri/expected-annual-loss</a></p>							
Source: FEMA <a href="#">National Risk Index</a> (2023)							

### 4.7.8 FEMA Hazard-Specific Risk Index Table

Table 4-25. Kane County Hazard Specific Risk Index Table

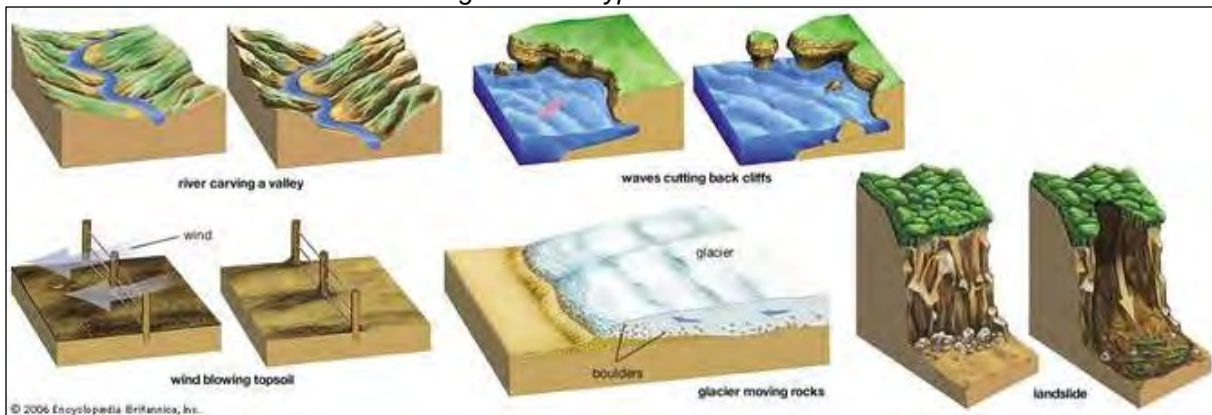
KANE COUNTY, IL FEMA HAZARD SPECIFIC RATINGS - EXTREME HEAT		
Risk Index Score	Social Vulnerability Rating	Community Resilience Rating
92.5 / 100	Relatively Moderate	Relatively High
<p><b>Risk Index Scores:</b> are a quantitative rating calculated using data for only a single hazard type. Risk Index Scores are calculated using data for only a single hazard type, and reflect a community's Expected Annual Loss value, community risk factors, and the adjustment factor used to calculate the risk value.</p> <p><b>Social Vulnerability Ratings:</b> are a qualitative rating that describe the community in comparison to all other communities at the same level, ranging from "Very Low" to "Very High." Social Vulnerability is measured using the Social Vulnerability Index (SVI) published by the Centers for Disease Control and Prevention (CDC).</p> <p><b>Community Resilience Ratings:</b> are a qualitative rating that describe the community in comparison to all other communities at the same level, ranging from "Very Low" to "Very High." Community Resilience is measured using the Baseline Resilience Indicators for Communities (HVRI BRIC) published by the University of South Carolina's Hazards and Vulnerability Research Institute (HVRI).</p>		
Source: FEMA <a href="#">National Risk Index</a> (2023)		

## 4.8 Ground Failure

### 4.8.1 Hazard Description

Ground failure refers to a disturbance within the ground, usually caused by shaking from an earthquake, erosion, sinkhole, or a man-made cause, which creates instability. Examples of ground failure include landslides, liquefaction, erosion, and sinkholes. A landslide is the force of rocks, soil, and debris moving down a slope and debris flows (mudflows) are rock, earth, and other debris saturated with water which changes into a flowing river of mud (IEMA, 2018). Liquefaction is a process by which water-saturated sediment temporarily loses strength and acts as a fluid (USGS, 2023). Erosion is the removal of surface material from Earth's crust, primarily soil and rock debris, and the transportation of the eroded materials by natural agencies (such as water or wind) from the point of removal (Britannica, 2023). Figure 4-15 illustrates different types of erosion (Britannica, 2023).

Figure 4-15. Types of Erosion



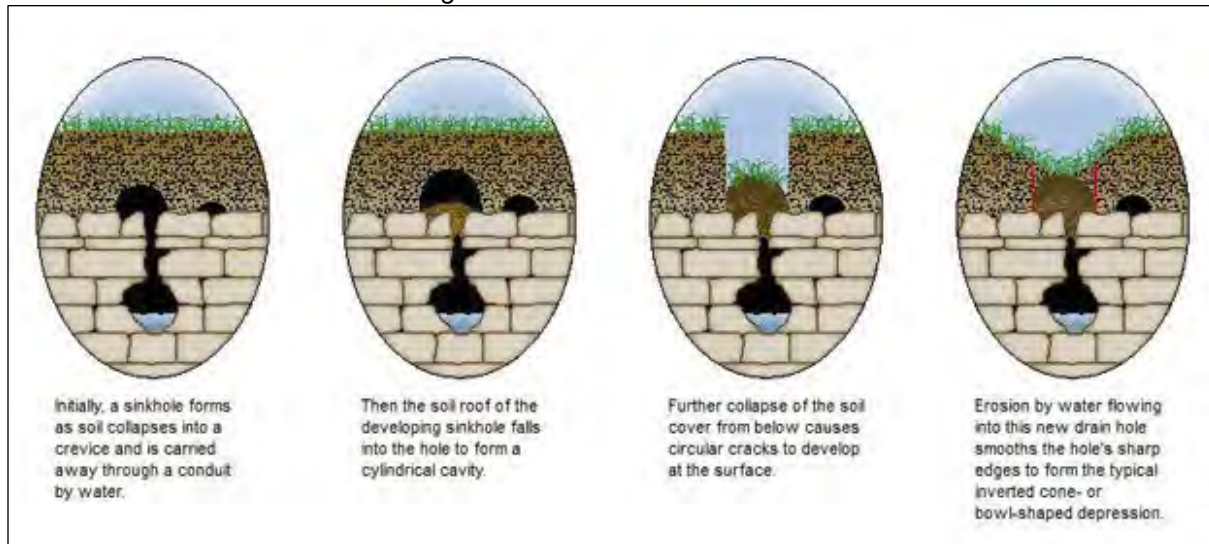
A sinkhole is a depression in the ground that has no natural external surface drainage. However, when it rains, all the water stays inside the sinkhole and typically drains into the subsurface (USGS, 2023). The term “karst” refers to a landscape that typically is pockmarked with sinkholes, may be underlain by caves, and has many large springs that discharge into stream valleys. Karst landscapes form when water from rain and snow melt seeps through a relatively thin soil cover and into a fractured and soluble bedrock (limestone or dolostone) (ISGS, 2023). Figure 4-16 depicts where karst landscapes exist within Illinois, and Figure 4-17 illustrates this process (ISGS, 2023).

Figure 4-16. Karst Landscape in Illinois





Figure 4-17. How A Sinkhole Forms



#### 4.8.2 Hazard Location

Ground failure could occur anywhere in Kane County but is more likely near streams and rivers.

#### 4.8.3 Hazard Extent/Intensity

The magnitude and extent of ground failure can vary significantly. However, ground failure incidents in Kane County are typically localized and minor.

#### 4.8.4 Probability and Frequency

While the State of Illinois does not record erosion as a risk for Kane County, as is the case for many other types of erosion (e.g., coastal erosion), Kane County is and will continue to be at risk for low to moderate erosion. In addition, as previously described, the soil composites primarily responsible for sinkholes within the Midwest are not found within Kane County. Therefore, a naturally occurring sinkhole is unlikely. However, sinkholes can form due to a pipe leak over an extended period. This scenario has a low to moderate risk of occurring within the county. Finally, given Kane County's high urban composition and relatively flat topography, Kane County is at a low to no chance of experiencing a landslide.

#### 4.8.5 Past Events

Illinois does not have a state-wide reporting system for landslides (IEMA, 2018). Therefore, Kane County could not find any historical records of landslides; the same is true for sinkholes. In addition, no data has been found regarding liquefaction. Issues related to erosion are typically associated with flooding, and is discussed in that section.



#### 4.8.6 Vulnerability and Impacts

**Life Safety and Health:** Life safety risks, such as injuries, are possible if an individual is involved in a ground failure incident. An example may include a vehicle collision if a roadway is affected. In addition, if a ground failure involves water, the water may be contaminated. Therefore, anyone exposed to contaminated water may be at risk for disease. There is no documented data indicating fatalities or injuries resulting from ground failure.

**Property Damage and Critical Infrastructure:** Ground failure can have significant impacts on both property damage and critical infrastructure through various hazards. Landslides, which occur when the ground fails, can result in the movement of soil, rock, or debris on slopes, causing destruction to structures, roads, and utility lines. Liquefaction is another hazard where saturated soil temporarily loses strength during seismic activity, leading to sinking, tilting, or collapsing of buildings, bridges, and infrastructure, causing severe property damage and disrupting essential services. Subsidence, the sinking or settling of the ground surface, whether natural or due to human activities like groundwater extraction, can damage buildings, roads, and pipelines, impacting property values and critical infrastructure functionality. Sinkholes, formed by the ground collapsing due to the dissolution of underground rocks, pose risks to buildings, roads, and infrastructure, thereby jeopardizing property and human safety. Additionally, earth fissures, which are linear cracks or fractures in the ground resulting from subsidence or other factors, can extend for miles and cause damage or disruption to structures, roads, and utilities. Lastly, seismic-induced ground deformation during earthquakes, such as tilting, lateral spreading, or uplift, can damage buildings, pipelines, and infrastructure, leading to property damage and the disruption of critical services. Understanding these geologic hazards, implementing appropriate engineering practices, and employing land-use planning measures are crucial to mitigate risks and minimize the impact on communities.

**Economy:** No data exists demonstrating the economic impact of ground failure events on Kane County. However, past ground failure events in other locations have impacted infrastructure such as roads, bridges, and utility systems, which can be costly to the local economy.

**Changes in Development and Impact of Future Development:** No data exists demonstrating the impact of ground failure on recent development and future development in Kane County. However, ground failure can impact future development in areas with a risk of sinkholes, erosion, or other types of ground instability.

**Effects of Climate Change on Severity of Impacts:** No data exists demonstrating the impact of climate change on the severity of ground failure in Kane County. However, more frequent and intense precipitation events can lead to:

- Rainwater carried quickly to streams, especially in urban areas with storm sewer systems.
- Streambank erosion and channelization.
- Increased sediment load and turbidity.

## 4.9 Flooding

### 4.9.1 Hazard Description

A flood is a natural event for rivers and streams and occurs when a normally dry area is inundated with water. Excess water from snowmelt or rainfall accumulates and overflows onto the stream banks and adjacent floodplains.

Floods are considered hazards when people and property are affected. In Illinois, flooding occurs commonly and can occur from various sources during any season of the year.

**Riverine flooding** originates from a body of water, typically a river, creek, or stream, as water levels rise onto normally dry land. Water from snowmelt, rainfall, freezing streams, ice flows, or a combination thereof causes the river or stream to overflow its banks onto adjacent floodplains. Winter flooding usually occurs when ice in the rivers creates dams or streams freeze from the bottom up during extreme cold spells. Spring flooding is usually the direct result of melting winter snowpacks, heavy spring rains, or a combination of the two.

According to the NOAA, a watershed is a land area that channels rainfall and snowmelt into creeks, streams, rivers, and eventually to outflow points such as reservoirs, bays, and the ocean (NOAA, 2023). During high precipitation or rapid snowmelt, water may enter a watershed too quickly for the land to absorb, causing “surface runoff.” This overflow can also cause water to run on and off impervious surfaces such as parking lots, roads, buildings, and other structures, causing urban/depressional flooding.

Kane County has 12 major watersheds, which are shown in Figure 4-21. Many of the major watersheds in Kane County extend into neighboring counties. In the case of the Fox River, the watershed begins in Wisconsin. A number of the watersheds, such as Tyler Creek and Mill Creek, flow into the Fox River. Other watersheds, such as Coon Creek or Union Ditch, flow to the west and eventually make their way to the Kishwaukee River. Within these 12 major watersheds are smaller sub-watersheds that drain into the tributaries. All of these streams have adjacent floodplains that are inundated during a flood.

All but three of the watersheds listed above eventually flow into the Fox River. Coon and Eakin Creeks and Union Ditch flow generally west out of the County to the Kishwaukee River. All other watersheds are “sub-watersheds” of the Fox River watershed. This means nearly 75% (388 square miles) of Kane county is part of the Fox River watershed. The North Fox River and South Fox River watersheds listed above include the land that run off directly into the main stem of the Fox River or into its immediate tributary streams.

Figure 4-18. Flood Depths

Flood Depths Above Channel Bottom		
Stream	10-Year	100-Year
Fox at Montgomery	10	12
Fox at St. Charles	9	11.5
Fox at Carpentersville	9	12
Blackberry Creek	7-9	8-9
Ferson Creek	5	6
Otter Creek	5	6
Tyler Creek	6	8
Jelkes Creek	3.5	4.5
Welch Creek	6	9
Hampshire Creek	4	5

**Urban/Depressional flooding**, as defined in the Urban Flooding Awareness Act, is the inundation of property in a built environment, particularly in more densely populated areas, caused by rainfall overwhelming the capacity of drainage systems, such as storm sewers. Urban flooding does not include flooding in undeveloped or agricultural areas.

Urban flooding includes situations in which stormwater:

- Enters buildings through windows, doors, or other openings.
- Backs up through sewer pipes, showers, toilets, sinks, and floor drains.
- Seeps through walls, and/or floors.
- Accumulates on public property or rights-of-way.

Urban flooding is characterized by its repetitive, costly, and systemic impacts on communities, regardless of whether or not these communities are located within formally designated floodplains or near any body of water.

#### 4.9.2 Hazard Location

The Kane County Illinois GIS Technologies platform was used to identify the following water assets, illustrated in maps, following this page:

- Creeks
- Fox River
- Water Sheds
- Flood Way
- 100 Year Floodplain Map
- 500 Year Floodplain Map

Figure 4-19. Creeks in Kane County, Illinois

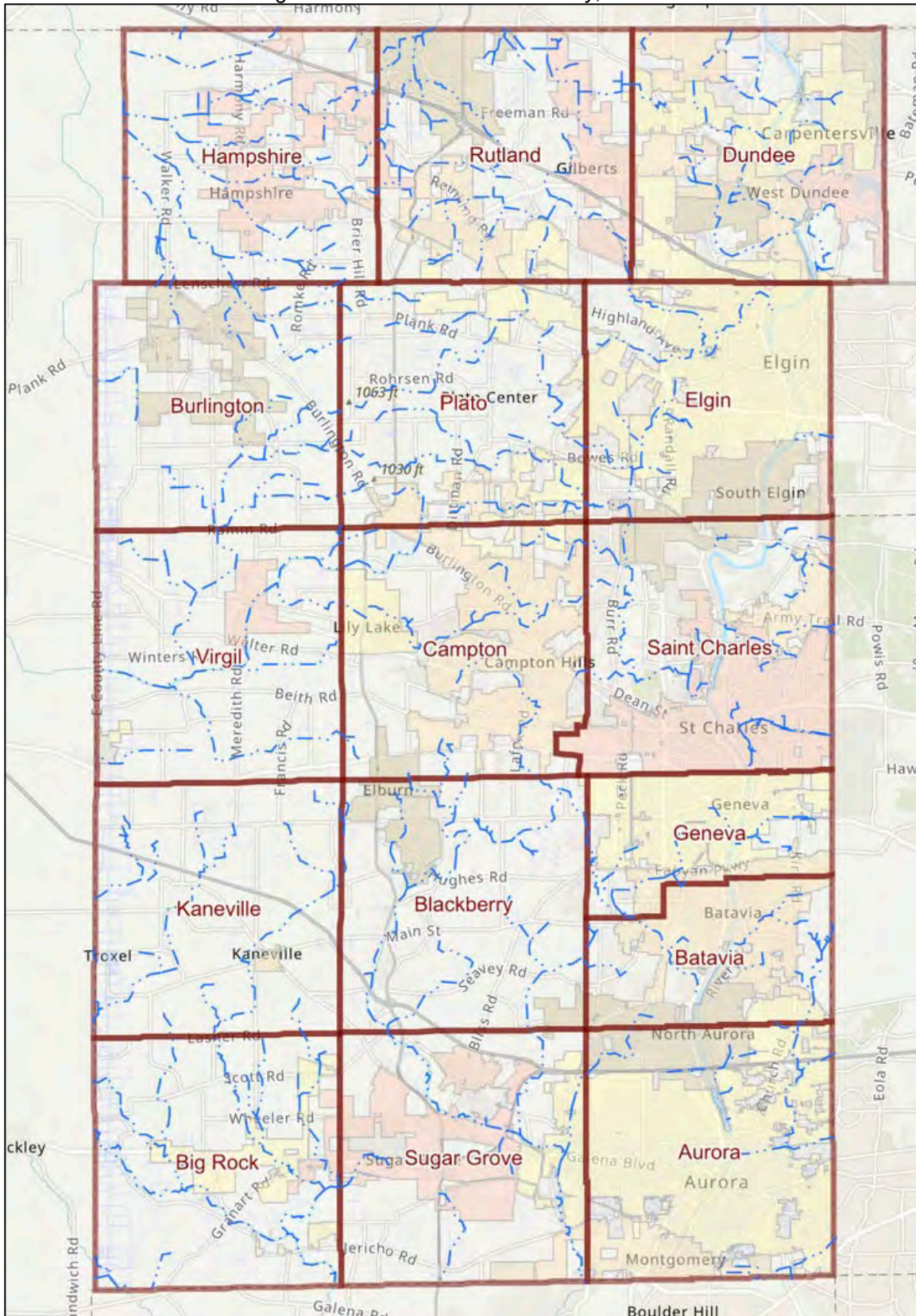




Figure 4-20. Fox River, Illinois

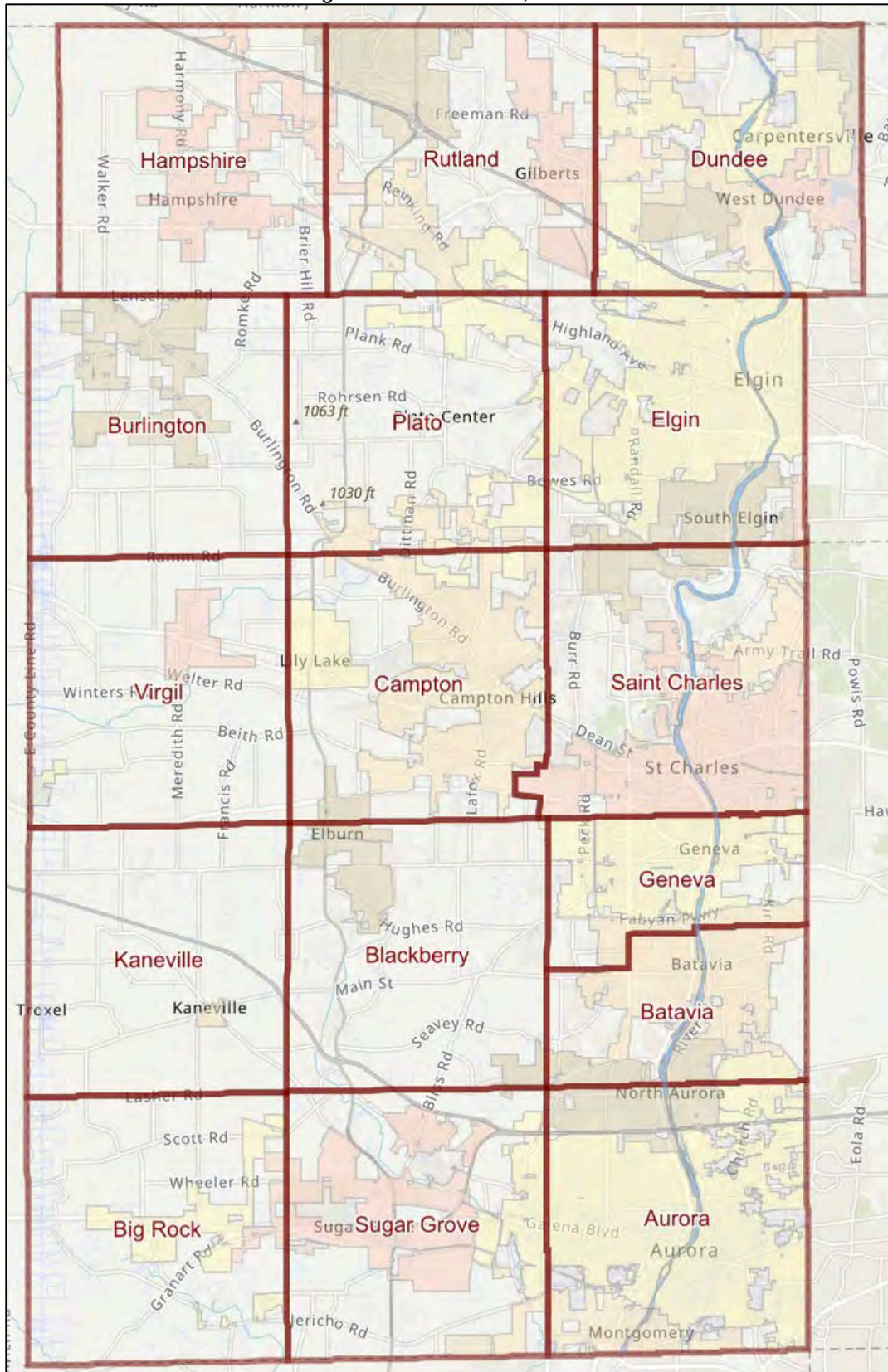




Figure 4-21. Watersheds in Kane County, Illinois

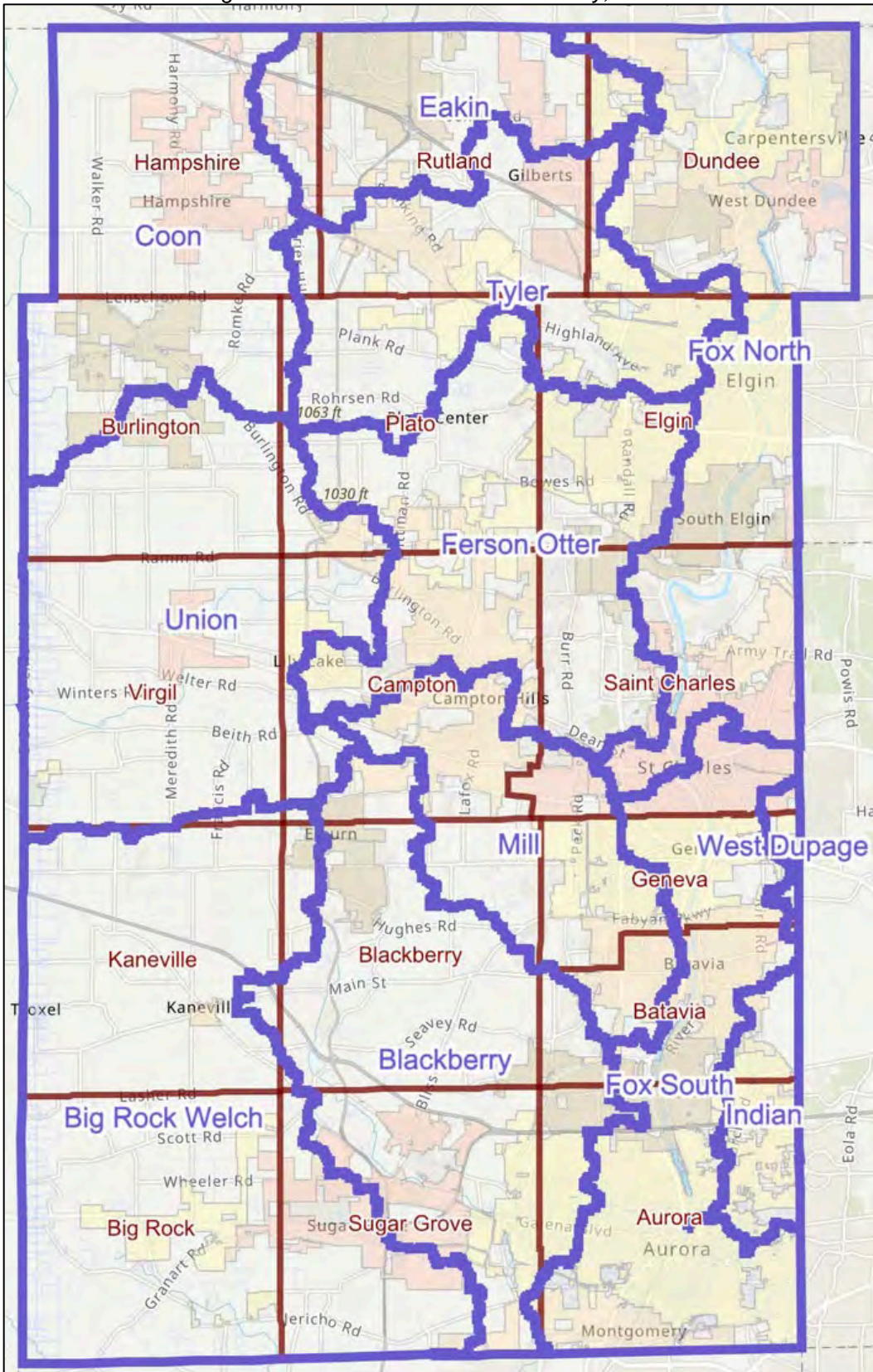




Figure 4-22. Flood Way in Kane County, Illinois

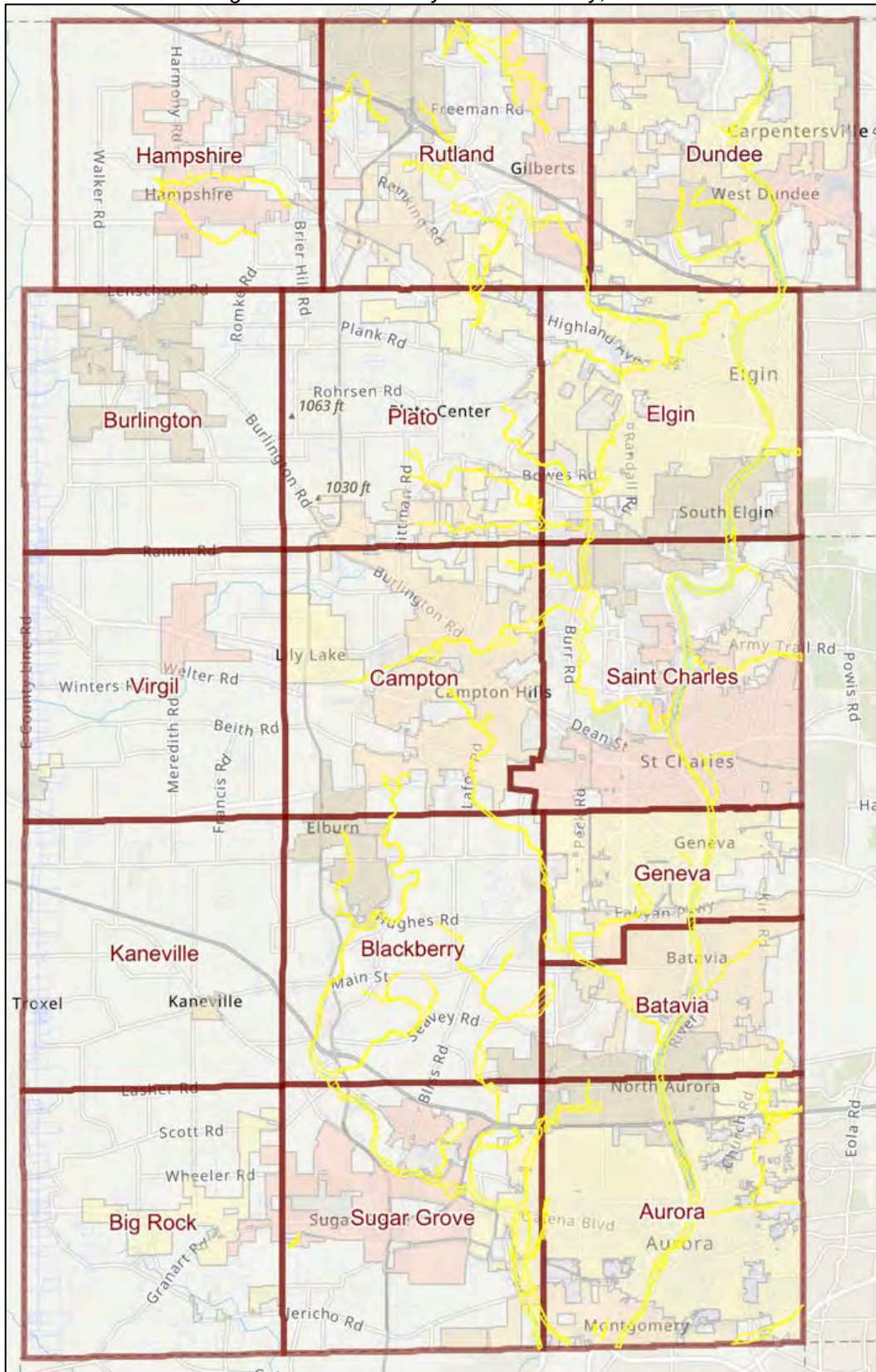




Figure 4-23. 100 Year Flood Plain in Kane County, Illinois

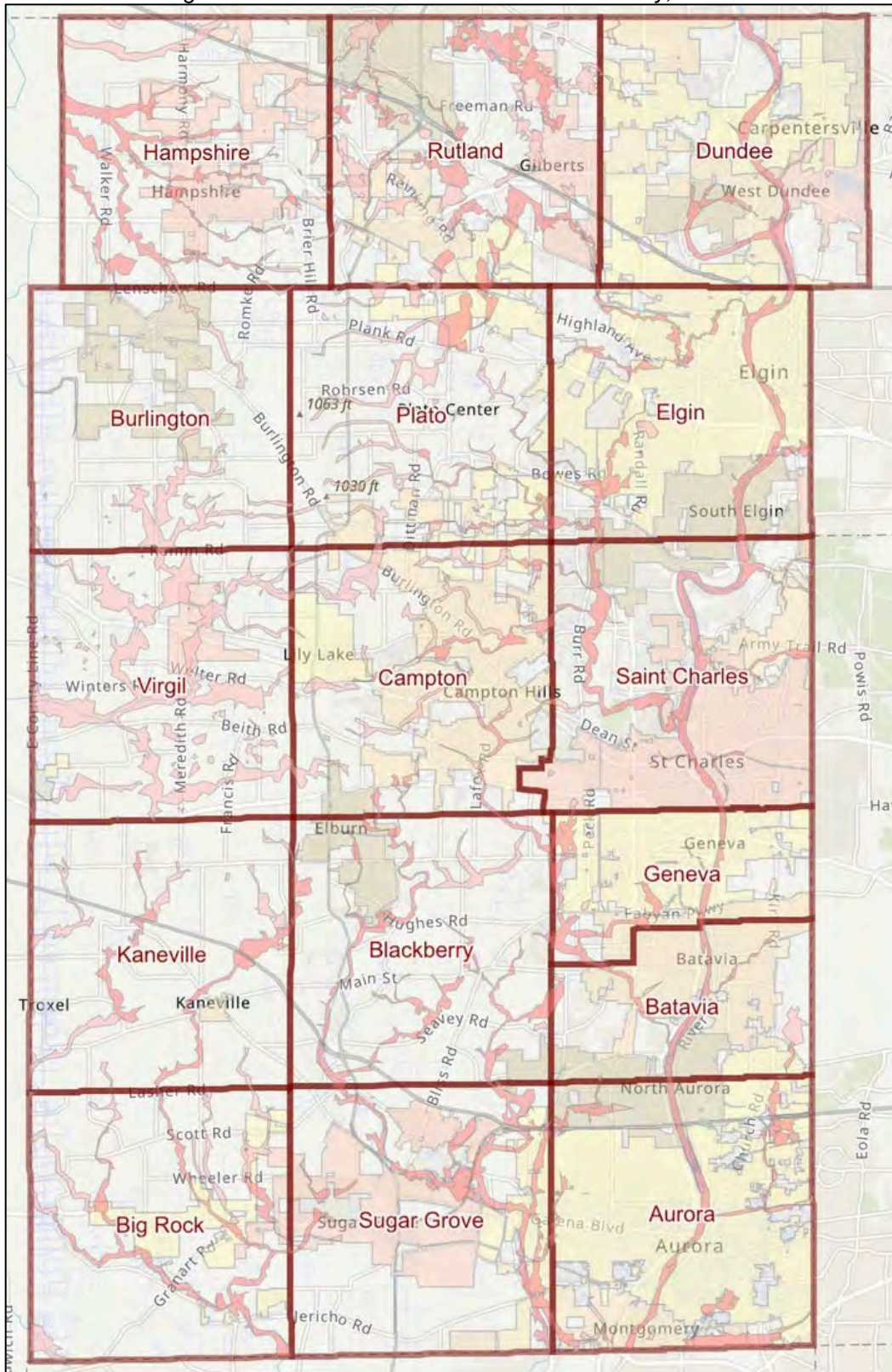
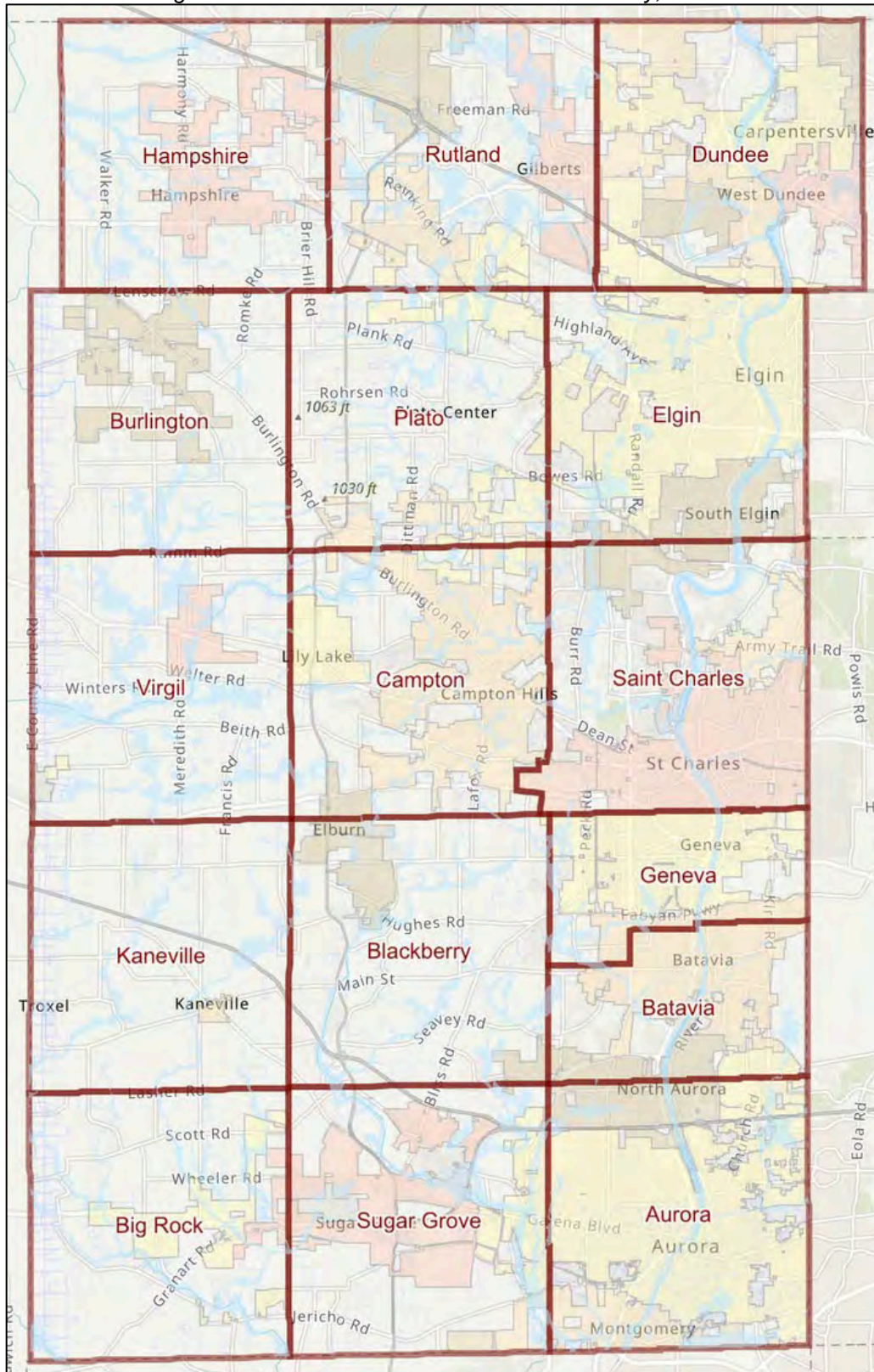




Figure 4-24. 500 Year Flood Plain in Kane County, Illinois



### 4.9.3 Hazard Extent/Intensity

Several factors determine the severity of floods, including rainfall intensity and duration, topography, and ground cover.

The NFIP classifies floods through recurrence intervals, as seen in Figure 4-25.

Figure 4-25. NFIP Flood Recurrence Intervals

Flood Recurrence Interval	Chance of occurrence during any given year
5 year	20%
10 year	10%
50 year	2%
100 year	1%
500 year	0.20%

The federal standard for floodplain management under the National Flood Insurance Plan (NFIP) is the “100-year floodplain.” This area is chosen using historical data such that in any given year, there is a 1% chance of a “base flood” (also known as a “100-year flood” or “regulatory flood”). A base flood covers or exceeds the 100-year floodplain. A “500-year floodplain” is an area with at least a .2% chance of flood occurrence in any given year (FEMA, 2023). Figure 4-18 indicate flood depths for the major rivers and tributaries in the County.

Figure 4-23 illustrates the 100-year floodplain map for Kane County, while Figure 4-24 illustrates the 500-year floodplain map.

When surface water runoff introduced into streams and rivers exceeds the capacity of the natural or constructed channels to accommodate the flow, water overflows the stream banks, spilling out into adjacent low-lying areas. Riverine flooding occurs as a consequence. Riverine flooding can cause two types of floods: overbank flooding and flash floods. Overbank flooding is the increase in the volume of water within a river channel and the overflow of water from the channel onto the adjacent floodplain. Flash floods are the most dangerous because they combine a flood's destructive power with incredible speed and unpredictability. Flash floods occur when excessive water fills typically dry creeks or riverbeds along with currently flowing creeks and rivers, causing rapid water rises in a short amount of time. They can happen with little or no warning.

### 4.9.4 Probability and Frequency

From 1973 through 2023, seven (7) incidents related to flooding have resulted in a Federal Disaster Declaration in Kane County. Over the past 10 years, flooding has been an annual occurrence.

**Urban/Depressional Flooding:** The frequency of urban flooding is dependent on seasonal weather patterns. Urban flooding is usually caused by inadequate drainage following heavy rainfall or rapid snowmelt. Urban flooding is more likely to occur in spring when thunderstorms and snow melt are more prominent.

Most areas of Kane County are moderate to heavily populated and connected to municipal sewer systems (stormwater and/or sanitary sewer). Given this, it is highly probable that urban flooding will occur within the County. Additionally, as development continues within the County, an increase in urban flooding may occur.

#### 4.9.5 Past Events

Table 4-26 illustrates all riverine flooding events between 2013 and 2023. During this timeframe, there were 16 events with no associated injuries or deaths. Table 4-27 shows all urban/depressional flooding events between 2013 and 2023. There were seven events with no associated injuries or deaths during this timeframe. Narratives from select incidents (causing property damage) are provided immediately following the table.

Table 4-26. Kane County Recorded Flood Events (2013-2023)

RIVERINE FLOODING EVENTS IN KANE COUNTY, IL (2013-2023)							
Location	County	Date	Type	Deaths	Injuries	Property Damage	Crop Damage
<a href="#">ELGIN</a>	Kane Co	11/17/2013	Flood	0	0	0	0
<a href="#">FOX RIVER ESTATES</a>	Kane Co	06/21/2014	Flood	0	0	0	0
<a href="#">SUGAR GROVE</a>	Kane Co	06/21/2014	Flood	0	0	0	0
<a href="#">NORTH LAKE MANOR</a>	Kane Co	05/25/2016	Flood	0	0	0	0
<a href="#">GENEVA</a>	Kane Co	07/07/2016	Flood	0	0	0	0
<a href="#">RICHARDSON</a>	Kane Co	07/12/2017	Flood	0	0	0	0
<a href="#">ELGIN</a>	Kane Co	07/21/2017	Flood	0	0	0	0
<a href="#">ST CHARLES</a>	Kane Co	10/14/2017	Flood	0	0	0	0
<a href="#">BIG ROCK</a>	Kane Co	05/30/2018	Flood	0	0	0	0
<a href="#">ELGIN ARPT</a>	Kane Co	05/30/2018	Flood	0	0	0	0
<a href="#">HAMPSHIRE</a>	Kane Co	06/26/2018	Flood	0	0	0	0
<a href="#">ST CHARLES</a>	Kane Co	08/07/2018	Flood	0	0	0	0
<a href="#">AURORA MUNI ARPT</a>	Kane Co	05/17/2020	Flood	0	0	0	0
<a href="#">ELGIN</a>	Kane Co	06/29/2020	Flood	0	0	0	0
<a href="#">HAMPSHIRE</a>	Kane Co	07/05/2022	Flood	0	0	0	0
<a href="#">HAMPSHIRE</a>	Kane Co	07/05/2022	Flood	0	0	0	0
<b>Totals:</b>				<b>0</b>	<b>0</b>	<b>0</b>	<b>0.00K</b>

Table 4-27. Kane County Recorded Flash Flood Event (2013-2023)

URBAN/DEPRESSIONAL FLOOD EVENTS IN KANE COUNTY, IL (2013-2023)							
Location	County	Date	Type	Deaths	Injuries	Property Damage	Crop Damage
<a href="#">DUNDEE KOPPIE ARPT</a>	Kane Co	04/17/2013	Flash Flood	0	0	0	0
<a href="#">ELGIN</a>	Kane Co	05/12/2014	Flash Flood	0	0	0	0
<a href="#">LOVEDALE</a>	Kane Co	06/15/2015	Flash Flood	0	0	0	0
<a href="#">RICHARDSON</a>	Kane Co	07/11/2017	Flash Flood	0	0	500K	0
<a href="#">STARKS</a>	Kane Co	06/26/2018	Flash Flood	0	0	0	0
<a href="#">HAMPSHIRE</a>	Kane Co	06/26/2018	Flash Flood	0	0	0	0
<a href="#">COLEMAN</a>	Kane Co	05/14/2020	Flash Flood	0	0	0	0
<b>Totals:</b>				<b>0</b>	<b>0</b>	<b>500K</b>	<b>0.00K</b>

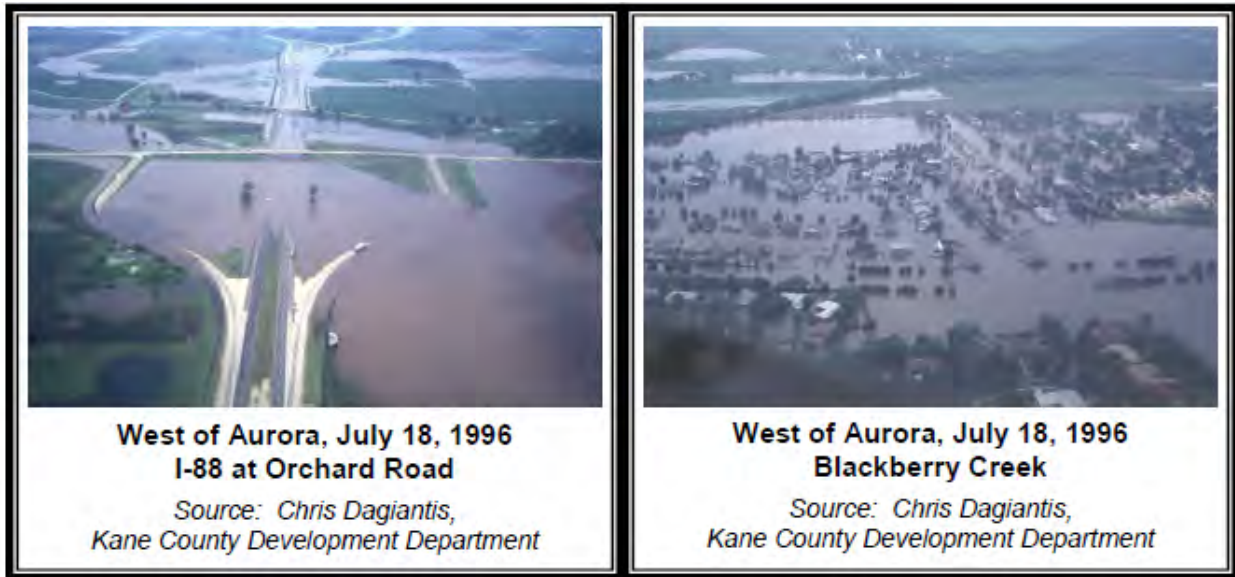
**(2017) Richardson:** Thunderstorms developed during the late evening of July 11th across far northeast Illinois and continued into the morning of July 12th producing torrential rainfall which continued over the same areas for hours producing flash flooding and major river flooding. During this storm, thunderstorms produced torrential rain which caused widespread flooding and flash flooding across northern portions of Kane County. Numerous cars were stuck in water near Route 47 and Route 72 near Pingree Grove. Many roads in Elgin and west of Elgin were flooded and impassable. Basement flooding was also reported in many areas with 76 homes suffering water damage. Two day storm total rainfall amounts included 7.31 inches one mile south of Elgin; 5.00 inches one mile east of Carpentersville; 4.60 inches in Gilberts and 4.08 inches two miles northeast of Elgin. Property damage for this incident was reported at \$500,000.

**1996 flood:** The July 1996 flood was a “benchmark” flood to hit Kane County and was due to a combination of wet conditions (July was the wettest month on record for Aurora) and heavy local rain. Record rainfall came from several subsequent thunderstorms tracking along the same west to east stalled low-pressure front.

The heaviest rainfall concentrated over southeastern Kane County and northeastern Kendall County. An Aurora rain gage recorded 16.91 inches in 24 hours, a record for the state. Record peak flows were recorded at 19 stream flow gages in the area. The US Geological Survey estimated that the flooding was greater than a 100-year flood on Blackberry Creek near Yorkville and the Fox River at Dayton.



Figure 4-26. 1996 Flood



#### 4.9.6 Vulnerability and Impacts

**Life Safety and Public Health:** Safety and health concerns during a flood range greatly. One of the primary issues communities' experiences, especially during flash floods, are vehicles getting stuck and/or swept away by rapidly moving waters. These scenarios also present danger to first responders and bystanders attempting to rescue vehicle occupants.

According to FEMA:

- Six inches of water will reach the bottom of most passenger cars, causing loss of control and potential stalling.
- A foot of water will float many vehicles.
- Two feet of rushing water will carry away most vehicles, including SUVs and pickups.

Just as it is recommended for vehicles to stay away from standing and/or moving flood waters, the same is recommended for individuals. Flood waters can be both unsanitary and dangerous. When individuals do get stuck within flood waters, some experience heart attacks and other medical conditions while trying to free themselves from the water. Contact with flood waters can increase the possibility of contracting a communicable disease (and other medical issues as a result of pollutants, chemicals, waste, and an increased number of insects) (CDC, 2023).

When receding, flood waters can also saturate the ground which leads to infiltration into sanitary sewer lines. When wastewater treatment facilities are flooded, there is often nowhere for the treated sewage to be discharged or inflowing sewage to be stored. Infiltration and lack of treatment lead to overloaded sewer lines which back up into low-lying areas and some homes. Even though diluted by flood waters, raw sewage can be a breeding ground for bacteria, such as *E. coli*, and other disease-causing agents. Because of this threat, tetanus shots are given to people affected by a flood (CDC, 2023).

Stagnant water is often a perfect breeding ground for insects, specifically mosquitoes, known to carry and distribute various types of diseases. Standing water also creates mold, which can be a health issue to everyone, but is an extreme hazard to those with breathing issues, children, and the elderly. If forced-air systems are affected by floods, and are not subsequently cleaned properly, individuals may inadvertently breathe in pollutants. If the water system loses pressure, a boil order may be issued to protect people and animals from contaminated water (CDC, 2023).

The force of flood waters can damage gas lines, which creates the potential for secondary hazards such as gas leaks and fires. This force, along with standing water, can also damage the structural integrity of buildings, which can cause injuries if issues go-unnoticed or unrepaired. While fires have not resulted from flooding within Kane County, history shows that floods can prevent fire departments and protection agencies from successfully combating and sometimes even accessing a fire, allowing it to spread (CDC, 2023).

According to FEMA, flooding can also disproportionately impact disadvantaged or challenged communities in the following ways:

- Lack of Resilience Infrastructure: Disadvantaged communities often lack the infrastructure necessary to mitigate flood impacts, such as well-maintained levees, flood barriers, and stormwater management systems. The absence of these protective measures can make these areas more susceptible to flooding and its consequences.
- Inadequate Housing: Residents of disadvantaged communities may be more likely to live in substandard housing or low-lying areas that are prone to flooding. Such housing may lack flood-resistant construction and may not provide adequate protection during floods.
- Limited Financial Resources: These communities often have fewer financial resources to prepare for, respond to, and recover from flooding. This can lead to difficulties in purchasing flood insurance, repairing flood-damaged homes, or accessing emergency resources.
- Health Vulnerabilities: Residents of disadvantaged communities may have higher rates of pre-existing health conditions or limited access to healthcare services. Flooding can exacerbate these health vulnerabilities, especially if contaminated floodwater spreads diseases or disrupts medical care.
- Transportation Challenges: Limited access to reliable transportation can hinder evacuation efforts during flooding events, placing residents in these areas at greater risk. Public transportation options may be insufficient or inaccessible, leaving residents stranded.
- Information Access: Disadvantaged communities may have limited access to timely and accurate information about flood risks and preparedness measures. This lack of information can lead to delayed or inadequate responses to flood warnings.
- Environmental Justice Concerns: Flooding can lead to the release of hazardous materials, contaminating soil and water. Disadvantaged communities are more likely to be located near industrial sites or toxic facilities, exacerbating environmental justice concerns.
- Community Disruption: Flooding can displace residents from their homes, disrupting communities and increasing social and economic hardships. The process of recovery and rebuilding may take longer in these areas due to limited resources.

Figure 4-27: Kane County CRCI Tract 17089851500

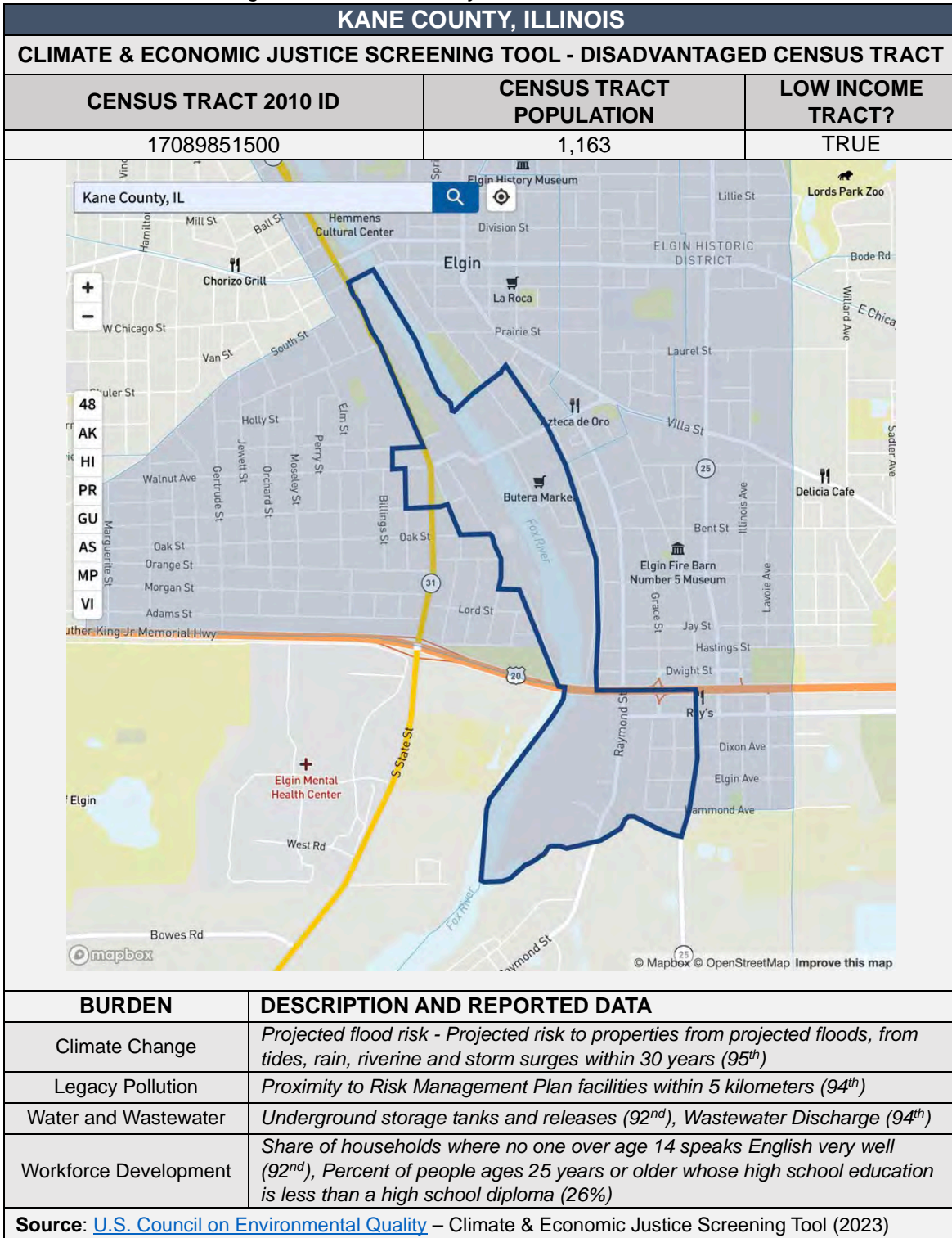
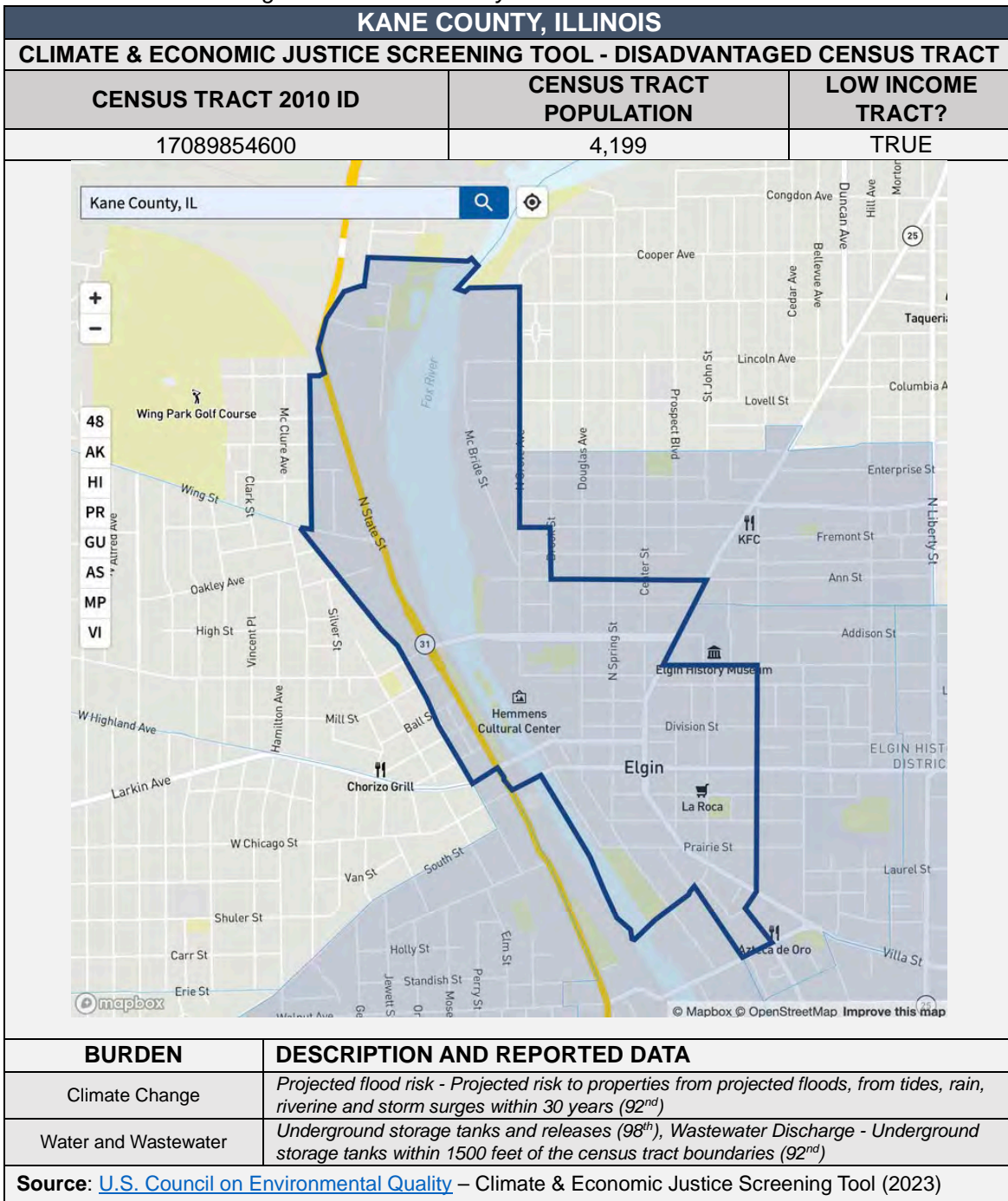


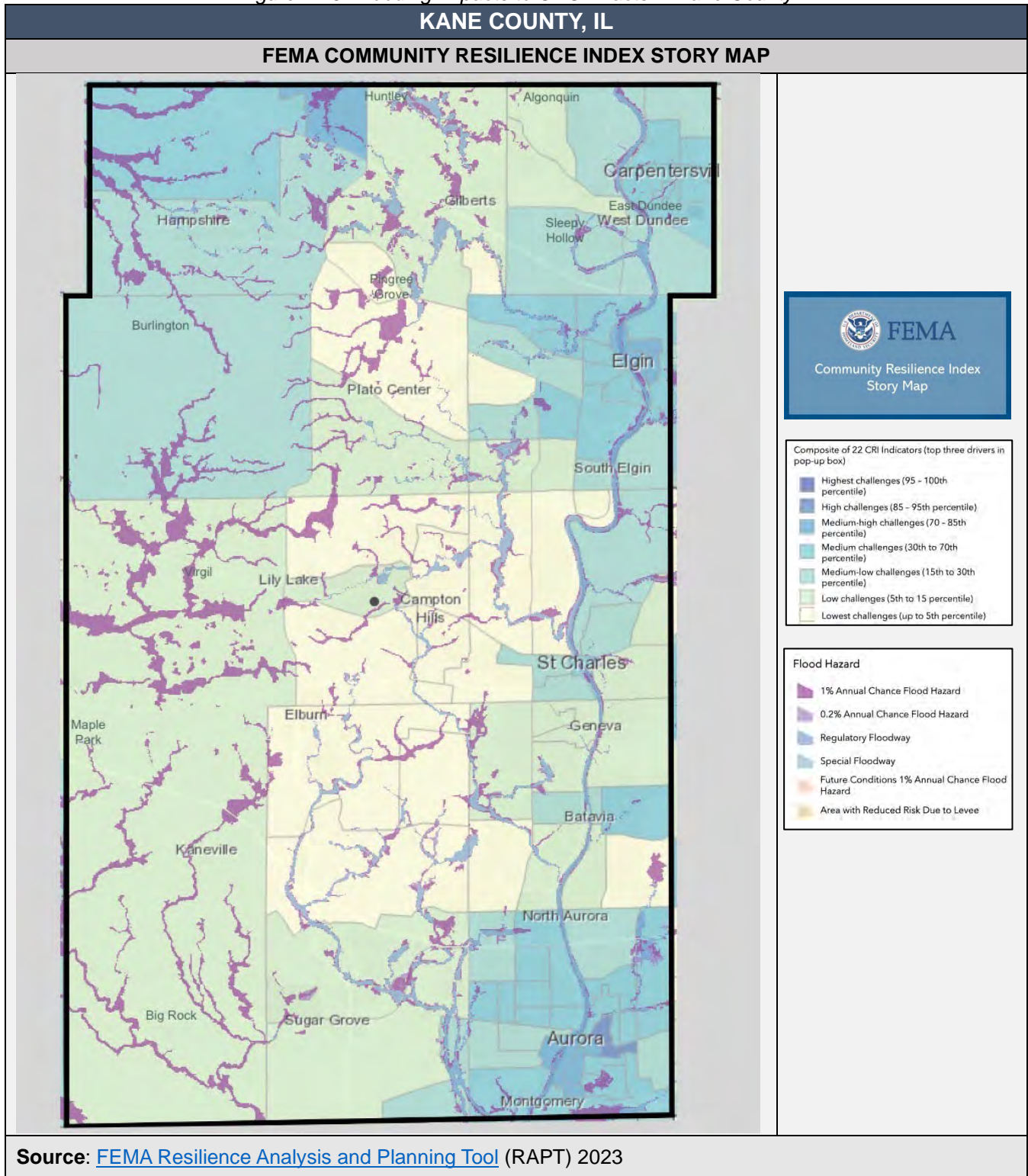
Figure 4-28: Kane County CRCI Tract 17089854600



The FEMA Community Resilience Challenges Index (CRCI) provides a relative assessment of a community's potential resilience and gives insights into population and community characteristics from which to build emergency operations plans and targeted outreach strategies. Figure 4-29 illustrates the impact of flooding to CRCI tracts in Kane County.



Figure 4-29: Flooding Impacts to CRCI Tracts in Kane County





### 4.9.7 Property Damage and Critical Infrastructure

100-year Flood Analysis:

A HAZUS analysis was conducted for a 100-year flood to examine the exposure and damages of buildings to flooding.

HAZUS estimates that about 549 buildings will be at least moderately damaged. This is over 65% of the total number of buildings in the scenario.

Table 4-28. HAZUS 100-year Expected Building Damage by Occupancy

Expected Building Damage by Occupancy												
Damage Level	1-10		11-20		21-30		31-40		41-50		>50	
Occupancy	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Agriculture	0	0	0	0	0	0	0	0	0	0	0	0
Commercial	3	6	3	6	2	4	12	22	20	37	14	26
Education	0	0	0	0	0	0	0	0	0	0	0	0
Government	0	0	0	0	0	0	0	0	0	0	0	0
Industrial	3	15	6	30	4	20	5	25	2	10	0	0
Religion	0	0	0	0	0	0	0	0	0	0	0	0
Residential	180	27	233	35	126	19	65	10	31	5	26	4
<b>Total</b>	<b>186</b>		<b>242</b>		<b>132</b>		<b>82</b>		<b>53</b>		<b>40</b>	

Table 4-29. HAZUS 100-year Expected Damage to Essential Facilities

Expected Damage to # of Essential Facilities			
	At Least Moderate	At Least Substantial	Loss of Use
Fire Stations	0	0	0
Hospitals	0	0	0
Police Stations	0	0	0
Schools	0	0	0
Emergency Operations Center	0	0	0

Table 4-30. HAZUS 100-year Building-Related Economic Loss Estimates

Building-Related Economic Loss Estimates (Millions of Dollars)						
	Area	Residential	Commercial	Industrial	Others	Total
Building Loss	Building	132.20	52.39	29.47	9.44	223.50
	Content	61.93	87.27	77.36	76.17	302.73
	Inventory	0.00	3.76	8.19	0.08	12.03
	<b>Subtotal</b>	<b>194.13</b>	<b>143.43</b>	<b>115.02</b>	<b>85.69</b>	<b>538.26</b>
Business Interruption	Income	0.23	73.60	0.98	40.92	115.74
	Relocation	33.74	17.42	2.06	14.67	67.89
	Rental Income	13.38	13.30	0.33	1.88	28.88
	Wage	0.54	42.45	1.54	117.47	162.00
	<b>Subtotal</b>	<b>47.88</b>	<b>146.77</b>	<b>4.90</b>	<b>174.95</b>	<b>374.51</b>
<b>All</b>	<b>Total</b>	<b>242.01</b>	<b>290.19</b>	<b>119.92</b>	<b>260.64</b>	<b>912.77</b>

The total economic loss estimated for the flood is \$912.77 million, representing 15.46% of the total replacement value of the scenario buildings.

The total building-related losses were \$538.26 million. 41% of the estimated losses were related to business interruption in the region. The residential occupancies made up 26.51% of the total loss.

HAZUS estimates the number of households expected to be displaced due to the flood and the associated potential evacuation. HAZUS also estimates those displaced people that will require accommodations in temporary public shelters. The model estimates that 1,675 households (5,026 people) will be displaced due to the flood. Displacement includes households evacuated from within or very near the inundated area. Of these, 705 people are expected to seek temporary shelter in public shelters.

**Bridges:** A review of the Flood Insurance Rate Map and accompanying flood profiles identified 58 bridges and culverts that will be underwater during a base flood.

A bridge does not have to be under water to be damaged or to cut off an evacuation route. In some cases, the bridge is high, but the access road may be flooded. In other cases, the bridge or culvert can be washed out. This is especially dangerous if a person drives on a flooded road and assumes that the bridge is still there.

There are bridges and culverts in areas that are not included in the Flood Insurance Rate Map study areas, such as those located along small tributary streams.

The following have been identified by the municipalities and township road commissions as obstructing or impeding the flow water during flood events:

- Aurora: 1) Illinois Rt. 25/Broadway Ave. and Indian Creek Crossing, 2) Selmarten Road crossing with Selmarten Creek, 3) East Run of Blackberry Creek at Sullivan Road, West of Bushwood Drive, 4) Blackberry Creek at W. Galena Blvd., 5) Sans Souci Lake/Chain of Lakes at Coach and Surrey Lane, 6) Indian Creek at Molitor Road crossing, 7) Indian Creek at Illinois Prairie Path, West of Farnsworth Ave., 8) Indian Creek at private residence 791 N. Farnsworth Ave., 9) Indian Creek at Rural Street [unincorporated area], 10) Indian Creek at railroad crossing, North of Plain Ave and West of Farnsworth Ave., 11) Waubensee Creek at Hill Ave. and Farnsworth Ave.
- Batavia: culverts along the Mill Creek Tributary
- Batavia: bridges and culverts along Mahoney Creek and its tributaries
- Big Rock Township: Granart Road at Big Rock Creek
- Burlington Township: Middleton Road
- Elgin: State Street bridge piers at the Fox River
- Geneva Township: Wenmoth Road along Mill Creek
- Lily Lake: State Route 64, east of State Route 47 along Ferson Creek
- Montgomery: US 30 at Blackberry Creek (several structures)
- Montgomery: Railroad structure downstream of U.S. Route 30 at Blackberry Creek
- Plato Township: Rohrsen Road
- Rutland Township: Kruetzer Road bridge
- South Elgin: McDonald Road at Otter Creek
- South Elgin: State Street at the Fox River

- St. Charles: Prairie Street at the Fox River

**Historic Places:** Of the 64 properties listed on the National Register of Historic Places in Kane County, 61 of the listed properties and all seven of the listed historic districts are located within communities bordering the Fox River. The North Geneva Historic District (listed 1982) and the Central Geneva Historic District (listed 1971) both border the Fox River. The Dundee Township Historic district straddles the Fox River. The Stolp Island Historic District in Aurora (listed 1986) sits in the middle of the Fox River.

**National Flood Insurance Program (NFIP) Participation and Repetitive Loss:** The majority of Kane County communities participate in the National Flood Insurance Program. NFIP participation is discussed further in *Chapter 5: Capabilities and Integration of Mitigation Measures* of this plan.

According to FEMA, Kane County communities had 1,131 insurance policies in-force, totaling \$245,949,000.

Table 4-31. NFIP Policies In-Force

Community Name	Policies In-Force	Total Coverage	Total Written Premium + FPF
City of Algonquin	2	\$700,000	\$1,088
City of Aurora	440	\$69,226,000	\$191,455
City of Batavia	21	\$6,064,000	\$10,993
Village of Big Rock	1	\$350,000	\$458
Village of Burlington	-	-	-
Village of Campton Hills	13	\$3,982,000	\$7,066
Village of Carpentersville	9	\$2,010,000	\$6,728
Village of East Dundee	30	\$7,523,000	\$60,159
Village of Elburn	3	\$728,000	\$1,265
City of Elgin	49	\$14,647,000	\$73,392
City of Geneva	19	\$6,711,000	\$17,455
Village of Gilberts	2	\$392,000	\$848
Village of Hampshire	6	\$1,763,000	\$3,701
Village of Huntley	6	\$1,960,000	\$3,213
Kane County	153	\$36,564,000	\$200,914
Village of Lily Lake	1	\$350,000	\$467
Village of Maple Park	-	-	-
Village of Montgomery	35	\$8,347,000	\$30,687
Village of North Aurora	12	\$3,027,000	\$6,401
Village of Pingree Grove	1	\$350,000	\$631
Village of Sleepy Hollow	22	\$6,145,000	\$22,504
Village of South Elgin	67	\$13,561,000	\$91,812
City of St. Charles	25	\$6,452,000	\$29,680
Village of Sugar Grove	11	\$3,050,000	\$7,799
Village of Virgil	-	-	-

Village of Wayne	1	\$250,000	\$647
Village of West Dundee	8	\$2,811,000	\$26,258
Unknown (Unknown)	194	\$48,986,000	\$245,021
<b>TOTAL</b>	<b>1,131</b>	<b>\$245,949,000</b>	<b>\$1,040,642</b>
<b>Source:</b> FEMA as of 08/31/2023			

**Repetitive Loss Properties:** There are several different definitions of a “repetitive loss property.” The current FEMA definition of a repetitive loss property is:

**“Repetitive Loss Structure:** An NFIP-insured structure that has had at least two paid flood losses of more than \$1,000 each in any 10-year period since 1978.” (FEMA, 2023).

Additionally, the definitions of a severe repetitive loss building and severe repetitive loss property are:

**“Severe Repetitive Loss Building:** Any building that:

1. Is covered under a Standard Flood Insurance Policy made available under this title.
2. Has incurred flood damage for which:
  - a. Four or more separate claim payments have been made under a Standard Flood Insurance Policy issued pursuant to this title, with the amount of each such claim exceeding \$5,000 and with the cumulative amount of such claims payments exceeding \$20,000; or
  - b. At least two separate claims payments have been made under a Standard Flood Insurance Policy, with the cumulative amount of such claim payments exceeding the fair market value of the insured building on the day before each loss” (FEMA, 2023).

**“Severe Repetitive Loss Property:** Either a severe repetitive loss building or the contents within a severe repetitive loss building, or both” (FEMA, 2023).

FEMA encourages the mitigation of severe repetitive loss and repetitive loss properties through the distribution of mitigation grants, the NFIP’s Increased Cost of the Compliance program, and the Community Rating System (CRS) program. Depending on the number of repetitive loss properties within a CRS community, the community may be required to develop a specific plan to determine the causes of the repetitive claims and ways to mitigate the causes of the repetitive claims. At a minimum, each CRS community must conduct an annual outreach project to these properties advising the owners of their location in the regulatory floodplain, property protection measures, and any funding options for property protection and flood insurance.

FEMA offers several programs to support communities in identifying and addressing the root causes of their repetitive losses. One such program is the Community Rating System (CRS), which this Plan fulfills the requirements for as outlined in Chapter 5.

The table below shows unmitigated repetitive loss properties and insurance claims paid in Kane County. Chapter 5 has a detailed breakdown of each property by type and location.

Table 4-32. Repetitive loss properties in Kane County

Number of Repetitive Loss Properties	Total Losses	Total Insurance Claims Paid (\$)	Average Insurance Claim Paid (\$)
101	267	5,134,342.47	19,229.75
<b>Source:</b> FEMA, IEMA			

Figure 4-30 illustrates flooding impact to critical infrastructure in Kane County.



Figure 4-30: Flooding Impacts to Critical Infrastructure in Kane County

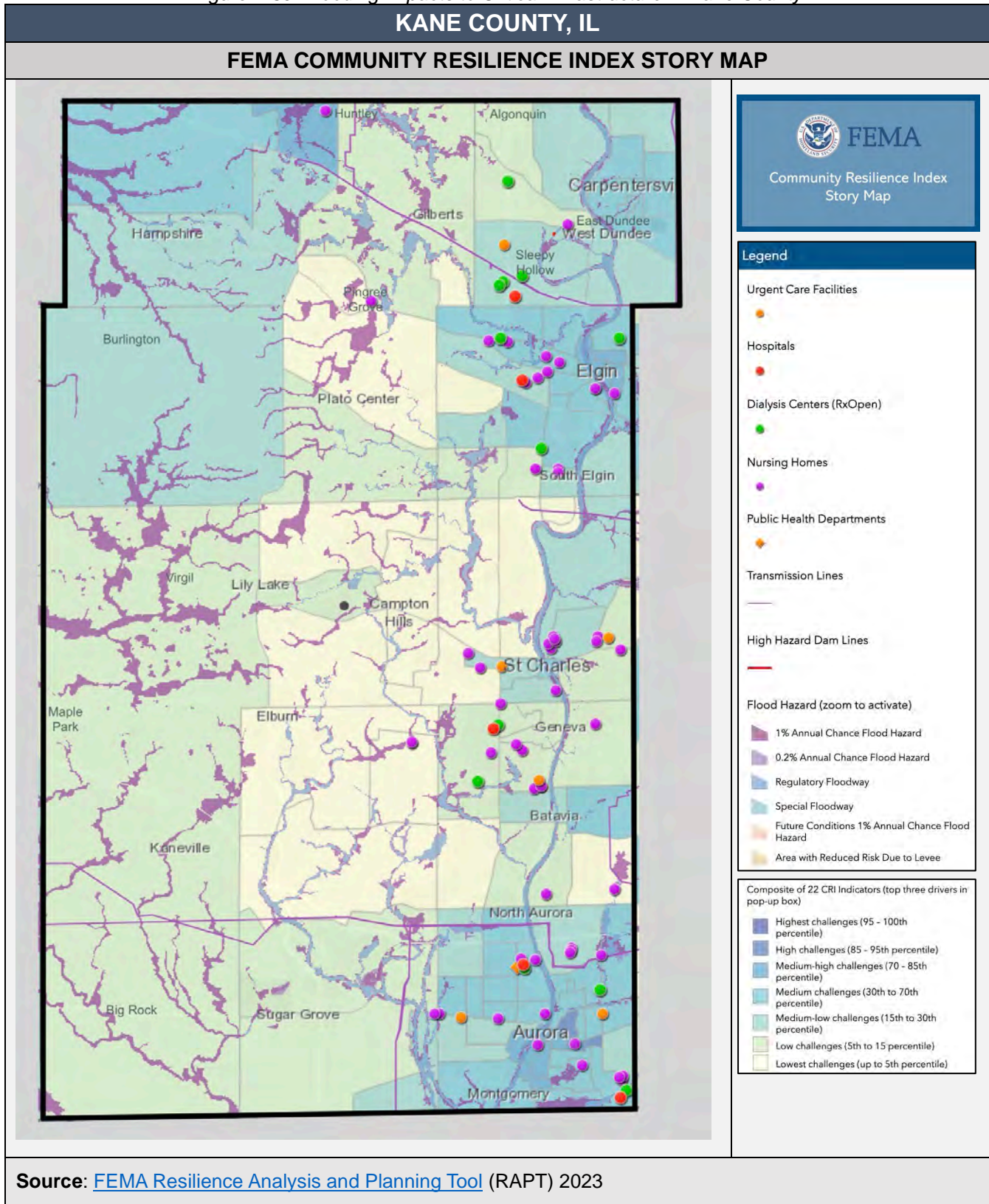
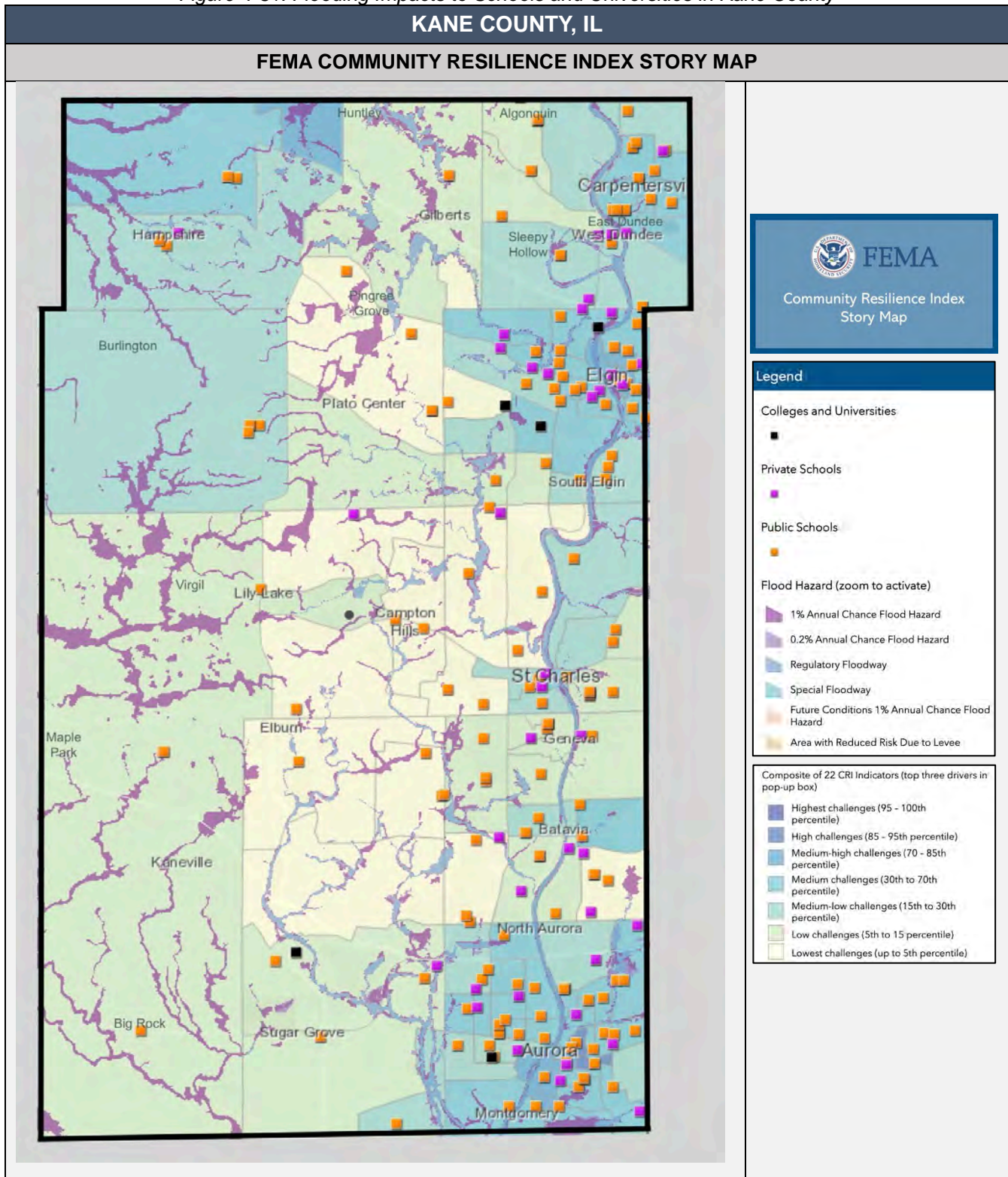


Figure 4-31 illustrates flooding impact to schools and universities in Kane County.

Figure 4-31: Flooding Impacts to Schools and Universities in Kane County



Source: [FEMA Resilience Analysis and Planning Tool \(RAPT\)](#) 2023



**Economy:** Flooding can have several different impacts on the economy in Kane County. One potential impact is damage to businesses and infrastructure. Flooding can damage or destroy buildings, equipment, and inventory, disrupting operations and resulting in significant financial losses for companies. In addition, infrastructure such as roads, bridges, and utilities can also be damaged, which can impede transportation and communication networks and further disrupt the operations of businesses and other economic activity.

Another potential economic impact includes property values and insurance rates. Properties located in flood-prone areas may also decline in value, while insurance rates increase as the risk of flooding increases. This can make it more difficult for homeowners and businesses to secure loans and other forms of financing.

**Changes in Development and Impact of Future Development:** Riverine or urban flooding can significantly impact current or future development in Kane County. Floodwaters can cause extensive damage to infrastructure, including buildings, roads, and bridges, and disrupt transportation and commerce, resulting in costly repairs. Additionally, properties in flood-prone areas may experience a decline in value, affecting property owners, developers, and local governments relying on property tax revenue. Flooding incidents can also cause flood insurance premiums to increase, posing challenges for property owners to protect their investments. Finally, flooding can prompt changes in land use patterns, impacting the availability of land for development and altering the character of neighborhoods and communities.

**Effects of Climate Change on Severity of Impacts:** Heavy precipitation leads to riverine flooding and flash floods as the ground fails to absorb the high volume of precipitation that falls in a short period. Increasing annual precipitation contributes to sustained flooding (Neighborhoods At Risk, 2023).

Table 4-33 illustrates 25-year precipitation projections for Kane County, while Table 4-34 shows future climate indicators for Kane County.

*Table 4-33. 25-Year Precipitation Projections for Kane County*

<b>25-YEAR PRECIPITATION PROJECTIONS FOR KANE COUNTY, IL</b>	
<b>HIGHER EMISSIONS (RCP8.5)</b>	
	Kane County is expected to experience a 14% increase in heavy precipitation within 25 years.
	By 2048, Kane County is expected to experience 0.6 more days of heavy precipitation per year (from 4.0 days to 4.6 days per year).
<b>LOWER EMISSIONS (RCP4.5)</b>	
	Kane County is expected to experience a 1% increase in heavy precipitation within 25 years.
	By 2048, Kane County is expected to experience 0.03 more days of heavy precipitation per year (from 4.06 days to 4.09 days per year).
<b>Source:</b> Neighborhoods at Risk ( <a href="https://nar.headwaterseconomics.org/17089/explore/climate">https://nar.headwaterseconomics.org/17089/explore/climate</a> )	

Table 4-34. Future Climate Indicators for Kane County

<b>FUTURE CLIMATE INDICATORS FOR KANE COUNTY, IL</b>							
<i><b>Indicator</b></i>	<b>Modeled History</b> (1976-2005)	<b>Early Century</b> (2015-2044)		<b>Mid Century</b> (2035-2064)		<b>Late Century</b> (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
<b>Precipitation:</b>							
<i>Annual Average Total Precipitation</i>	<b>35"</b>	<b>36"</b>	<b>36"</b>	<b>36"</b>	<b>37"</b>	<b>37"</b>	<b>38"</b>
	33-35	33-39	32-40	32-41	31-42	32-41	33-432
<i>Days Per Year With Precipitation (Wet Days)</i>	<b>175 days</b>	<b>173 days</b>	<b>172 days</b>	<b>172 days</b>	<b>171 days</b>	<b>171 days</b>	<b>168 days</b>
	170-179	161-181	156-180	160-182	151-185	160-182	134-187
<i>Maximum Period of Consecutive Wet Days</i>	<b>11 days</b>	<b>11 days</b>	<b>11 days</b>	<b>11 days</b>	<b>11 days</b>	<b>11 days</b>	<b>11 days</b>
	10-13	10-12	9-13	9-13	9-13	9-13	9-13
<b>Annual Days With:</b>							
<i>Annual Days With Total Precipitation &gt; 1 inch</i>	<b>3 days</b>	<b>4 days</b>	<b>4 days</b>	<b>4 days</b>	<b>5 days</b>	<b>5 days</b>	<b>5 days</b>
	3-4	3-5	3-5	3-5	3-6	3-6	4-8
<i>Annual Days With Total Precipitation &gt; 2 inches</i>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>
	0-0	0-0	0-0	0-1	0-1	0-1	0-1
<i>Annual Days With Total Precipitation &gt; 3 inches</i>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>
	0-0	0-0	0-0	0-0	0-0	0-0	0-0
<i>Annual Days That Exceed 99<sup>th</sup> Percentile Precipitation</i>	<b>4 days</b>	<b>6 days</b>	<b>6 days</b>	<b>6 days</b>	<b>7 days</b>	<b>7 days</b>	<b>8 days</b>
	5-6	6-7	6-7	6-7	6-7	6-7	7-8
	<b>46 days</b>	<b>34 days</b>	<b>33 days</b>	<b>29 days</b>	<b>26 days</b>	<b>25 days</b>	<b>15 days</b>

Days With Maximum Temperature Below 32° F	42-49	20-46	24-43	16-41	14-38	12-37	4-29
Source: <a href="#">Climate Mapping for Resilience and Adaptation</a> (2023)							

#### 4.9.8 FEMA NRI Expected Annual Loss Estimates

Table 4-35. Kane County Expected Annual Loss Table

KANE COUNTY, IL FEMA NRI EXPECTED ANNUAL LOSS TABLE FOR RIVERINE FLOODING EVENTS							
Annualized Frequency	Population	Population Equivalence	Building Value	Agriculture Value	Total Value	Expected Annual Loss Score	Expected Annual Loss Rating
1.9 events per year	0.12	\$1,449,957	\$1,260,196	\$449,370	\$3,159,523	89.5	Relatively Moderate
<p><b>Annualized Frequency:</b> The natural hazard annualized frequency is defined as the expected frequency or probability of a hazard occurrence per year. Annualized frequency is derived either from the number of recorded hazard occurrences each year over a given period or the modeled probability of a hazard occurrence each year.</p> <p><b>Population:</b> Population exposure is defined as the estimated number of people determined to be exposed to a hazard according to a hazard type-specific methodology.</p> <p><b>Expected Annual Loss</b> scores are calculated using an equation that combines values for exposure, annualized frequency, and historic loss ratios (Expected Annual Loss = Exposure x Annualized Frequency x Historic Loss Ratio). Source: <a href="https://hazards.fema.gov/nri/expected-annual-loss">hazards.fema.gov/nri/expected-annual-loss</a></p>							
Source: FEMA <a href="#">National Risk Index</a> (2023)							

#### 4.9.9 FEMA Hazard-Specific Risk Index Table

Table 4-36. Kane County Hazard Specific Risk Index Table

KANE COUNTY, IL FEMA HAZARD SPECIFIC RATINGS – RIVERINE FLOODING		
Risk Index Score	Social Vulnerability Rating	Community Resilience Rating
87.8 / 100	Relatively Moderate	Relatively High
<p><b>Risk Index Scores:</b> are a quantitative rating calculated using data for only a single hazard type. Risk Index Scores are calculated using data for only a single hazard type, and reflect a community's Expected Annual Loss value, community risk factors, and the adjustment factor used to calculate the risk value.</p> <p><b>Social Vulnerability Ratings:</b> are a qualitative rating that describe the community in comparison to all other communities at the same level, ranging from “Very Low” to “Very High.” Social Vulnerability is measured using the Social Vulnerability Index (SVI) published by the Centers for Disease Control and Prevention (CDC).</p> <p><b>Community Resilience Ratings:</b> are a qualitative rating that describe the community in comparison to all other communities at the same level, ranging from “Very Low” to “Very High.” Community Resilience is measured using the Baseline Resilience Indicators for Communities (HVRI BRIC) published by the University of South Carolina's Hazards and Vulnerability Research Institute (HVRI).</p>		
Source: FEMA <a href="#">National Risk Index</a> (2023)		



## 4.10 High Hazard Dams

### 4.10.1 Hazard Description

A dam is a barrier constructed across a watercourse for water storage, control, or diversion. Dams are typically built of earth, rock, concrete, or mine tailings.

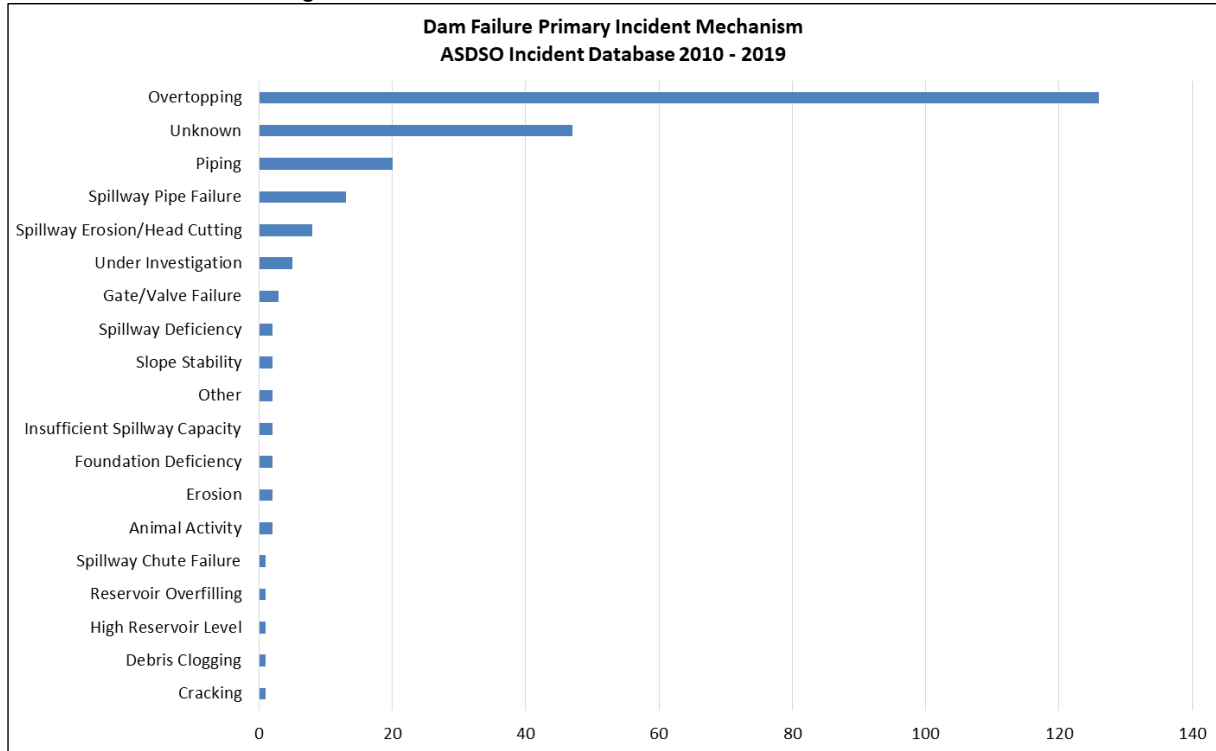
#### ***Dam Failure:***

Rapid and uncontrolled release of impounded water or liquid-borne solids characterizes failure. However, it is recognized that there are lesser degrees of failure and that any malfunction or abnormality outside the design assumptions and parameters that adversely affect a dam's primary function of impounding water could be considered a failure.

**The Causes of Dam Failure:** Dam failures are most likely to happen for one of five reasons (ASDSO, 2023):

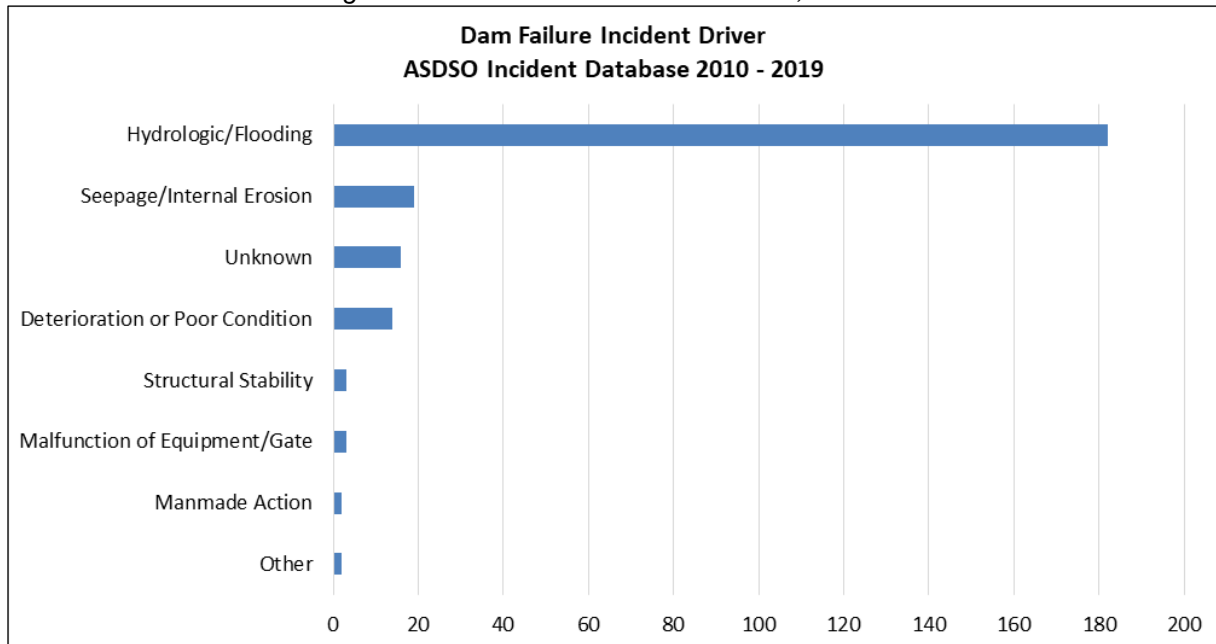
1. Overtopping is caused by water spilling over the top of a dam. Overtopping of a dam is often a precursor of dam failure. For example, national statistics show that overtopping due to inadequate spillway design, debris blockage of spillways, or settlement of the dam crest account for approximately 34% of all U.S. dam failures.
2. Foundation defects, including settlement and slope instability, cause about 30% of all dam failures.
3. Cracking is caused by movements like the natural settling of a dam.
4. Inadequate maintenance and upkeep.
5. Piping is when seepage through a dam is not adequately filtered, soil particles continue to progress and form sinkholes in the dam. Another 20% of U.S. dam failures have been caused by piping (internal erosion caused by seepage). Seepage often occurs around hydraulic structures, such as pipes and spillways; through animal burrows; around roots of woody vegetation; and through cracks in dams, dam appurtenances, and dam foundations.

Figure 4-32. Causes of Dam Failure Incidents, 2010-2019\*\*



\*\* From the ASDSO Dam Incident Database, dam failure incidents for 2010 through 2019. Incident data is mainly obtained from the state dam safety programs and/or media reports. Therefore, the incident data is not inclusive of all dam safety incidents.

Figure 4-33. Dam Failure Incident Driver, 2010-2019



### 4.10.2 Hazard Location

There are 15 “high” or “significant” risk dams in Kane County, as listed in Table 4-37. Seven of these dams are classified as high risk, while eight are classified as significant risk. Both high and significant classifications indicate sufficient downstream populations to warrant the classification. Following the table, Figure 34 through Figure 4-47 illustrate maps of each dam within the county. Emergency action plan status is also indicated below each map.

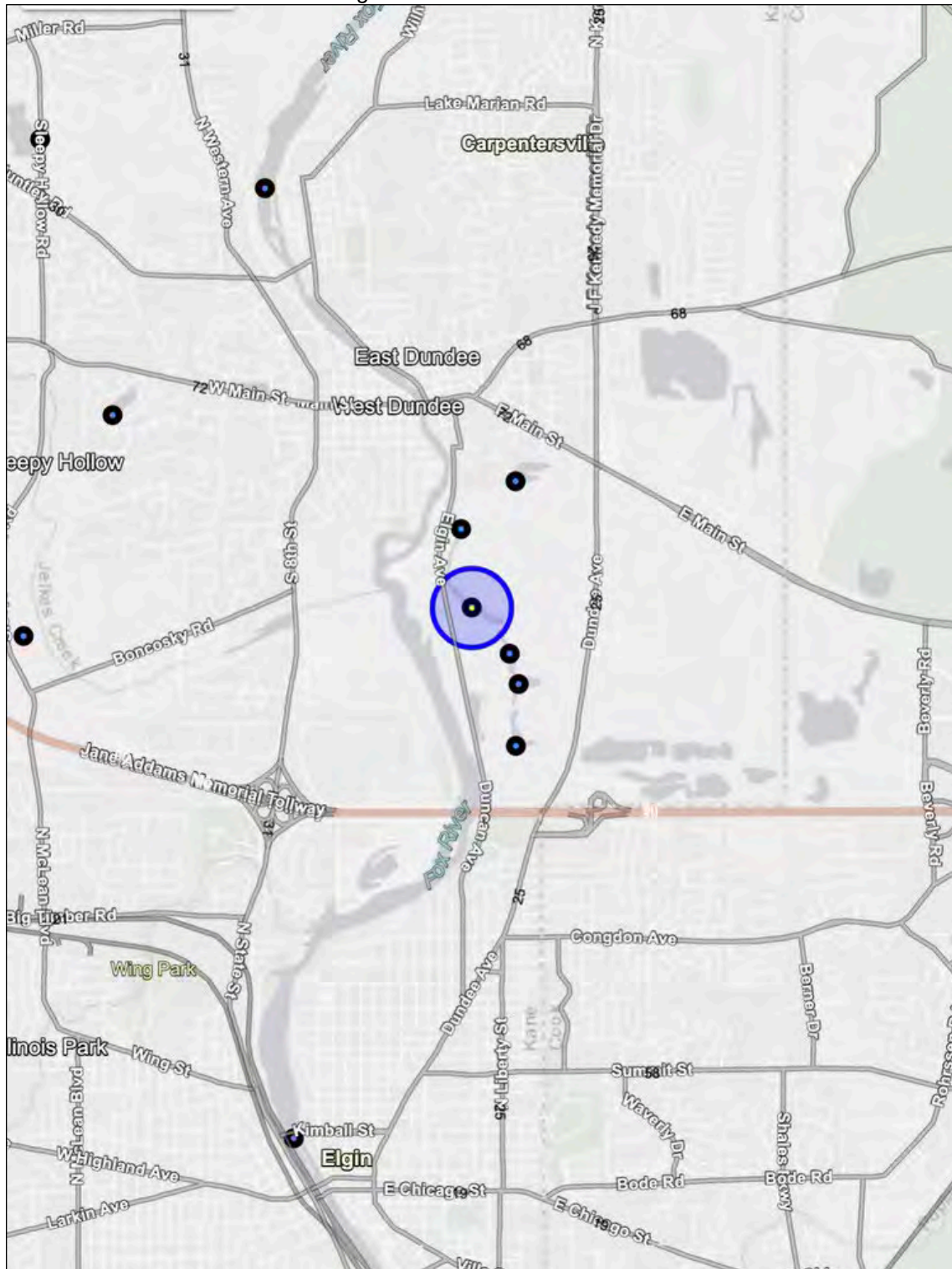
Table 4-37. List of (High and Significant Risk) Dams within Kane County

Name	National ID#	Location	Owner	Year Built	Primary Purpose	Height (feet)	Storage Capacity (acre-feet)	Max Discharge (cubic feet/sec)	Hazard Potential Classification
West Lake Dam	IL55084	Kane, Illinois	Max McGraw Wildlife Foundation	1951	Fish and Wildlife Pond	35	110	-	High
Patriot Parkway Dam	IL55060	Kane, Illinois	Village of Elburn	2005	Flood Risk Reduction	15	142	-	High
Lake Prestbury Dam	IL00924	Kane, Illinois	Prestbury Citizens Association, Inc.	1966	Recreation	14	126	-	High
Pine Lake Dam	IL50046	Kane, Illinois	Pine Lake Estates Wetlands Association	1940	Recreation	14	24	49	High
Mill Creek Water Reclamation District Dam	IL55171	Kane, Illinois	Mill Creek Water Reclamation District	1995	Other	9	401	-	High
Renee Drive Detention Dam	IL55151	Kane, Illinois	Village of South Elgin	2011	Flood Risk Reduction	7	12	-	High
Tara Lake Dam	IL00906	Kane, Illinois	Alan Evans & John Keith	1964	Recreation	23	63	65	Significant
Mooseheart Lake Dam	IL00907	Kane, Illinois	Loyal Order of Moose	1914	Flood Risk Reduction/Recreational	15	94	-	Significant
Kimball Street Dam	IL55024	Kane, Illinois	City of Elgin	1884	Navigation, Water Supply	13	1,303	-	Significant
Montgomery Dam	IL00920	Kane, Illinois	IL Dept. of Natural Resources	1969	Flood Risk Reduction	7	131	-	Significant

St. Charles Dam	IL00913	Kane, Illinois	IL Dept. of Natural Resources	1918	Flood Risk Reduction	7	143	-	Significant
Batavia Dam	IL00915	Kane, Illinois	City of Batavia	1916	Flood Risk Reduction	6	169	-	Significant
North Aurora Dam	IL00917	Kane, Illinois	Fox Valley Park District	1974	Flood Risk Reduction	6	159	-	Significant
Lower Batavia Dam	IL55069	Kane, Illinois	Kane County Forest Preserve District	1916	Recreation	5	0	-	Significant

Source: [National Inventory of Dams \(2023\)](#)

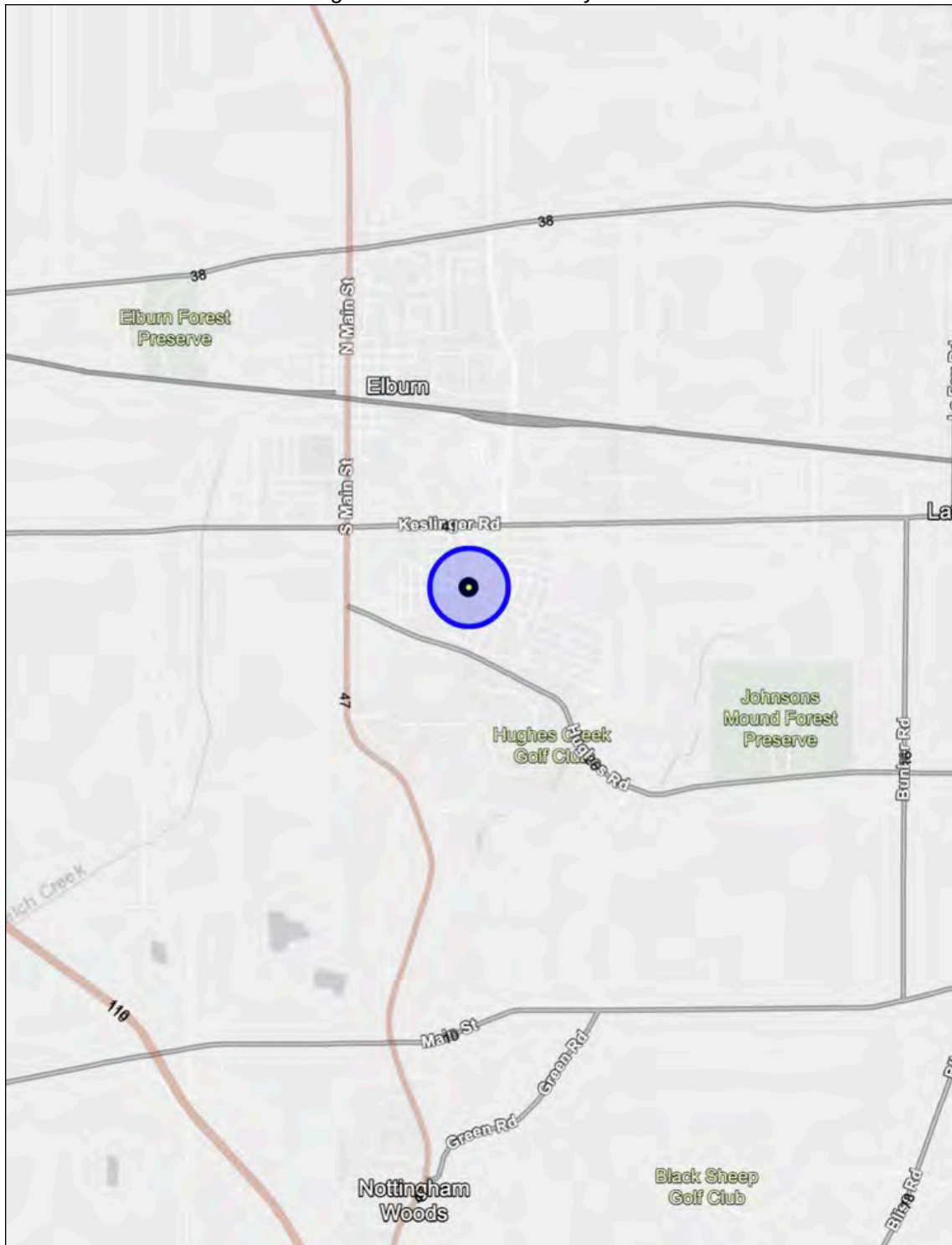
Figure 4-34. West Lake Dam



Emergency Action Plan Prepared: YES / Last Revision: 3/31/1995

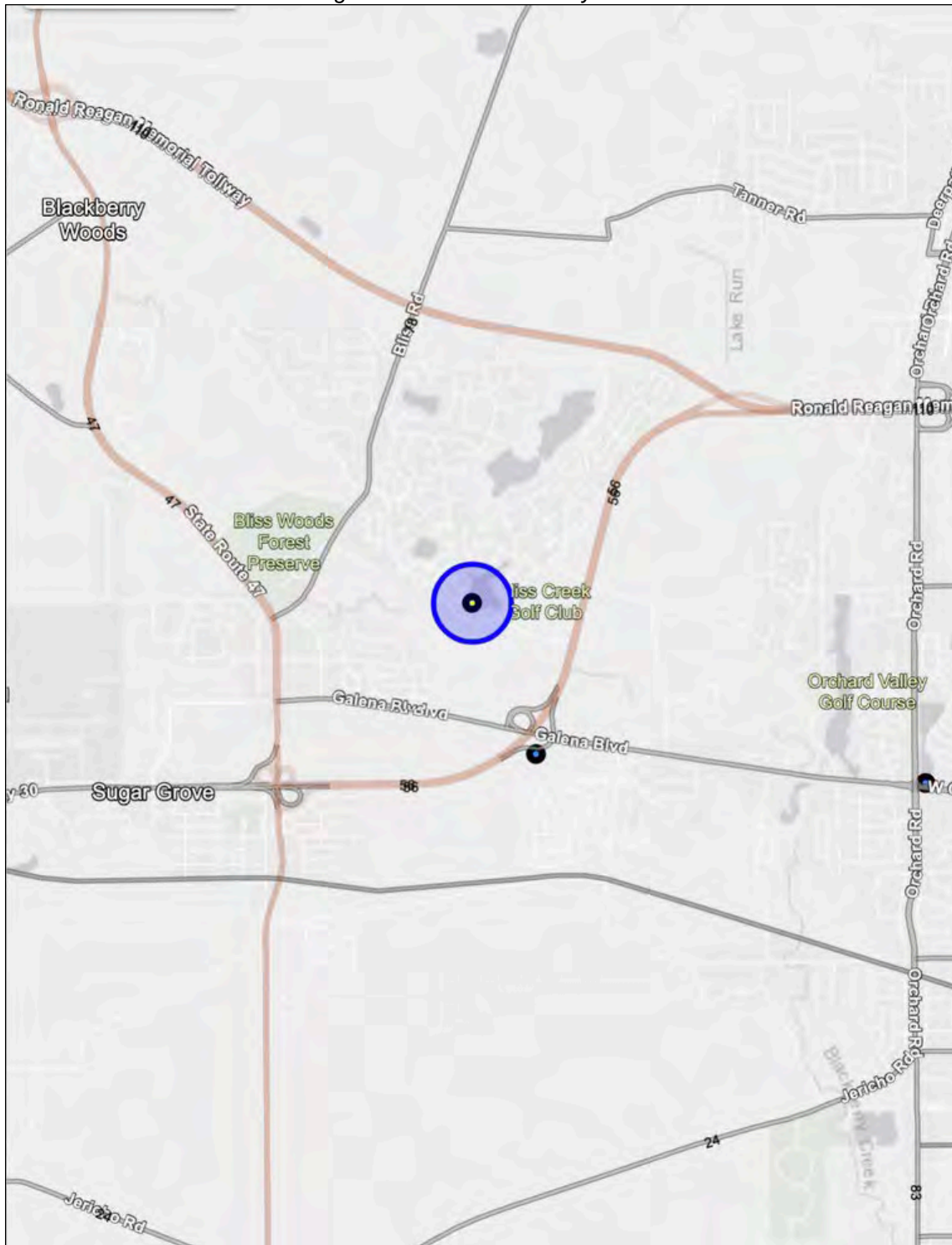


Figure 4-35. Patriot Parkway Dam



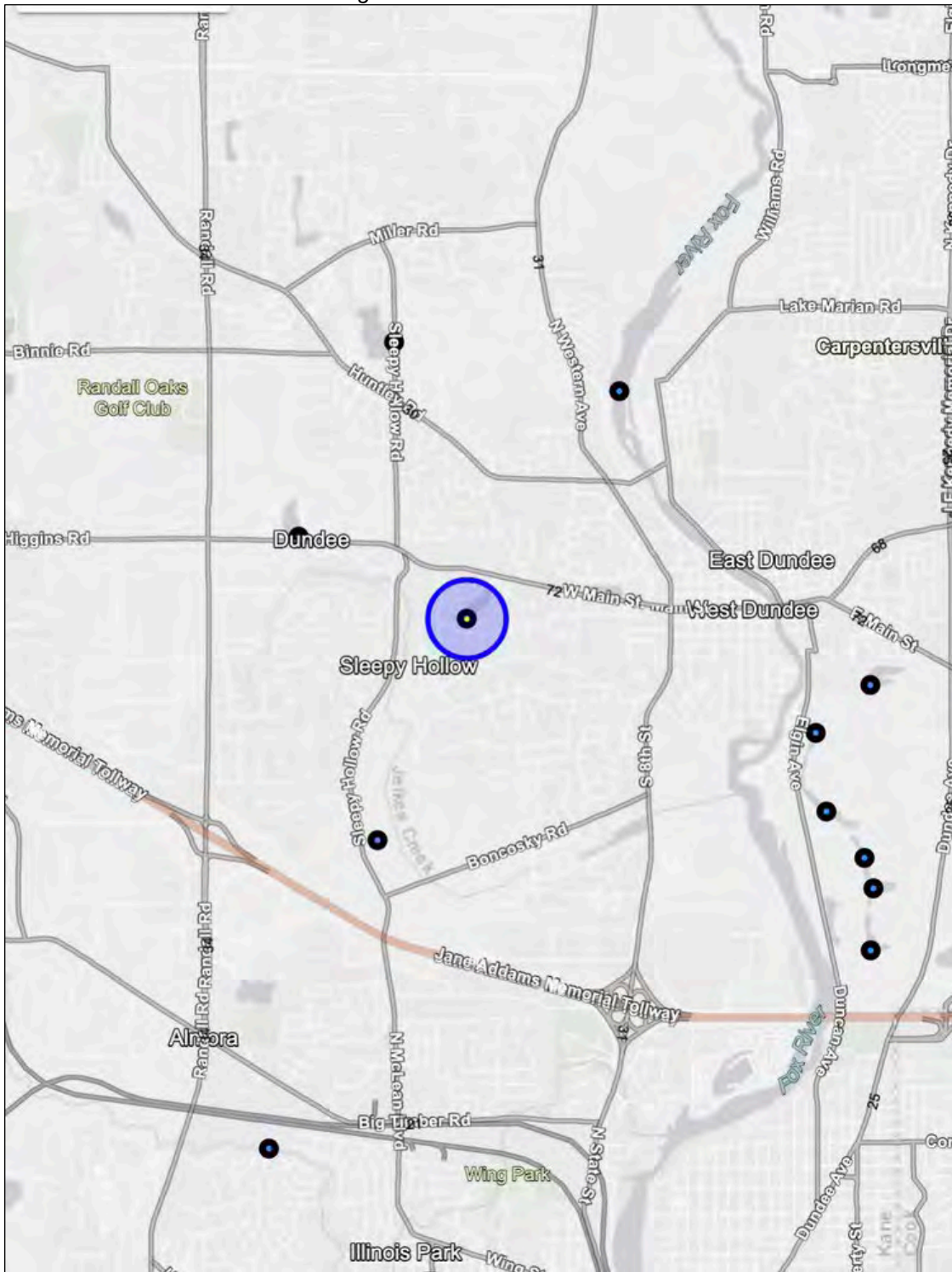
Emergency Action Plan Prepared: YES / Last Revision: 1/30/2003

Figure 4-36. Lake Prestbury Dam



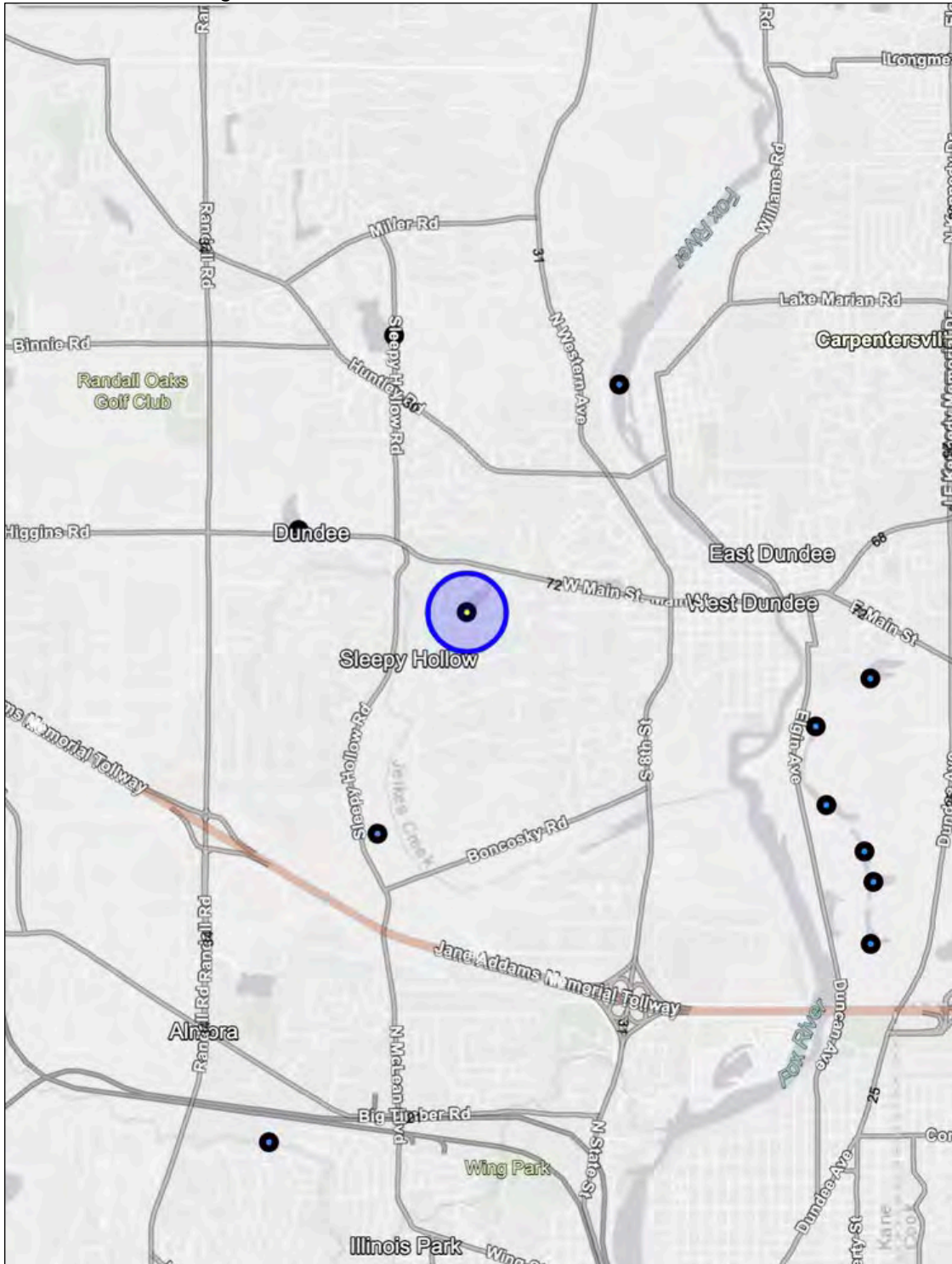
Emergency Action Plan Prepared: NO / Last Revision: 8/28/2018

Figure 4-37. Pine Lake Dam



Emergency Action Plan Prepared: YES / Last Revision: 5/31/2020

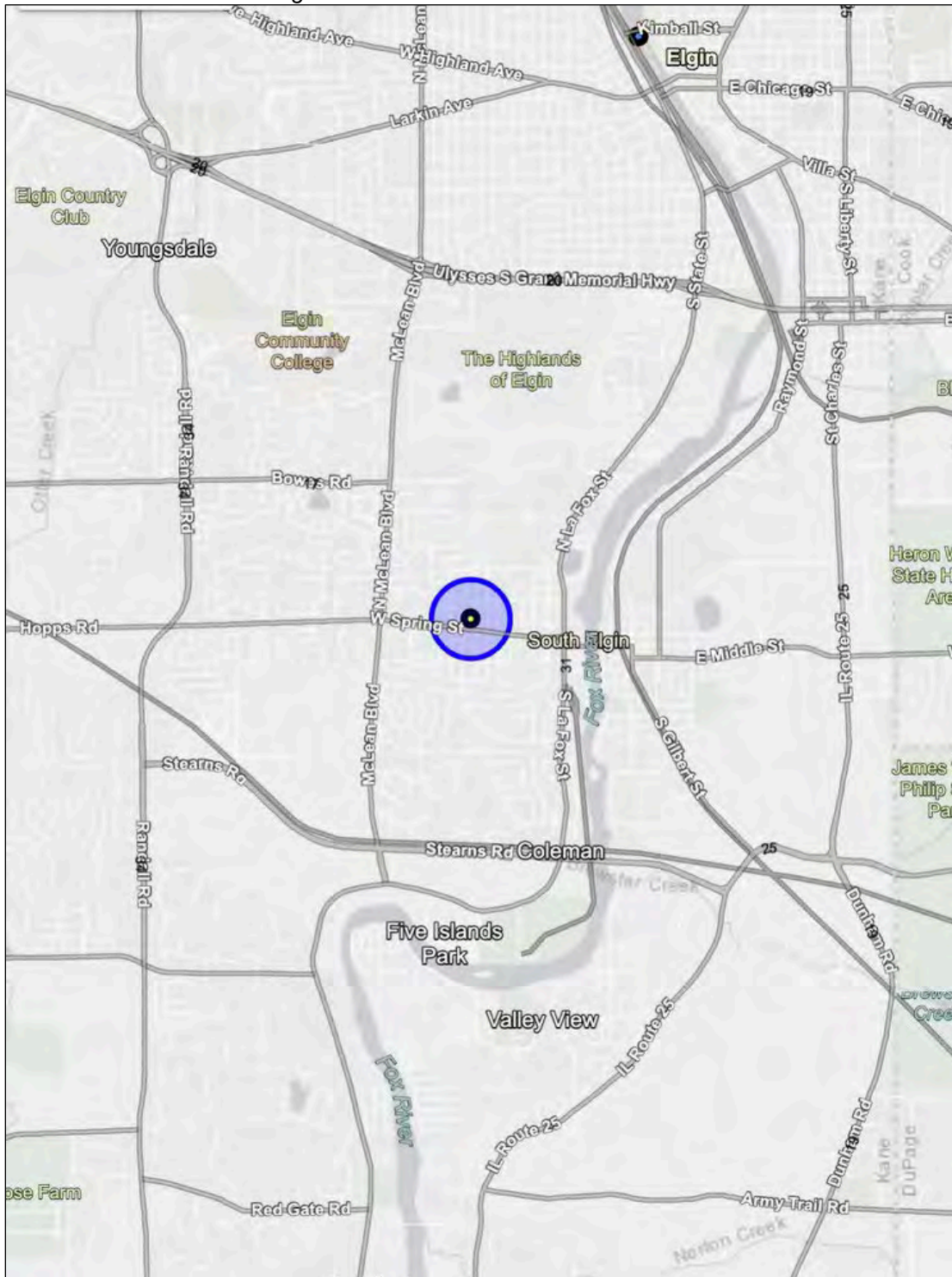
Figure 4-38. Mill Creek Water Reclamation District Dam



Emergency Action Plan Prepared: NO / Last Revision: 5/31/2020



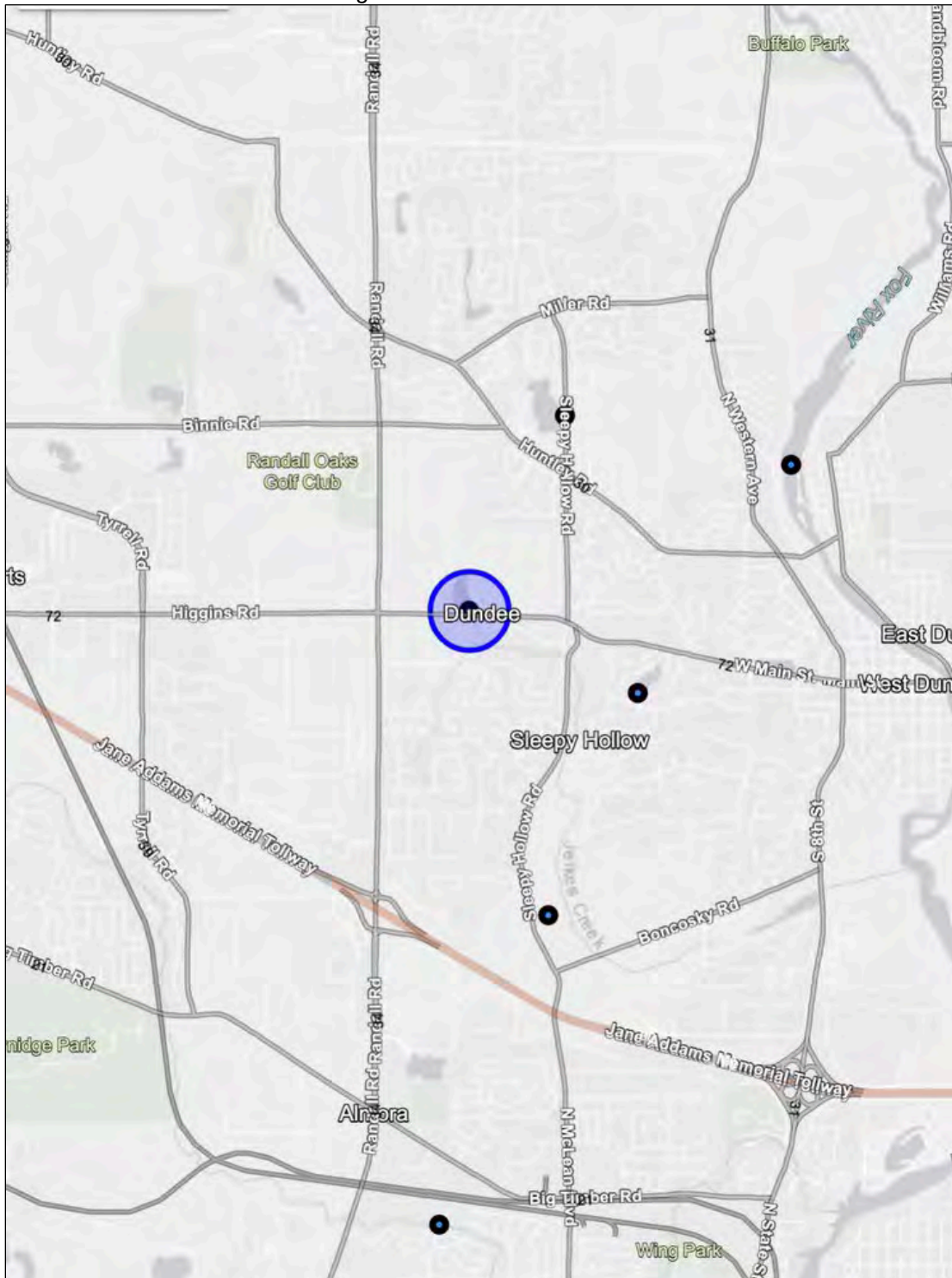
Figure 4-39. Renee Drive Detention Dam



Emergency Action Plan Prepared: YES / Last Revision: 12/1/2010

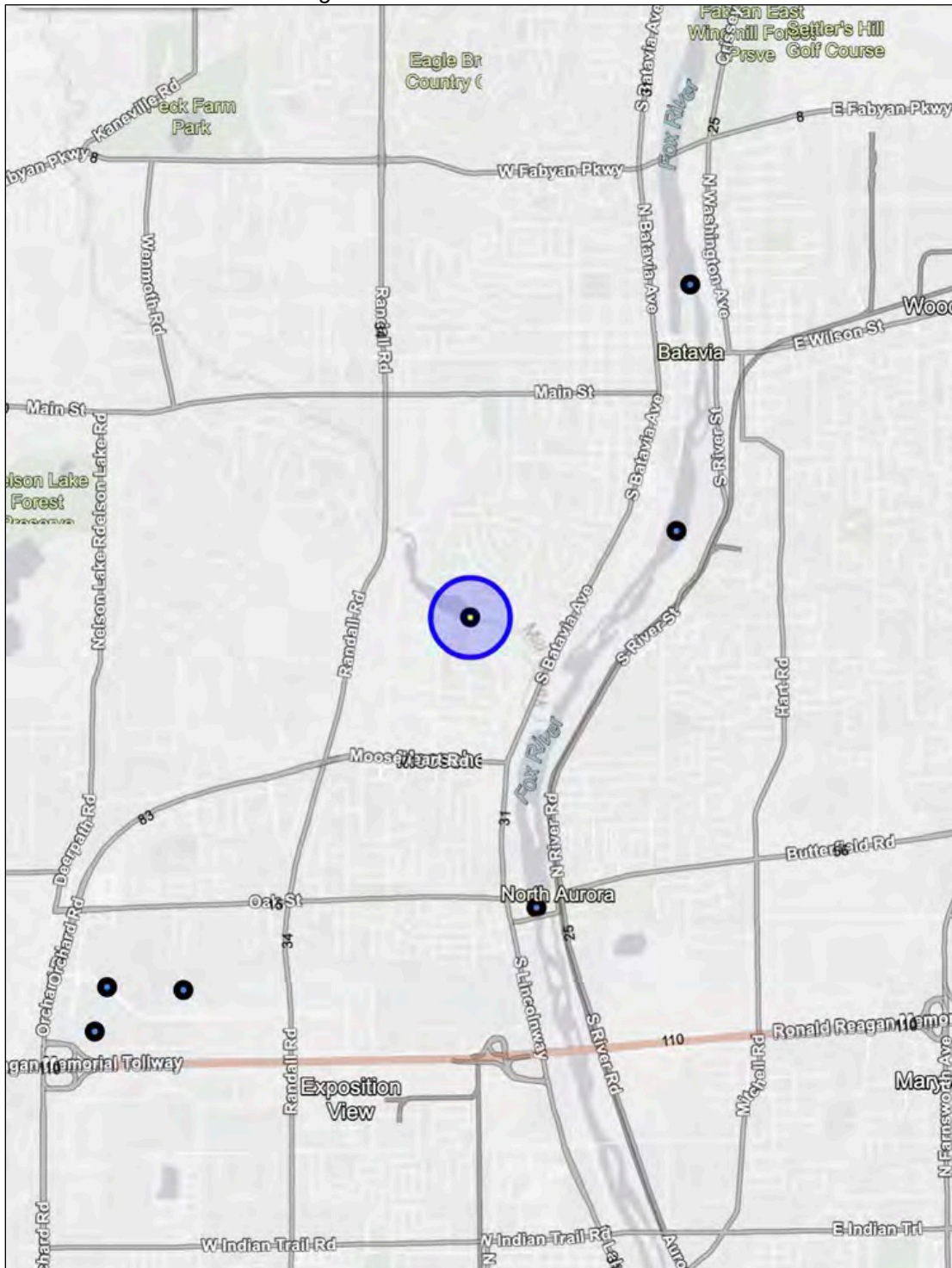


Figure 4-40. Tara Lake Dam



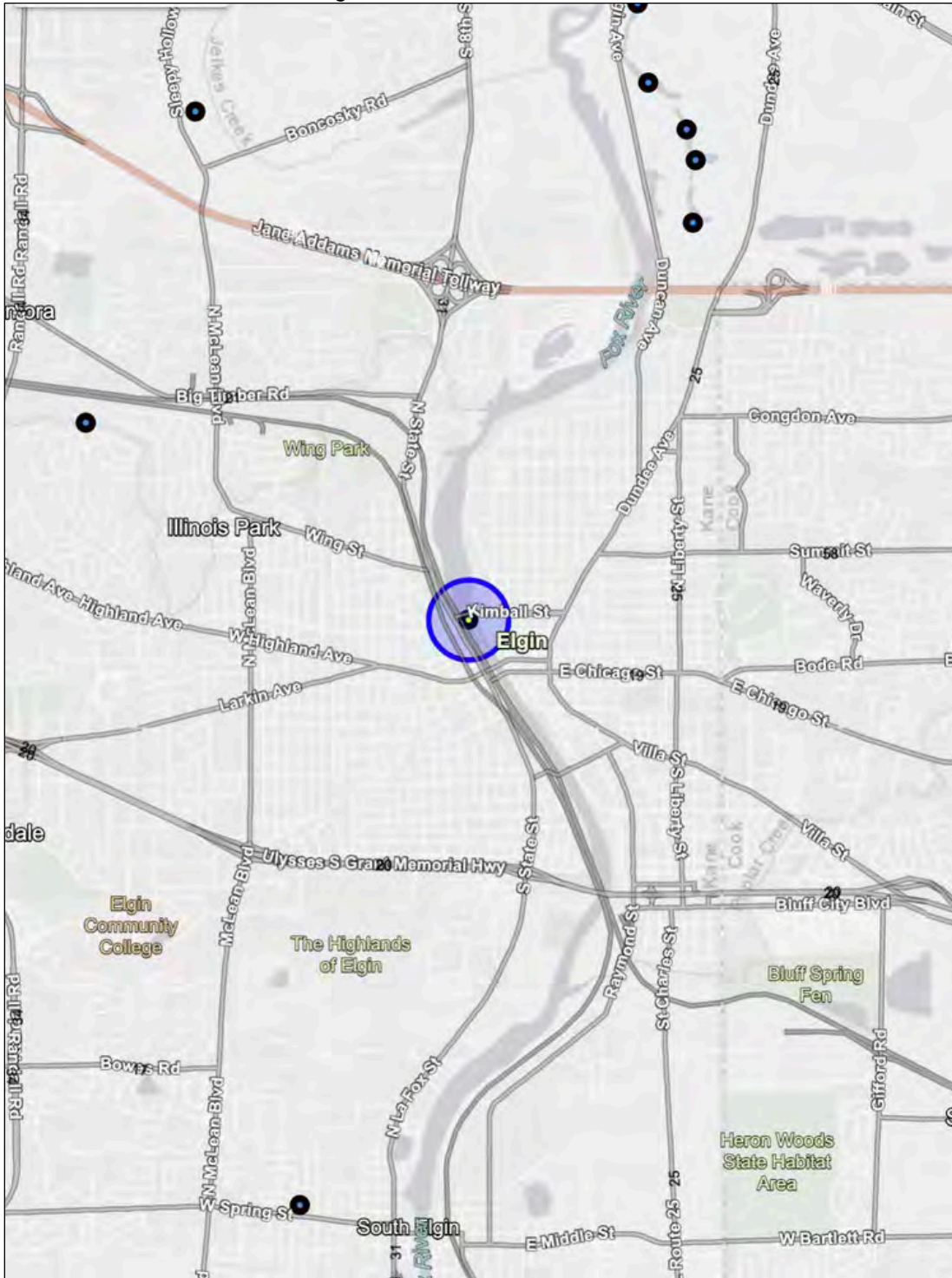
Emergency Action Plan Prepared: NO / Last Revision: N/A

Figure 4-41. Mooseheart Lake Dam



Emergency Action Plan Prepared: NO / Last Revision: N/A

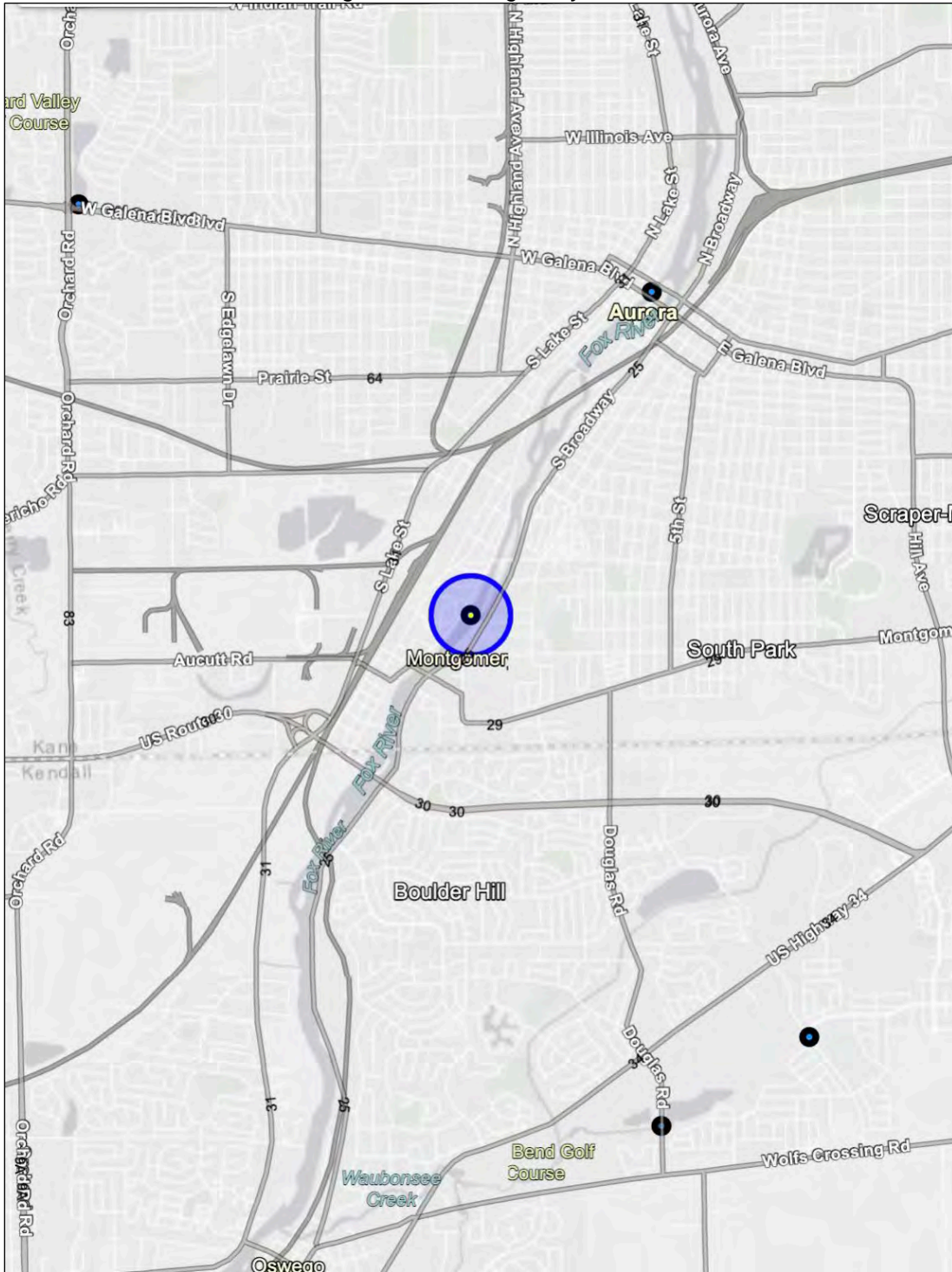
Figure 4-42. Kimball Street Dam



Emergency Action Plan Prepared: YES / Last Revision: Unk

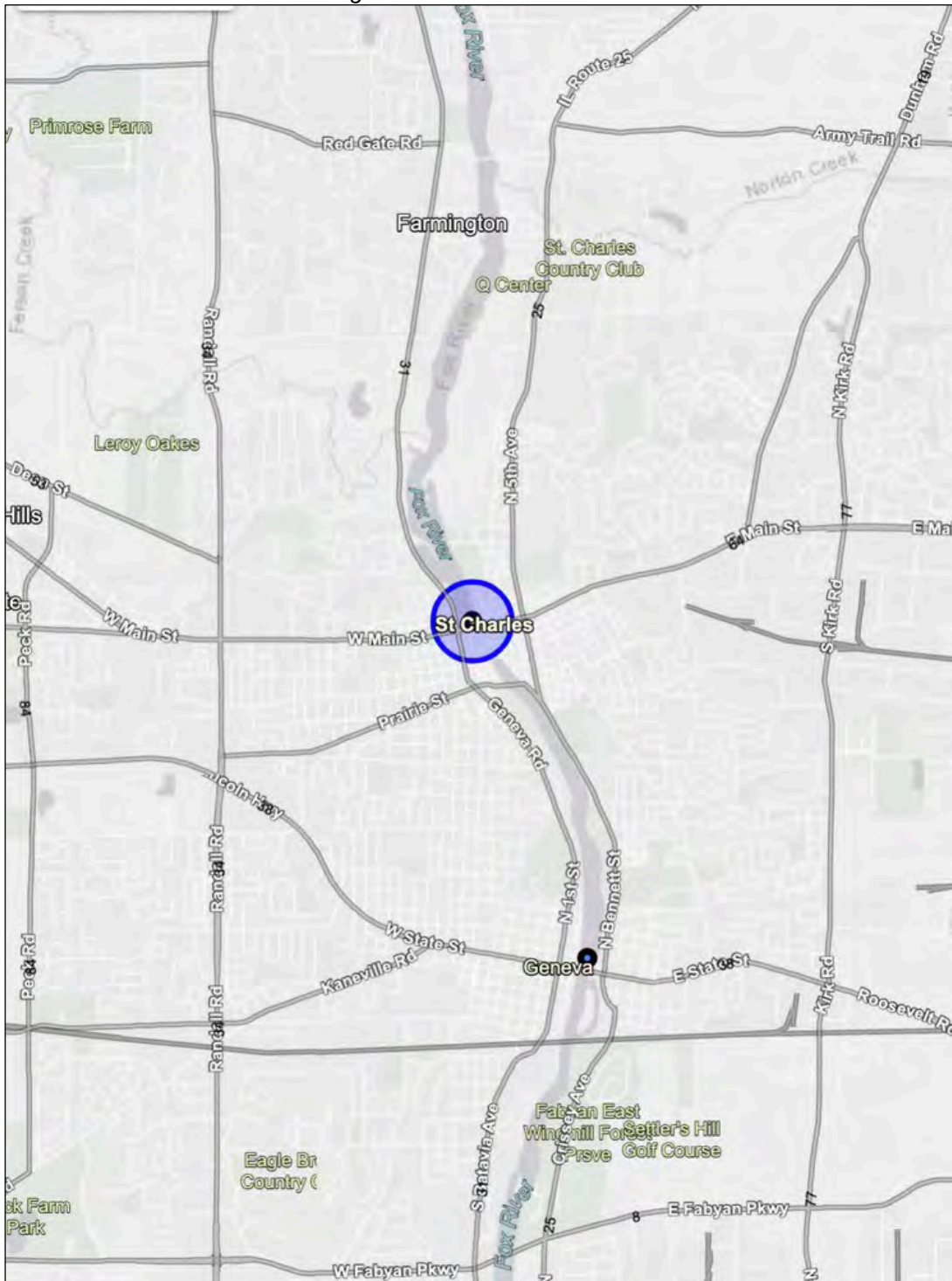


Figure 4-43. Montgomery Dam



Emergency Action Plan Prepared: NO / Last Revision: N/A

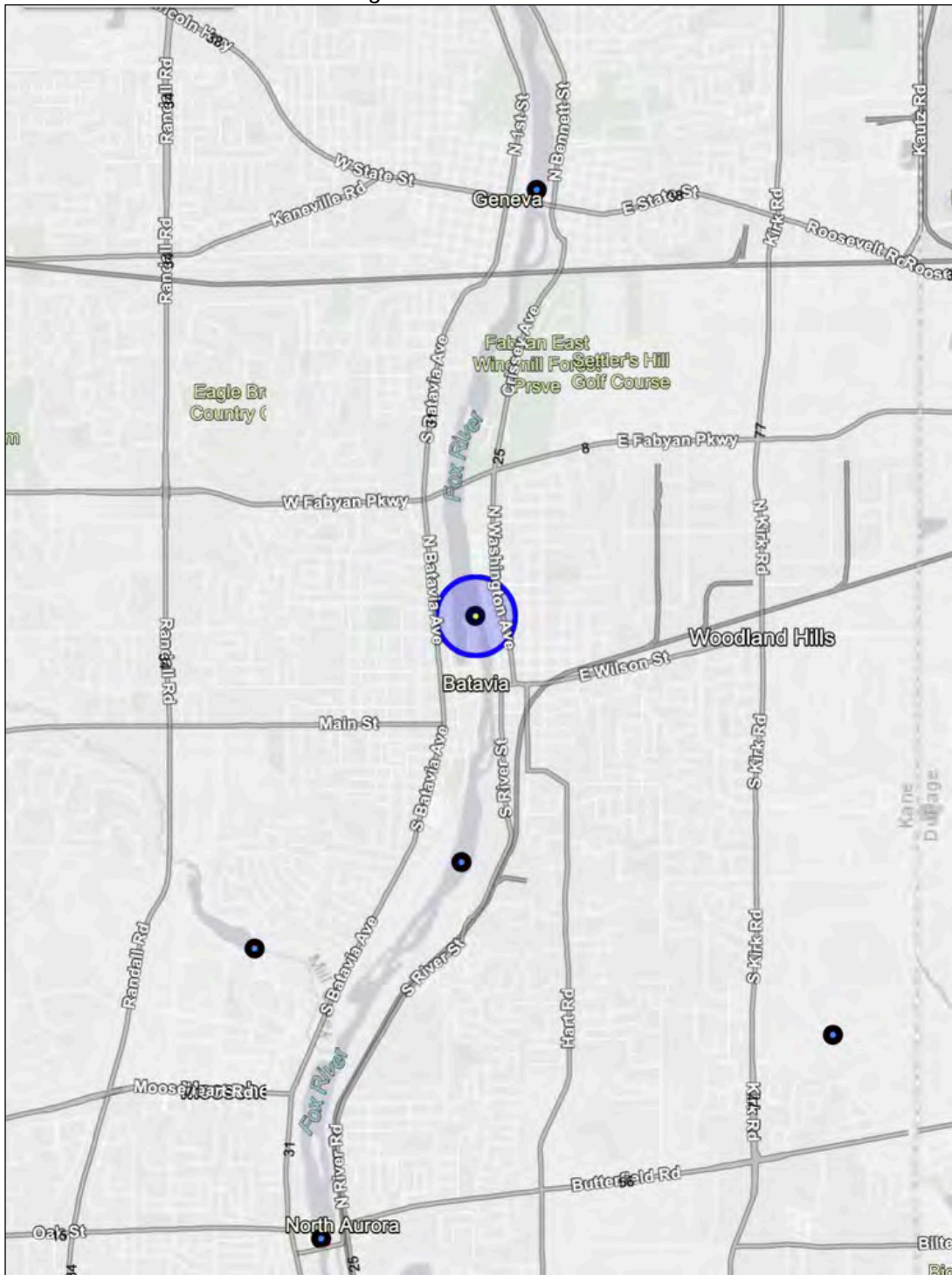
Figure 4-44. St. Charles Dam



Emergency Action Plan Prepared: NO / Last Revision: N/A

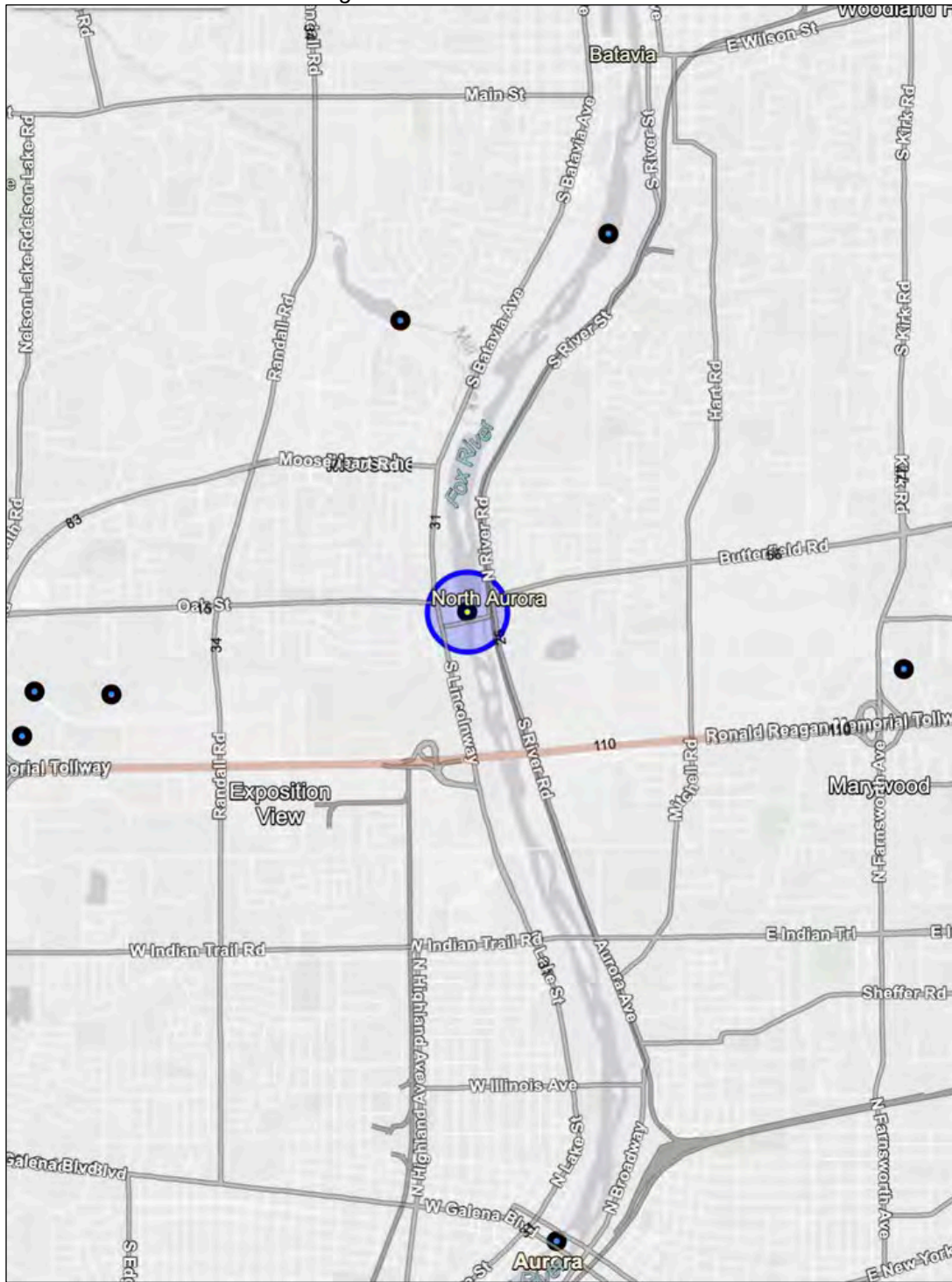


Figure 4-45. Batavia Dam



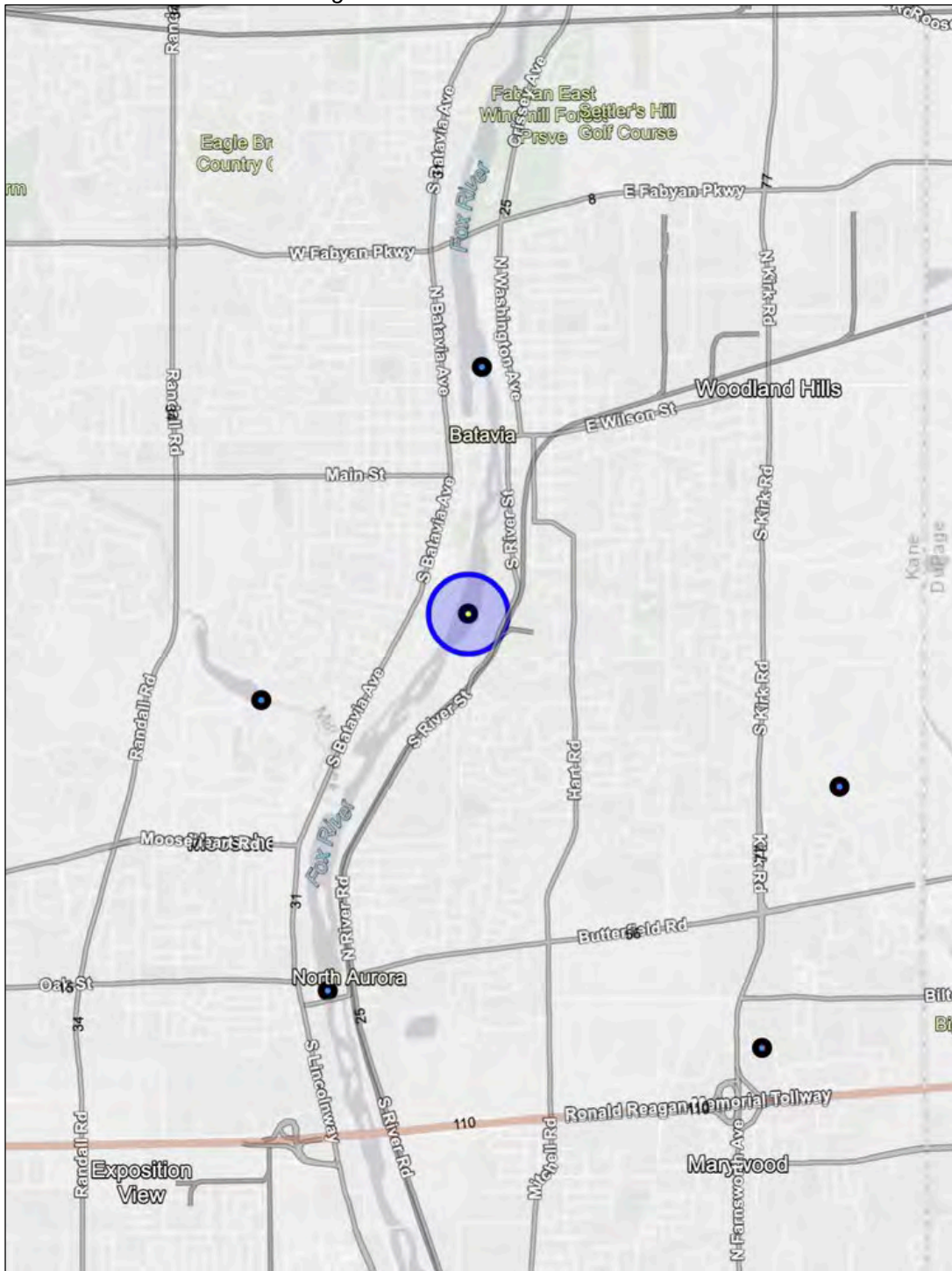
Emergency Action Plan Prepared: NO / Last Revision: N/A

Figure 4-46. North Aurora Dam



Emergency Action Plan Prepared: NO / Last Revision: N/A

Figure 4-47. Lower Batavia Dam



Emergency Action Plan Prepared: NO / Last Revision: N/A

### 4.10.3 Hazard Extent/Intensity

Existing dam classification systems are numerous and vary within and between both federal and state agencies. Although differences in classification systems exist, they share a common thread: each system attempts to classify dams according to the potential impacts from a dam failure or mis-operation, should it occur. The hazard potential classification does not reflect in any way on the current condition of the dam (e.g., safety, structural integrity, flood routing capacity).

State and private classifications are the two primary dam hazard potential classification systems utilized in Kane County. Illinois dam classifications are defined under Ill. Admin. Code tit. 17, § 3702.30), and used to permit construction, operation, and maintenance of dams by the IDNR Division of Water Resource Management (DWRM). Federal dam safety hazard classifications can be found in FEMA's *Federal Guidelines for Dam Safety Hazard Potential Classification System for Dams* publication.

According to Title 17 Illinois Administrative Code (IAC), dams are categorized by Illinois state dam safety regulators in one of three classes according to the degree of threat to life and property in the event of dam failure:

**Class I:** Dams that are located where failure has a high probability to cause loss of life or substantial economic loss more than that which would naturally occur downstream of the dam if the dam had not failed. A dam has a high probability for causing loss of life or substantial economic loss if it is located where its failure may cause additional damage to such structures as a home, hospital, a nursing home, a highly traveled roadway, a shopping center, or similar type facilities where people are normally present downstream of a dam. Similar to that of FEMA High Hazard Potential.

**Class II:** Dams located where failure has a moderate probability for causing loss of life or may cause substantial economic loss more than that which would naturally occur downstream of the dam if the dam had not failed. A dam has a moderate probability for causing loss of life or substantial economic loss if it is located where its failure may cause additional damage to such structures as a water treatment facility, a sewage treatment facility, a power substation, a city park, a U.S. Route, or Illinois Route highway, a railroad or similar type of facilities where people are downstream of the dam for only a portion of the day or on a more sporadic basis. Similar to FEMA Significant Hazard Potential.

**Class III:** Dams located where failure has a low probability for causing loss of life, where there are no permanent structures for human habitation, or minimal economic loss more than that which would naturally occur downstream of the dam if the dam had not failed. A dam has a low probability for causing loss of life or minimal economic loss if it is located where its failure may cause additional damage to agricultural fields, timber areas, township roads or similar type areas where people are seldom present and where there are few structures. Similar to FEMA Low Hazard Potential.

FEMA categorizes dams according to the degree of adverse incremental consequences of a failure or misoperation of a dam. The National Inventory of Dams uses the federal classification system. Dams are federally categorized into Low, Significant, and High Hazard Potential based on the probable loss of human life and the impacts on economic, environmental, and lifeline interests. Improbable loss of life exists where persons are only temporarily in the potential inundation area.

1. **Low Hazard Potential:** Failure or misoperation results in no probable loss of human life and low economic and environmental losses. Losses are principally limited to the owner's property.
2. **Significant Hazard Potential:** Failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns.
3. **High Hazard Potential:** Failure or misoperation will probably cause loss of human life.

#### 4.10.4 Probability and Frequency

Under the right circumstances, a dam can fail at any time. As a dam ages, the likelihood of failure increases due to various issues, such as undesirable woody vegetation on the embankment, deteriorated concrete, inoperable gates, and corroded outlet pipes. Furthermore, dam failures can often be worsened by flooding, so projected flood frequencies can also be associated with the probability of dam failures.

In Kane County, there are a number of high and significant dam hazards, making it possible that a dam failure could occur in the future.

#### 4.10.5 Past Events

There is no data available regarding historical dam failure in Kane County.

#### 4.10.6 Vulnerability and Impacts

Dam analyses, including dam breach inundation areas are the most appropriate means for examining the impact on people and property. Vulnerability analysis for dam failure for all dams listed in Table 4-37 have been conducted with emergency action plan revision information included below each figure of each dam.

**Life Safety and Health:** According to FEMA, dam failure can have significant impacts on life safety and health in the following ways:

- **Flooding:** Dam failures can result in sudden and extensive flooding, posing immediate threats to human life and safety. Rapidly rising floodwaters can trap individuals, making evacuation difficult or impossible.
- **Evacuation:** The need for evacuation from flooded areas can lead to stress, anxiety, and potential injuries during the evacuation process. Evacuees may face challenges finding safe shelter and access to medical care.
- **Waterborne Diseases:** Floodwaters often carry contaminants, including sewage, chemicals, and pathogens. Exposure to contaminated water can increase the risk of waterborne diseases, posing a serious threat to public health.
- **Injuries:** Dam failure can result in injuries caused by fast-moving floodwaters, debris, and structural damage to buildings and infrastructure.
- **Disruption of Medical Services:** Flooding can disrupt medical facilities and services, making it challenging for individuals with pre-existing health conditions to access necessary care. It can also hinder the ability of emergency responders to provide medical assistance.



- **Mental Health Impact:** The displacement of communities and the loss of homes and belongings can have significant psychological impacts on affected individuals, leading to stress, trauma, and emotional distress.
- **Access to Healthcare:** The flooding of roads and transportation networks can impede access to healthcare facilities, making it difficult for individuals to receive timely medical attention.
- **Rescue and Response Challenges:** Emergency responders may face difficulties in reaching and rescuing individuals stranded by flooding, especially in areas with limited access.
- **Continued Threat:** Even after the initial breach, the continued threat of additional flooding or secondary failures can prolong the impact on life safety and health.

**Property Damage and Critical Infrastructure:** Dam failure can lead to extensive property damage, including damage to homes, businesses, and infrastructure such as roads and bridges. Additionally, a dam failure can disrupt critical services like power, water supply, and transportation. For instance, if a dam failure causes power outages to critical facilities like hospitals or water treatment plants, it can have cascading effects on the surrounding community. Transportation routes may also be affected as floodwaters damage or wash out roads and bridges.

Additionally, dam failure can cause significant environmental damage, including damage to aquatic habitats, erosion, and sedimentation. This can have far-reaching impacts on the ecosystem, water quality, and aquatic species, with lasting effects on the environment and local communities.

Of the 64 properties listed on the National Register of Historic Places in Kane County, 61 of the listed properties and all seven of the listed historic districts are located within communities bordering the Fox River, which has a number of dams. The North Geneva Historic District (listed 1982) and the Central Geneva Historic District (listed 1971) both border the Fox River. The Dundee Township Historic district straddles the Fox River. The Stolp Island Historic District in Aurora (listed 1986) sits in the middle of the Fox River. Aurora Dam East is located between Strop Island and the east bank of the Fox River. Aurora Dam West is located between Strop Island and the west side of the Fox River. Neither dam is a contributing feature of the historic district.

The St. Charles Dam crosses the Fox River in downtown St. Charles. The Hotel Baker (listed 1978) is located adjacent to the west end of the Dam. The art deco St. Charles Municipal Building (listed 1991) is adjacent to the east end of St. Charles Dam. The dam itself is not listed on the National Register of Historic Places.

**Economy:** No data exists demonstrating the economic impact of past dam failure events in Kane County.

**Changes in Development and Impact of Future Development:** Dam failure can influence local governments to reassess their development plans and building codes to address any increased risks associated with living and working near dams. Developers may also need to take additional precautions when designing and constructing buildings and infrastructure in areas that are downstream of dams. This can include implementing flood-resistant designs, elevating buildings, and relocating critical infrastructure such as power and water supply facilities to higher ground.

Dam failure can also lead to changes in land use and zoning in affected areas. In some cases, local governments may need to restrict or prohibit certain types of development in areas that are at high risk of flooding or other hazards associated with dam failure. This limitation can impact potential for future development and affect property values in the area.

The U.S Army Corps of Engineers (USACE) in Chicago has released a draft report on the Fox River and is recommending the removal of nine dams from Carpentersville to Montgomery. The USACE, in its multi-year study, examined a range of measures to improve water quality, restore habitat and reduce pollution on the Fox River. The options included: taking no action, rock ramps, bypass channels, partial removal or full removal of the dams. In its report dated September 5, 2023 the USACE is recommending the removal of the Fox River dams in Carpentersville, Elgin, South Elgin, St. Charles, Geneva, Batavia, North Aurora, Aurora and Montgomery.

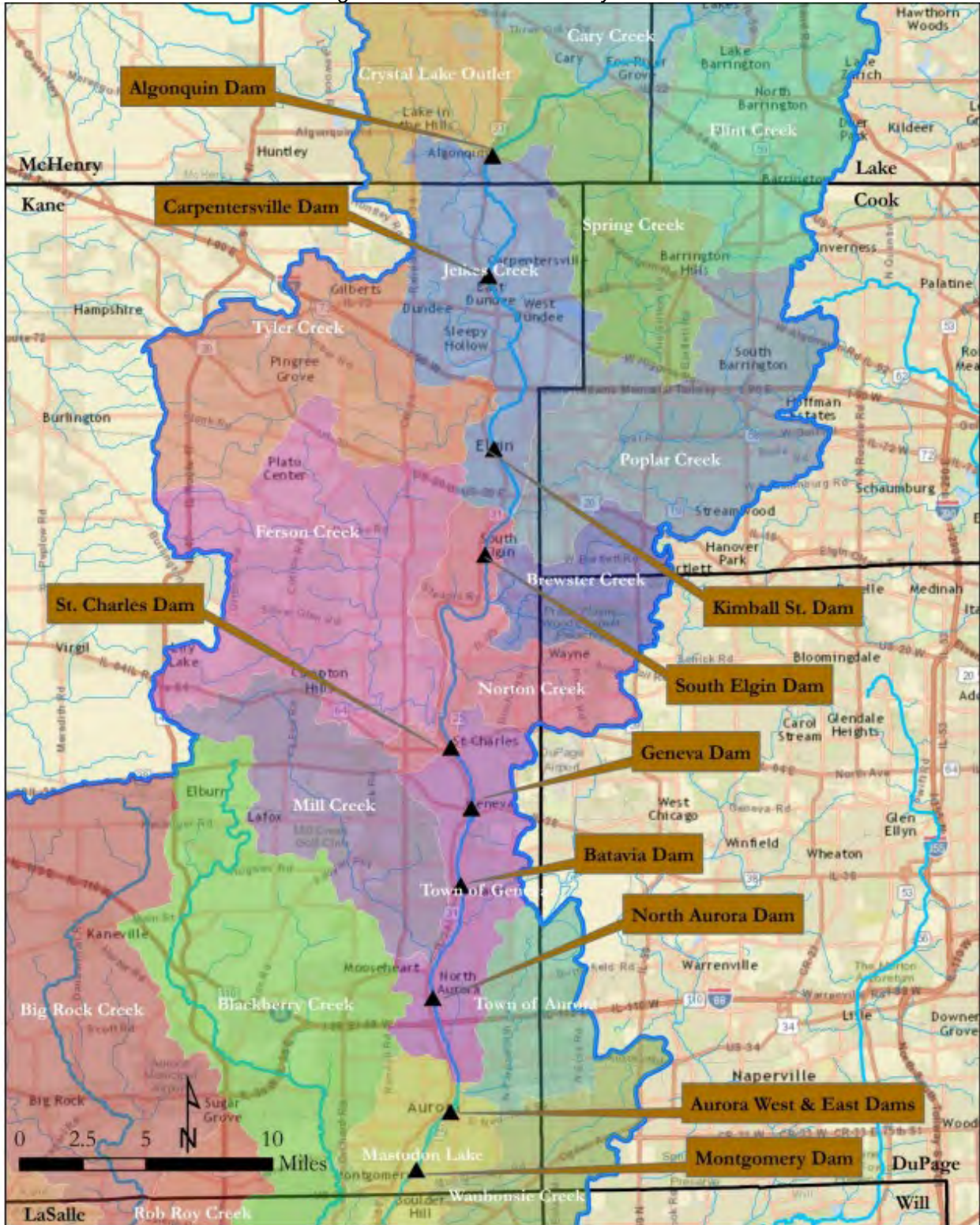
The dam in Carpentersville is already scheduled to be removed by the Kane County Forest Preserve District, which owns the dam.

According to the USACE report, the majority of the dams were built in the mid to late 1800s to power industrial operations and are now obsolete. The study adds that the dams present a safety concern, are expensive to maintain and have led to a proliferation of invasive plant and animal species in the warm, slow moving pools behind them.

The Fox River Study Group, which is a consortium of municipal and county governments, water reclamation districts and environmental organizations in the watershed, has conducted extensive water quality sampling and river modelling. Their findings suggest that removal of the dams is the most cost effective means to improve water quality concerns that must be addressed, according to the Illinois EPA. Kane County is a contributing member of the Fox River Study Group.

A link to the report can be found here: [Fox River Connectivity & Habitat Study Section 519, Illinois River Basin Restoration](#)

Figure 4-48. Dams in the Study Area



**Effects of Climate Change on Severity of Impacts:** Heavy precipitation leads to riverine flooding and flash floods as the ground fails to absorb the high volume of precipitation that falls in a short period. Increasing annual precipitation contributes to sustained flooding. (Neighborhoods At Risk, 2023).

As climate changes and heavy rainfall is predicted to increase in Illinois, more stress may be placed on dams and levees. Dams in Illinois are on average 57 years old. Many of these structures were built using less rigorous engineering standards that may not stand up to extreme precipitation and faster streamflow. As climate changes while dams do not improve to catch up with changing precipitation and streamflow conditions, high-hazard dam failure has the potential to be a concern for areas downstream (IEMA 2023).

Table 4-38 illustrates 25-year precipitation projections for Kane County, while Table 4-39 shows future climate indicators for Kane County.

Table 4-38. 25-Year Precipitation Projections for Kane County

25-YEAR PRECIPITATION PROJECTIONS FOR KANE COUNTY, IL	
<b>HIGHER EMISSIONS (RCP8.5)</b>	
Kane County is expected to experience a 14% increase in heavy precipitation within 25 years.	
By 2048, Kane County is expected to experience 0.6 more days of heavy precipitation per year (from 4.0 days to 4.6 days per year).	
<b>LOWER EMISSIONS (RCP4.5)</b>	
Kane County is expected to experience a 1% increase in heavy precipitation within 25 years.	
By 2048, Kane County is expected to experience 0.03 more days of heavy precipitation per year (from 4.06 days to 4.08 days per year).	
<b>Source:</b> Neighborhoods at Risk ( <a href="https://nar.headwaterseconomics.org/17089/explore/climate">https://nar.headwaterseconomics.org/17089/explore/climate</a> )	

Table 4-39. Future Climate Indicators for Kane County

FUTURE CLIMATE INDICATORS FOR KANE COUNTY, IL							
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
<b>Precipitation:</b>							
Annual Average Total Precipitation	<b>35"</b>	<b>36"</b>	<b>36"</b>	<b>36"</b>	<b>37"</b>	<b>37"</b>	<b>38"</b>
	33-35	33-39	32-40	32-41	31-42	32-41	33-432
Days Per Year With Precipitation (Wet Days)	<b>175 days</b>	<b>173 days</b>	<b>172 days</b>	<b>172 days</b>	<b>171 days</b>	<b>171 days</b>	<b>168 days</b>
	170-179	161-181	156-180	160-182	151-185	160-182	134-187
Maximum Period of	<b>11 days</b>	<b>11 days</b>	<b>11 days</b>	<b>11 days</b>	<b>11 days</b>	<b>11 days</b>	<b>11 days</b>
	10-13	10-12	9-13	9-13	9-13	9-13	9-13

<i>Consecutive Wet Days</i>							
<b>Annual Days With:</b>							
<i>Annual Days With Total Precipitation &gt; 1 inch</i>	<b>3 days</b>	<b>4 days</b>	<b>4 days</b>	<b>4 days</b>	<b>5 days</b>	<b>5 days</b>	<b>5 days</b>
	3-4	3-5	3-5	3-5	3-6	3-6	4-8
<i>Annual Days With Total Precipitation &gt; 2 inches</i>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>
	0-0	0-0	0-0	0-1	0-1	0-1	0-1
<i>Annual Days With Total Precipitation &gt; 3 inches</i>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>
	0-0	0-0	0-0	0-0	0-0	0-0	0-0
<i>Annual Days That Exceed 99<sup>th</sup> Percentile Precipitation</i>	<b>4 days</b>	<b>6 days</b>	<b>6 days</b>	<b>6 days</b>	<b>7 days</b>	<b>7 days</b>	<b>8 days</b>
	5-6	6-7	6-7	6-7	6-7	6-7	7-8
<i>Days With Maximum Temperature Below 32°F</i>	<b>46 days</b>	<b>34 days</b>	<b>33 days</b>	<b>29 days</b>	<b>26 days</b>	<b>25 days</b>	<b>15 days</b>
	42-49	20-46	24-43	16-41	14-38	12-37	4-29
<b>Source:</b> <a href="#">Climate Mapping for Resilience and Adaptation</a> (2023)							

#### 4.10.7 FEMA NRI Expected Annual Loss Estimates and Hazard-Specific Risk

The FEMA NRI does not assess high-hazard dams.



## 4.11 Severe Summer Storms

### 4.11.1 Hazard Description

In this plan, severe storms are considered hailstorms, lightning, microbursts/high winds, and thunderstorms.

**Hailstorms:** Hail is a form of precipitation that occurs when thunderstorm updrafts carry raindrops upward into extremely cold areas of the atmosphere, where they freeze into ice balls. Hail can damage aircraft, homes, and cars and kill livestock and people. Table 4-40 outlines potential hail sizes and describes physical items for comparison (NOAA, 2023).

Hailstones grow by colliding with supercooled water drops. Supercooled water will freeze in contact with ice crystals, frozen raindrops, dust, or some other nuclei. Thunderstorms with a strong updraft keep lifting the hailstones to the top of the cloud, where they encounter more supercooled water and continue to grow. The hail falls when the thunderstorm’s updraft can no longer support the weight of the ice, or the updraft weakens. Subsequently, the stronger the updraft, the more significant the hailstone can grow before falling to the ground (NOAA, 2023).

“Hailstones can have layers like an onion if they travel up and down in an updraft, or they can have few or no layers if they are “balanced” in an updraft. Counting the layers, one can tell how many times a hailstone traveled to the top of the storm. In addition, hailstones can begin to melt and re-freeze together – forming large and very irregularly shaped hail (NOAA, 2023).

*Table 4-40. National Weather Service Hail Descriptions*

NATIONAL WEATHER SERVICE HAIL DESCRIPTIONS	
DESCRIPTION	DIAMETER (INCHES)
Pea	0.25"
Marble or Mothball	0.5"
Penny or Dime	0.75"
Nickel	0.88"
Quarter	1.0"
Half Dollar	1.25"
Walnut or Ping Pong Ball	1.5"
Golf Ball	1.75"
Hen’s Egg	2.0"
Tennis Ball	2.5"
Baseball	2.75"
Teacup	3.0"
Grapefruit	4.0"
Softball	4.5"

**SOURCE:** [National Weather Service \(2023\)](#)

**Lightning**, although not considered criteria for a severe thunderstorm by the National Weather Service definition, can accompany heavy rain during thunderstorms. Lightning develops when ice particles in a cloud move around and collide with other particles. These collisions cause a separation of electrical charges. As a result, positively charged ice particles rise to the top of the

cloud, while negatively charged particles fall to the middle and lower sections of the cloud. The negative charges at the base of the cloud attract positive charges at the surface of the Earth. Invisible to the human eye, the negatively charged area of the cloud sends a charge called a stepped leader toward the ground. Once it gets close enough, a channel develops between the cloud and the ground. Lightning is the electrical transfer through this channel. The channel rapidly heats to 50,000 degrees Fahrenheit and contains approximately 100 million electrical volts. The rapid expansion of the heated air causes thunder (NOAA, 2023).

**Microbursts (Damaging Winds):** A **microburst** is a small, concentrated downburst that produces an outward burst of strong winds at or near the surface. Microbursts are small — less than 2.5 miles across — and short-lived, lasting only five to 10 minutes, with maximum windspeeds sometimes exceeding 100 mph. There are two kinds of microbursts: wet and dry. A wet microburst is accompanied by heavy precipitation at the surface. Dry microbursts, common in places like the high plains and the intermountain west, occur with little or no precipitation reaching the ground (NOAA, 2023).

**Thunderstorm:** a localized weather phenomenon characterized by the presence of thunder, lightning, and convective activity within a cumulonimbus cloud. Thunderstorms are typically associated with atmospheric instability, the interaction of warm and cold air masses, and vertical wind shear. Thunderstorms affect relatively small areas when compared to hurricanes and winter storms. However, despite their small size, all thunderstorms are dangerous.

A typical thunderstorm is 15 miles in diameter and lasts an average of 30 minutes. Of the estimated 100,000 thunderstorms that occur each year in the United States, about 10 percent are classified as severe. The National Weather Service considers a thunderstorm severe if it produces hail at least 3/4 inch in diameter, winds of 58 MPH or stronger, or a tornado. Every thunderstorm needs three essential components: (1) moisture to form clouds and rain, (2) unstable air, which is warm air that rises rapidly, and (3) lift, which is a cold or warm front capable of lifting air to help form thunderstorms (NOAA, 2023).

#### 4.11.2 Hazard Location

Severe summer storms could occur anywhere in Kane County.

#### 4.11.3 Hazard Extent/Intensity

Kane County experiences a range of intensities and magnitudes of severe summer storms.

#### 4.11.4 Hailstorms

The TORRO Hailstorm Intensity Scale was developed by Jonathan Webb to measure and categorize hailstorms (TORRO, 2023). It extends from H0 (hard hail, no damage) to H10 (super hailstorm, extensive structural damage, risk of severe/fatal injuries) with its increments of intensity or damage potential related to hail size (distribution and maximum), texture, numbers, fall speed, speed of storm translation, and strength of the accompanying wind. The scale could be modified depending on factors such as building materials and types (e.g., whether roofing tiles are predominantly slate, shingle, or concrete). See the scale in the figure below (TORRO, 2023).

Figure 4-49. TORRO Hailstorm Intensity Scale

Scale	Intensity category	Typical hail diameter (mm)*	Probable kinetic energy J m <sup>-2</sup>	Typical damage impacts
H0	Hard hail	5	0-20	No damage
H1	Potentially damaging	5-15	>20	Slight general damage to plants, crops
H2	Significant	10-20	>100	Significant damage to fruit, crops, vegetation
H3	Severe	20-30	>300	Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored
H4	Severe	25-40	>500	Widespread glass damage, vehicle bodywork damage
H5	Destructive	30-50	>800	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
H6	Destructive	40-60		Bodywork of grounded aircraft dented, brick walls pitted
H7	Destructive	50-75		Severe roof damage, risk of serious injuries
H8	Destructive	60-90		(Severest recorded in the British Isles) Severe damage to aircraft bodywork
H9	Super Hailstorms	75-100		Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open
H10	Super Hailstorms	>100		Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

Hail is considered severe when reaching a size of 0.75 inches in diameter or greater. The following figure shows different hail sizes with a description for comparison (TORRO, 2023).

Figure 4-50. TORRO Hail Size and Diameter

Size code	Maximum diameter (mm)	Description
0	5-9	Pea
1	10-15	Mothball
2	16-20	Marble, grape
3	21-30	Walnut
4	31-40	Pigeon's egg > squash ball
5	41-50	Golf ball > Pullet's egg
6	51-60	Hen's egg
7	61-75	Tennis ball > cricket ball
8	76-90	Large orange > soft ball
9	91-100	Grapefruit
10	>100	Melon

As demonstrated below, the National Weather Service also defines the local threat of severe hail for specified areas based on the likelihood that severe hail will occur combined with the anticipated size or diameter of the largest hailstones (NWS, 2023).

Figure 4-51. Severe Hail Threat Level

Severe Hail Threat Level	Threat Level Descriptions
<b>Extreme</b>	<p><b>"An Extreme Threat to Life and Property from Severe Hail."</b>                      Within 12 miles of a location, a moderate likelihood or greater (16% probability or greater) of severe hail, with storms capable of baseball to softball sized stones. <i>See diameter description below.</i></p> <p>AND/OR... a high likelihood or greater (26% probability or greater) of severe hail, with storms capable of golf ball to baseball sized hail stones. <i>See diameter description below.</i></p> <p>AND/OR... a very high likelihood (36% or greater) of severe hail, with storms capable of nickel to golf ball sized hail stones. <i>See diameter description below.</i></p>
<b>High</b>	<p><b>"A High Threat to Life and Property from Severe Hail."</b>                      Within 12 miles of a location, a low likelihood (6% to 15% probability) of severe hail, with storms capable of baseball to softball sized stones. <i>See diameter description below.</i></p> <p>AND/OR... a moderate likelihood (16% to 25% probability) of very large hail (golf ball to baseball sized hail stones). <i>See diameter description below.</i></p> <p>AND/OR... a high likelihood (26% to 35% probability) of large hail (nickel to golf ball sized hail stones). <i>See diameter description below.</i></p>
<b>Moderate</b>	<p><b>"A Moderate Threat to Life and Property from Severe Hail."</b>                      Within 12 miles of a location, a very low likelihood (2% to 5% probability) of severe hail, with storms capable of baseball to softball sized stones. <i>See description below.</i></p> <p>AND/OR... a low likelihood (6% to 15% probability) of severe hail, with storms capable of golf ball to baseball sized hail stones. <i>See description below.</i></p> <p>AND/OR... a moderate likelihood (16% to 25% probability) of severe hail, with storms capable of nickel to golf ball sized hail stones. <i>See diameter description below.</i></p>
<b>Low</b>	<p><b>"A Low Threat to Life and Property from Severe Hail."</b>                      Within 12 miles of a location, a very low likelihood (2% to 5% probability) of severe hail, with storms capable of golf ball to baseball sized hail stones. <i>See diameter description below.</i></p> <p>AND/OR... a low likelihood (6% to 15% probability) of severe hail, with storms capable of nickel to golf ball sized hail stones. <i>See diameter description below.</i></p>
<b>Very Low</b>	<p><b>" A Very Low Threat to Life and Property from Severe Hail."</b>                      Within 12 miles of a location, a very low likelihood (2% to 5% probability) of severe hail, with storms capable of nickel to golf ball sized hail stones. <i>See diameter description below.</i></p> <p>AND/OR... a low likelihood or greater (6% or greater) of small hail (less than 3/4 inch). <i>See diameter description below.</i></p>
<b>Non-Threatening</b>	<p><b>" No Discernable Threat to Life and Property from Severe Hail."</b>                      Within 12 miles of a location, environmental conditions do not support the occurrence of severe hail.</p>

**Note:** To be considered severe, hail stones must be at least 3/4 inch in diameter.

**Lightning:** A lightning flash is created by a transfer of significant charge between two charged objects. Lightning discharges can occur inter-cloud, cloud-to-cloud, cloud-to-air, and cloud-to-



ground. Cloud-to-ground (CG) lightning has the greatest risk to society. A CG stroke can kill, destroy equipment, start fires, and disturb power delivery systems.

Lightning is commonly measured using the Lightning Activity Level (LAL), which is a scale that describes the frequency of lightning strikes in a specific area (NWS, 2023).

Figure 4-52. NWS Lightning Activity Level

Lightning Activity Level (LAL)	
Is a scale which describes lightning activity. Values are labeled 1-6:	
LAL 1	No thunderstorms
LAL 2	Isolated thunderstorms. Light rain will occasionally reach the ground. Lightning is very infrequent, 1 to 5 cloud to ground strikes in a five minute period.
LAL 3	Widely scattered thunderstorms. Light to moderate rain will reach the ground. Lightning is infrequent, 6 to 10 cloud to ground strikes in a 5 minute period.
LAL 4	Scattered thunderstorms. Moderate rain is commonly produced. Lightning is frequent, 11 to 15 cloud to ground strikes in a 5 minute period.
LAL 5	Numerous thunderstorms. Rainfall is moderate to heavy. Lightning is frequent and intense, greater than 15 cloud to ground strikes in a 5 minute period.
LAL 6	Dry lightning (same as LAL 3 but without rain). This type of lightning has the potential for extreme fire activity and is normally highlighted in fire weather forecasts with a Red Flag Warning.

**High Winds:** The Beaufort Wind Scale explains different wind speeds based on how they would affect land conditions and sea conditions (NOAA, 2023).



Table 4-41. Beaufort Wind Scale

Force	Wind (Knots)	WMO Classification	Appearance of Wind Effects on Land
0	Less than 1	Calm	Calm, smoke rises vertically
1	1–3	Light Air	Smoke drift indicates wind direction, still wind vanes
2	4–6	Light Breeze	Wind felt on face, leaves rustle, vanes begin to move
3	7–10	Gentle Breeze	Leaves and small twigs constantly moving, light flags extended
4	11–16	Moderate Breeze	Dust, leaves, and loose paper lifted, small tree branches move
5	17–21	Fresh Breeze	Small trees in leaf begin to sway
6	22–27	Strong Breeze	Larger tree branches moving, whistling in wires
7	28–33	Near Gale	Whole trees moving, resistance felt walking against wind
8	34–40	Gale	Twigs breaking off trees, generally impedes progress
9	41–47	Strong Gale	Slight structural damage occurs, slate blows off roofs
10	48–55	Storm	Seldom experienced on land, trees broken or uprooted, “considerable structural damage”
11	56–63	Violent Storm	
12	64+	Hurricane	

Source: NOAA, 2023

#### 4.11.5 Probability and Frequency

Kane County recorded 72 **Hailstorm** events between 2012 and 2022, which averaged 7.2 events per year.

Figure 4-53 illustrates this frequency over time, while Figure 4-54 provides an event summary for this timeframe (NOAA, 2023).

Figure 4-53. Kane County Hailstorm Events (2012-2022)

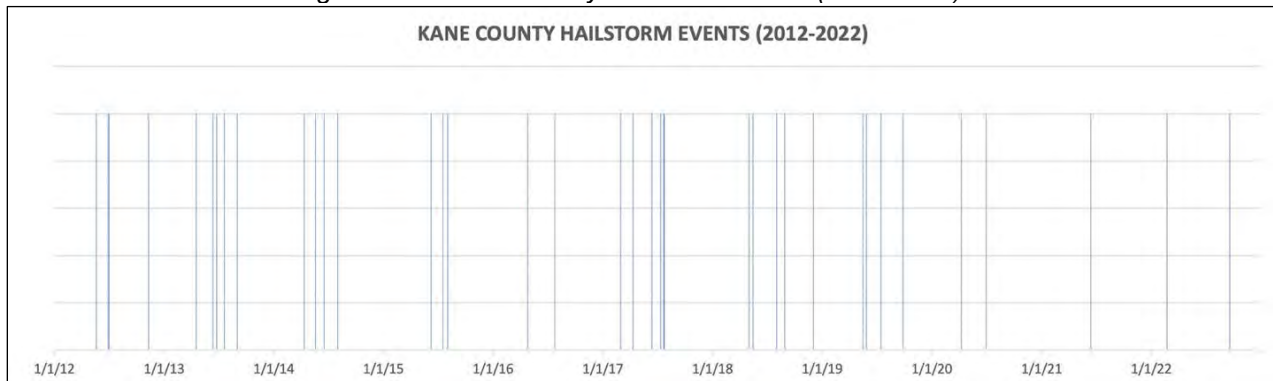


Figure 4-54. Kane County Hailstorms Events Summary (2012-2022)

<b>Event Types: Hail</b>	
72 events were reported between 01/01/2012 and 12/31/2022 (4018 days)	
<b>Summary Info:</b>	
Number of County/Zone areas affected:	1
Number of Days with Event:	38
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	1
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	1

Kane County recorded two significant **Lightning** events between 2012 and 2022 resulting in damages, which averages to 0.2 events annually. Figure 4-56 illustrates this frequency over time, while Figure 4-57 provides an event summary for this timeframe (NOAA, 2023).

Figure 4-55. Average yearly cloud to ground lightning strikes (NCEI)

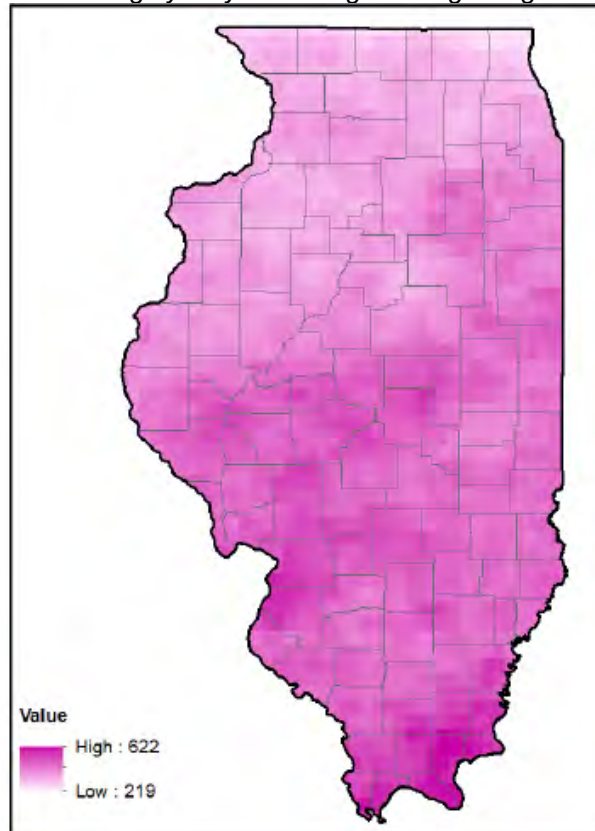


Figure 4-56. Kane County Lightning Events (2012-2022)

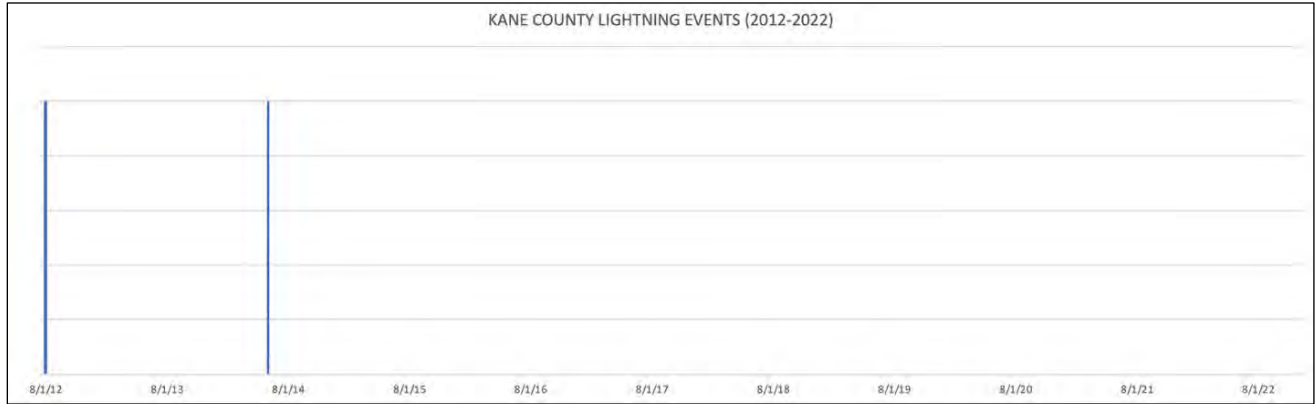


Figure 4-57. Kane County Significant Lightning Events Summary (2012-2022)

**Event Types: Lightning**

2 events were reported between 01/01/2012 and 12/31/2022 (4018 days)

**Summary Info:**

Number of County/Zone areas affected:	1
Number of Days with Event:	2
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	2
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	1

Kane County recorded 12 **Microburst/High Wind** events between 2012 and 2022, which averages to 1.2 events annually. Figure 4-57 illustrates this frequency over time, while Figure 4-58 provides an event summary for this timeframe (NOAA, 2023).

Figure 4-58. Kane County Microburst/High Wind Events (2012-2022)

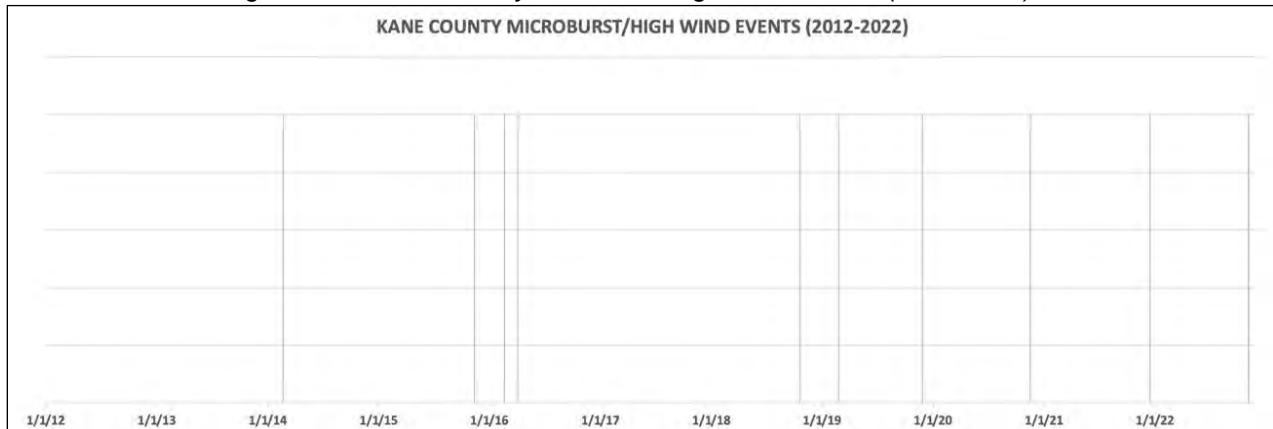


Figure 4-59. Kane County Microburst/High Wind Events Summary (2012-2022)

<b>Event Types: High Wind</b>	
<b>Kane county contains the following zones:</b>	
<b>Kane</b>	
12 events were reported between 01/01/2012 and 12/31/2022 (4018 days)	
<b>Summary Info:</b>	
Number of County/Zone areas affected:	1
Number of Days with Event:	10
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	0
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	1

Kane County recorded 135 **Thunderstorm Wind** events between 2012 and 2022, which averages 13.5 events annually. Figure 4-59 illustrates this frequency over time, while Figure 4-60 provides an event summary for this timeframe (NOAA, 2023).

Figure 4-60. Kane County Thunderstorm Wind Events (2012-2022)

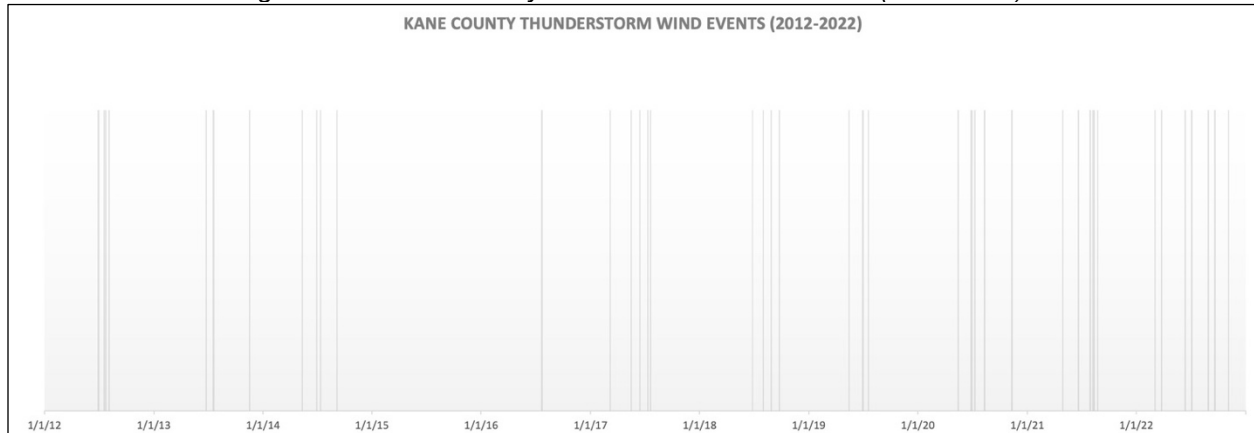


Figure 4-61. Kane County Thunderstorm Wind Events Summary (2012-2022)

<b>Event Types: Thunderstorm Wind</b>	
135 events were reported between 01/01/2012 and 12/31/2022 (4018 days)	
<b>Summary Info:</b>	
Number of County/Zone areas affected:	1
Number of Days with Event:	50
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	2
Number of Days with Event and Property Damage:	9
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	1

#### 4.11.6 Past Events

##### Hailstorms:

As Figure 4-54 noted, Kane County recorded 72 Hailstorm events between 2022 and 2022. During this time, there were no injuries or deaths. NOAA narrative from a select incident during this timeframe (resulting in property damage) is as follows:

**2014:** Scattered severe thunderstorms developed across northern Illinois producing mainly large hail with a few sporadic areas of wind damage. One storm in particular became quite intense as a right-moving supercell that tracked across the western and southern suburbs of Chicago. Hail 1.50 inches to 2.00 inches was reported across portions of Sugar Grove. There were reports of broken house windows with property damage reported at \$50,000.



Table 4-42. Hailstorm Events in Kane County, Illinois (2012-2022)

Location	County	State	Date	Type	Dth	Inj	PrD	CrD
<b>Totals:</b>					<b>0</b>	<b>0</b>	<b>0.00K</b>	<b>0.00K</b>
<a href="#">KANEVILLE</a>	KANE CO.	IL	05/20/2012	Hail	0.75 in.	0	0	0.00K
<a href="#">ELBURN</a>	KANE CO.	IL	05/20/2012	Hail	0.88 in.	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	06/28/2012	Hail	1.50 in.	0	0	0.00K
<a href="#">AURORA</a>	KANE CO.	IL	07/01/2012	Hail	1.00 in.	0	0	0.00K
<a href="#">AURORA</a>	KANE CO.	IL	11/10/2012	Hail	0.75 in.	0	0	0.00K
<a href="#">LOVEDALE</a>	KANE CO.	IL	11/10/2012	Hail	0.75 in.	0	0	0.00K
<a href="#">BATAVIA</a>	KANE CO.	IL	11/10/2012	Hail	0.75 in.	0	0	0.00K
<a href="#">BATAVIA</a>	KANE CO.	IL	11/10/2012	Hail	0.75 in.	0	0	0.00K
<a href="#">HENPECK</a>	KANE CO.	IL	04/17/2013	Hail	0.88 in.	0	0	0.00K
<a href="#">EAST DUNDEE</a>	KANE CO.	IL	04/17/2013	Hail	0.88 in.	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	04/17/2013	Hail	0.75 in.	0	0	0.00K
<a href="#">SUGAR GROVE</a>	KANE CO.	IL	06/12/2013	Hail	0.88 in.	0	0	0.00K
<a href="#">MONTGOMERY</a>	KANE CO.	IL	06/12/2013	Hail	1.50 in.	0	0	0.00K
<a href="#">SUGAR GROVE</a>	KANE CO.	IL	06/25/2013	Hail	0.75 in.	0	0	0.00K
<a href="#">LOVEDALE</a>	KANE CO.	IL	06/25/2013	Hail	0.88 in.	0	0	0.00K
<a href="#">PINGREE GROVE</a>	KANE CO.	IL	07/20/2013	Hail	1.00 in.	0	0	0.00K
<a href="#">BATAVIA</a>	KANE CO.	IL	08/31/2013	Hail	0.88 in.	0	0	0.00K
<a href="#">CARPENTERSVILLE</a>	KANE CO.	IL	04/12/2014	Hail	1.50 in.	0	0	0.00K
<a href="#">SUGAR GROVE</a>	KANE CO.	IL	05/20/2014	Hail	1.50 in.	0	0	0.00K
<a href="#">NORTH AURORA</a>	KANE CO.	IL	05/20/2014	Hail	1.75 in.	0	0	0.00K
<a href="#">BATAVIA</a>	KANE CO.	IL	05/20/2014	Hail	0.75 in.	0	0	0.00K
<a href="#">MAPLE PARK</a>	KANE CO.	IL	05/20/2014	Hail	1.75 in.	0	0	0.00K
<a href="#">ELBURN</a>	KANE CO.	IL	05/20/2014	Hail	1.00 in.	0	0	0.00K
<a href="#">KANEVILLE</a>	KANE CO.	IL	05/20/2014	Hail	2.00 in.	0	0	50.00K
<a href="#">NORTH AURORA</a>	KANE CO.	IL	05/20/2014	Hail	1.75 in.	0	0	0.00K
<a href="#">BATAVIA</a>	KANE CO.	IL	05/20/2014	Hail	1.25 in.	0	0	0.00K
<a href="#">AURORA</a>	KANE CO.	IL	06/18/2014	Hail	1.00 in.	0	0	0.00K
<a href="#">DUNDEE</a>	KANE CO.	IL	08/01/2014	Hail	1.00 in.	0	0	0.00K
<a href="#">FOX RIVER ESTATES</a>	KANE CO.	IL	08/01/2014	Hail	0.88 in.	0	0	0.00K
<a href="#">SUGAR GROVE</a>	KANE CO.	IL	06/08/2015	Hail	1.75 in.	0	0	0.00K
<a href="#">CARPENTERSVILLE</a>	KANE CO.	IL	07/17/2015	Hail	1.00 in.	0	0	0.00K
<a href="#">MAPLE PARK</a>	KANE CO.	IL	08/02/2015	Hail	1.00 in.	0	0	0.00K
<a href="#">ELBURN</a>	KANE CO.	IL	08/02/2015	Hail	1.00 in.	0	0	0.00K
<a href="#">ST CHARLES</a>	KANE CO.	IL	08/02/2015	Hail	1.00 in.	0	0	0.00K
<a href="#">PLATO CORNERS</a>	KANE CO.	IL	08/02/2015	Hail	1.75 in.	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	04/25/2016	Hail	1.00 in.	0	0	0.00K
<a href="#">ALGONQUIN</a>	KANE CO.	IL	07/24/2016	Hail	0.88 in.	0	0	0.00K
<a href="#">PINGREE GROVE</a>	KANE CO.	IL	02/28/2017	Hail	0.75 in.	0	0	0.00K
<a href="#">KANEVILLE</a>	KANE CO.	IL	04/10/2017	Hail	1.25 in.	0	0	0.00K
<a href="#">AURORA</a>	KANE CO.	IL	06/13/2017	Hail	0.88 in.	0	0	0.00K
<a href="#">PINGREE GROVE</a>	KANE CO.	IL	07/11/2017	Hail	1.00 in.	0	0	0.00K
<a href="#">SLEEPY HOLLOW</a>	KANE CO.	IL	07/21/2017	Hail	0.75 in.	0	0	0.00K
<a href="#">PINGREE GROVE</a>	KANE CO.	IL	07/21/2017	Hail	1.00 in.	0	0	0.00K
<a href="#">AURORA</a>	KANE CO.	IL	07/23/2017	Hail	1.50 in.	0	0	0.00K
<a href="#">GILBERTS</a>	KANE CO.	IL	05/02/2018	Hail	1.50 in.	0	0	0.00K
<a href="#">RICHARDSON</a>	KANE CO.	IL	05/14/2018	Hail	0.75 in.	0	0	0.00K
<a href="#">AURORA</a>	KANE CO.	IL	08/01/2018	Hail	1.25 in.	0	0	0.00K

<a href="#">NORTH AURORA</a>	KANE CO.	IL	08/01/2018	Hail	1.00 in.	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	08/28/2018	Hail	0.88 in.	0	0	0.00K
<a href="#">SUGAR GROVE</a>	KANE CO.	IL	08/28/2018	Hail	1.00 in.	0	0	0.00K
<a href="#">NORTH AURORA</a>	KANE CO.	IL	08/28/2018	Hail	0.75 in.	0	0	0.00K
<a href="#">ELBURN</a>	KANE CO.	IL	12/01/2018	Hail	0.75 in.	0	0	0.00K
<a href="#">BIG ROCK</a>	KANE CO.	IL	05/16/2019	Hail	1.75 in.	0	0	0.00K
<a href="#">KANEVILLE</a>	KANE CO.	IL	05/16/2019	Hail	2.25 in.	0	0	0.00K
<a href="#">KANEVILLE</a>	KANE CO.	IL	05/16/2019	Hail	1.50 in.	0	0	0.00K
<a href="#">BATAVIA</a>	KANE CO.	IL	05/16/2019	Hail	1.25 in.	0	0	0.00K
<a href="#">NORTH AURORA</a>	KANE CO.	IL	05/16/2019	Hail	1.00 in.	0	0	0.00K
<a href="#">AURORA</a>	KANE CO.	IL	05/27/2019	Hail	1.00 in.	0	0	0.00K
<a href="#">GENEVA</a>	KANE CO.	IL	07/14/2019	Hail	0.75 in.	0	0	0.00K
<a href="#">KANEVILLE</a>	KANE CO.	IL	09/27/2019	Hail	1.00 in.	0	0	0.00K
<a href="#">RICHARDSON</a>	KANE CO.	IL	04/07/2020	Hail	1.00 in.	0	0	0.00K
<a href="#">WEST DUNDEE</a>	KANE CO.	IL	06/29/2020	Hail	1.00 in.	0	0	0.00K
<a href="#">DUNDEE</a>	KANE CO.	IL	06/29/2020	Hail	1.00 in.	0	0	0.00K
<a href="#">CARPENTERSVILLE</a>	KANE CO.	IL	06/29/2020	Hail	1.00 in.	0	0	0.00K
<a href="#">CARPENTERSVILLE</a>	KANE CO.	IL	06/12/2021	Hail	1.25 in.	0	0	0.00K
<a href="#">BATAVIA</a>	KANE CO.	IL	06/12/2021	Hail	1.25 in.	0	0	0.00K
<a href="#">AURORA</a>	KANE CO.	IL	06/12/2021	Hail	1.00 in.	0	0	0.00K
<a href="#">ELBURN</a>	KANE CO.	IL	02/22/2022	Hail	0.88 in.	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	02/22/2022	Hail	0.88 in.	0	0	0.00K
<a href="#">GENEVA</a>	KANE CO.	IL	09/18/2022	Hail	1.25 in.	0	0	0.00K
<a href="#">GENEVA</a>	KANE CO.	IL	09/18/2022	Hail	1.50 in.	0	0	0.00K
<a href="#">ST CHARLES</a>	KANE CO.	IL	09/18/2022	Hail	1.50 in.	0	0	0.00K
<b>Totals:</b>					<b>0</b>	<b>0</b>	<b>0.00K</b>	<b>0.00K</b>

**Lightning:**

As Figure 4-57 noted, Kane County recorded two significant Lightning events between 2022 and 2022 resulting in damages. During this time, there were no injuries or deaths. NOAA narrative from select incidents during this timeframe (resulting in property damage) are as follows:

**2012:** A line of severe thunderstorms moved across northern Illinois during the afternoon hours of August 4th. Lightning struck an apartment complex on the 500 block of Hartford Avenue in North Aurora causing a small fire. Property damage for this incident was estimated at \$20,000.

**2014:** A line of thunderstorms dropped southeast across northern Illinois during the evening of June 18th producing marginally severe winds and hail. Lightning caused a fire to a residence in unincorporated St Charles. Property damage for this incident was estimated at \$25,000.

Table 4-43. Lightning Events in Kane County, Illinois (2012-2022)

Location	County	State	Date	Type	Dth	Inj	PrD	CrD
<b>Totals:</b>					<b>0</b>	<b>0</b>	<b>45.00K</b>	<b>0.00K</b>
<a href="#">MOECHERVILLE</a>	KANE CO.	IL	08/04/2012	Lightning	0	0	20.00K	0.00K
<a href="#">ST CHARLES</a>	KANE CO.	IL	06/18/2014	Lightning	0	0	25.00K	0.00K
<b>Totals:</b>					<b>0</b>	<b>0</b>	<b>45.00K</b>	<b>0.00K</b>

**Microburst/High Winds:**

As Figure 4-59 noted, Kane County recorded 12 Microburst/High Wind events between 2012 and 2022. During this time, there were no injuries or deaths.

*Table 4-44. Microburst/High Winds Events in Kane County, Illinois (2012-2022)*

Location	County	State	Date	Type	Dth	Inj	PrD	CrD
<b>Totals:</b>					<b>0</b>	<b>0</b>	<b>0.00K</b>	<b>0.00K</b>
<a href="#">KANE (ZONE)</a>	Kane	IL	02/20/2014	High Wind	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	11/12/2015	High Wind	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	11/12/2015	High Wind	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	02/19/2016	High Wind	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	04/02/2016	High Wind	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	10/20/2018	High Wind	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	02/24/2019	High Wind	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	11/27/2019	High Wind	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	11/15/2020	High Wind	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	12/15/2021	High Wind	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	12/15/2021	High Wind	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	11/05/2022	High Wind	0	0	0	0.00K
<b>Totals:</b>					<b>0</b>	<b>0</b>	<b>0.00K</b>	<b>0.00K</b>

**Thunderstorm Wind:**

As Figure 4-61 noted, Kane County recorded 135 Thunderstorm Wind events between 2012 and 2022. During this time, there were no injuries or deaths. NOAA narrative from select incidents during this timeframe (resulting in injury or property damage) are as follows:

**2012 (Geneva):** During the late morning and early afternoon hours of June 29<sup>th</sup>, a line of severe thunderstorms moved across northern Illinois producing pockets of wind damage as well as occasional large hail. Several trees were blown down, including some that fell on top of vehicles and power lines. Property damage for this incident was estimated at \$10,000.

**2012 (St. Charles):** Thunderstorms began developing during the late morning hours of July 1<sup>st</sup> across northern Illinois and continued into the early afternoon hours. Some of these thunderstorms organized into a powerful line that produced widespread wind damage across parts of north central DuPage County with wind speeds between 75 mph and 90 mph. Power outages in these areas lasted several days. Tents were blown down and shredded at the Kane County Fair Grounds. Some of the tent poles were twisted. Property damage for this incident was estimated at \$500.

**2012 (Elburn):** A powerful line of thunderstorms moved southeast across northern Illinois during the morning hours of July 24<sup>th</sup> producing widespread wind damage. Wind gusts were estimated to 70mph. Large tree limbs and power lines were blown down across the southside of Elburn. Property damage for this incident was estimated at \$5,000.

**2012 (Aurora):** A line of severe thunderstorms moved across northern Illinois during the afternoon hours of August 4<sup>th</sup>. Wind gusts were estimated to 70mph in Aurora. A 14-inch diameter maple tree was blown down onto a garage. Part of a roof was ripped off of an apartment complex with water causing damage to 96 units. Property damage for this incident was estimated at \$50,000.

**2012 (Geneva):** A line of severe thunderstorms moved across northern Illinois during the afternoon hours of August 4<sup>th</sup>. Two injuries occurred when a wind gust estimated to near 60mph slammed part of a picnic table into two people. One person was struck in the head and knocked unconscious. Her injuries required a three-hour brain surgery. The other person injured was a minor, and no details were released.

**2013 (Henpeck):** During the evening of July 20<sup>th</sup>, an isolated supercell developed over northern Illinois producing baseball size hail and damaging winds. A construction trailer was blown over on Rockport Road. One person was injured.

**2014 (Unida):** A line of thunderstorms moved across northern Illinois producing a swath of wind damage primarily across the northwest and north suburbs of Chicago. Numerous trees and large tree limbs were reported down across portions of Elgin. Approximately a mile northeast of Elgin, trees were uprooted and snapped. Two to three foot diameter trees fell onto homes and cars. Some roads were impassable. Property damage for this incident was estimated at \$100,000.

**2017 (Aurora):** A line of severe thunderstorms moved across northern Illinois producing a swath of damaging winds. A tree was blown down onto a car. A nearby mesonet site measured a wind gust to 59 mph. Property damage for this incident was estimated at \$1,000.

**2017 (Gilberts):** Severe thunderstorms produced large hail, damaging winds and heavy rain across many parts of northeast Illinois during the afternoon and evening of June 14<sup>th</sup>. A portion of a new gas station under construction was blown down near Route 20 and Nesler Road. Property damage for this incident was estimated at \$10,000.

**2017 (Pingree Grove):** Thunderstorms developed during the late evening of July 11<sup>th</sup> across far northeast Illinois and continued into the morning of July 12<sup>th</sup> producing torrential rainfall which continued over the same areas for hours producing flash flooding and major river flooding. Twenty utility poles were snapped at the base. Property damage for this incident was estimated at \$10,000.

**2017 (Pingree Grove):** A supercell thunderstorm produced large hail and wind damage in the northwest suburbs of the Chicago area during the afternoon hours of July 21<sup>st</sup>. Additional thunderstorms developed during the evening hours of July 21<sup>st</sup> and continued into the early morning of July 22<sup>nd</sup>. Wind gusts were estimated to 70mph. Trees and power lines were blown down. Property damage for this incident was estimated at \$2,000.

**2017 (Elgin):** A supercell thunderstorm produced large hail and wind damage in the northwest suburbs of the Chicago area during the afternoon hours of July 21<sup>st</sup>. Additional thunderstorms developed during the evening hours of July 21<sup>st</sup> and continued into the early morning of July 22<sup>nd</sup>. Wind gusts were estimated between 70mph and 80mph. Hundreds of trees suffered damaged on the east side of Elgin. Some trees were uprooted with large branches on cars. Several roads were closed due to downed power lines. Property damage for this incident was estimated at \$20,000.

Table 4-45. Thunderstorm Wind Events in Kane County, Illinois (2012-2022)

Location	County	State	Date	Type	Dth	Inj	PrD	CrD
<b>Totals:</b>					<b>0</b>	<b>0</b>	<b>0.00K</b>	<b>0.00K</b>
<a href="#">MAPLE PARK</a>	KANE CO.	IL	06/29/2012	Thunderstorm Wind	54 kts. MG	0	0	0.00K
<a href="#">GENEVA</a>	KANE CO.	IL	06/29/2012	Thunderstorm Wind	52 kts. EG	0	0	10.00K
<a href="#">GENEVA</a>	KANE CO.	IL	07/01/2012	Thunderstorm Wind	61 kts. EG	0	0	0.00K
<a href="#">ST CHARLES</a>	KANE CO.	IL	07/01/2012	Thunderstorm Wind	52 kts. EG	0	0	0.50K
<a href="#">ST CHARLES</a>	KANE CO.	IL	07/01/2012	Thunderstorm Wind	61 kts. EG	0	0	0.00K
<a href="#">CARPENTERSVILLE</a>	KANE CO.	IL	07/18/2012	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	07/18/2012	Thunderstorm Wind	52 kts. MG	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	07/18/2012	Thunderstorm Wind	52 kts. EG	0	0	0.00K
<a href="#">AURORA MUNI ARPT</a>	KANE CO.	IL	07/18/2012	Thunderstorm Wind	56 kts. EG	0	0	0.00K
<a href="#">ELBURN</a>	KANE CO.	IL	07/24/2012	Thunderstorm Wind	55 kts. MG	0	0	0.00K
<a href="#">ELBURN</a>	KANE CO.	IL	07/24/2012	Thunderstorm Wind	61 kts. EG	0	0	5.00K
<a href="#">GENEVA</a>	KANE CO.	IL	07/24/2012	Thunderstorm Wind	61 kts. EG	0	0	0.00K
<a href="#">AURORA</a>	KANE CO.	IL	08/04/2012	Thunderstorm Wind	61 kts. EG	0	0	50.00K
<a href="#">ELGIN</a>	KANE CO.	IL	08/04/2012	Thunderstorm Wind	52 kts. EG	0	0	0.00K
<a href="#">GENEVA</a>	KANE CO.	IL	08/04/2012	Thunderstorm Wind	52 kts. EG	0	2	0.00K
<a href="#">LOVEDALE</a>	KANE CO.	IL	06/24/2013	Thunderstorm Wind	60 kts. EG	0	0	0.00K
<a href="#">ELGIN ARPT</a>	KANE CO.	IL	06/24/2013	Thunderstorm Wind	52 kts. EG	0	0	0.00K
<a href="#">SUGAR GROVE</a>	KANE CO.	IL	07/18/2013	Thunderstorm Wind	60 kts. MG	0	0	0.00K
<a href="#">HENPECK</a>	KANE CO.	IL	07/20/2013	Thunderstorm Wind	50 kts. EG	0	1	0.00K
<a href="#">PINGREE GROVE</a>	KANE CO.	IL	07/20/2013	Thunderstorm Wind	60 kts. EG	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	07/20/2013	Thunderstorm Wind	52 kts. MG	0	0	0.00K
<a href="#">ST CHARLES</a>	KANE CO.	IL	07/20/2013	Thunderstorm Wind	52 kts. EG	0	0	0.00K
<a href="#">BATAVIA</a>	KANE CO.	IL	07/20/2013	Thunderstorm Wind	52 kts. EG	0	0	0.00K
<a href="#">MONTGOMERY</a>	KANE CO.	IL	11/17/2013	Thunderstorm Wind	52 kts. EG	0	0	0.00K



<a href="#">ELBURN</a>	KANE CO.	IL	11/17/2013	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">SUGAR GROVE</a>	KANE CO.	IL	05/11/2014	Thunderstorm Wind	51 kts. MG	0	0	0.00K
<a href="#">SUGAR GROVE</a>	KANE CO.	IL	06/30/2014	Thunderstorm Wind	53 kts. MG	0	0	0.00K
<a href="#">HENPECK</a>	KANE CO.	IL	07/12/2014	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">SLEEPY HOLLOW</a>	KANE CO.	IL	07/12/2014	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">DUNDEE KOPPIE ARPT</a>	KANE CO.	IL	07/12/2014	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">ELGIN ARPT</a>	KANE CO.	IL	07/12/2014	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">UNIDA</a>	KANE CO.	IL	09/05/2014	Thunderstorm Wind	65 kts. EG	0	0	100.00K
<a href="#">ELGIN</a>	KANE CO.	IL	07/21/2016	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	07/23/2016	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">AURORA</a>	KANE CO.	IL	03/07/2017	Thunderstorm Wind	51 kts. MG	0	0	1.00K
<a href="#">NORTH AURORA</a>	KANE CO.	IL	05/17/2017	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">GILBERTS</a>	KANE CO.	IL	06/14/2017	Thunderstorm Wind	50 kts. EG	0	0	10.00K
<a href="#">PINGREE GROVE</a>	KANE CO.	IL	07/11/2017	Thunderstorm Wind	68 kts. MG	0	0	0.00K
<a href="#">PINGREE GROVE</a>	KANE CO.	IL	07/12/2017	Thunderstorm Wind	55 kts. EG	0	0	10.00K
<a href="#">PINGREE GROVE</a>	KANE CO.	IL	07/21/2017	Thunderstorm Wind	61 kts. EG	0	0	2.00K
<a href="#">ELGIN</a>	KANE CO.	IL	07/21/2017	Thunderstorm Wind	70 kts. EG	0	0	20.00K
<a href="#">STARKS</a>	KANE CO.	IL	06/26/2018	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">MOOSEHEART</a>	KANE CO.	IL	08/01/2018	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">DUNDEE</a>	KANE CO.	IL	08/28/2018	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">EAST DUNDEE</a>	KANE CO.	IL	08/28/2018	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">HAMPSHIRE</a>	KANE CO.	IL	09/25/2018	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">AURORA</a>	KANE CO.	IL	09/25/2018	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">AURORA MUNI ARPT</a>	KANE CO.	IL	05/16/2019	Thunderstorm Wind	50 kts. MG	0	0	0.00K
<a href="#">BIG ROCK</a>	KANE CO.	IL	06/30/2019	Thunderstorm Wind	50 kts. EG	0	0	0.00K

<a href="#">MOOSEHEART</a>	KANE CO.	IL	06/30/2019	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">MONTGOMERY</a>	KANE CO.	IL	07/02/2019	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">MOECHERVILLE</a>	KANE CO.	IL	07/02/2019	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">REID RLA AIRPORT</a>	KANE CO.	IL	07/20/2019	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">AURORA MUNI ARPT</a>	KANE CO.	IL	05/14/2020	Thunderstorm Wind	52 kts. MG	0	0	0.00K
<a href="#">LOVEDALE</a>	KANE CO.	IL	05/14/2020	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">DUNDEE</a>	KANE CO.	IL	06/26/2020	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">PINGREE GROVE</a>	KANE CO.	IL	06/26/2020	Thunderstorm Wind	56 kts. MG	0	0	0.00K
<a href="#">PINGREE GROVE</a>	KANE CO.	IL	06/26/2020	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">PLATO CORNERS</a>	KANE CO.	IL	06/26/2020	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	06/26/2020	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	06/29/2020	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">SOUTH ELGIN</a>	KANE CO.	IL	07/09/2020	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	07/09/2020	Thunderstorm Wind	65 kts. EG	0	0	0.00K
<a href="#">MAPLE PARK</a>	KANE CO.	IL	08/10/2020	Thunderstorm Wind	70 kts. EG	0	0	0.00K
<a href="#">KANEVILLE</a>	KANE CO.	IL	08/10/2020	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">ELBURN</a>	KANE CO.	IL	08/10/2020	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">MAPLE PARK</a>	KANE CO.	IL	08/10/2020	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">AURORA MUNI ARPT</a>	KANE CO.	IL	08/10/2020	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">AURORA MUNI ARPT</a>	KANE CO.	IL	08/10/2020	Thunderstorm Wind	54 kts. MG	0	0	0.00K
<a href="#">LOVEDALE</a>	KANE CO.	IL	08/10/2020	Thunderstorm Wind	65 kts. EG	0	0	0.00K
<a href="#">BATAVIA</a>	KANE CO.	IL	08/10/2020	Thunderstorm Wind	65 kts. EG	0	0	0.00K
<a href="#">GENEVA</a>	KANE CO.	IL	08/10/2020	Thunderstorm Wind	60 kts. EG	0	0	0.00K
<a href="#">ST CHARLES</a>	KANE CO.	IL	08/10/2020	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">CARPENTERSVILLE</a>	KANE CO.	IL	08/10/2020	Thunderstorm Wind	65 kts. EG	0	0	0.00K

<a href="#">KANEVILLE</a>	KANE CO.	IL	11/10/2020	Thunderstorm Wind	65 kts. EG	0	0	0.00K
<a href="#">(ARR) AURORA MUNICIPAL A...</a>	KANE CO.	IL	11/10/2020	Thunderstorm Wind	61 kts. EG	0	0	0.00K
<a href="#">(ARR) AURORA MUNICIPAL A...</a>	KANE CO.	IL	11/10/2020	Thunderstorm Wind	69 kts. MG	0	0	0.00K
<a href="#">BATAVIA</a>	KANE CO.	IL	11/10/2020	Thunderstorm Wind	50 kts. MG	0	0	0.00K
<a href="#">CAMPTON HILLS</a>	KANE CO.	IL	11/10/2020	Thunderstorm Wind	52 kts. EG	0	0	0.00K
<a href="#">(ARR) AURORA MUNICIPAL A...</a>	KANE CO.	IL	04/29/2021	Thunderstorm Wind	50 kts. MG	0	0	0.00K
<a href="#">(ARR) AURORA MUNICIPAL A...</a>	KANE CO.	IL	06/20/2021	Thunderstorm Wind	52 kts. MG	0	0	0.00K
<a href="#">KANEVILLE</a>	KANE CO.	IL	06/20/2021	Thunderstorm Wind	60 kts. EG	0	0	0.00K
<a href="#">MONTGOMERY</a>	KANE CO.	IL	06/20/2021	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">GILBERTS</a>	KANE CO.	IL	07/29/2021	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">WEST DUNDEE</a>	KANE CO.	IL	07/29/2021	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">EAST DUNDEE</a>	KANE CO.	IL	07/29/2021	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">MAPLE PARK</a>	KANE CO.	IL	07/29/2021	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">SOUTH ELGIN</a>	KANE CO.	IL	07/29/2021	Thunderstorm Wind	50 kts. MG	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	07/29/2021	Thunderstorm Wind	50 kts. MG	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	07/29/2021	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">LA FOX</a>	KANE CO.	IL	07/29/2021	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">BATAVIA</a>	KANE CO.	IL	07/29/2021	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">PINGREE GROVE</a>	KANE CO.	IL	08/08/2021	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">(ARR) AURORA MUNICIPAL A...</a>	KANE CO.	IL	08/10/2021	Thunderstorm Wind	50 kts. MG	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	08/10/2021	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">SLEEPY HOLLOW</a>	KANE CO.	IL	08/10/2021	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">WEST DUNDEE</a>	KANE CO.	IL	08/10/2021	Thunderstorm Wind	60 kts. EG	0	0	0.00K
<a href="#">(ARR) AURORA MUNICIPAL A...</a>	KANE CO.	IL	08/11/2021	Thunderstorm Wind	56 kts. MG	0	0	0.00K
<a href="#">(ARR) AURORA MUNICIPAL A...</a>	KANE CO.	IL	08/11/2021	Thunderstorm Wind	60 kts. EG	0	0	0.00K

<a href="#">AURORA</a>	KANE CO.	IL	08/11/2021	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">NORTH AURORA</a>	KANE CO.	IL	08/11/2021	Thunderstorm Wind	60 kts. EG	0	0	0.00K
<a href="#">AURORA</a>	KANE CO.	IL	08/11/2021	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">BATAVIA</a>	KANE CO.	IL	08/11/2021	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">BATAVIA</a>	KANE CO.	IL	08/11/2021	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">GENEVA</a>	KANE CO.	IL	08/11/2021	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">SOUTH ELGIN</a>	KANE CO.	IL	08/11/2021	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	08/11/2021	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">SLEEPY HOLLOW</a>	KANE CO.	IL	08/11/2021	Thunderstorm Wind	60 kts. EG	0	0	0.00K
<a href="#">AURORA</a>	KANE CO.	IL	08/24/2021	Thunderstorm Wind	60 kts. EG	0	0	0.00K
<a href="#">(ARR) AURORA MUNICIPAL A...</a>	KANE CO.	IL	03/05/2022	Thunderstorm Wind	63 kts. MG	0	0	0.00K
<a href="#">(ARR) AURORA MUNICIPAL A...</a>	KANE CO.	IL	03/25/2022	Thunderstorm Wind	63 kts. MG	0	0	0.00K
<a href="#">MONTGOMERY</a>	KANE CO.	IL	03/25/2022	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">SLEEPY HOLLOW</a>	KANE CO.	IL	06/13/2022	Thunderstorm Wind	65 kts. EG	0	0	0.00K
<a href="#">CARPENTERSVILLE</a>	KANE CO.	IL	06/13/2022	Thunderstorm Wind	65 kts. EG	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	06/13/2022	Thunderstorm Wind	60 kts. EG	0	0	0.00K
<a href="#">ELBURN</a>	KANE CO.	IL	07/04/2022	Thunderstorm Wind	60 kts. EG	0	0	0.00K
<a href="#">MARYWOOD</a>	KANE CO.	IL	07/04/2022	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">CARPENTERSVILLE</a>	KANE CO.	IL	07/04/2022	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">SLEEPY HOLLOW</a>	KANE CO.	IL	07/04/2022	Thunderstorm Wind	60 kts. EG	0	0	0.00K
<a href="#">HAMPSHIRE</a>	KANE CO.	IL	07/04/2022	Thunderstorm Wind	60 kts. EG	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	07/04/2022	Thunderstorm Wind	60 kts. EG	0	0	0.00K
<a href="#">HAMPSHIRE</a>	KANE CO.	IL	07/05/2022	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">BURLINGTON</a>	KANE CO.	IL	07/05/2022	Thunderstorm Wind	65 kts. EG	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	07/05/2022	Thunderstorm Wind	50 kts. EG	0	0	0.00K

<a href="#">SOUTH ELGIN</a>	KANE CO.	IL	07/05/2022	Thunderstorm Wind	60 kts. EG	0	0	0.00K
<a href="#">NORTH AURORA</a>	KANE CO.	IL	08/29/2022	Thunderstorm Wind	60 kts. EG	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	08/29/2022	Thunderstorm Wind	50 kts. EG	0	0	0.00K
<a href="#">ELGIN</a>	KANE CO.	IL	08/29/2022	Thunderstorm Wind	60 kts. EG	0	0	0.00K
<a href="#">STARKS</a>	KANE CO.	IL	09/20/2022	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">PLATO CENTER</a>	KANE CO.	IL	09/20/2022	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">CAMPTON HILLS</a>	KANE CO.	IL	09/20/2022	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">GENEVA</a>	KANE CO.	IL	09/20/2022	Thunderstorm Wind	60 kts. EG	0	0	0.00K
<a href="#">GENEVA</a>	KANE CO.	IL	09/20/2022	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">BIG ROCK</a>	KANE CO.	IL	11/05/2022	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<a href="#">AURORA</a>	KANE CO.	IL	11/05/2022	Thunderstorm Wind	55 kts. EG	0	0	0.00K
<b>Totals:</b>					<b>0</b>	<b>0</b>	<b>0.00K</b>	<b>0.00K</b>

#### 4.11.7 Vulnerability and Impacts

All assets located in Kane County can be considered at risk from severe summer storms. This includes 100% of the county's population and all buildings and infrastructure.

**Life Safety and Public Health:** Severe summer storms can significantly impact life safety and public health. First, lightning strikes are a significant hazard during thunderstorms and can cause severe injury or even death. People outside during thunderstorms are at risk of being struck by lightning, which can result in burns, cardiac arrest, and other life-threatening injuries. Next, thunderstorms can cause flash flooding, which can also be deadly. Flash floods can occur quickly and without warning and trap people in their homes or vehicles, leading to drowning and other injuries. Thunderstorms can also produce high winds that can cause damage to buildings, vehicles, and other structures. Finally, flying debris and falling trees can significantly harm people outside during a storm.

Hailstones can vary in size from small pellets to large chunks of ice, and they can cause injury to people and animals caught outside during a storm. This factor poses risks to life safety. People injured by hailstones may require medical attention. In addition, hailstones can cause cuts, bruises, and other injuries, mainly if they are large or accompanied by high winds.

**Property Damage and Critical Infrastructure:** Severe summer storms can significantly impact property and critical infrastructure. Potential effects of different weather phenomena include:

- Hailstorms: Hail can cause significant damage to crops, buildings, and vehicles. Large hailstones can break windows and dent or puncture metal surfaces, resulting in costly repairs and potential safety hazards.



- **Lightning:** Lightning strikes can cause damage to electrical equipment, including power lines and transformers. This can lead to power outages and disrupt communication and transportation systems, impacting public safety and economic activity.
- **Microburst/High Winds:** High winds can cause significant damage to property and infrastructure, including knocking down trees and power lines, damaging roofs, and other structures, and causing debris to fly around and potentially harm people and property.
- **Thunderstorms:** Thunderstorms can cause flooding, power outages, and damage to buildings, vehicles, and other infrastructure. The strong winds associated with thunderstorms can uproot trees and cause damage to roofs and other structures. Additionally, lightning strikes can damage electrical equipment and start fires, threatening property and public safety.

**Economy:** The economic impacts from hail can be quite extensive. The cost of repairs to damaged property can be significant. Crop damage can lead to loss of income for households. Severe storms are some of the costliest disasters, and can have long lasting impacts on the economy when repairs to damaged infrastructure, households, and property is needed.

Table 4-46. Severe Summer Storms Indemnities Paid in Kane County, IL (1995-2020)

Cause of Loss	Premium subsidies 1995-2020	Percent Cause of Loss (Heat, Excess Moisture, Hail, Drought, Flood, Cold Winter, Freeze, Other, etc.)
Excess Moisture/Precipitation/Rain	\$22,172,639	34%
Hail	\$433,732	Less than 1%
Wind/Excess Wind	\$44,725	Less than 1%

*The premium subsidies by cause of loss in the table are lower than total premium subsidies because the USDA Risk Management Agency only reports premium subsidies by cause of loss for policies that paid an indemnity. Non-indemnified policies and their associated premium subsidies are not reported by cause of loss. The driving force behind a decline in crop yield or revenue that triggers an indemnity payment is called the “cause of loss” – an event or circumstance that damages crop yield, such as drought, hail or too much rain, or that damages the price side of farmer revenues, like a decline in crop price.*

**Changes in Development and Impact of Future Development:** There is no impact based on current or future development trends.

**Effects of Climate Change on Severity of Impacts:** climate change is expected to impact summer storms in various ways, resulting in potential impacts such as increased frequency and intensity of thunderstorms, changes in lightning patterns, larger and more frequent hailstorms, and more frequent and intense high winds. Warmer temperatures can result in a rise in the amount of moisture in the atmosphere, leading to more frequent and severe thunderstorms. Additionally, temperature changes can lead to changes in the distribution and frequency of lightning strikes, resulting in areas currently too cool for thunderstorms experiencing lightning strikes. With the stronger updrafts caused by warmer temperatures, hailstones in thunderstorms may become larger and more frequent. Furthermore, climate change may increase high wind events in frequency and intensity (NOAA, 2023).

Understanding that precipitation can impact severe summer storms in many ways, Table 4-47 illustrates 25-year precipitation projections for Kane County while Table 4-48 shows future climate indicators.

Table 4-47. 25-Year Precipitation Projections for Kane County

25-YEAR PRECIPITATION PROJECTIONS FOR KANE COUNTY, IL	
<b>HIGHER EMISSIONS (RCP8.5)</b>	
Kane County is expected to experience a 14% increase in heavy precipitation within 25 years.	
By 2048, Kane County is expected to experience 0.6 more days of heavy precipitation per year (from 4.0 days to 4.6 days per year).	
<b>LOWER EMISSIONS (RCP4.5)</b>	
Kane County is expected to experience a 1% increase in heavy precipitation within 25 years.	
By 2048, Kane County is expected to experience 0.03 more days of heavy precipitation per year (from 4.06 days to 4.08 days per year).	
<b>Source:</b> Neighborhoods at Risk ( <a href="https://nar.headwaterseconomics.org/17089/explore/climate">https://nar.headwaterseconomics.org/17089/explore/climate</a> )	

Table 4-48. Future Climate Indicators for Kane County

FUTURE CLIMATE INDICATORS FOR KANE COUNTY, IL							
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
<b>Temperature Thresholds</b>							
Annual Days With Maximum Temperature >90°	<b>11 days</b>	<b>29 days</b>	<b>32 days</b>	<b>39 days</b>	<b>48 days</b>	<b>49 days</b>	<b>80 days</b>
	11-15	17-50	20-50	19-68	29-75	24-84	44-111
Annual Days With Maximum Temperature >95°	<b>2 days</b>	<b>8 days</b>	<b>10 days</b>	<b>13 days</b>	<b>19 days</b>	<b>20 days</b>	<b>47 days</b>
	1-3	3-21	3-22	3-36	8-46	6-54	15-87
Annual Days With Maximum Temperature >100°	<b>0 days</b>	<b>1 day</b>	<b>2 days</b>	<b>3 days</b>	<b>5 days</b>	<b>5 days</b>	<b>21 days</b>
	0-0	0-6	0-5	0-13	1-19	0-13	1-64
Annual Days With Maximum Temperature >105°	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>1 day</b>	<b>1 day</b>	<b>7 days</b>
	0-0	0-1	0-0	0-1	0-3	0-2	0-29
<b>Annual Temperature</b>							
	<b>96°F</b>	<b>99°F</b>	<b>100°F</b>	<b>101°F</b>	<b>102°F</b>	<b>102°F</b>	<b>107°F</b>

Annual Single Highest Temperature °F	95-97	96-104	96-103	97-108	98-107	97-111	100-114
Annual Highest Maximum Temperature Averaged Over a 5-Day Period	91°F	94°F	95°F	96°F	97°F	97°F	102°F
	90-92	92-98	92-97	92-102	94-102	93-104	95-109
Cooling Degree Days (CDD)	790 degree-days	1,138 degree-days	1,160 degree-days	1,281 degree-days	1,444 degree-days	1,462 degree-days	2,089 degree-days
	751-868	902-1,421	950-1,338	967-1684	1,135-1,793	1,052-2,083	1,426-2,841
Source: <a href="#">Climate Mapping for Resilience and Adaptation</a> (2023)							

#### 4.11.8 FEMA NRI Expected Annual Loss Estimates

Table 4-49. Kane County Expected Annual Loss Table

KANE COUNTY, IL EXPECTED ANNUAL LOSS TABLE FOR HAIL EVENTS							
Annualized Frequency	Population	Population Equivalence	Building Value	Agriculture Value	Total Value	Expected Annual Loss Score	Rating
4.8 events per year	0.00	\$31,046	\$8,673	\$23,889	\$63,608	43.4	Relatively Low
KANE COUNTY, IL EXPECTED ANNUAL LOSS TABLE FOR STRONG WIND EVENTS							
Annualized Frequency	Population	Population Equivalence	Building Value	Agriculture Value	Total Value	Expected Annual Loss Score	Rating
6.5 events per year	0.09	\$1,023,818	\$326,660	\$14,491	\$1,364,969	88.1	Relatively High
KANE COUNTY, IL EXPECTED ANNUAL LOSS TABLE FOR LIGHTNING EVENTS							
Annualized Frequency	Population	Population Equivalence	Building Value	Agriculture Value	Total Value	Expected Annual Loss Score	Rating
66.4 events per year	0.06	\$674,370	\$68,176	N/A	\$742,546	92.9	Relatively High
<b>Annualized Frequency:</b> The natural hazard annualized frequency is defined as the expected frequency or probability of a hazard occurrence per year. Annualized frequency is derived either from the number of recorded hazard occurrences each year over a given period or the modeled probability of a hazard occurrence each year.							

**Population:** Population exposure is defined as the estimated number of people determined to be exposed to a hazard according to a hazard type-specific methodology.  
**Expected Annual Loss** scores are calculated using an equation that combines values for exposure, annualized frequency, and historic loss ratios (Expected Annual Loss = Exposure × Annualized Frequency × Historic Loss Ratio). Source: [hazards.fema.gov/nri/expected-annual-loss](https://hazards.fema.gov/nri/expected-annual-loss)

Source: FEMA [National Risk Index](#) (2023)

#### 4.11.9 FEMA Hazard Specific Risk Index

Table 4-50. Kane County Hazard Specific Risk Index Table

KANE COUNTY, IL FEMA HAZARD SPECIFIC RISK INDEX – HAIL EVENTS		
Risk Index Score	Social Vulnerability Rating	Community Resilience Rating
36.2 / 100	Relatively Moderate	Relatively High
KANE COUNTY, IL FEMA HAZARD SPECIFIC RISK INDEX – STRONG WIND EVENTS		
Risk Index Score	Risk Index Rating	Risk Index Score
87.1 / 100	Relatively Moderate	Relatively High
KANE COUNTY, IL FEMA HAZARD SPECIFIC RISK INDEX – LIGHTNING EVENTS		
Risk Index Score	Risk Index Rating	Risk Index Score
92.1 / 100	Relatively Moderate	Relatively High
<p><b>Risk Index Scores:</b> are a quantitative rating calculated using data for only a single hazard type. Risk Index Scores are calculated using data for only a single hazard type, and reflect a community's Expected Annual Loss value, community risk factors, and the adjustment factor used to calculate the risk value.</p> <p><b>Social Vulnerability Ratings:</b> are a qualitative rating that describe the community in comparison to all other communities at the same level, ranging from “Very Low” to “Very High.” Social Vulnerability is measured using the Social Vulnerability Index (SVI) published by the Centers for Disease Control and Prevention (CDC).</p> <p><b>Community Resilience Ratings:</b> are a qualitative rating that describe the community in comparison to all other communities at the same level, ranging from “Very Low” to “Very High.” Community Resilience is measured using the Baseline Resilience Indicators for Communities (HVRI BRIC) published by the University of South Carolina's Hazards and Vulnerability Research Institute (HVRI).</p>		
Source: FEMA <a href="#">National Risk Index</a> (2023)		

## 4.12 Severe Winter Storms

### 4.12.1 Hazard Description

In this plan, severe winter storms are considered extreme cold, ice storms, and winter storms.

**Extreme Cold:** a temperature significantly lower than the average for a particular location at a specific time of year. This can vary widely depending on the location and time of year. Still, extreme cold is generally defined as temperatures well below freezing, often accompanied by strong winds, that can result in dangerous and potentially life-threatening conditions, such as frostbite and hypothermia (NOAA, 2023).

**Ice Storm:** a storm that results in the accumulation of at least .25" of ice on exposed surfaces. They create hazardous driving and walking conditions. In addition, tree branches and powerlines can easily snap under the weight of the ice (NOAA, 2023).

**Winter Storm:** A winter storm combines heavy snow, freezing rain, sleet, or strong winds that can produce hazardous and dangerous weather conditions, such as reduced visibility, power outages, transportation disruptions, and damage to infrastructure and property (NOAA, 2023).

### 4.12.2 Hazard Location

Severe winter storms could occur anywhere in Kane County.

### 4.12.3 Hazard Extent/Intensity

Kane County experiences a range of intensities and magnitudes of severe winter storms.

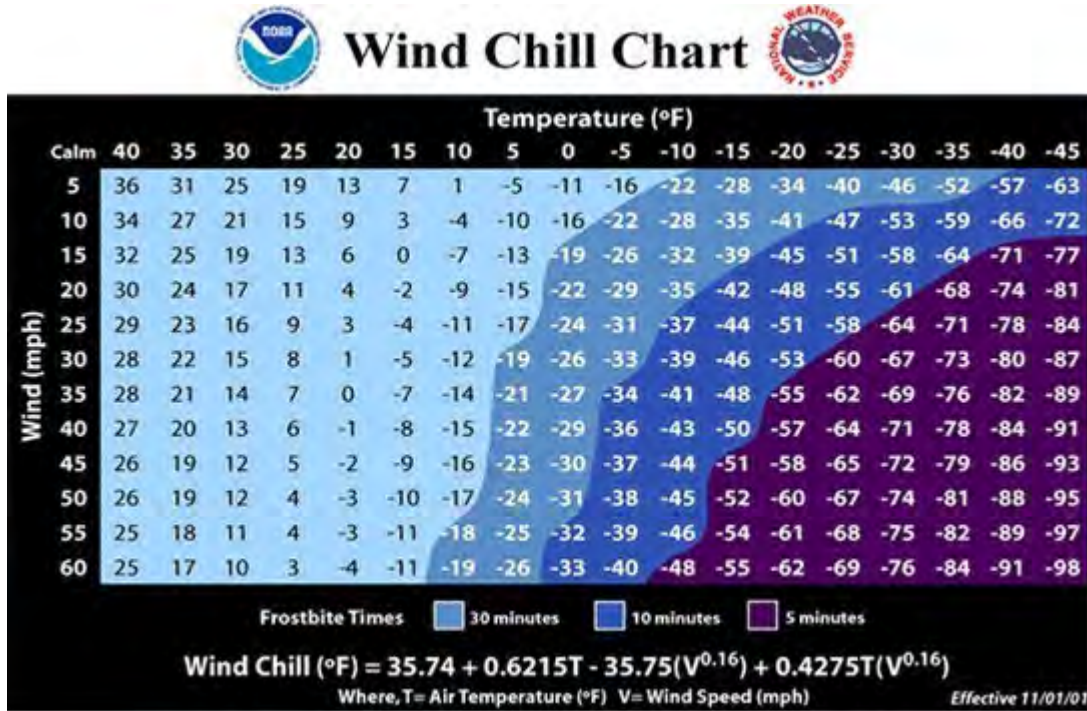
**Extreme Cold:** The NWS has developed a formula for calculating wind chill based on temperature and wind speed and issues wind chill advisories in this region when the wind chill temperature is predicted to be -10°F or less with winds of 10 mph or higher for one hour or more. Wind chill warnings are issued when wind chill temperature will be -20°F or less with winds of 10 mph or higher for one hour or more.

The NWS will issue a wind chill advisory or warning in northern Illinois for the following wind chill conditions:

- Advisory for -20 to -30 degrees; Warning for colder than -30 degrees



Figure 4-62. National Weather Service Wind Chill Chart



**Winter Storm:** The magnitude or severity of a severe winter storm depends on several factors, including a region’s climatological susceptibility to snowstorms, snowfall amounts, snowfall rates, wind speeds, temperatures, visibility, storm duration, topography, time of occurrence during the day and week (e.g., weekday versus weekend), and time of season. Typically, the NOAA produces the Regional Snowfall Index (RSI) for significant snowstorms that impact the eastern two thirds of the U.S. Kane County falls within the Ohio Valley Region. The RSI ranks snowstorm impacts on a scale from 1 to 5, similar to the Fujita scale for tornadoes or the Saffir-Simpson scale for hurricanes. RSI is based on the spatial extent of the storm, the amount of snowfall, and the juxtaposition of these elements with population.

Figure 4-63. NOAA National Center for Environmental Information Regional Snowfall Index (RSI)

Category	RSI Value	Description
1	1-3	Notable
2	3-6	Significant
3	6-10	Major
4	10-18	Crippling
5	18.0+	Extreme

The National Weather Service uses the following terms when talking about winter weather threat to the public:

- **Winter Weather Advisory:** Snow, blowing snow, ice and/or sleet is expected to produce potentially dangerous travel conditions within the next 12 to 36 hours.
- **Winter Storm Watch:** Issued for potentially significant winter weather, including heavy snow ice, sleet, and/or blowing snow within the next day or two. Now is the time to prepare!
- **Winter Storm Warning:** Indicates heavy snow, blowing snow, sleet or a combination of winter weather hazards are expected to cause a significant impact to life or property. Stay indoors and adjust travel plans.
- **Snow Squall Warning:** Sudden whiteout conditions with near zero visibility and flash freezing of road surfaces resulting in potentially life threatening conditions for travelers.
- **Blizzard Warning:** Strong winds (35 mph or greater) will produce blinding snow and near zero visibility, resulting in potentially life-threatening conditions – particularly for travelers. Blizzards can occur with minimal accumulations of snow.
- **Ice Storm Warning:** Heavy accumulations of ice are expected to cause a significant impact to life or property, resulting in hazardous travel conditions, tree damage and extended power outages.

#### 4.12.4 Probability and Frequency

Kane County recorded nine **Extreme Cold** events between 2012 and 2022, which averaged 0.9 events per year.

Kane County recorded two **Ice Storm** events between 2012 and 2022, which averaged 0.2 events per year.

Kane County recorded 13 **Winter Storm** events between 2012 and 2022, which averaged 1.3 events per year.

Figure 4-64. Kane County Extreme Cold Events Summary (2012-2022)

**Event Types: Extreme Cold/Wind Chill**

**Kane county contains the following zones:**  
**Kane**

9 events were reported between 01/01/2012 and 12/31/2022 (4018 days)

**Summary Info:**

Number of County/Zone areas affected:	1
Number of Days with Event:	8
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	0
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	1

Figure 4-65. Kane County Ice Storm Events Summary (2012-2022)

**Event Types: Ice Storm**

**Kane county contains the following zones:**  
**Kane**

2 events were reported between 01/01/2012 and 12/31/2022 (4018 days)

**Summary Info:**

Number of County/Zone areas affected:	1
Number of Days with Event:	2
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	0
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	1

Figure 4-66. Kane County Winter Storm Events Summary (2012-2022)

<b>Event Types: Winter Storm</b>	
<b>Kane county contains the following zones:</b>	
<b>Kane</b>	
13 events were reported between 01/01/2012 and 12/31/2022 (4018 days)	
<b>Summary Info:</b>	
Number of County/Zone areas affected:	1
Number of Days with Event:	13
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	0
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	1

#### 4.12.5 Past Events

##### Extreme Cold

As Figure 4-64 noted, Kane County recorded nine Extreme Cold events between 2012 and 2022. During this time, there were no injuries or deaths.

Table 4-51. Extreme Cold Events in Kane County, Illinois (2012-2022)

Location	County	State	Date	Type	Dth	Inj	PrD	CrD
<b>Totals:</b>					<b>0</b>	<b>0</b>	<b>0.00K</b>	<b>0.00K</b>
<a href="#">KANE (ZONE)</a>	Kane	IL	01/06/2014	Extreme Cold/wind Chill	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	01/28/2014	Extreme Cold/wind Chill	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	02/19/2015	Extreme Cold/wind Chill	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	01/01/2018	Extreme Cold/wind Chill	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	01/01/2018	Extreme Cold/wind Chill	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	01/29/2019	Extreme Cold/wind Chill	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	02/14/2021	Extreme Cold/wind Chill	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	01/26/2022	Extreme Cold/wind Chill	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	Kane	IL	12/22/2022	Extreme Cold/wind Chill	0	0	0	0.00K
<b>Totals:</b>					<b>0</b>	<b>0</b>	<b>0.00K</b>	<b>0.00K</b>

### Ice Storm

As noted, Kane County recorded two Ice Storm events between 2012 and 2022. During this time, there were no injuries or deaths.

Table 4-52. Ice Storm Events in Kane County, Illinois (2012-2022)

Location	County	State	Date	Type	Dth	Inj	PrD	CrD
<b>Totals:</b>					<b>0</b>	<b>0</b>	<b>0.00K</b>	<b>0.00K</b>
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	02/05/2019	Ice Storm	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	02/11/2019	Ice Storm	0	0	0	0.00K
<b>Totals:</b>					<b>0</b>	<b>0</b>	<b>0.00K</b>	<b>0.00K</b>

### Winter Storm

As noted, Kane County recorded 13 Winter Storm events between 2012 and 2022. During this time, there were no injuries or deaths.

Table 4-53. Winter Storm Events in Kane County, Illinois (2012-2022)

Location	County	State	Date	Type	Dth	Inj	PrD	CrD
<b>Totals:</b>					<b>0</b>	<b>0</b>	<b>0.00K</b>	<b>0.00K</b>
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	01/12/2012	Winter Storm	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	01/20/2012	Winter Storm	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	03/05/2013	Winter Storm	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	01/26/2014	Winter Storm	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	02/08/2018	Winter Storm	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	11/25/2018	Winter Storm	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	01/18/2019	Winter Storm	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	04/14/2019	Winter Storm	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	04/27/2019	Winter Storm	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	01/25/2021	Winter Storm	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	01/30/2021	Winter Storm	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	02/02/2022	Winter Storm	0	0	0	0.00K
<a href="#">KANE (ZONE)</a>	KANE (ZONE)	IL	12/22/2022	Winter Storm	0	0	0	0.00K
<b>Totals:</b>					<b>0</b>	<b>0</b>	<b>0.00K</b>	<b>0.00K</b>

Winter storms are a common weather hazard in Illinois, particularly in the northern and central parts of the state. These storms can bring heavy snowfall, high winds, and extremely cold temperatures, which can cause a range of impacts on infrastructure, the economy, and human health and safety.

The 1999 New Year’s Day storm, which intensified from January 1-3, resulted in record snowfall across the northern half of the state. High winds and frigid temperatures caused blizzard conditions behind the snowfall which left 21.6 inches in Chicago, second only to the 1967 January storm. 51 counties, including Kane County, sought and received federal public assistance as a result of the magnitude of the storm, which severely overtaxed the personnel, equipment and budgets of both state and local governments (FEMA EM-3134 declared January 8, 1999).

From December 10 through December 31, 2000, the cumulative effects of severe winter storms caused extensive road closures, school closings and hazardous road conditions and severely taxed snow removal resources. During this time, the region received a record 41.3 inches of snow.



This extensive snowfall, combined with blowing snow, record low temperatures, freezing rain and ice led to a request for a federal emergency in January, 2001.

The Great Lakes Blizzard of 2015 affected Illinois and other states in the Great Lakes region. This event brought heavy snowfall, high winds, and freezing temperatures. Some areas in Illinois experienced over a foot of snow, leading to significant travel disruptions and school closures.

In November of 2018, a major winter storm struck Illinois during the Thanksgiving holiday period. It brought a mix of freezing rain, sleet, and snow to the state, causing hazardous driving conditions and numerous accidents. Many residents experienced power outages due to ice accumulation on power lines and trees.

#### **4.12.6 Vulnerability and Impacts**

All of Kane County is vulnerable to severe winter storms. Severe winter storms can lead to power outages, downed trees and branches, hypothermia, injuries, and loss of life. In addition, severe weather storms can immobilize large areas, with rural areas particularly impacted by impassable roads.

**Life Safety and Health:** Blizzards and winter storms can threaten life safety and public health significantly. Extreme cold and wind chill can lead to hypothermia and frostbite, which can be life-threatening if left untreated. Additionally, winter storms can create slippery and icy conditions, increasing the risk of slips, trips, and falls, resulting in fractures and head trauma. The hazardous driving conditions caused by heavy snowfall and icy roads increase the risk of car accidents, which can lead to injuries and fatalities. Using fuel-burning appliances such as heaters and generators during power outages can result in carbon monoxide poisoning, which can be fatal. Winter storms can also cause power outages, leading to food spoilage, loss of heat, and other hazards. Emergency services can also be disrupted during winter storms, making it difficult for first responders to reach those in need and for hospitals to provide care. Furthermore, winter storms can exacerbate health conditions such as asthma and heart disease and increase the risk of respiratory infections.

**Property Damage and Critical Infrastructure:** Blizzards and winter storms can impact property damage and critical infrastructure. Heavy snow and ice accumulation can cause significant damage to roofs and buildings, leading to potential collapses. Additionally, snow and ice can weigh down trees, causing them to break or fall and potentially damaging power lines and other infrastructure. This can cause power outages, leaving people without electricity for extended periods.

Winter storms can also cause transportation disruptions, such as flight cancellations, highway closures, and train delays, potentially leading to economic impacts. In addition, extreme cold temperatures can cause pipes to freeze and burst, leading to water damage and potentially contaminating water supplies. Lastly, snow and ice can damage communication infrastructure such as cell towers and fiber-optic cables, potentially disrupting communication systems. These impacts on property damage and critical infrastructure can also have long-lasting effects on individuals and communities.

Table 4-54. Severe Winter Storm Exposure and Loss Estimate for Kane County

Hazard	Total Facility Exposure (\$)	Essential Facility Exposure (\$)	Damages per Year (\$/year)	Estimated Annual Essential Facility Future Exposure (\$)
Ice Storm	\$190,595,164,545	\$14,507,605,835	\$4,456	\$339
Winter Storm	\$190,595,164,545	\$14,507,605,835	\$9,615	\$732

**Source:** Illinois Hazard Mitigation Plan

**Economy:** While no data exists demonstrating the economic impact of past severe winter storms on Kane County, loss of power means businesses and manufacturing concerns must close. Loss of access due to snow or ice-covered roads has a similar effect. There are also impacts when people need help getting to work, school, or the store.

Table 4-55. Severe Winter Storm Indemnities Paid in Kane County, IL (1995-2020)

Cause of Loss	Premium subsidies 1995-2020	Percent Cause of Loss (Heat, Excess Moisture, Hail, Drought, Flood, Cold Winter, Freeze, Other, etc.)
Cold Winter	\$781,977	1%
Cold Wet Weather	\$635,744	Less than 1%
Frost	\$102,409	Less than 1%
Freeze	\$99,252	Less than 1%

*The premium subsidies by cause of loss in the table are lower than total premium subsidies because the USDA Risk Management Agency only reports premium subsidies by cause of loss for policies that paid an indemnity. Non-indemnified policies and their associated premium subsidies are not reported by cause of loss. The driving force behind a decline in crop yield or revenue that triggers an indemnity payment is called the “cause of loss” – an event or circumstance that damages crop yield, such as drought, hail or too much rain, or that damages the price side of farmer revenues, like a decline in crop price.*

**Changes in Development and Impact of Future Development:** There is no impact based on current or future development trends.

**Effects of Climate Change on Severity of Impacts:** According to the Environmental Defense Fund (EDF), more snowfall during snowstorms is an expected effect of climate change. EDF further explains that a warmer planet evaporates more water into the atmosphere, resulting in more precipitation in heavy snowfall or downpour (Environmental Defense Fund, 2023).

Table 4-56 illustrates 25-year precipitation projections for Kane County, while Table 4-57 illustrates future climate indicators for Kane County.

Table 4-56. 25-Year Climate Projections for Kane County

25-YEAR CLIMATE PROJECTIONS FOR KANE COUNTY, IL	
<b>HIGHER EMISSIONS (RCP8.5)</b>	
Kane County is expected to experience a 142% increase in extremely hot days within 25 years.	
By 2048, Kane County is expected to experience 11 more days that reach above 95°F (from 7 days to 18 days per year).	
<b>LOWER EMISSIONS (RCP4.5)</b>	
Kane County is expected to experience a 93% increase in extremely hot days within 25 years.	
By 2048, Kane County is expected to experience 6 more days that reach above 95°F (from 7 days to 13 days per year).	
<b>Source:</b> Neighborhoods at Risk ( <a href="https://nar.headwaterseconomics.org/17089/explore/climate">https://nar.headwaterseconomics.org/17089/explore/climate</a> )	

Table 4-57. Future Climate Indicators for Kane County

FUTURE CLIMATE INDICATORS FOR KANE COUNTY, IL							
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
<b>Precipitation:</b>							
Annual Average Total Precipitation	<b>35"</b> 33-35	<b>36"</b> 33-39	<b>36"</b> 32-40	<b>36"</b> 32-41	<b>37"</b> 31-42	<b>37"</b> 32-41	<b>38"</b> 33-432
Days Per Year With Precipitation (Wet Days)	<b>175 days</b> 170-179	<b>173 days</b> 161-181	<b>172 days</b> 156-180	<b>172 days</b> 160-182	<b>171 days</b> 151-185	<b>171 days</b> 160-182	<b>168 days</b> 134-187
Maximum Period of Consecutive Wet Days	<b>11 days</b> 10-13	<b>11 days</b> 10-12	<b>11 days</b> 9-13	<b>11 days</b> 9-13	<b>11 days</b> 9-13	<b>11 days</b> 9-13	<b>11 days</b> 9-13
<b>Annual Days With:</b>							
Annual Days With Total Precipitation > 1 inch	<b>3 days</b> 3-4	<b>4 days</b> 3-5	<b>4 days</b> 3-5	<b>4 days</b> 3-5	<b>5 days</b> 3-6	<b>5 days</b> 3-6	<b>5 days</b> 4-8
Annual Days With Total Precipitation > 2 inches	<b>0 days</b> 0-0	<b>0 days</b> 0-0	<b>0 days</b> 0-0	<b>0 days</b> 0-1	<b>0 days</b> 0-1	<b>0 days</b> 0-1	<b>0 days</b> 0-1
	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>

Annual Days With Total Precipitation > 3 inches	0-0	0-0	0-0	0-0	0-0	0-0	0-0
Annual Days That Exceed 99 <sup>th</sup> Percentile Precipitation	4 days	6 days	6 days	6 days	7 days	7 days	8 days
	5-6	6-7	6-7	6-7	6-7	6-7	7-8
Days With Maximum Temperature Below 32° F	46 days	34 days	33 days	29 days	26 days	25 days	15 days
	42-49	20-46	24-43	16-41	14-38	12-37	4-29
Source: <a href="#">Climate Mapping for Resilience and Adaptation</a> (2023)							

#### 4.12.7 FEMA NRI Expected Annual Loss Estimates

Table 4-58. Kane County Expected Annual Loss Table

KANE COUNTY, IL EXPECTED ANNUAL LOSS TABLE FOR COLD WAVE EVENTS							
Annualized Frequency	Population	Population Equivalence	Building Value	Agriculture Value	Total Value	Expected Annual Loss Score	Rating
1.3 events per year	0.12	\$1,442,223	\$663	\$101,648	\$1,544,533	96.2	Relatively High
KANE COUNTY, IL EXPECTED ANNUAL LOSS TABLE FOR ICE STORM EVENTS							
Annualized Frequency	Population	Population Equivalence	Building Value	Agriculture Value	Total Value	Expected Annual Loss Score	Rating
0.5 events per year	0.01	\$134,494	\$76,084	N/A	\$210,578	77.4	Relatively Moderate
KANE COUNTY, IL EXPECTED ANNUAL LOSS TABLE FOR WINTER WEATHER EVENTS							
Annualized Frequency	Population	Population Equivalence	Building Value	Agriculture Value	Total Value	Expected Annual Loss Score	Rating
3.6 events per year	0.01	\$169,000	\$17,029	\$865	\$186,894	81.4	Relatively Moderate
<p><b>Annualized Frequency:</b> The natural hazard annualized frequency is defined as the expected frequency or probability of a hazard occurrence per year. Annualized frequency is derived either from the number of recorded hazard occurrences each year over a given period or the modeled probability of a hazard occurrence each year.</p> <p><b>Population:</b> Population exposure is defined as the estimated number of people determined to be exposed to a hazard according to a hazard type-specific methodology.</p> <p><b>Expected Annual Loss</b> scores are calculated using an equation that combines values for exposure, annualized</p>							

frequency, and historic loss ratios (Expected Annual Loss = Exposure x Annualized Frequency x Historic Loss Ratio). Source: [hazards.fema.gov/nri/expected-annual-loss](https://hazards.fema.gov/nri/expected-annual-loss)

Source: FEMA [National Risk Index](#) (2023)

#### 4.12.8 FEMA Hazard-Specific Risk Index Table

Table 4-59. Kane County Hazard Specific Risk Index Table

KANE COUNTY, IL FEMA HAZARD SPECIFIC RISK INDEX – COLD WAVE EVENTS		
Risk Index Score	Social Vulnerability Rating	Community Resilience Rating
96.0 / 100	Relatively Moderate	Relatively High
KANE COUNTY, IL FEMA HAZARD SPECIFIC RISK INDEX – ICE STORM EVENTS		
Risk Index Score	Risk Index Rating	Risk Index Score
75.1 / 100	Relatively Moderate	Relatively High
KANE COUNTY, IL FEMA HAZARD SPECIFIC RISK INDEX – WINTER WEATHER EVENTS		
Risk Index Score	Risk Index Rating	Risk Index Score
79.2 / 100	Relatively Moderate	Relatively High
<p><b><u>Risk Index Scores:</u></b> are a quantitative rating calculated using data for only a single hazard type. Risk Index Scores are calculated using data for only a single hazard type, and reflect a community's Expected Annual Loss value, community risk factors, and the adjustment factor used to calculate the risk value.</p> <p><b><u>Social Vulnerability Ratings:</u></b> are a qualitative rating that describe the community in comparison to all other communities at the same level, ranging from “Very Low” to “Very High.” Social Vulnerability is measured using the Social Vulnerability Index (SVI) published by the Centers for Disease Control and Prevention (CDC).</p> <p><b><u>Community Resilience Ratings:</u></b> are a qualitative rating that describe the community in comparison to all other communities at the same level, ranging from “Very Low” to “Very High.” Community Resilience is measured using the Baseline Resilience Indicators for Communities (HVRI BRIC) published by the University of South Carolina's Hazards and Vulnerability Research Institute (HVRI).</p>		
Source: FEMA <a href="#">National Risk Index</a> (2023)		



## 4.13 Tornado

### 4.13.1 Hazard Description

A tornado is a violently rotating column of air extending from a thunderstorm to the ground. Since wind is invisible, tornadoes are hard to see unless one forms from water droplets, dust, and debris. The most violent tornadoes are capable of tremendous destruction with wind speeds of 250 mph or more. Damage paths can be more than one mile wide and 50 miles long. Most tornadoes have wind speeds of 112 mph or less.

### 4.13.2 Hazard Location

A tornado could occur anywhere in Kane County.

### 4.13.3 Hazard Extent/Intensity

The Enhanced Fujita Scale, or the “EF-Scale,” measures tornado strength and associated damages. This Enhanced Fujita Scale is illustrated in Table 4-60. The EF-Scale is an update to the earlier Fujita scale published in 1971. It classifies tornadoes in the United States into six intensity categories based on the estimated maximum winds within the wind vortex. The EF-Scale has become the definitive metric for assessing wind speeds within tornadoes based on the damage done to buildings and structures since it was implemented through the National Weather Service in 2007.

Table 4-60. Enhanced Fujita Scale and Associated Damage

EF-Scale Number	Wind Speed (MPH)	Type of Damage Possible
EFO	65-85	<b>Minor damage:</b> Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over. Confirmed tornadoes with no reported damage (i.e., those that remain in open fields) are always rated EF0.
EF1	86-110	<b>Moderate damage:</b> Roofs severely stripped; manufactured homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	111-135	<b>Considerable damage:</b> Roofs torn off well-constructed houses; foundations of frame homes shifted; manufactured homes destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF3	136-165	<b>Severe damage:</b> Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.

<b>EF4</b>	<b>166-200</b>	<b>Devastating damage:</b> Well-constructed houses and whole frame houses completely leveled; cars thrown, and small missiles generated.
<b>EF5</b>	<b>&gt;200</b>	<b>Extreme damage:</b> Sturdy frame houses leveled off foundations and swept away; automobile-sized missiles fly more than 100 m (300 ft.); steel reinforced concrete structure badly damaged; high-rise buildings have significant structural deformation.

Based on historical and probabilistic models, the most severe and intense tornado was an EF2. Given the geographic location and probabilistic models, an EF3 or higher could be possible in Kane County.

#### 4.13.4 Probability and Frequency

Kane County recorded eight **Tornado** events between 2012 and 2022, which averaged 0.8 events per year.

Figure 4-67 provides an event summary for this timeframe (NOAA, 2023).

*Figure 4-67. Kane County Tornado Events Summary (2012-2022)*

<b>Event Types: Tornado</b>	
8 events were reported between 01/01/2012 and 12/31/2022 (4018 days)	
<b>Summary Info:</b>	
Number of County/Zone areas affected:	1
Number of Days with Event:	6
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	0
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	1

#### 4.13.5 Past Events

Table 4-61 illustrates tornadic events in Kane County from 1950 to 2023. During this timeframe, there were 27 events recorded, with three injuries and no deaths. Within the last ten years, Kane County has not suffered any injuries or death due to tornadic events.

The National Weather Service Chicago confirmed four tornadoes (2 EF0s and 2 EF1s) touched down in Kane County on February 27, 2024.

Table 4-61. Tornadoic Activity in Kane County, Illinois (1950-2023)

Location	County/Zone	St	Date	Type	Mag	Dth	Inj	PrD	CrD
<b>Totals:</b>						<b>0</b>	<b>3</b>	<b>3.728M</b>	<b>0.00K</b>
<a href="#">KANE CO.</a>	KANE CO.	IL	04/28/1955	Tornado	F1	0	0	2.500M	0.00K
<a href="#">KANE CO.</a>	KANE CO.	IL	08/23/1956	Tornado	F1	0	3	25.00K	0.00K
<a href="#">KANE CO.</a>	KANE CO.	IL	08/23/1956	Tornado	F2	0	0	25.00K	0.00K
<a href="#">KANE CO.</a>	KANE CO.	IL	08/06/1958	Tornado	F2	0	0	250.00K	0.00K
<a href="#">KANE CO.</a>	KANE CO.	IL	08/03/1960	Tornado	F1	0	0	25.00K	0.00K
<a href="#">KANE CO.</a>	KANE CO.	IL	04/11/1965	Tornado	F1	0	0	250.00K	0.00K
<a href="#">KANE CO.</a>	KANE CO.	IL	04/19/1966	Tornado	F1	0	0	2.50K	0.00K
<a href="#">KANE CO.</a>	KANE CO.	IL	04/21/1967	Tornado	F2	0	0	250.00K	0.00K
<a href="#">KANE CO.</a>	KANE CO.	IL	06/09/1974	Tornado	F0	0	0	0.00K	0.00K
<a href="#">KANE CO.</a>	KANE CO.	IL	06/20/1974	Tornado	F0	0	0	0.00K	0.00K
<a href="#">KANE CO.</a>	KANE CO.	IL	06/07/1980	Tornado	F0	0	0	0.00K	0.00K
<a href="#">KANE CO.</a>	KANE CO.	IL	07/16/1980	Tornado	F2	0	0	250.00K	0.00K
<a href="#">KANE CO.</a>	KANE CO.	IL	05/15/1982	Tornado	F0	0	0	0.00K	0.00K
<a href="#">KANE CO.</a>	KANE CO.	IL	05/05/1991	Tornado	F1	0	0	25.00K	0.00K
<a href="#">SUGAR GROVE</a>	KANE CO.	IL	05/28/2003	Tornado	F0	0	0	0.00K	0.00K
<a href="#">ELBURN</a>	KANE CO.	IL	05/10/2004	Tornado	F0	0	0	0.00K	0.00K
<a href="#">ELBURN</a>	KANE CO.	IL	08/19/2009	Tornado	EF1	0	0	25.00K	0.00K
<a href="#">LILY LAKE</a>	KANE CO.	IL	08/19/2009	Tornado	EF0	0	0	0.00K	0.00K
<a href="#">VIRGIL</a>	KANE CO.	IL	10/26/2010	Tornado	EF1	0	0	100.00K	0.00K
<a href="#">TROXEL</a>	KANE CO.	IL	06/26/2018	Tornado	EF0	0	0	0.00K	0.00K
<a href="#">HAMPSHIRE</a>	KANE CO.	IL	05/23/2020	Tornado	EF0	0	0	0.00K	0.00K
<a href="#">MAPLE PARK</a>	KANE CO.	IL	08/10/2020	Tornado	EF1	0	0	0.00K	0.00K
<a href="#">VIRGIL</a>	KANE CO.	IL	11/10/2020	Tornado	EF0	0	0	0.00K	0.00K
<a href="#">BURLINGTON</a>	KANE CO.	IL	08/09/2021	Tornado	EF1	0	0	0.00K	0.00K
<a href="#">RICHARDSON</a>	KANE CO.	IL	08/09/2021	Tornado	EF0	0	0	0.00K	0.00K
<a href="#">VIRGIL</a>	KANE CO.	IL	08/09/2021	Tornado	EFU	0	0	0.00K	0.00K
<a href="#">BIG ROCK</a>	KANE CO.	IL	11/05/2022	Tornado	EF0	0	0	0.00K	0.00K
<b>Totals:</b>						<b>0</b>	<b>3</b>	<b>3.728M</b>	<b>0.00K</b>

#### 4.13.6 Vulnerability and Impacts

**Life Safety:** People can inadvertently put their lives in danger during a tornado or have little or no warning. Some of the ways tornadoes can impact life safety include the following:

- **Injuries and Fatalities:** Tornadoes can cause injuries and fatalities due to flying debris, collapsing buildings, and the sheer force of the winds. These injuries and casualties can occur to people caught in the tornado's path or those in poorly constructed or unprotected buildings.
- **Structural Damage:** Tornadoes can destroy or severely damage buildings, making them unsafe for occupants. People may become trapped in collapsed structures, leading to life-threatening situations.
- **Power Outages:** Tornadoes can disrupt power lines and electrical infrastructure, causing widespread power outages. This can impact medical facilities, emergency services, and the ability to communicate during and after the tornado.
- **Communication Disruptions:** Tornadoes can damage communication infrastructure, including cell towers and landline networks. This can hinder emergency responders' ability to coordinate and provide assistance.
- **Transportation Disruptions:** Tornadoes can block roads with debris, making it challenging for emergency responders to reach affected areas quickly. Limited transportation options can also hinder the evacuation of residents in the tornado's path.
- **Displacement and Homelessness:** Tornadoes can render homes uninhabitable, leading to the displacement of residents. Finding temporary shelter for those affected becomes a critical concern for local authorities.
- **Health Risks:** After a tornado, there may be health risks related to exposure to the elements, contaminated water, and other hazards. Injuries sustained during the tornado may also lead to secondary health issues without prompt medical attention.
- **Psychological Impact:** Tornadoes can have a lasting psychological impact on survivors, causing stress, anxiety, and trauma. Mental health support becomes essential for affected individuals and communities.

According to FEMA, tornadoes can also disproportionately impact disadvantaged or challenged communities in the following ways:

- **Lack of Preparedness:** Low-income communities may lack the resources and infrastructure necessary for effective disaster preparedness and response. This can include limited access to early warning systems, emergency shelters, or communication tools.
- **Inadequate Shelter:** Many disadvantaged communities may have substandard housing or lack access to safe and sturdy buildings. This can lead to a higher risk of injury or death during tornadoes, as inadequate shelter may not provide adequate protection from the storm's fury.
- **Limited Mobility:** Some residents of disadvantaged communities may have limited mobility due to disabilities, lack of transportation, or other factors. This can make it more challenging for them to seek shelter or evacuate quickly when tornado warnings are issued.
- **Health Vulnerabilities:** Individuals with pre-existing health conditions or those who rely on medical equipment that requires electricity may face greater risks during tornadoes, especially if power outages occur.

- **Language and Cultural Barriers:** Communities with a significant non-English-speaking population or cultural differences may face challenges in receiving and understanding emergency alerts and instructions, which can hinder their ability to respond effectively.
- **Economic Impact:** Tornadoes can devastate local economies, and disadvantaged communities may have fewer resources to recover and rebuild. This can result in prolonged hardships and displacement for residents.

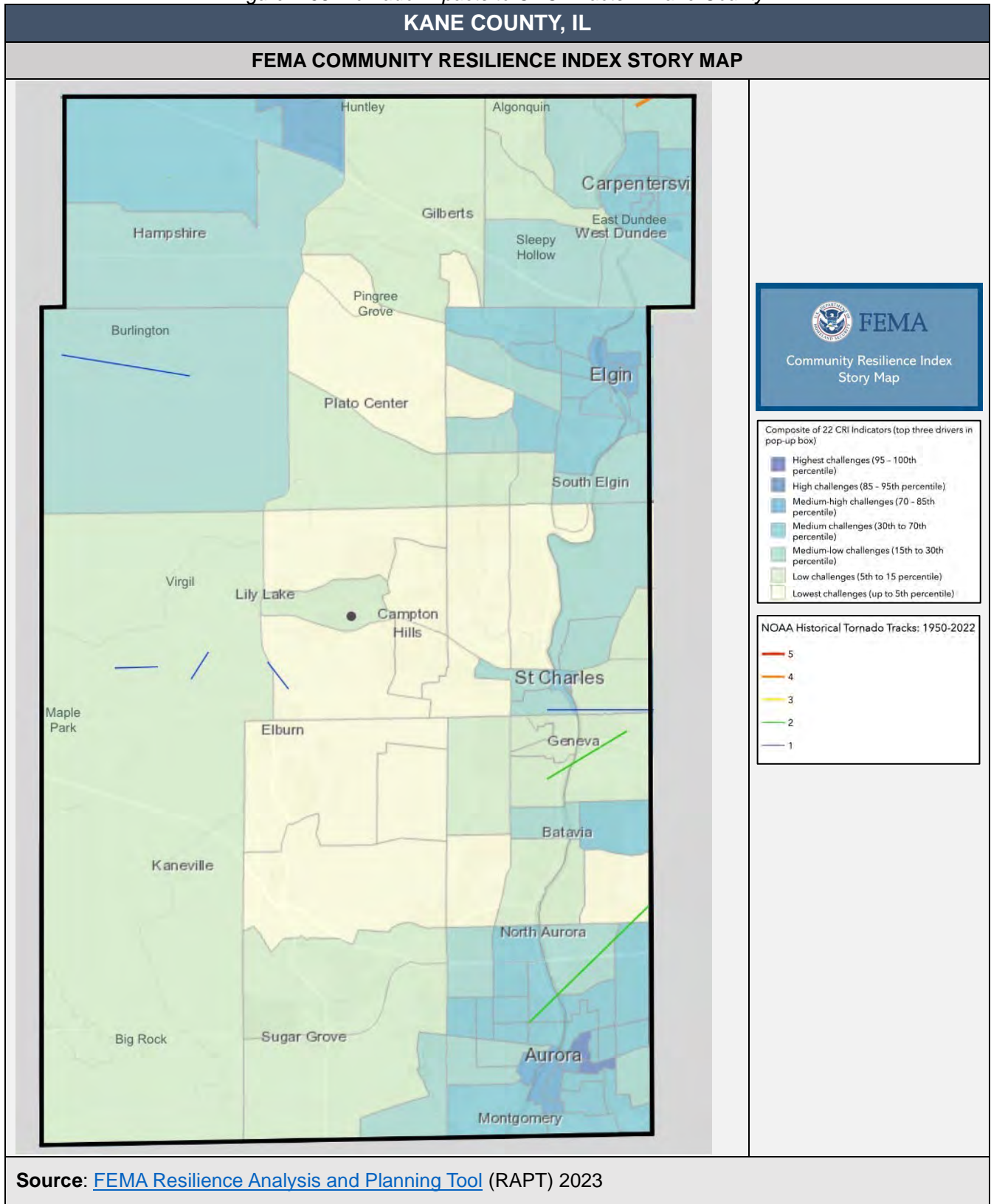
The FEMA Community Resilience Challenges Index (CRCI) provides a relative assessment of a community's potential resilience and gives insights into population and community characteristics from which to build emergency operations plans and targeted outreach strategies. Figure 4-68 illustrates the impact of EF1 to EF5 tornadoes to CCRI tracts in Kane County.

**Property Damage and Critical Facilities:** According to FEMA, tornadoes can impact property damage and critical infrastructure in different ways. Some of the most common impacts are as follows:

- **Structural Damage:** Tornadoes have the potential to cause extensive structural damage to residential, commercial, and industrial buildings. High winds and flying debris can lead to roofs being torn off, walls collapsing, and the destruction of entire structures. This can result in severe property damage and financial losses.
- **Debris Accumulation:** Tornadoes often leave behind a trail of debris, including trees, vehicles, and building materials. This debris can obstruct roads, making it difficult for emergency responders to access affected areas and delaying recovery efforts.
- **Infrastructure Damage:** Tornadoes can damage critical infrastructure, such as power lines, water and sewage systems, transportation networks (roads, bridges, and airports), and communication systems (cell towers, telephone lines). Disruptions to these systems can have cascading effects, hindering emergency response and recovery.
- **Power Outages:** Tornadoes frequently cause power outages by knocking down electrical lines and damaging substations. Extended power outages can affect not only residents but also essential services like hospitals, emergency response centers, and water treatment plants.
- **Water Supply Issues:** Tornadoes may damage water treatment facilities and distribution systems, leading to water supply disruptions or contamination concerns. This can impact public health and further complicate disaster response efforts.
- **Transportation Disruptions:** Tornadoes can block or damage roads, bridges, and railways, making transportation challenging. This can impede the movement of emergency vehicles, supplies, and personnel.
- **Environmental Impact:** Tornadoes can cause environmental damage by releasing hazardous materials, damaging ecosystems, and contaminating soil and water sources. Cleanup and mitigation of these environmental hazards can be costly and time-consuming.



Figure 4-68: Tornado Impacts to CRCI Tracts in Kane County



Although tornadoes strike at random, making all buildings vulnerable, three types of structures are more likely to suffer damage:

- Manufactured homes,
- Homes on crawlspaces (more susceptible to lift), and
- Buildings with large spans include airplane hangars, gymnasiums, and factories.

Residents living in manufactured homes are more vulnerable than people in permanent homes. Kane County has approximately 1,355 manufactured homes that could be impacted by a tornadic event (Neighborhoods At Risk, 2023). Figure 4-69 illustrates tornadic impact to manufactured home areas in Kane County.

In areas subject to extreme wind events, those responsible for public safety—including building owners, schools, hospitals, and neighborhood associations—should consider building accessible community safe rooms. In addition, people who live or work in structures with inadequate protection, such as manufactured homes or buildings with long-span roofs, also should discuss the option of building a community safe room or shelter (FEMA, 2021).

Because a tornado can hit anywhere in the county, all structures are susceptible to being hit. Schools are a particular concern, though, for two reasons:

- Many people are present, either during school or as a storm shelter.
- They have large span areas, such as gyms and theaters.

Figure 4-69: Tornado Impacts to Manufactured Homes in Kane County

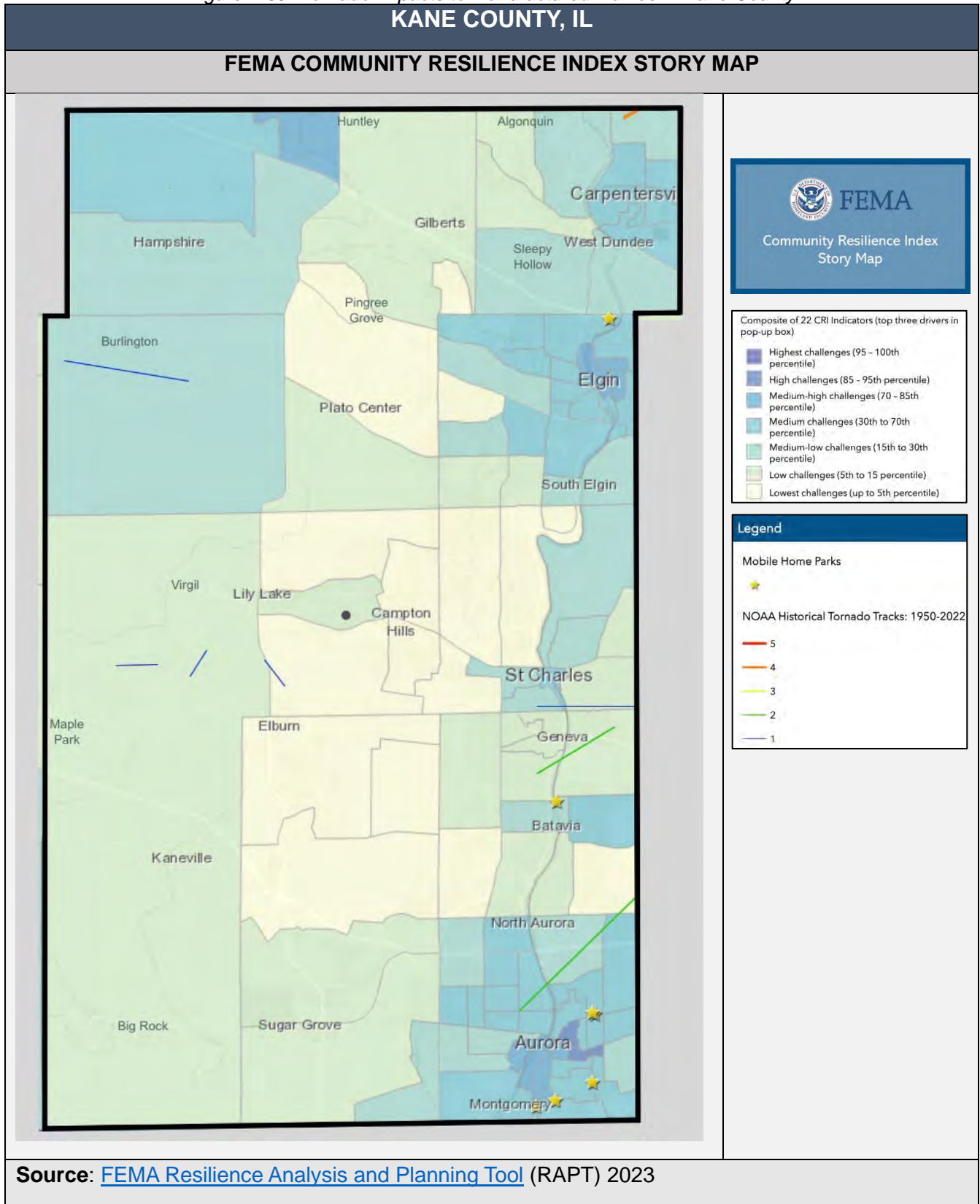


Figure 4-70: Tornado Impacts to Critical Infrastructure in Kane County

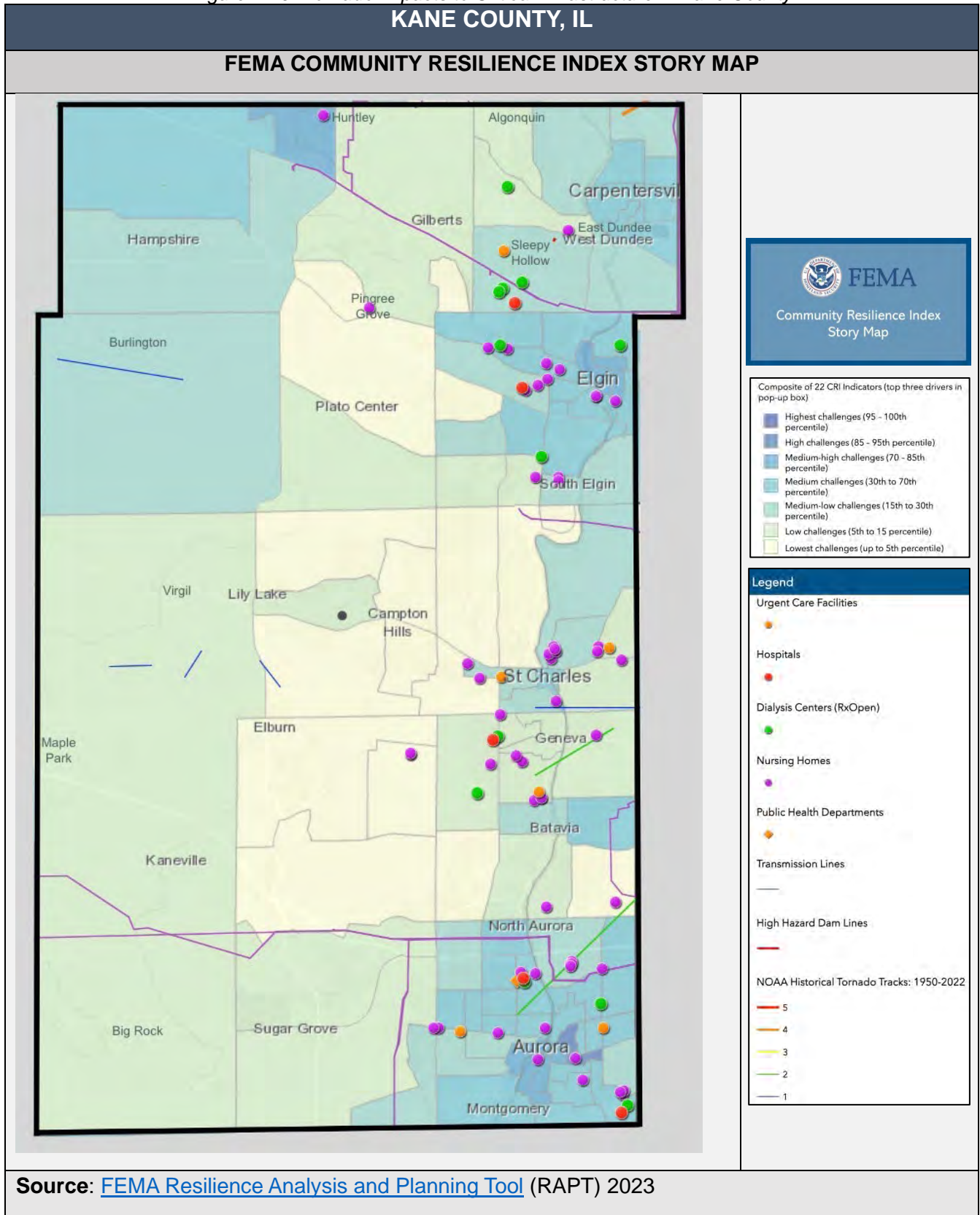
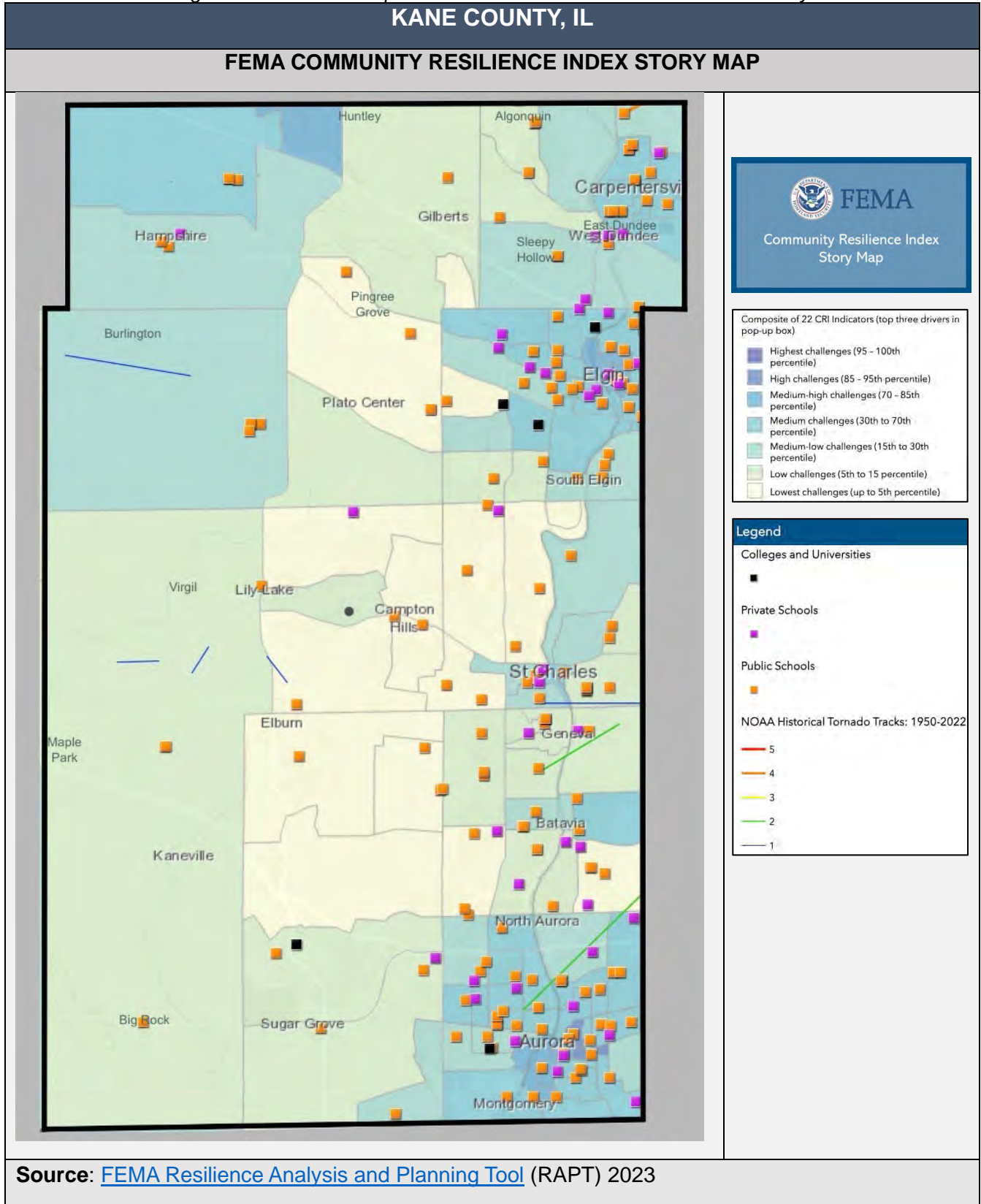




Figure 4-71: Tornado Impacts to Schools and Universities in Kane County





**Economy:** No data exists demonstrating the economic impact of past tornadoes on Kane County. However, significant historical events in Illinois and the U.S. have been shown to impact stores and small businesses, including excessive loss of revenue.

**Changes in Development and Impact of Future Development:** No data exists demonstrating the impact of tornadoes on future development in Kane County. However, tornadoes in Illinois and the U.S. have been shown to influence changes in building codes and zoning laws to ensure that structures are built to withstand high winds and other severe weather events. Additionally, tornadoes can lead to changes in emergency management plans to better prepare for future disasters. For example, storm shelters and warning systems may be installed to better protect residents during severe weather.

**Effects of Climate Change on Severity of Impacts:** In a 2021 thesis study, pseudo-global warming (PGW) methodology was used to analyze two historical tornadic events within environments influenced by anthropogenic climate change (ACC). In the findings of this study, weather research and forecasting modeling (WRF) suggested that more convective and intense storms would occur under ACC. In addition, accumulated precipitation also generally increased, and more areas received measurable rainfall, where extreme rainfall – more than 100 mm – increased by more than 50% on average (Woods, 2021).

Table 4-62. 25-Year Climate Projections for Kane County

25-YEAR CLIMATE PROJECTIONS FOR KANE COUNTY, IL	
<b>HIGHER EMISSIONS (RCP8.5)</b>	
	Kane County is expected to experience a 142% increase in extremely hot days within 25 years.
	By 2048, Kane County is expected to experience 11 more days that reach above 95°F (from 7 days to 18 days per year).
<b>LOWER EMISSIONS (RCP4.5)</b>	
	Kane County is expected to experience a 93% increase in extremely hot days within 25 years.
	By 2048, Kane County is expected to experience 6 more days that reach above 95°F (from 7 days to 13 days per year).
<b>Source:</b> Neighborhoods at Risk ( <a href="https://nar.headwaterseconomics.org/17089/explore/climate">https://nar.headwaterseconomics.org/17089/explore/climate</a> )	

Using Woods' thesis study and 25-Year climate projections in Table 4-62, it is possible to conclude that increasing climate conditions will impact the connectivity and intensity of future tornadic events in Kane County.

### 4.13.7 FEMA NRI Expected Annual Loss Estimates

Table 4-63. Kane County Expected Annual Loss Table

KANE COUNTY, IL EXPECTED ANNUAL LOSS TABLE FOR TORNADO EVENTS							
Annualized Frequency	Population	Population Equivalence	Building Value	Agriculture Value	Total Value	Expected Annual Loss Score	Rating
0.4 events per year	1.65	\$19,195,970	\$13,868,583	\$1,759	\$33,066,311	99.0	Relatively High
<p><b>Annualized Frequency:</b> The natural hazard annualized frequency is defined as the expected frequency or probability of a hazard occurrence per year. Annualized frequency is derived either from the number of recorded hazard occurrences each year over a given period or the modeled probability of a hazard occurrence each year.</p> <p><b>Population:</b> Population exposure is defined as the estimated number of people determined to be exposed to a hazard according to a hazard type-specific methodology.</p> <p><b>Expected Annual Loss</b> scores are calculated using an equation that combines values for exposure, annualized frequency, and historic loss ratios (Expected Annual Loss = Exposure x Annualized Frequency x Historic Loss Ratio). Source: <a href="https://hazards.fema.gov/nri/expected-annual-loss">hazards.fema.gov/nri/expected-annual-loss</a></p>							
Source: FEMA <a href="#">National Risk Index</a> (2023)							

### 4.13.8 FEMA Hazard-Specific Risk Index Table

Table 4-64. Kane County Hazard Specific Risk Index Table

KANE COUNTY, IL FEMA HAZARD SPECIFIC RISK INDEX – TORNADO EVENTS		
Risk Index Score	Social Vulnerability Rating	Community Resilience Rating
98.8 / 100	Relatively Moderate	Relatively High
<p><b>Risk Index Scores:</b> are a quantitative rating calculated using data for only a single hazard type. Risk Index Scores are calculated using data for only a single hazard type, and reflect a community's Expected Annual Loss value, community risk factors, and the adjustment factor used to calculate the risk value.</p> <p><b>Social Vulnerability Ratings:</b> are a qualitative rating that describe the community in comparison to all other communities at the same level, ranging from “Very Low” to “Very High.” Social Vulnerability is measured using the Social Vulnerability Index (SVI) published by the Centers for Disease Control and Prevention (CDC).</p> <p><b>Community Resilience Ratings:</b> are a qualitative rating that describe the community in comparison to all other communities at the same level, ranging from “Very Low” to “Very High.” Community Resilience is measured using the Baseline Resilience Indicators for Communities (HVRI BRIC) published by the University of South Carolina's Hazards and Vulnerability Research Institute (HVRI).</p>		
Source: FEMA <a href="#">National Risk Index</a> (2023)		

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## Chapter 5: Capabilities and Integration of Mitigation Measures

### 5.1 Preventative Measures

Preventative activities keep problems related to natural hazards from escalating and ensure new developments have reduced vulnerability to hazards. The following examples of preventative measures are usually carried out by building, planning, zoning, and code enforcement officials:

- Floodplain mapping and data
- Open Space Preservation
- Floodplain Regulations
- Erosion Setbacks
- Planning and Zoning
- Stormwater Management
- Drainage System Maintenance
- Building Codes

The information within this Chapter primarily focuses on building codes, planning and zoning, stormwater runoff and management, floodplain management, and open space preservation.

#### 5.1.1 Building Codes

Updating and adopting new building codes and addressing the effectiveness of these codes can be one of the best ways to conduct mitigation. When properly designed and constructed, many buildings can withstand the impacts of high winds, a flood, or a tornado. Many communities in Illinois are working with various versions of the International Codes published by the International Code Council, Inc. (ICC). These codes include:

- International Building Code (IBC)
- International Residential Code (IRC)
- International Fire Code (IFC)
- International Mechanical Code (IMC)
- International Fuel Gas Code (IFGC)
- International Existing Building Code (IEBC)
- International Wildland-Urban Interface Code (IWUIC)
- International Property Maintenance Code (IPMC)
- International Swimming Pool and Spa Code (ISPSC)
- International Zoning Code (IZC)

Additionally, Illinois communities are required by the State to enforce the Illinois Energy Efficient Building Code, Illinois State Plumbing Code, and the Illinois Accessibility Code. The following communities have updated their building codes since the previous version of this plan: Algonquin, Aurora, Elgin, Hampshire, Kane County, Montgomery, North Aurora, St. Charles, Sleepy Hollow, South Elgin, Sugar Grove, and Wayne.

On November 9, 2021, the Kane County Board adopted Ordinance #21-475 - Amending the Kane County Code, Chapter 6, Buildings and Building Regulations. The amendments adopt the 2021 editions of the ICC Codes and are applicable for all unincorporated areas of Kane County as well as the villages of Big Rock, Kaneville and Virgil. The new codes are effective January 1, 2022, for all building permit applications received on or after that date.

Effective January 1, 2022:

- 2021 International Residential Code
- 2021 International Building Code
- 2021 International Existing Building Code
- 2021 International Mechanical Code
- 2020 National Electric Code
- Illinois Energy Conservation Code (2018 International Energy Conservation Code currently in effect statewide, soon to be updated to 2021)
- Illinois State Plumbing Code (2014 edition currently in effect statewide)
- Illinois Accessibility Code (2018 edition currently in effect statewide)

### 5.1.2 Code Administration

Enforcement of code standards is critical to hazard mitigation. Adequate inspections are needed during construction to ensure the builder understands and implements the requirements. The Building Code Effectiveness Grading Schedule (BCEGS) is a national program used by the insurance industry to determine how well new construction is protected from wind, earthquakes, and other non-flood hazards. It is similar to the CRS program and the fire insurance rating scheme: building permit programs are reviewed and scored, a class 1 community is the best, and a class 10 community is the most basic rating.

Training of code officials is also essential for code enforcement. Training code officials and inspectors is a large part of the BCEGS rating for a community. The building code associations offer courses to help local officials understand seismic, wind, and flood hazard standards.

Table 5-1 lists building code adoptions in use within Kane County.

*Table 5-1. Building Codes Used in Kane County*

	Building Code Commercial	Building Code Residential
Village of Algonquin	IRC 2018	IBC 2018
City of Aurora	IRC 2015	IBC 2015
City of Batavia	IRC 2006	IBC 2006
Village of Big Rock	IRC 2006	IBC 2006
Village of Burlington	IRC 2012	IBC 2012
Village of Campton Hills	IRC 2012	IBC 2012
Village of Carpentersville	IRC 2006	IBC 2006
Village of East Dundee	IRC 2006	IBC 2000
Village of Elburn	IRC 2003	IBC 2000

City of Elgin	IRC 2015	IBC 2015
City of Geneva	IRC 2009	IBC 2015
Village of Gilberts	IRC 2003	IBC 2003
Village of Hampshire	IRC 2018	IBC 2018
Village of Huntley	IRC 2018	IBC 2018
Kane County	IRC 2021	IBC 2021
Village of Lily Lake	Same as Kane County	Same as Kane County
Village of Maple Park	IRC 2006	IBC 2006
Village of Montgomery	IRC 2015	IBC 2015
Village of North Aurora	IRC 2009	2009 IR 1&2 DC
Village of Pingree Grove	IRC 2003	IBC 2003
City of St. Charles	IRC 2021	IBC 2021
Village of Sleepy Hollow	IRC 2021	IBC 2021
Village of South Elgin	IRC 2018	IBC 2018
Village of Sugar Grove	IRC 2015	IBC 2015
Village of Virgil	Same as Kane County	Same as Kane County
Village of Wayne	IRC 2018	IBC 2018
Village of West Dundee	IRC 2012	IBC 2012
<b>Source:</b> Data from List of Codes Used throughout the State of Illinois by City or County via: <a href="https://cdb.illinois.gov/content/dam/soi/en/web/cdb/business/codes/documents/code-directory.pdf">https://cdb.illinois.gov/content/dam/soi/en/web/cdb/business/codes/documents/code-directory.pdf</a>		
IBC = International Building Code, IRC = International Residential Building Code, IR 1&2 DW = International Residential 1 & 2 Family Dwelling Code		

### 5.1.3 Planning and Zoning

Planning and zoning activities, such as land use plans, transportation plans, subdivision ordinances, zoning codes, and economic re-development plans, can direct development away from hazardous areas. For example, comprehensive land use plans can designate floodplains and wetlands as areas for open space, wetlands, or low-density residential. Table 5-2 shows the communities in Kane County with adopted comprehensive plans, zoning ordinances, and subdivision ordinances. The table also highlights communities where flood or other hazards are addressed.

Zoning codes are the primary tool to implement comprehensive plan guidelines for developing land. Zoning ordinances usually set minimum lot sizes for each zoning district. Often, developers will produce a standard grid layout. The ordinance and the community can allow flexibility in lot sizes and locations so developers can avoid hazardous areas.

One way to encourage flexibility is to use the planned unit development (PUD) approach. The PUD approach “is both a type of development and a regulatory process” which allows developers “flexibility in the configuration of buildings and/or uses on a site that is allowed in standing zoning

ordinances” and encourages unified plans (Bengford, B., 2012, P. 1). Protection of open space, critical areas, and floodplain preservation are essential and common aspects of PUD designs.

Figure 5-1. PUD Zoning Example 1

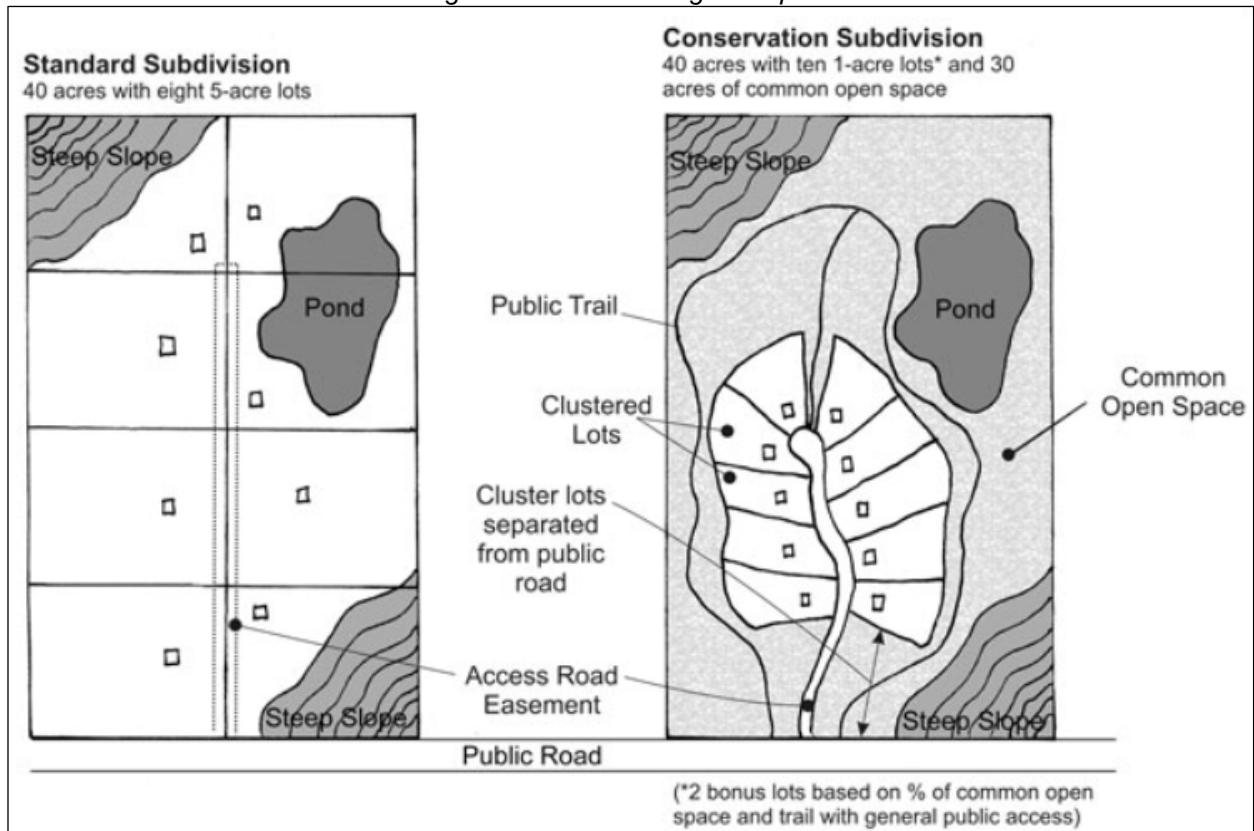
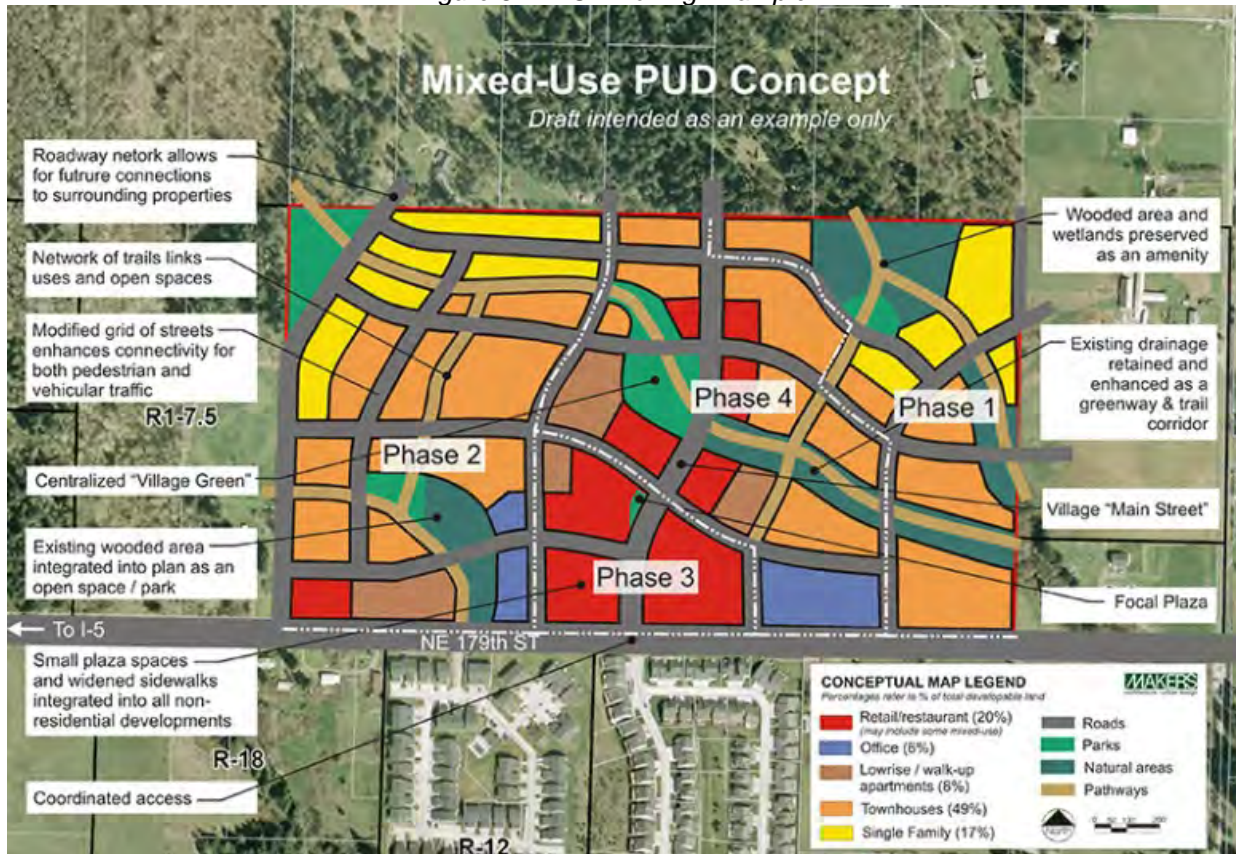


Figure 5-2. PUD Zoning Example 2



“A typical PUD [project] would include a cluster of small lots in conjunction with a common usable open space with some recreational amenities and a protected natural area functioning as permanent open space. This arrangement can benefit both sides: A developer gets extra flexibility in configuring lots and buildings and perhaps a density bonus and/or reduced infrastructure cost. In contrast, the city/county gets permanent open space and/or other desired amenities” (Bengford, B., 2012, P. 1). An example of the PUD approach to planning subdivisions, considering floodplains can be seen in Figure 5-1. A second example of the PUD approach can be seen in Figure 5-2, depicting how this method can be used throughout an entire community area.

### Capital Improvement Plans

A capital improvement plan will guide a community’s major public expenditures for the next 5 to 20 years. Capital expenditures may include acquiring open space within hazardous areas, extending public services into hazardous areas, or retrofitting existing public structures to withstand a hazard.

### Comprehensive Plans

Comprehensive Plans are the primary tools used by communities to address future development. They can reduce future flood-related damages by indicating open space or low-density development within floodplains and other hazardous areas. Natural hazards should be emphasized in specific land use recommendations.



The following 15 jurisdictions have made efforts to maintain and publish comprehensive plans: Algonquin, Aurora, Elgin, Geneva, Hampshire, Kane County, Lily Lake, Montgomery, North Aurora, St. Charles, Sleepy Hollow, South Elgin, Sugar Grove, Virgil, and Wayne. The following provides a brief description of Kane County communities and their efforts to integrate hazard mitigation, hazards, and other mitigation considerations into their comprehensive or related community-wide plans.

Hyperlinks to each community-specific plan can be accessed by clicking on the community name.

**Algonquin:** In March 2008, the Village of Algonquin updated its comprehensive plan. In this plan, the Village of Algonquin articulates how they have implemented several new ordinances and plan to ensure the compatibility of zoning and development with the Comprehensive Plan and the desires of the residents. These include updates to the zoning ordinance, subdivision ordinance, landscape ordinance, woodlands, and watershed protection plan, and development standards. The village also emphasizes conservation and sustainability through the Conservation Community policy and the Natural Areas Ordinance. Economic development strategies, downtown revitalization plans, and the East Bank Redevelopment Plan aim to diversify the tax base, attract businesses, and improve the downtown and riverfront areas. The Village works with neighboring counties and the state to address transportation and traffic issues. Public art initiatives and the Old Town Streetscape Plan also enhance the community's aesthetic appeal and character.

**Aurora:** The City of Aurora updated their comprehensive plan in September 2019. The original plan was adopted in April 1983. In this plan, the document highlights how Aurora has developed as a self-sustained community and regional center in Northeastern Illinois. The plan notes to ensure that new development doesn't harm established neighborhoods, the downtown area, the environment, and municipal services. It's also noted how the city aims to enhance its quality of life by addressing various components such as land use, transportation, public services, and environmental quality. The plan also outlines goals, sub-goals, and policies to guide the city's physical development, promote housing opportunities, support commercial and industrial growth, improve transportation systems, provide public services and facilities, create open spaces and recreational facilities, protect natural resources, and enhance the visual environment. Lastly, the plan emphasizes energy conservation through building and site design.

**Batavia:** The City of Batavia last updated its comprehensive plan on February 17<sup>th</sup>, 2014. In this plan, Batavia prioritizes the preservation of natural resources and the improvement of the built environment. The plan shows how Batavia values its connection with the Fox River through initiatives like the Batavia Riverwalk and the Donovan Bridge, focusing on protecting natural areas. The City's Environmental Commission promotes sustainability and responsible stewardship, and Batavia addresses various environmental challenges such as energy conservation, brownfields, waste management, tree preservation, water conservation, and more. The comprehensive plan aims to protect and enhance the city's air, land, and water resources, be an environmental leader, and encourage responsible resource use. This includes promoting sustainable practices, educating the community, supporting clean energy, and advocating for walkability, biking, and public transportation. Finally, Batavia aims to reduce waste, regulate noise and odors, and engage residents, businesses, and visitors in environmental initiatives.

**Big Rock:** The Village of Big Rock last updated its comprehensive plan on April 22, 2014. In this plan, Big Rock outlines how new policy statements and recommendations will guide sustainability, energy efforts, and transportation initiatives. In terms of sustainability and energy, the village aims to promote innovation, increase energy conservation and efficiency, and encourage the use of renewable energy while emphasizing sustainable building practices and economic development in the energy industry. Big Rock plans to collaborate with Kane County to reduce energy consumption and implement strategies outlined in the Kane County 2040 Energy Plan. Other recommendations include retrofitting buildings, developing green building standards, promoting on-site renewable energy, and encouraging behavior modification. Regarding transportation, the village seeks to provide accessible options while preserving the rural character, maintain existing roads, discourage non-local traffic in residential areas, and coordinate with regional transportation planning entities. Recommendations include improving road conditions, supporting road extensions, and promoting complete street design principles.

**Burlington:** In the Village of Burlington March 2022 update, it's noted that Burlington does not have a municipal wastewater treatment system but instead uses private onsite septic systems. Burlington has been prioritizing this goal for several years. Additional renewable energy goals are also discussed.

**Campton Hills:** The Village of Campton Hills updated its comprehensive plan in July 2022. In this update, it's identified that The village's stream network shows moderately good biological condition but faces a potential problem with fecal coliform, likely from human and warm-blooded animal waste. The source of the issue is yet to be determined but could include stormwater runoff, improper wastewater treatment, septic systems, and fertilizer application. This plan suggests that wetlands, particularly rare fens and recharge areas, should be protected and enhanced. This plan also flags that wastewater service and capacity need attention to avoid impairing area streams and influencing development capacity. Subsequently, alternate treatment methods should be explored. Finally, stormwater runoff is primarily managed through surface flow and roadside ditches, with localized flooding as a nuisance. Drainage system maintenance and improvement are necessary.

**Carpentersville:** The Village of Carpentersville adopted a new comprehensive plan on January 16, 2007. In this plan, the village highlights its natural assets and aims to protect/enhance environmentally sensitive areas through the Open Space and Environmental Features Plan. The plan articulates ongoing efforts to transform the Carpentersville Dam into a recreational area and collaborate with the Dundee Township Park District to provide quality parks and recreational facilities for the community. Lastly, the plan discusses how the Village maintains its gardens and detention areas, promotes the preservation of the wooded regions and wetlands, and seeks to expand public access to the Fox River by incorporating it into development plans.

**East Dundee:** The Village of East Dundee's most recent comprehensive plan is the 2019-2024 Strategic Plan, which recognizes the potential for redevelopment and aims to transform underutilized properties into attractive living areas, expand the downtown commercial space, and revamp the entrance to family-friendly amenities. The plan notes that the Village can improve residents' quality of life, expand the tax base, increase property values, create jobs, and enhance the village's overall appeal. Objectives include creating aesthetic guidelines, developing an Economic Development Implementation Plan, focusing on the Main Street corridor and village entrance, promoting multi-family housing, and completing a plan for the downtown area south of Route 72.

**Elburn:** The Village of Elburn adopted a new comprehensive plan on September 8, 2020. In this update, the village outlines the preservation and enhancement of natural resources and agricultural land being critical priorities for the community of Elburn. The Village aims to coordinate with relevant agencies and implement initiatives that protect natural resources, support local food systems, and promote long-term sustainability. Objectives include implementing plans identified in the Blackberry Creek Watershed Plan, requiring best management practices in developments and open spaces, preserving environmentally sensitive areas, and promoting open space and buffer transitions. The Village also emphasizes groundwater protection strategies, wellhead protection programs, floodplain preservation, and tree cover maintenance and enhancement.

**Elgin:** In July 2018, the City of Elgin updated its comprehensive plan. In this plan, The City of Elgin emphasizes the importance of supporting and complementing existing plans and studies related to parks, recreation, open space, and sustainability in its Comprehensive Plan. These include the Parks and Recreation Master Plan, Sustainability Action Plan, and various watershed plans. The Ferson-Otter Creek Watershed Plan guides efforts to improve water quality, while the Jelkes Creek-Fox River Watershed Action Plan focuses on managing water resources and preventing pollution. The Sustainability Action Plan addresses multiple sustainability areas, including green infrastructure and waterway protection. The City recognizes the significance of natural preserves, environmentally sensitive areas, and watersheds in maintaining environmental health and seeks to protect and enhance them. The Comprehensive Plan also acknowledges the importance of transportation infrastructure and highlights grant programs, such as the Illinois Transportation Enhancement Program (ITEP) and Transportation Alternatives Program (TAP), that can support improvements to local transportation infrastructure.

**Geneva:** The City of Geneva updated its comprehensive plan in April 2003. In this update, the plan includes intentions to improve transportation and accessibility to accommodate future growth to the west with connections to arterial routes. The plan also calls to improve the accessibility and traffic flow across the Fox River.

**Gilberts:** The Village of Gilberts updated its comprehensive plan on June 24, 2003. In this update, the plan prioritizes sustainable quality of life through the 2020 Land Resource Management Plan, aiming to balance natural resource protection and community development. Using site-specific natural resource studies, Gilberts aims to seamlessly integrate natural open spaces, trails, forest preserves, parks, and schools, creating recreational opportunities while avoiding negative impacts on the environment and future development. The 2003 plan also identifies Gilberts as a critical growth area and an agricultural/village area, which anticipates planned growth while preserving Kane County's distinct character. The plan discusses natural hazards, such as floodplains, wetlands, and soils, to inform logical strategies and promote public health and safety. Approximately 14% of the planning area are floodplains, with an essential role in groundwater recharge and flood prevention. Gilberts are also home to significant wetlands, constituting 13% of the corporate boundary and 12% of the planning area, playing a crucial role in water resource management and wildlife habitat. Problematic soils, such as Houghton Muck, are identified in the plan, requiring developers to conduct soil studies before construction.

**Hampshire:** The Village of Hampshire updated its comprehensive plan on July 1, 2004. In this plan, Hampshire presents a vision for its 42-square mile planning area, aiming for long-term development goals beyond a five to 10-year timeline. The vision encompasses maximizing economic development, preserving open space and rural character, supporting agricultural lands, protecting natural resources, and providing quality housing. Hampshire's future land use map and

development policies guide day-to-day land use and development decisions while considering increased development pressure along the I-90 corridor. The village highlights the challenge of maintaining its rural character while accommodating growth and new opportunities. In the transportation section of the plan, Hampshire outlines a conceptual layout of major roadways needed to create a well-connected transportation system in the community.

**Huntley:** The Village of Huntley last updated its comprehensive plan in 2012. This plan aims to preserve and enhance its traditional character and contiguous unincorporated areas over the next two decades. The plan recognizes the importance of environmental resources and proposes measures to protect and integrate wetlands, floodways, floodplains, woodland areas, and scenic roadway corridors into future developments. The plan also addresses utilities, with the completion of a new West Treatment Plant and expanding the East Treatment Plant to accommodate the projected population growth. Additional recommendations include obtaining parcels for plant expansion, constructing interceptors and force mains, and gradually expanding the West Plant to meet the demands of upcoming developments.

**Kane County:** Kane County's planning process began in 1994, with a Conceptual Land Use Strategy identifying three distinct areas: Urban Corridor, Critical Growth, and Agricultural/Village. The strategy emphasized open space protection, water resource management, balanced community development, and cooperation with municipalities. The 2030 Land Resource Management Plan was unanimously adopted in 1996, focusing on community development, water resource management, and open space protection. 2002 the plan was reviewed, and a report recommended themes for the 2030 plan: Renaissance for urban revitalization, Refinement for critical growth, and recommendation for agricultural preservation. So far, the plan has been effective in guiding community development, and a review of the 2040 plan is ongoing, considering factors like population growth, compact development, and transportation opportunities in the Urban Corridor Area. The Critical Growth area in Kane County will require Smart Growth principles and priority places in decision-making.

**Lily Lake:** The Village of Lily Lake updated the comprehensive land use plan on March 15, 2010. In this plan, Lily Lake defines its valuable assets, including the Great Western Trail, diverse topography, watersheds, and the lake itself, which serves as a significant recharge area for aquifers. Water quality and availability are top priorities, with water preservation efforts needed to sustain the community's growth. This plan also documents how Lily Lake benefits from low light pollution and excellent soils, enabling large lot land uses. A wastewater treatment facility is being considered to accommodate further development and specific design requirements must be met to address local wastewater treatment needs.

**Maple Park:** The Village of Maple Park updated their comprehensive land use plan on May 5, 2015. In this plan, the land-use area is predominantly residential, with a traditional downtown area and more significant commercial and institutional uses along County Line Road. Agriculture also remains significant within the jurisdictional boundary, and careful planning is recommended to ensure compatibility between new development and existing agriculture. In this plan, the village is focused on preserving open spaces, parks, and floodplains for recreational opportunities and wildlife habitats. The plan documents how wastewater treatment is provided through a conventional sewage treatment plant and private sewage disposal systems. The village has also addressed water supply needs by commissioning a Water Works Plan, including installing a cation radium exchange treatment facility. Lastly, consideration is given to adding a second, elevated water tank to increase storage capacity for future development.

**Montgomery:** The Village of Montgomery updated their 2035 comprehensive plan in April 2014. In this update, the village intends to support sustainability and the natural environment. The plan also features Montgomery's Hazard Mitigation Plan highlighting floodplain, flood routing, and action plan items. Green infrastructure, water conservation, green energy, and Smart Growth principles are included in the sustainability plan pertaining to climate change.

**North Aurora:** The Village of North Aurora updated their comprehensive plan in June 2015. This plan highlights environmental infrastructure, including the Fox River, Wetlands, Floodplains, Tree Preservation, and Green Infrastructure.

**Pingree Grove:** The Village of Pingree Grove updated their comprehensive plan on October 19, 2015. This plan suggests the need for improvement in open space in new growth areas, flood mitigation, and stormwater management. A fiscal plan to support long-term expansion and management of stormwater utility is also suggested.

**St. Charles:** The City of St. Charles adopted a new comprehensive plan in September 2013. In this plan, the city is called upon to regulate riverside development, implement a green infrastructure plan, and improve access through open space and trails to protect the Fox River. The plan also includes wetlands, floodplains, and vegetation features of St. Charles, contributing to its biodiversity and natural beauty. Preservation efforts, especially in forest preserves and residential communities, are crucial long-term goals in the plan. Regarding climate change, St. Charles promotes alternative energy sources such as wind, solar, and geothermal to address economic and environmental sustainability and encourages energy-efficient building design and construction while educating the public about alternative energy benefits.

**Sleepy Hollow:** The Village of Sleepy Hollow adopted a comprehensive plan on June 1, 2009. In this plan, the village seeks to limit adverse impacts on natural resources and features by protecting creeks, streams, wetlands, and floodplains from development, pollution, and degradation using development standards. The plan calls to improve stormwater drainage capacities, conservation of groundwater supplies, and nurturing wildlife as essential objectives. To protect its natural resources, the village encourages private contributions of environmentally sensitive properties, coordinates with relevant departments to prevent environmental degradation, and advocates for reforestation and reduced turf grass. Lastly, the plan addresses water resources, wastewater management, and the preservation of greenways to safeguard the unique environmental aspects of the village.

**South Elgin:** The Village of South Elgin adopted a 2030 Comprehensive Plan on July 16, 2012. In this plan, the village plan focuses on several environmental components. First, sanitary sewer services are provided through the Village, OCWRD, and FRWRD, with an excess treatment capacity available for future development. Stormwater management manages many stormwater retention areas, with newer subdivisions incorporating mechanisms to fund stormwater maintenance. The plan also emphasizes preserving and protecting natural resources, including waterways, wetlands, and fens. Watershed management and floodplain regulations are strict to limit flood risks, and the village addresses air quality concerns related to fine particles. Soil types vary and support diverse plant and animal species, including those endangered or threatened in Kane County.



**Sugar Grove:** The Village of Sugar Grove adopted a new comprehensive plan on June 26, 2023. This plan aims to preserve ecologically sensitive areas and establish a "green network" to protect wetlands, oak forests, hydric soils, and flood areas. Collaboration with various organizations is sought to execute a joint study for funding sources and acquisition of lands within the green network. Water resource protection is a priority, integrating water management goals into development decisions and creating water conservation standards. The plan encourages native landscaping, pervious surfaces, and green infrastructure policies. Sustainable practices are promoted in agriculture and public works, including reduced salt usage and stormwater runoff. The Future Land Use Plan envisions the desired built environment, providing predictability while considering market realities. It guides development decisions but is not a regulatory map, focusing on preserving community attributes and ecologically sensitive lands.

**Virgil:** The Village of Virgil's 2020 comprehensive plan highlights the significance of soils in influencing future development and growth. The plan considers slope, soil texture, water-holding capability, and septic system construction. The Soil Survey of Kane County by the NRCS predicts soil behavior and limitations for various land uses, with a particular interest in supporting agriculture and septic systems. The area's glacial origin is evident in the suitability for septic systems map, with large unsuitable areas composed of specific soil types. The plan emphasizes the importance of prime agricultural land and aims to protect woodlands, wetlands, and floodplains for wildlife and environmental health. As Virgil develops and expands, careful consideration of drainage ways and floodplains is essential to avoid potential flooding issues.

**Wayne:** The Village of Wayne's 2005 comprehensive plan addresses significant concerns regarding groundwater quality, waste disposal systems, and infrastructure development. Residents rely on private wells for water, making it crucial to maintain proper percolation and avoid contaminating the underground water supply. The primary waste disposal system is through on-site septic systems, but some areas experience leaching and percolation issues, posing risks to the potable water supply. The Village is part of the Urban Corridor with a focus on redevelopment and revitalization, distinct from other communities in the area. Several roadway projects planned by transportation agencies could impact traffic patterns, with the potential for regional traffic influx affecting Wayne's rural character.

**West Dundee:** The Village of West Dundee's October 2005 comprehensive plan describes the origin and growth of the Village's land-use pattern, primarily focusing on residential, open space, and commercial areas. Open space and natural resources play a vital role in the Village, including the Fox River, which serves as an eastern boundary and drainage system. The plan emphasizes the importance of maintaining and preserving open space, forests, wetlands, and floodplains to manage stormwater and preserve the Village's character. West Dundee is well-served by parks and recreation areas operated by the Dundee Township Park District, with future plans for further expansion and connectivity. The utilities, including sanitary sewer, water supply, power, and telecommunications systems, are deemed adequate to handle anticipated development in the area.

## **Local Implementation**

Table 5-2 summarizes the findings of a review of comprehensive and land use plans adopted by the County and the municipalities. Most newer plans designate floodplains, wetlands, or stream corridors to preserve open space, recreational uses, or habitat. An example of this is the St. Charles *Comprehensive Plan* adopted in 2013.

While most of the zoning ordinances in the County allow planned unit developments, most have no corresponding district for the floodplain areas shown on the land use maps. Some make no mention of floodplains, generally because local floodplain ordinances (and now the County’s stormwater management regulations) take precedence.

An exception to this is Algonquin’s zoning ordinance which has a special overlay district for the western third of the Village. Floodplains, wetlands, and similar features are designated “eco-corridors and protected areas.” All development proposals must be planned and “must preserve lands designated as eco-corridor areas” (Section 21.13.D.1.a).

Another zoning approach is Wayne’s, which requires a minimum lot size of four acres in the western half of the Village. The streams run along the lot lines in many spots, allowing developers to build on the high ground and leave the floodplains for backyards.

Table 5-2. Kane County Planning and Land Use Ordinances

Community	Comprehensive Plan	Mitigation and/or Hazards Included in Comprehensive Plan	Mitigation and/or Hazards Addressed in Land Use Considerations	Mitigation and/or Hazards Addressed in Zoning Ordinance
Village of Algonquin	2008	Opportunity to expand/improve	Large park proposed along the Fox River	Woods Creek Watershed Overlay District protects stream corridors
City of Aurora	1983 (Updated in 2019)	Opportunity to expand/improve	Opportunity to expand/improve	Park/open space district along the Fox River and Blackberry Creek
City of Batavia	2014	Opportunity to expand/improve	Floodplains recommended for open space, corridors and PUDs	No special provisions
Village of Big Rock	2014	Opportunity to expand/improve	Opportunity to expand/improve	Opportunity to expand/improve
Village of Burlington	2022	Opportunity to expand/improve	Opportunity to expand/improve	Opportunity to expand/improve
Village of Campton Hills	2012	Opportunity to expand/improve	Opportunity to expand/improve	Opportunity to expand/improve
Village of Carpentersville	2007	Opportunity to expand/improve	Open Space along the Fox River	Manufacturing along the Fox
Village of East Dundee	2019	Opportunity to expand/improve	Undeveloped floodplains recommended for conservation	No special district. Separate floodplain ordinance is referenced
Village of Elburn	2020	Opportunity to expand/improve	Floodplains recommended for open space	Stream corridors shown as detention or “PUD golf course”

City of Elgin	2018	Yes	Opportunity to expand/improve	Many floodplains zoned as "community facility" district
City of Geneva	2003	Opportunity to expand/improve	Most floodplains designated as open space or parks/recreation	Most floodplains zoned as low density residential
Village of Gilberts	2003	Opportunity to expand/improve	Draft plan: development in flood prone areas is "precluded"	Most flood prone areas are zoned agriculture or conservancy
Village of Hampshire	2004	Yes	1980 plan: open space corridors on stream channels, but no floodplains	Floodplains shown on zoning map, but no special use provisions
Village of Huntley	2012	Opportunity to expand/improve	Buffers along streams	No special provisions
Kane County	2010	Opportunity to expand/improve	Floodplains and wetlands recommended for open space	Open space on streams and in wetlands as part of PUD process
Village of Lily Lake	2010	Opportunity to expand/improve	Floodplains encouraged for open space, recreation and habitat	No special provisions
Village of Maple Park	2015	Opportunity to expand/improve	Floodplains encouraged for open space, recreation and habitat	No special provisions
Village of Montgomery	2014	Yes	Stream corridors as "conservation"	No special provisions
Village of North Aurora	2015	Opportunity to expand/improve	Floodplain (Fox River) designated for public open space	No special provisions
Village of Pingree Grove	2015	Opportunity to expand/improve	Opportunity to expand/improve	Opportunity to expand/improve
City of St. Charles	2013	Opportunity to expand/improve	2013 Comprehensive Plan	No special provisions
Village of Sleepy Hollow	2009	Opportunity to expand/improve	Wetlands recommended for greenways, no mention of floodplains	No special provisions
Village of South Elgin	2012	Opportunity to expand/improve	The Village "Allows for community garden, park, utilities not requiring structures, multi-modal path or trail, and open space uses in floodway," according to Section 156.06.L FO Floodplain Overlay District Requirements of the Village's Code of Ordinances.	The Village established a Floodplain Overlay District (FO) to reduce the potential for property damage and hazards to life caused by flooding in the Village's flood hazard areas. The regulations

				of the FO District are intended to implement and ensure consistency with the National Flood Insurance Program, according to Section 156.05.B Establishment of Zoning Districts of the Village's Code of Ordinances.
Village of Sugar Grove	2023	Opportunity to expand/improve	Floodplains designated for open space/environmental corridor	No special provisions
Village of Virgil	2020	Opportunity to expand/improve	Nothing special on floodplains	Floodplains zoned for agriculture
Village of Wayne	2005	Opportunity to expand/improve	Opportunity to expand/improve	Large lot districts allow avoidance of floodplain in many cases
Village of West Dundee	2005	Opportunity to expand/improve	Preserving drainage system is important to "maintain local character"	Some of the Sleepy Creek floodplain is zoned park & public
* Rely on Kane Countywide Stormwater and Flood Plain Ordinance   existing best available county data.				

### 5.1.4 Manufactured Homes

Local building codes do not typically regulate manufactured (mobile) homes. They are built in a factory in another state and are shipped to a site. They do have to meet construction standards set by the US Department of Housing and Urban Development. All manufactured homes constructed after June 15, 1976, must comply with HUD's National Manufactured Home Construction and Safety Standards. These standards apply uniformly across the country, and it is illegal for a local government unit to require additional construction requirements. Local jurisdictions may regulate the location of these structures and their on-site installation.

As is well known, the most significant mitigation concern with manufactured housing is protection from damage by wind. The key to local mitigation of wind damage to mobile homes is their installation.

Following tornadoes in Oklahoma and Kansas, FEMA's Building Performance Assistance Team found that newer manufactured housing anchored to permanent foundations performed better. They also found that more recent homes are designed to transmit wind better uplift and overturning forces to the foundation. Unfortunately, they also found that building officials were often unaware of the manufacturer's installation guidelines concerning permanent foundations.

## Local Implementation

The Illinois Department of Public Health enforces the Illinois Mobile Home Act and Manufactured Home Tiedown Code. The State code includes equipment and installation standards. Installation must be done in accordance with the manufacturers' specifications. There is a voluntary program for installers to be trained and certified.

Following the installation of a manufactured home, installers must send the state a certification that they have complied with the State's tiedown code. Inspections are only done if complaints are made regarding an installation.

Because the state regulates the installation of manufactured homes and home parks, many local officials believe they cannot enforce other ordinances. Kane County manufactured home park owners report that manufactured homes are installed with little or no contact with local permit officials. However, the Kane County Stormwater Ordinance applies to all structures, including manufactured homes.

In addition to code standards to protect the mobile home from high winds is the need to protect the occupants. There are no state or federal requirements for shelters in mobile home parks.

Mobile school classrooms are structures similar to manufactured homes. They, too, are regulated by the Illinois Department of Public Health, but the school must provide the Kane County Regional Office of Education with an architect's seal of compliance. The anchoring must be inspected yearly, and the school district's superintendent must sign a renewed evacuation plan. These provisions provide a higher level of protection than current procedures do for residential mobile homes.

### 5.1.5 Subdivision Regulations

Subdivision regulations govern how land will be subdivided and set construction standards. These standards generally address roads, sidewalks, utilities, storm sewers, and drainage ways. They can include the following hazard protection standards:

- Requiring that the final plat show all hazardous areas.
- Road standards that allow passage of firefighting equipment and snowplows
- Requiring power or phone lines to be buried
- Minimum water pressures adequate for firefighting
- Requiring that each lot be provided with a building site above the flood level
- Requiring that all roadways be no more than one foot below the flood elevation.

## Local Implementation

The Kane County Stormwater Ordinance states that "New and replacement water supply systems, wells and sanitary sewer lines may be permitted if constructed to minimize or eliminate infiltration of Flood waters into the systems and discharges from the systems into Flood waters; and all manholes or other above-ground openings located below the [flood protection elevation] are watertight." (9-138 C.). Roads, bridges, and culverts are not allowed to increase flood heights. Geneva's subdivision ordinance reserves the right to prohibit subdivisions in floodplains.



The Maple Park ordinance is common, and states, “Electrical and telephone service shall be located underground wherever possible” (Section 16-206.A). The county’s ordinance requires underground wires and cables in all new subdivisions (Section 19-114).

### **5.1.6 Open Space Preservation**

Keeping the floodplain and other hazardous areas open and free from development is the best approach to preventing damage to new developments. Open space can be maintained for agricultural use or serve as parks, greenway corridors, and golf courses.

Capital improvement plans and comprehensive land use plans can identify areas to be preserved through any or all of the following means:

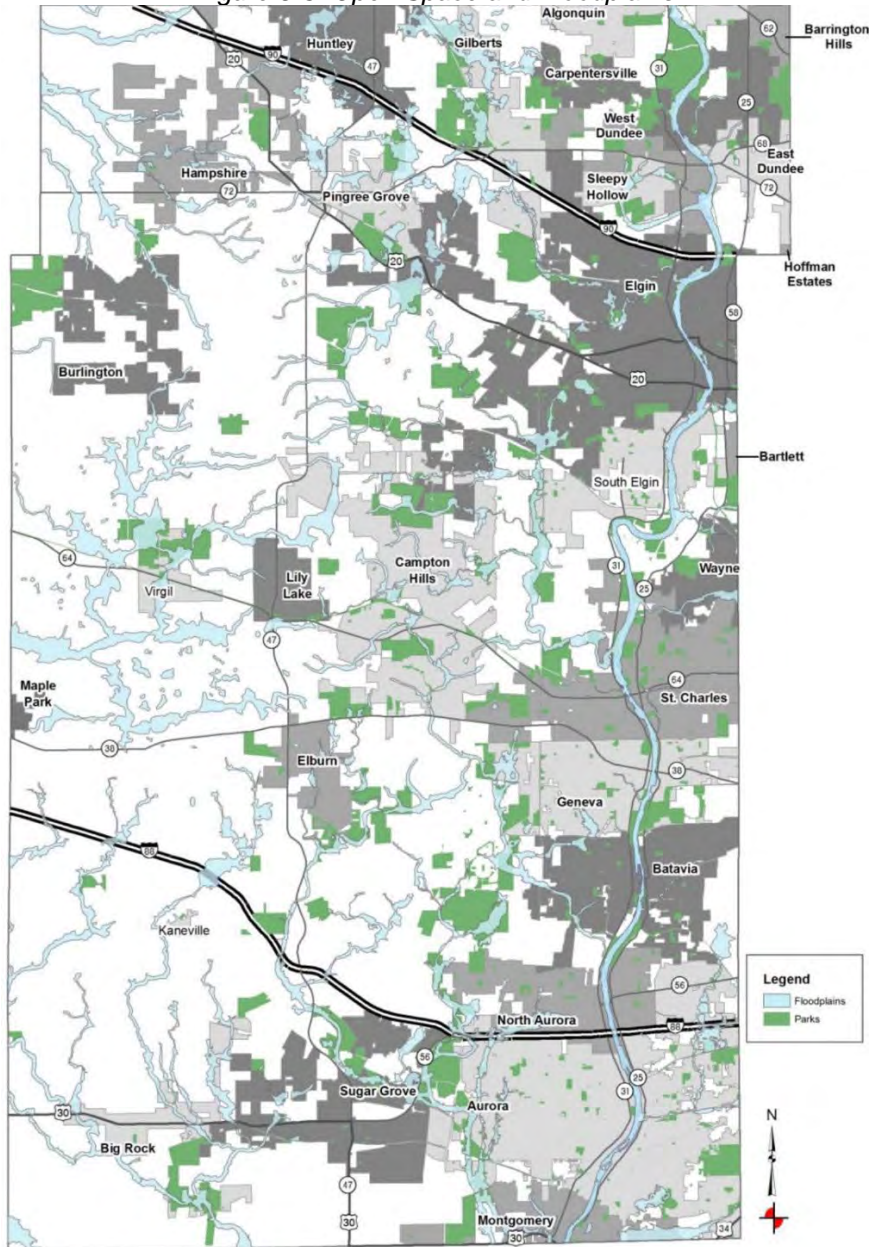
- Acquisition,
- Dedication by developers,
- Dedicating or purchasing an easement to keep the land open, and
- Specifying setbacks or buffer zones where development is not allowed.

### **Local Implementation**

There are two types of open space: lands that are currently open, such as vacant farmland, and lands that are preserved as open space, such as parks and forest preserves. As noted in Chapter 3, 88% of Kane County is open or undeveloped, but only 3% is preserved as open space. Of the 36,786 acres of floodplain, 29,000 acres (79%) are open, but only 4,432 acres (12%) are preserved as open space. The map on the next page shows areas currently in forest preserves, parks, and other land uses designated as open spaces. Additional areas are kept open through ownership and regulation. For example, all mapped floodways should stay open because of the state law prohibiting new construction.

The Kane County 2040 Land Resource Management Plan has a section on open space and a 2030 Open Space Map. The text notes the benefits of open space, particularly preserving it along waterways. Two of the Plan’s policies, for example, are “Incorporate conservation and sustainability criteria in development controls and County ordinances to protect natural, scenic, historic, archaeological and environmental areas when making land use and development decisions” and Explore innovative opportunities to collaborate on the protection and enhancement of green infrastructure.”

Figure 5-3. Open Space and Floodplains



Kane County continues to promote an open space armature and greenway system, sometimes called the green infrastructure network. Kane County reaffirms the commitment to open space and farmland preservation with the general goal that by 2040, at least 50% of the land in Kane County should still be in farmland and open space uses.

As the County and municipalities continue to face growth pressures, preserving and expanding open space, particularly along the Fox River and its tributaries, and promoting compact, mixed-use development to reduce land consumption will be vital to achieving livable, sustainable, and healthy communities.

The Kane County Stormwater Management Ordinance requires buffers along creeks, streams, lakes, wetlands, and rivers. These buffers, roughly 50 feet wide, must be dedicated as easements

on all newly platted lots. The maintenance responsibility for these easements must be recorded on the deeds.

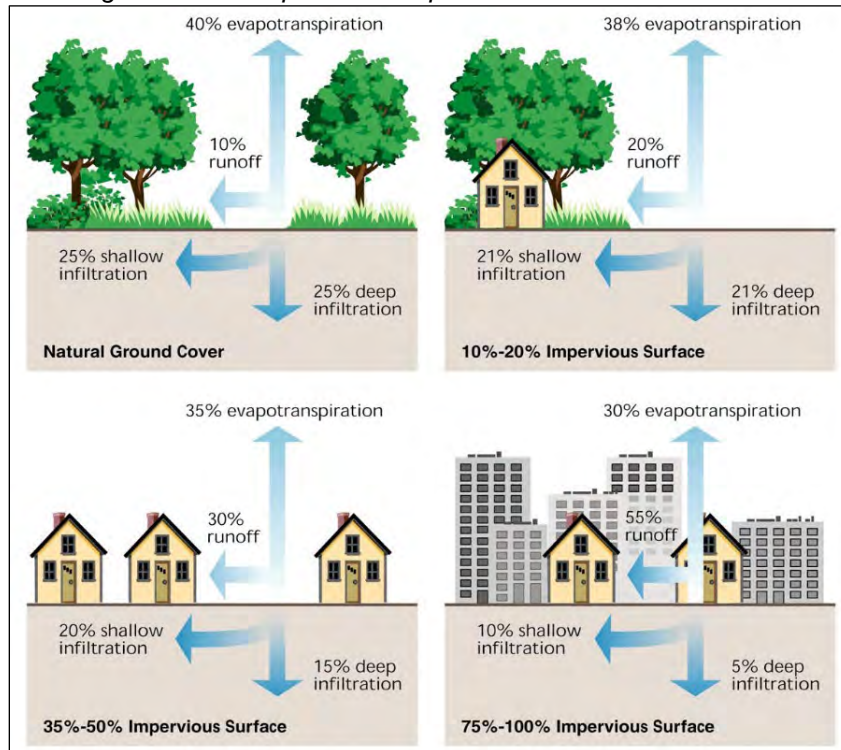
### 5.1.7 Stormwater Management

New construction in the floodplain increases the development exposure to damage and can aggravate flooding on neighboring properties. Development outside a floodplain can also contribute to flooding problems. Stormwater runoff is increased when natural ground cover is replaced by urban development (see Figure 5-4). Development in the watershed that drains to a river can aggravate downstream flooding, overload a community’s drainage system, cause erosion, and impair water quality.

Stormwater management encompasses approaches to protecting existing downstream properties and new construction from damage by surface water, including (but not limited to):

- Regulating development in the floodplain to ensure it will be protected from flooding and not divert floodwaters onto other properties.
- Regulating all development to ensure that the post-development peak runoff will not be greater than under pre-development conditions.
- Stormwater runoff regulations require developers to build retention or detention basins to minimize the increases in the runoff rate caused by impervious surfaces and new drainage systems.

Figure 5-4. Floodplain Development and Stormwater Runoff



Most communities participate in the National Flood Insurance Program (NFIP). The NFIP and the Illinois Department of Natural Resources set minimum requirements for regulating development in the floodplain. All new buildings must be protected from the base or 100-year flood, and no development can cause an increase in flood heights or velocities.

Stormwater runoff regulations require developers to build retention or detention basins to minimize the increases in the runoff rate caused by impervious surfaces and new drainage systems. Generally, each development must not let stormwater leave at a rate higher than that under pre-development conditions.

### Local Implementation

State law authorizes counties in Northeastern Illinois to set minimum stormwater management standards for all municipalities in the county. The Kane County Department of Environmental and Water Resources does this.

*Table 5-3. Kane Countywide Stormwater and Flood Plain Ordinance Waiver Status*

Community	County Stormwater Ordinance Waiver
Village of Algonquin	No
City of Aurora	No
City of Batavia	No
Village of Big Rock	No
Village of Burlington	No
Village of Campton Hills	No
Village of Carpentersville	No
Village of East Dundee	No
Village of Elburn	No
City of Elgin	No
City of Geneva	No
Village of Gilberts	No
Village of Hampshire	No
Village of Huntley	No
Kane County	No
Village of Lily Lake	No
Village of Maple Park	No
Village of Montgomery	No
Village of North Aurora	No
Village of Pingree Grove	No
City of St. Charles	No
Village of Sleepy Hollow	No
Village of South Elgin	No
Village of Sugar Grove	No
Village of Virgil	No
Village of Wayne	Adopted DuPage County's Stormwater Ordinance
Village of West Dundee	No



## Stormwater Infrastructure Mapping and Tools

Kane County has resources to help facilitate coordination with municipalities on identifying potential stormwater flooding hazards throughout the County. The potential stormwater ponding/inundation hazards are available on the County's public GIS web viewer at: [https://gistech.countyofkane.org/gisims/kanemap/kanegis4\\_agox.html](https://gistech.countyofkane.org/gisims/kanemap/kanegis4_agox.html)

Kane County Department of Environmental & Water Resources, working with Kane County GIS Technologies Department, has published a set of stormwater mapping layers and tools to help planners, engineers, emergency responders and the general public better understand how stormwater is temporarily stored and conveyed through Kane County. These layers include infrastructure features such as storm sewers, culverts, drain tiles, detention basins and represent the best available data. Additionally, storm flow paths and areas of potential flood inundation have been mapped and are included as informational stormwater layers.

Figure 5-5. Stormwater Mapping Tool



The locations were identified using the County's 2017 digital elevation model to map all locations where there was 100 or more acres of drainage area that crossed a road, bridge, or culvert of any type. Overtopping was noted based on either real world observation from a past storm event or those infrastructure crossings shown to overtop based on the published FEMA flood profile. The standard data form below is used to ask other agencies & first responder departments to use it to provide the Kane County Department of Environmental & Water Resources with information on roadway locations in their jurisdiction where stormwater/flooding has previously overtopped the road.



Figure 5-6. Roadway Overtopping Report

## ROADWAY OVERTOPPING REPORT

Kane County, IL

Municipality / Township: \_\_\_\_\_

Road Name: \_\_\_\_\_

Stream name (if applicable): \_\_\_\_\_

Location Description (if no stream crossing):  
\_\_\_\_\_

Crossing Type:     Bridge  
                          Culvert  
                          Overland Flow Route (no stream or channel)

Has this location ever     Yes  
been subjected to  
overtopping with floodwater?     No

Date of last overtopping / flooding: \_\_\_\_\_

Notes on last overtopping / flooding:  
(depth of flooding, was road closed, for how long, etc.)  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Notes on previous overtopping / flooding (dates, depth of flooding,  
was the road closed, if so for how long, etc.):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Send this report to Kane Co. Dept. of Environmental & Water Resources  
[linkerobert@co.kane.il.us](mailto:linkerobert@co.kane.il.us)

### 5.1.8 Development in the Floodplain

The 2002 Kane County Stormwater Ordinance (revised June 1, 2019) meets or exceeds all state and NFIP floodplain regulatory requirements. Each municipality is required to adopt the county’s ordinance provisions. Most have adopted the ordinance and become “certified communities.”

Having good regulations on the books is one thing, but it is even more important that local officials properly administer them. Failure to fully enforce the floodplain development regulations is cause for probation or suspension from the NFIP. FEMA and the Department of Natural Resources periodically visit or contact communities to verify that staff understand and enforce floodplain regulations.

Table 5-4 illustrates the NFIP status of communities in Kane County.

*Table 5-4. Communities Participating in the National Flood Insurance Program in Kane County*

Community	Initial FHBM Identified	Initial FIRM Identified	Current Effective Map Date	Reg-Emer Date	CRS Entry Date	CRS Current Effective Date	Current CRS Class
Village of Algonquin	03/08/74	03/16/81	08/03/09	03/16/81			
City of Aurora	06/14/74	06/15/79	08/03/09	06/15/79	05/01/19	05/01/19	7
City of Batavia	06/10/76	09/02/81	08/03/09	11/20/81			
Village of Big Rock		12/20/02	07/17/12	01/08/03			
Village of Burlington	05/14/76	03/01/82	06/02/15	12/20/02			
Village of Campton Hills	-	08/03/09	07/17/12	12/10/08			
Village of Carpentersville	03/22/74	08/17/81	08/03/09	08/17/81	10/01/06	10/01/11	6
Village of East Dundee	05/17/74	03/16/81	08/03/09	03/16/81			
Village of Elburn	-	12/20/02	07/17/12	09/30/92			
City of Elgin	05/03/74	03/01/82	06/02/15	03/01/82			
City of Geneva	08/09/74	08/03/81	07/20/21	08/03/81			
Village of Gilberts	05/07/76	12/20/02	08/03/09	12/20/02			
Village of Hampshire	05/03/74	03/02/81	06/02/15	03/02/81	05/01/11	10/01/22	10
Village of Huntley	03/29/74	12/15/92	06/02/15	12/15/92	05/01/19	05/01/19	7
Kane County	05/14/76	03/01/82	07/20/21	03/01/82			
Village of Lily Lake	05/14/76	06/16/92	07/17/12	12/20/02			
Village of Maple Park	-	08/04/87	07/17/12	01/08/14			
Village of Montgomery	10/26/73	08/15/79	01/08/14	08/15/79	05/01/15	05/01/15	5

Village of North Aurora	03/01/74	03/16/81	08/03/09	03/16/81			
Village of Pingree Grove		12/20/02	06/02/1	09/29/08			
City of St. Charles	03/15/74	09/02/81	07/20/21	09/02/8	10/01/9	10/01/11	5
Village of Sleepy Hollow	04/12/74	06/15/82	08/03/0	06/15/8			
Village of South Elgin	04/05/74	07/07/78	08/03/09	07/16/81	10/01/1	05/01/20	5
Village of Sugar Grove	03/08/74	03/04/88	07/17/12	09/30/76	10/01/0	10/01/11	6
Village of Virgil	05/14/76	06/02/92	07/17/12(M)	12/20/02			
Village of Wayne	08/15/75	12/01/81	07/20/21	10/03/94			
Village of West Dundee	04/05/74	12/01/81	08/03/09	12/01/81			

## 5.2 Property Protection

Property protection measures are used to modify buildings or property subject to damage. Property protection measures fall under three approaches:

- Modify the site to keep the hazard from reaching the building,
- Modify the building so it can withstand the impacts of the hazard, and
- Insure the property to provide financial relief after the damage occurs.

The property owner usually implements property protection measures, although in many cases, a government agency can provide technical and financial assistance. These are discussed later in this chapter.

### 5.2.1 Barriers, Elevation, Relocation, and Acquisition

Flooding is the only hazard that can be kept away from a building. There are four standard methods to do this:

- Erect a barrier between the structure and the source of flooding
- Move the building out of the flood-prone area
- Elevate the building above the flood level
- Demolish the building

Following the 1996 flood, 68 homes were purchased in Montgomery and Aurora with FEMA mitigation funds. The sites were cleared to provide recreation space and flood storage. Some homes on the Fox River have been elevated.

### New Developments

In the previous version of this plan, the Kane County Environmental and Water Resources Division evaluated the possibility of new developments causing or exacerbating flooding problems. Since all new development must comply with the Kane County Stormwater Ordinance, staff determined that all new development must plan for potential flooding problems. The previous

version of this plan also called for all new development to include drainage systems throughout and areas for floodwater retention.

### 5.2.2 Repetitive Loss Properties and Analysis

Chapter 4 explains the criteria for the designation of the County’s repetitive loss areas. These properties deserve special attention because they are more prone to damage by natural hazards than any other properties in the County. Further, protecting repetitive loss buildings is a priority with FEMA and IEMA mitigation funding programs.

Kane County will continue to identify properties yielding positive benefit-cost ratios and positive owner feedback regarding willingness to pursue a mitigation project. As properties are identified, the County will pursue Hazard Mitigation Assistance grants to address the issue.

While a cost/benefit study was not conducted for every property included in this analysis, the following guidelines show which measures are generally preferred for given structural conditions:

- “High hazard areas” are areas in the floodway or where the 100-year flood is two or more feet over the first floor.
- Buildings in high-hazard areas or less than suitable conditions should be acquired and demolished.
- Buildings with basements and split-level foundations in high-hazard areas should be acquired and demolished. They are too difficult to elevate, and the hydrostatic pressures on the walls from deeper flooding make them too risky to protect in place.
- Buildings subject to shallow flooding from local drainage should be protected through area-wide flood control or sewer improvement projects.
- Buildings in good condition on crawlspaces should be elevated or relocated.
- Buildings in good condition on slab, basement, or split-level foundations subject to shallow flooding (less than two feet) can be protected by barriers and dry floodproofing.
- Recent flood claims. Some properties have not had a flood insurance claim for 20 years, indicating that some measure has probably been put in place to protect the property from repetitive flooding.

These criteria are general, and recommendations for individual structures should be made only after a site inspection. Other extenuating circumstances may also alter the recommendations.

*Table 5-5. Kane County Repetitive Loss Properties*

Community Name/Location of Property	Mitigated	NFIP Insured	Occupancy Type	Total Losses	Total Paid	Repetitive Loss	Severe Repetitive Loss
AURORA, CITY OF	NO	NO	Other Residential	4	13705.87	Y	N
AURORA, CITY OF	NO	NO	2-4 Family Residential	3	30809.22	Y	N
AURORA, CITY OF	NO	SDF	Single Family Residential	8	62389.35	Y	Y
AURORA, CITY OF	NO	NO	Other Residential	4	190785.3	Y	N
AURORA, CITY OF	NO	NO	Other Residential	9	82183.59	Y	Y

AURORA, CITY OF	NO	NO	Single Family Residential	2	6247.6	Y	N
AURORA, CITY OF	NO	NO	Single Family Residential	2	5971.4	Y	N
AURORA, CITY OF	NO	NO	Single Family Residential	2	33700	N	N
AURORA, CITY OF	NO	NO	Single Family Residential	2	34115.78	Y	N
AURORA, CITY OF	NO	NO	Other Residential	2	74091.7	N	N
AURORA, CITY OF	NO	SDF	Single Family Residential	2	8006.31	Y	N
AURORA, CITY OF	NO	NO	Single Family Residential	2	8123.64	N	N
AURORA, CITY OF	NO	NO	Single Family Residential	2	16472.57	N	N
AURORA, CITY OF	NO	NO	Single Family Residential	2	4736.42	N	N
AURORA, CITY OF	NO	NO	Single Family Residential	3	15286.7	Y	N
AURORA, CITY OF	NO	YES	Single Family Residential	2	6877.12	N	N
AURORA, CITY OF	NO	NO	Single Family Residential	2	18893.37	N	N
AURORA, CITY OF	NO	NO	Single Family Residential	2	12140.61	N	N
AURORA, CITY OF	NO	YES	Single Family Residential	2	51684.98	Y	N
AURORA, CITY OF	NO	NO	Single Family Residential	1	25752.88	N	N
EAST DUNDEE, VILLAGE OF	NO	YES	Single Family Residential	3	12381.6	Y	N
EAST DUNDEE, VILLAGE OF	NO	YES	Single Family Residential	2	15370.83	Y	N
ELGIN, CITY OF	NO	NO	Single Family Residential	2	14645.63	N	N
ELGIN, CITY OF	YES	NO	Single Family Residential	3	5084.75	Y	N
ELGIN, CITY OF	NO	NO	Single Family Residential	4	69101.3	Y	N
ELGIN, CITY OF	NO	SDF	Other Nonresidential	4	179870.39	Y	Y
ELGIN, CITY OF	NO	NO	Single Family Residential	7	118949.1	Y	Y
ELGIN, CITY OF	NO	NO	Single Family Residential	6	155823.02	Y	Y
ELGIN, CITY OF	NO	NO	Single Family Residential	2	7232.1	Y	N
ELGIN, CITY OF	NO	NO	Single Family Residential	2	32169.06	Y	N



ELGIN, CITY OF	NO	NO	Single Family Residential	4	43516.87	Y	N
ELGIN, CITY OF	NO	YES	Single Family Residential	3	20374.81	Y	N
ELGIN, CITY OF	NO	NO	Single Family Residential	2	16161.75	Y	N
ELGIN, CITY OF	NO	YES	Single Family Residential	3	88122.75	Y	N
ELGIN, CITY OF	NO	NO	Single Family Residential	3	37964.8	Y	N
ELGIN, CITY OF	NO	YES	Single Family Residential	2	71254.18	Y	N
ELGIN, CITY OF	NO	YES	Single Family Residential	3	45861.7	Y	N
ELGIN, CITY OF	NO	YES	Single Family Residential	3	25016.33	Y	N
ELGIN, CITY OF	NO	YES	Single Family Residential	2	18133.88	Y	N
ELGIN, CITY OF	NO	NO	Single Family Residential	2	53627.06	Y	N
ELGIN, CITY OF	NO	NO	Single Family Residential	2	44101.72	Y	N
ELGIN, CITY OF	NO	YES	Single Family Residential	2	10669.25	Y	N
ELGIN, CITY OF	NO	NO	Single Family Residential	2	12948.44	Y	N
ELGIN, CITY OF	NO	NO	2-4 Family Residential	2	10355.96	Y	N
GILBERTS, VILLAGE OF	NO	NO	Single Family Residential	2	9787.7	Y	N
HAMPSHIRE, VILLAGE OF	NO	NO	Single Family Residential	2	6475.89	Y	N
KANE COUNTY *	NO	NO	Single Family Residential	2	15238.09	Y	N
KANE COUNTY *	NO	YES	Single Family Residential	3	16550.31	Y	N
KANE COUNTY *	NO	NO	Single Family Residential	2	34929.63	N	N
KANE COUNTY *	NO	NO	Single Family Residential	3	20771.93	Y	N
KANE COUNTY *	NO	YES	Other Nonresidential	1	7601.71	N	N
KANE COUNTY *	NO	YES	Single Family Residential	2	6072.88	N	N
KANE COUNTY *	NO	YES	Single Family Residential	2	67343.13	N	N
KANE COUNTY *	NO	NO	Single Family Residential	2	128660.59	N	N
KANE COUNTY *	NO	NO	Single Family Residential	2	17278.11	N	N

KANE COUNTY *	NO	NO	Single Family Residential	2	36702.1	Y	N
KANE COUNTY *	YES	NO	Single Family Residential	2	61074.47	Y	N
KANE COUNTY *	NO	NO	Single Family Residential	2	121749.13	N	N
KANE COUNTY *	NO	NO	Single Family Residential	2	233245.22	Y	N
KANE COUNTY *	NO	YES	Single Family Residential	2	70675.4	N	N
KANE COUNTY *	NO	YES	Single Family Residential	4	118779.12	Y	N
KANE COUNTY *	NO	YES	Single Family Residential	3	70537.09	Y	N
KANE COUNTY *	NO	YES	Single Family Residential	3	87443.71	Y	N
KANE COUNTY *	NO	YES	Single Family Residential	2	12909.91	Y	N
KANE COUNTY *	NO	YES	Single Family Residential	3	510782.9	Y	N
KANE COUNTY *	NO	YES	Single Family Residential	2	26861.47	Y	N
KANE COUNTY *	NO	NO	Single Family Residential	2	18117.97	Y	N
KANE COUNTY *	NO	NO	Single Family Residential	2	13309.76	Y	N
KANE COUNTY *	NO	YES	Single Family Residential	2	79715.09	N	N
MONTGOMERY, VILLAGE OF	YES	NO	Single Family Residential	2	39572.95	Y	N
MONTGOMERY, VILLAGE OF	NO	NO	Single Family Residential	5	79959.32	Y	Y
MONTGOMERY, VILLAGE OF	NO	NO	Single Family Residential	5	82956.13	Y	Y
MONTGOMERY, VILLAGE OF	YES	NO	Single Family Residential	3	53901.71	Y	N
MONTGOMERY, VILLAGE OF	NO	YES	Single Family Residential	3	28183.47	Y	N
MONTGOMERY, VILLAGE OF	NO	NO	Single Family Residential	2	46786.01	N	N
MONTGOMERY, VILLAGE OF	NO	NO	Single Family Residential	2	163122.4	N	N
MONTGOMERY, VILLAGE OF	NO	NO	Single Family Residential	2	30790.52	N	N
MONTGOMERY, VILLAGE OF	NO	NO	Single Family Residential	2	39147.26	N	N
MONTGOMERY, VILLAGE OF	NO	NO	Other Residential	2	45479.67	N	N
MONTGOMERY, VILLAGE OF	NO	NO	Single Family Residential	2	76184.62	N	N

MONTGOMERY, VILLAGE OF	NO	NO	Single Family Residential	2	55443.15	N	N
MONTGOMERY, VILLAGE OF	NO	YES	Single Family Residential	2	87955.15	N	N
MONTGOMERY, VILLAGE OF	NO	NO	Single Family Residential	2	47120.78	N	N
MONTGOMERY, VILLAGE OF	NO	YES	Single Family Residential	2	77773.65	N	N
MONTGOMERY, VILLAGE OF	NO	NO	Single Family Residential	2	73840	N	N
MONTGOMERY, VILLAGE OF	NO	YES	Single Family Residential	2	74324	N	N
MONTGOMERY, VILLAGE OF	NO	NO	Single Family Residential	2	47408.22	N	N
MONTGOMERY, VILLAGE OF	YES	NO	Business Nonresidential	5	231867.72	Y	Y
MONTGOMERY, VILLAGE OF	NO	NO	Single Family Residential	4	53574.02	Y	Y
MONTGOMERY, VILLAGE OF	NO	YES	Single Family Residential	2	10818.96	N	N
MONTGOMERY, VILLAGE OF	NO	YES	Single Family Residential	2	23338.97	N	N
NORTH AURORA, VILLAGE OF	NO	NO	Other Residential	2	9286	Y	N
SOUTH ELGIN, VILLAGE OF	YES	NO	Single Family Residential	3	73448.37	Y	N
SOUTH ELGIN, VILLAGE OF	NO	YES	Single Family Residential	3	25212.88	Y	N
SOUTH ELGIN, VILLAGE OF	NO	NO	Single Family Residential	3	14338.91	Y	N
SOUTH ELGIN, VILLAGE OF	NO	NO	Single Family Residential	2	32306.63	Y	N
SOUTH ELGIN, VILLAGE OF	NO	YES	Single Family Residential	4	11036.87	Y	N
SOUTH ELGIN, VILLAGE OF	NO	NO	Single Family Residential	3	38137.93	Y	N
SOUTH ELGIN, VILLAGE OF	NO	YES	Single Family Residential	2	9179.16	Y	N
SOUTH ELGIN, VILLAGE OF	NO	YES	Single Family Residential	2	9008.34	Y	N
SOUTH ELGIN, VILLAGE OF	NO	NO	2-4 Family Residential	2	48040.41	Y	N
ST. CHARLES, CITY OF	NO	NO	Single Family Residential	5	62327.79	Y	N
ST. CHARLES, CITY OF	NO	NO	Single Family Residential	4	132692.74	Y	Y
ST. CHARLES, CITY OF	NO	NO	Single Family Residential	2	9080.06	Y	N
ST. CHARLES, CITY OF	NO	NO	Single Family Residential	2	12319.82	Y	N

ST. CHARLES, CITY OF	NO	NO	Single Family Residential	2	7604.25	Y	N
ST. CHARLES, CITY OF	YES	NO	Single Family Residential	3	32398.6	N	N

The Share Drainage Program enables residents in flood-prone areas to seek County assistance to pay for drainage improvements which may reduce residents' flood-prone status.

### 5.3 Natural Resource Protection

Resource protection activities generally aim to preserve (or, in some cases, restore) natural areas. In so doing, these activities enable the naturally beneficial functions of the land, such as fields, floodplains, or wetlands, to be better realized. Natural and valuable functions of watersheds, floodplains, and wetlands include the following:

- Reduction in runoff from rainwater and snow melt in previous areas
- Infiltration that absorbs overland flood flow
- Removal and filtering of excess nutrients, pollutants, and sediments
- Storage of floodwaters
- Absorption of flood energy and reduction in flood scour
- Water quality improvement
- Groundwater recharge
- Habitat for flora and fauna
- Recreational and aesthetic opportunities

As development occurs, many of the above benefits can be achieved through regulatory steps for protecting natural areas or natural functions. This section covers the resource protection programs and standards that can help mitigate the impact of natural hazards while they improve the overall environment.

#### 5.3.1 Wetland Protection

Wetlands are often found in floodplains and depressional areas of a watershed. Many wetlands receive and store floodwaters, thus slowing and reducing downstream flows. They also serve as a natural filter, which helps to improve water quality and provide habitat for many species of fish, wildlife, and plants.

#### Local Implementation

There are several programs active in protecting wetlands in Kane County. Most wetlands in Kane County are subject to Section 404 regulations and the provisions of the Kane County Stormwater Ordinance. Where applicable, the Kane County ordinance protects the Corps of Engineers wetland.

If the Corps does not have jurisdiction or the Kane County standards exceed the Corps', then the provisions of the County Ordinance apply. Wetlands within agricultural land that have farm subsidies are under the responsibility of the Natural Resources Conservation Service.

Algonquin, Huntley, East Dundee, Elgin, and Batavia issue permits for wetland activities under the County's authority, using a third-party consultant to perform the technical review.

Kane County began working in 2001 with the Northeastern Illinois Planning Commission, now known as the Chicago Metropolitan Agency for Planning (CMAP), the US EPA, the US Fish and Wildlife Service, and other agency scientists and biologists to identify high-quality wetlands across the county. The project is called Advanced Identification of Aquatic Resources (ADID).

ADID aims to identify all wetlands within the county. The most valuable wetlands in Kane County are identified and mapped through field verification of the biology, habitat, water quality, groundwater, water supply, drainage, and stormwater functions. The ADID project was completed in 2003.

Both public and private wetland mitigation and restoration projects have been undertaken in Kane County. Several of these projects were constructed with detention projects.

The Kane County Forest Preserve District maintains extensive natural wetlands, including Dick Young Forest Preserve's Nelson Lake Marsh in Batavia and Blackberry Townships. Additional private wetlands along Indian Creek near Kirk Road and I-88 include flood storage and stream restoration components. Previously, Indian Creek had been converted from a straight ditch to a meandering stream through the wetlands created.

Two wetland banks have been created in Kane County by a private developer through a permit from the Corps. One of the banks in the Otter Creek watershed has been sold out. Additional banks are being planned. The purchase of the wetlands is open to agencies and developers throughout northeastern Illinois.

### **5.3.2 Erosion and Sedimentation Control**

Erosion also occurs along streambanks and shorelines as the volume and velocity of flow or wave action destabilize and wash away the soil. The sediment suspended will settle out where the flowing water slows down. It can clog storm sewers, drain tiles, culverts, and ditches and reduce the water transport and storage capacity of river and stream channels, lakes, and wetlands.

Additionally, the sediment often brings chemicals, heavy metals, and other pollutants, and light and oxygen are reduced in the stream, impairs water quality. Sediment has been identified by the US Environmental Protection Agency (EPA) as the nation's number one nonpoint source pollutant for aquatic life.

Techniques to minimize erosion include phased construction, minimal land clearing, and stabilizing bare ground as soon as possible with vegetation and other soil stabilizing practices. If erosion occurs, additional measures are used to capture sediment before it leaves the site. Silt fences, sediment traps, and vegetated filter strips are commonly used to control sediment transport. Runoff from the site can be slowed down by terraces, contour strip farming, no-till farm practices, hay, straw bales, constructed wetlands, and impoundments (e.g., sediment basins and farm ponds). Slowing surface water runoff on the way to a drainage channel increases infiltration into the soil, reducing the volume of topsoil eroded from the site.



Standards for soil erosion and sediment control during and following project construction are components of the County Stormwater Ordinance. Erosion and sediment control planning is required in the initial site planning process.

### **Local Implementation**

Standards for soil erosion and sediment control during and following project construction are significant components of the Kane County Stormwater Ordinance. Erosion and sediment control planning is required in the initial site planning process. The Ordinance also emphasizes efforts that prevent and reduce erosion rather than having to control sediments created due to construction.

### **5.3.3 River Restoration**

There is a growing movement that has several names, such as “stream conservation,” “bioengineering,” or “riparian corridor restoration.” These approaches aim to return streams, streambanks, and adjacent land to a more natural condition, including the natural meanders. Another term is “ecological restoration,” which restores native indigenous plants and animals to an area.

A vital component of these efforts is to use appropriate native plantings along the banks that resist erosion. This may involve retrofitting the shoreline with willow cuttings, wetland plants, and/or rolls of landscape material covered with a natural fabric that decomposes after the banks are stabilized with plant roots.

In all, restoring the proper vegetation to a stream has the following advantages:

- Reduces the amount of sediment and pollutants entering the water
- Enhances aquatic habitat by cooling water temperature
- Provides food and shelter for both aquatic and terrestrial wildlife
- Can minimize flood damage by slowing the velocity of water
- Increases the beauty of the land and property value
- Prevents property loss due to erosion
- Provides recreational opportunities, such as hunting, fishing, and bird watching
- Reduces long-term maintenance costs

Studies have shown that long-term maintenance costs are lower after establishing the proper vegetation than if the banks were concrete. The Natural Resources Conservation Service estimates that over ten years, the combined costs of installing and maintaining a natural landscape may be one-fifth of the cost of conventional landscape maintenance, e.g., mowing turf grass.

### **Local Implementation**

Kane County has been active in pursuing and completing restoration projects. A section of Brewster Creek was restored when the YWCA dam at Camp Tu-Endie-Wei south of South Elgin was removed. This pilot dam removal project in Illinois allowed for a gradual drawdown of a dam reservoir over a year or more. The gradual drawdown allowed a channel to reform the sediment deposits behind the dam, encouraging a more stable, naturally vegetated stream bank.

A section of Indian Creek near Kirk Road and Interstate 88 was also restored. The project took a portion of Indian Creek, a straight ditch, and converted it to a meandering stream through a large, created wetland. This has resulted in more stable banks along the Creek and additional floodplain storage.

With funding from the US EPA, Kane County, and the villages of East Dundee, West Dundee, and Carpentersville, sections of the Fox River and seven tributary streams to the Fox River were restored. The project extends from the north side of Carpentersville to the south end of East and West Dundee. The project involved streambank stabilization, habitat improvement, and streamside vegetation improvement.

## **5.4 Structural Projects**

Structural projects are usually funded by public agencies and constructed to protect people and infrastructure from damage due to natural hazards. Floodwater management is the primary focus of structural projects.

Structural projects have traditionally been used by communities to control or manage floodwaters. Structural projects keep flood waters away from an area. They are usually designed by engineers and operated or maintained by public works staff. Six approaches are reviewed in this section:

- Reservoirs and detention
- Levees and floodwalls
- Channel improvements
- Crossings and roadways
- Drainage and storm sewer improvements
- Drainage system maintenance

Structural projects offer advantages not provided by other measures, but as shown below, they also have shortcomings. The appropriateness of using structural flood control depends on individual project area circumstances.

Figure 5-7. Pros and Cons of Structural Flood Control Projects

<b>Pros and Cons of Structural Flood Control Projects</b>	
<u>Advantages</u>	<u>Shortcomings</u>
May provide the greatest amount of protection for land area used.	They disturb the land and disrupt natural water flows, often destroying wildlife habitat.
Because of land limitations, may be the only practical solution in some circumstances.	They require regular maintenance, which if neglected, can have disastrous consequences.
Can incorporate other benefits into structural project design such as water supply and recreational uses.	They are built to a certain flood protection level that can be exceeded by larger floods, causing extensive damage.
Regional detention may be more cost-efficient and effective than requiring numerous small detention basins.	They can create a false sense of security as people protected by a project often believe that no flood can ever reach them.
	Although it may be unintended, in many circumstances they promote more intensive land use and development in the floodplain.

Since structural flood control is generally the most expensive mitigation measure regarding installation costs, maintenance requirements, and environmental impacts, a thorough alternative assessment should be conducted before choosing a structural project.

In some circumstances, smaller flood control measures may be included in several recommended steps for a project area where non-structural measures could be more practical and effective.

Larger structural flood control projects are expensive and have regional or watershed-wide implications. Because of this, they are often planned, funded, and implemented at a regional level.

Over the years, flood control studies have been conducted for the Fox River, Indian Creek, and Blackberry Creek. Other Kane County watersheds have been studied by the agencies listed above, but the purpose of those studies has been to map the 100-year floodplain, not determine how to control floodwaters.

#### 5.4.1 CRS Criteria

The Community Rating System provides flood insurance discounts to those communities that implement various floodplain management activities that meet specific criteria. Comparing local activities to those national criteria helps determine if local actions should be improved. Structural flood control projects that provide 100-year flood protection and result in revisions to the Flood Insurance Rate Map are not credited by the CRS to not duplicate the larger premium reduction provided by removing properties from the mapped floodplain.

In 2002, the CRS began crediting structural flood control projects that meet the following criteria:

- They must provide protection from at least the 25-year flood.
- The design and construction must be certified by a licensed professional engineer.

- They must meet specific environmental protection criteria.
- They must meet Federal, State, and local regulations, such as the Corps of Engineers' 404 permit requirements and State dam safety rules.
- They must meet specific maintenance requirements.

These criteria ensure that credited projects are well-planned and permitted. Any of the first five measures reviewed in this section would be recognized under Section 531 of the *CRS Coordinator's Manual*. Credit points are based on the type of project, how many buildings are protected, and to what flood protection level.

## Local Implementation

The recent virtual floodplain awareness open house and floodplain trainings are included as examples of key efforts by the County and participating jurisdictions to continue supporting compliance with NFIP requirements and raising awareness and their capability to mitigate flooding. The County also has a dedicated floodplain awareness week and web site.

Figure 5-8. Virtual Floodplain Awareness Open House

**KANE COUNTY CONNECTS**

**SUBSCRIBE**

**2022 Kane County Virtual Floodplain Awareness Open House**

*Kane County Connects Staff 9/21/2022 7:00AM*

Kane County Department of Environmental and Water Resources invites you to the first Floodplain Awareness Virtual Open House, with support from The Conservation Foundation.

Flooding is the most common, most expensive natural disaster in the United States. Learn more about what you can do to be more prepared.

This daily educational series September 26-30, will benefit Kane County residents, realtors and floodplain professionals.

Check out the Open House schedule and register at our website: <https://www.countyofkane.org>

For residents, the program will cover an introduction to floodplains, the common terms used and where it can flood (*here's a hint, anywhere it rains*). Learn about what regulations you need to know as a property owner in a floodplain and what every resident should know about flood insurance protection. Attendees will also learn how to set up backyard rain barrels and rain gardens, and what responsibilities Homeowner Associations have for stormwater basin management. In addition, learn about the role of wetlands and their natural benefits to our homes and communities.

For floodplain professionals, the program will take you through the ins and outs of elevation certificates, and how to accurately market floodplain properties. You will also learn more about what can be done in constructing or retrofitting a building for wet and dry flood proofing, options for long-term maintenance, and conservation-minded development that support stormwater management.

Please join us, for one or all presentations, to learn much more about Floodplain Awareness in Kane County. Reach out to WilfordAnne@co.kane.il.us or Kleeivy@co.kane.il.us with any questions.

Tags: [Featured](#) [Around Town](#) [Community Involvement](#) [Education](#) [Environment](#) [Families](#) [Kane Government](#) [Recycling](#)

Figure 5-9. Floodplain Training

The screenshot shows a webpage header with the 'KANE COUNTY CONNECTS' logo and a 'SUBSCRIBE' button. The article title is 'Floodplain Training Opportunity in Kane County'. The text describes an NFIP State Training for Municipal Building & Floodplain Officials on February 28, 2023, at 9 a.m. at the Kane County Government Center. It lists topics such as Substantial Damage/Improvement, Definitions, Data Sources, Permitting, and a demo of SDE 3.0. It also mentions that coffee and donuts will be provided and provides an RSVP email: wilfordanne@co.kane.il.us.

Figure 5-10. Dedicated Floodplain Web page and Floodplain Awareness Week

The screenshot shows the 'Floodplain Information' page on the Kane County, Illinois website. The page features a navigation menu with links for Government, A-Z Services, Business, Communities, Calendar, Maps, and Employment. The main content area includes sections for 'Floodplain Information', 'Floodplain Mapping & Insurance', 'Floodplain Management', and 'Natural Hazards Mitigation'. Each section provides detailed information and links to related resources. On the right side, there are two promotional banners: one for 'Floodplain Awareness Week' (September 26th - October 1) and another for 'Kane County 2022 Virtual Floodplain Awareness Open House'.



## 5.4.2 Reservoirs and Detention

Reservoirs reduce flooding by temporarily storing flood waters behind dams or in storage or detention basins. Reservoirs lower the flood height by holding back or detaining runoff before it can flow downstream. Flood waters are confined until the flood has subsided; then, the water in the reservoir or detention basin is released or pumped out slowly at a rate the river can accommodate downstream.

Reservoirs can be dry and remain idle until a significant rain event occurs. Or they may be designed so that a lake or pond is created. The lake may provide recreational benefits or water supply (which could help mitigate a drought).

Reservoirs are most commonly built for one of two purposes. Large reservoirs are constructed to protect property from existing flood problems. Smaller reservoirs, or detention basins, are made to protect property from the impacts of new development (i.e., more runoff).

Regardless of size, reservoirs protect the development downstream from the reservoir site. Unlike levees and channel modifications, they do not have to be built close to or disrupt the area to be protected. Reservoirs are most efficient in deeper valleys with more room to store water or on smaller rivers with less water to accumulate.

In urban areas, some reservoirs are human-made holes excavated to store floodwaters. In some areas, costs have been reduced by using abandoned quarries as reservoirs. Reservoirs in urban areas are typically constructed adjacent to streams (usually outside the floodplain). When built in the ground, there is no dam for these retention and detention basins and no dam failure hazard. Wet or dry basins can also serve multiple uses by doubling as parks or other open space uses.

There are several considerations when evaluating the use of reservoirs and detention:

- There is the threat of flooding the protected area should the reservoir's dam fail.
- There is a constant expense for the management and maintenance of the facility.
- They may fail to prevent floods that exceed their design levels.
- Sediment deposition may occur and reduce the storage capacity over time.
- They can impact water quality as they are known to affect temperature, dissolved oxygen and nitrogen, and nutrients.
- If not designed correctly, they may cause backwater flooding problems upstream.

### Local Implementation

Several reservoirs have been built or are being planned. The larger ones are discussed in this section.

**(Fox River Watershed)** The Stratton Lock and Dam in McHenry County controls the flows of the Fox River as it enters Kane County. The lock and dam are owned and operated by the Illinois Department of Natural Resources, Office of Water Resources. The Lock and Dam's function is twofold: the McHenry Dam controls the water level of the Fox Chain-of-Lakes in Lake and McHenry Counties, which allows for boating and other recreation in the lakes. The McHenry Dam also enables the chain of lakes to act as a reservoir that controls the flows of the Fox River into Kane County to alleviate flooding. This dual purpose means that the upstream needs and the downstream needs have to be balanced with one another in severe flood conditions.

**(Blackberry Creek Watershed)** In 2001, Aurora completed a reservoir and channel improvement project on Blackberry Creek from Galena Road to Jericho Road. The project protects over 150 Cherry Hills and San Souci Subdivisions homes. A series of lakes were constructed along Blackberry Creek, providing 100-year flood storage. The project was enhanced by new pedestrian bridges for the Illinois Prairie Path and by developing wetland areas. The total project cost, including bridge replacements and storm sewer improvement, was \$2.5 million.

In December 2011, the Chicago Metropolitan Agency for Planning (CMAP) released the Blackberry Creek Watershed Action Plan, which evaluates and recommends the best measures to help restore the beneficial uses in Blackberry Creek, with the long-term goal of improving conditions.

**(Indian Creek Watershed)** A flood control reservoir, located adjacent to Indian Creek and east of Farnsworth Road (south of Molitor Road), was completed in 1992 in the northeast portion of Aurora. This 100-year capacity reservoir (310 acre-feet) protects 130 Aurora and Aurora Township homes. It has performed well since its construction, though it was completely inundated in the July 1996 flood. The IDNR Office of Water Resources funded the project and was sponsored by the City of Aurora. The estimated project cost was \$5.4 million.

Also, in the Indian Creek watershed in 2004, a second major flood control and wetland restoration project was completed. As part of the Chicago Outlet Mall development, a flood control project comprised 80 acres of wetland mitigation and 32 acre-feet of detention storage volume. The resulting project has helped lower the base flood elevation and reduce the number of flooded structures.

**(Mill Creek Watershed)** A wetland detention project was constructed in 2002 along the McKee Tributary of Mill Creek in Batavia. This project served a dual purpose of protecting 50 to 75 existing homes from floodwaters and as the required detention for new development in the area. Developers reimburse Batavia for their project share as development occurs around the room. The design of the detention and wetlands allowed for the consolidation of 60 acres of green space and wetlands.

**(Waubonsie Creek Watershed)** 1984 the Oakhurst Lake-Patterson Lake reservoir and wetland project was completed in the Oakhurst Forest Preserve in Aurora. The reservoir was a joint project between the City of Aurora, the Kane County Forest Preserve, and the Fox Valley Park District. It was constructed to separate storm and sanitary sewers in the neighborhoods west of the Forest Preserve.

In 1979, a 50-acre-feet reservoir was completed along Waubonsie Creek with a levee project to protect 60 – 100 homes in the Park View Estate and Marberry Manor subdivisions in the Village of Montgomery. The project was funded by IDNR's Office of Water Resources and sponsored by the Village.

The reservoir capacity was exceeded during the July 1983 flood event, and the reservoir and the levee were over-topped by the July 1996 flood. Though designed for the 100-year event (using TP-40) in 1979, the pool and the levee are no longer considered to provide 100-year protection. This is due to an increased 100-year rainfall standard (ISWS Bulletin 70 rainfall) and the significant

upstream development in the watershed. Following the 1996 flood, about 30 homes in the Park View Estates subdivision were acquired by Montgomery through a mitigation grant from IEMA.

**(Countywide)** Since November 2000, detention has been required for all new development in Kane County. This means small reservoirs are located with new residential and business development throughout each watershed.

### 5.4.3 Levees and Floodwalls

The best-known flood control measure is a barrier of earth (levee) or concrete (floodwall) erected between the watercourse and the property to be protected. Levees and floodwalls confine water to the stream channel by raising its banks. They must be well designed to account for large floods, underground seepage, pumping of internal drainage, and erosion and scour.

Key considerations when evaluating the use of a levee include:

- Removal of fill to compensate for the floodwater storage displaced by the levee.
- Internal drainage of surface flows from the area inside the levee.
- Cost of construction.
- Cost of maintenance.
- River access and views.
- Creating a false sense of security (while levees may reduce flood damage for smaller, more frequent rain events, they may also overtop or breach in extreme flood events and subsequently create more flood damage than would have occurred without the levee).

**Levees** along the river or stream edge degrade the stream's aquatic habitat and water quality. They also are more likely to push floodwater onto other properties upstream or downstream. The best project design is to reduce environmental impacts and provide multiple-use benefits to a setback levee (set back from the floodway). The area inside a setback levee can provide open space for recreational purposes and provide access sites to the river or stream.

**Floodwalls** perform like levees; except they are vertical structures that require less land area for construction. Floodwalls are constructed of reinforced concrete, which makes the expense of installation cost prohibitive in many circumstances. Floodwalls also degrade adjacent habitats and displace erosive energy to unprotected shoreline areas downstream.

### Local Implementation

In 1979, a 3,000-foot levee was constructed in conjunction with the reservoir project along Waubonsie Creek, discussed on the previous page. The IDNR Office of Water Resources funded the project and was sponsored by the Village of Montgomery.

Though designed to provide 100-year flood protection in 1979, the levee now provides a lower level of protection. It was overtopped during the July 1996 flood. Following the 1996 flood, about 30 homes in the Park View Estates subdivision were acquired by Montgomery through a mitigation grant from IEMA.

#### 5.4.4 Channel Improvements

By improving a channel's conveyance, more water is carried away faster. Three channel improvements are reviewed here: dredging the channel bottom; projects that make the channel wider, straighter, or smoother; and diverting high flows to another channel or body of water.

**Dredging** is often viewed as a form of conveyance improvement; however, it has the following problems:

- Given the enormous volume of water that comes downstream during a flood, removing a foot or two from the bottom of the channel will have little effect on flood heights.
- Dredging is often cost prohibitive because the dredged material must be disposed of somewhere.
- Unless instream and/or tributary erosion are corrected upstream, the dredged areas usually fill back in within a few years, and the process and expense have to be repeated.
- If the channel has not been disturbed for many years, dredging will destroy the habitat that has developed.
- Federal law requires a Corps of Engineers permit before dredging can proceed to protect the stream's natural values. This can be a lengthy process that requires much planning and many safeguards to protect the habitat.

Straightening, deepening, and/or widening a stream or river channel, commonly called "**channelization**," has traditionally been a typical remedy for local drainage or flooding problems. Here are the concerns with this approach that need to be kept in mind:

- Channelized streams can create or worsen flooding problems downstream as larger volumes of water are transported faster.
- Channelized streams rise and fall faster. During dry periods the water level in the channel should be higher than it should be, which creates water quality problems and degrades the habitat.
- Channelized waterways tend to be unstable and experience more streambank erosion. The need for periodic reconstruction and silt removal becomes cyclic, making channel maintenance expensive.

On the other hand, adequately sloped and planted channel banks are more aesthetically and environmentally appealing and can prove cheaper to maintain than concrete ditches.

A **diversion** is a new channel sending floodwaters to a different location, reducing flooding along an existing watercourse. Diversions can be surface channels, overflow weirs, or tunnels. During expected flows, the water stays in the old channel. During flood flows, the floodwaters spill over to the diversion channel or tunnel, carrying excess water to a receiving lake or river.

Diversions are limited by topography; they will not work in some areas. Unless the receiving water body is relatively close to the flood-prone stream and the land in between is low and vacant, creating a diversion can be prohibitive. A more expensive tunnel is needed where topography and land use could be more favorable.

## Local Implementation

**Blackberry Creek Watershed.** In the city of Aurora, channel improvements were made along Blackberry Creek from Manchester Road to Jericho Road. These improvements were made with the reservoir and lakes project constructed south of the Cherry Hills Subdivision and west of Orchard Road. The reservoir and channel improvements were completed in 2001. They were constructed to protect homes in the Cherry Hills and San Souci Subdivisions.

In Montgomery, rerouting the Blackberry Creek overflow through Crescent Lake would relieve flooding due to the undersized culverts at U.S. Route 30. Residential flooding occurs as the Blackberry Creek overflow floodwaters reach the Fox River. This project is under consideration and is not yet included in Montgomery's capital improvement plan.

**Indian Creek Watershed.** In northeast Aurora, a channel improvement project was constructed along Indian Creek from the I-88 Toll Road to Molitor Road and Molitor Road to Farnsworth Road. Around 8,400 feet of the channel were modified, which protects 130 homes in Aurora and Aurora Township in conjunction with the reservoir project. This project was completed in 2002, funded by the IDNR Office of Water Resources, and sponsored by the City of Aurora.

Also, in the Indian Creek watershed in 2004, a second major flood control and wetland restoration project was completed. As part of the Chicago Chelsea Mall development, a farmed ditch was re-meandered to a more natural historical flow pattern through an ecological corridor providing 200 additional acre-feet of regional floodplain storage volume.

**Ferson-Otter Creek Watershed.** In 1982, a channel improvement project was completed along Otter Creek to protect properties in Elgin. Almost 5,300 feet of the channel were modified. The IDNR Office of Water Resources funded the project and was sponsored by the City of Elgin.

**Tyler Creek Watershed.** In unincorporated Kane County, the portion of the north branch of Tyler Creek from north of I-90 to west of the Union Pacific Railroad was dredged in 2001 to improve flow through the stream below the Windmill Meadow Subdivision. The \$22,000 cost of this project was shared between Kane County and the Village of Gilberts.

**Eakin Creek Watershed.** In Rutland Township, the Kane County Water Resources Department dredged 3,700 feet of the South Branch of the Kishwaukee River near the Landing Subdivision in 2000. The cost of \$20,000 was shared between the County, the homeowners, and the Landings Airport.

### 5.4.5 Crossings and Roadways

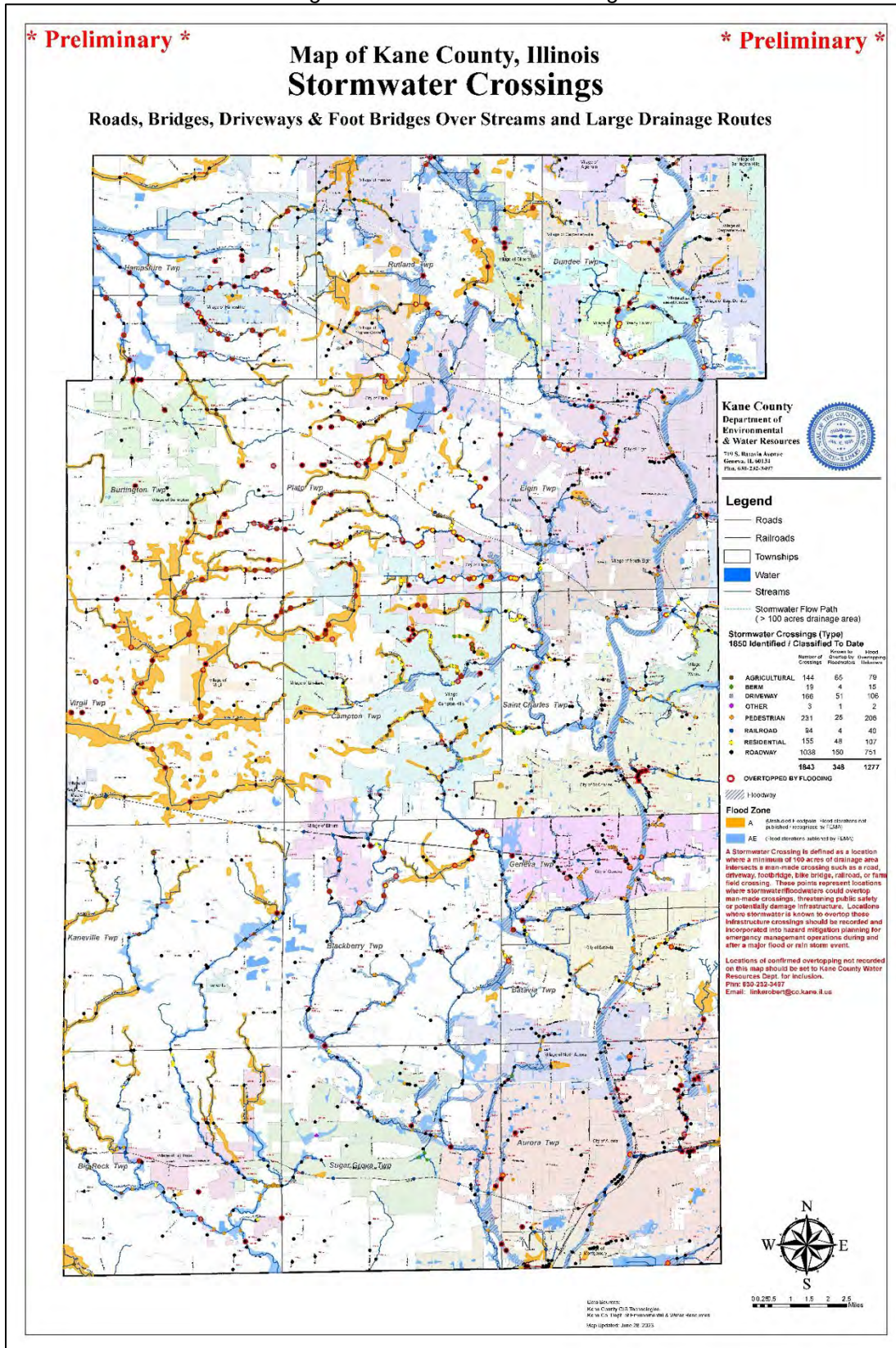
In some cases, buildings may be elevated above floodwaters, but access to the building is lost when floodwaters overtop local roadways, driveways, culverts, or ditches. Depending on the recurrence interval between floods, the availability of alternative access, and the need for entry, elevating some roadways and improving crossing points may be economically justifiable.

For example, if there is sufficient downstream channel capacity, a small culvert that constricts flows and causes localized backwater flooding may be replaced with a larger culvert to eliminate



flooding at the waterway crossing point. Before implementing any crossing or roadway drainage improvements, the potential for worsening adjacent or downstream flooding must be considered. The map below shows areas where overtopping has or may have occurred. The locations were identified using the County's 2017 digital elevation model to map all locations where there was 100 or more acres of drainage area that crossed a road, bridge, or culvert of any type. Overtopping was noted based on either real world observation from a past storm event or those infrastructure crossings shown to overtop based on the published FEMA flood profile.

Figure 5-11. Stormwater Crossing



### 5.4.6 Drainage and Storm Sewer Improvements

Artificial ditches and storm sewers help drain areas where the surface drainage system is inadequate, or underground drainage may be safer or more practical. Storm sewer improvements include installing new sewers, enlarging small pipes, and preventing backflows. Particularly appropriate for depressions and low spots that will not drain naturally, drainage and storm sewer improvements usually are designed to carry the runoff from smaller, more frequent storms.

Because drainage ditches and storm sewers convey water faster to other locations, improvements are only recommended for minor local problems where the receiving stream or river has sufficient capacity to handle the additional volume and flow of water. Further detention or run-off reduction practices should be provided with drainage system improvements to reduce the cumulative downstream flood impacts of numerous small drainage projects.

A combination of restored wetland detention, vegetated swales, infiltration trenches, and other best management practices that increase infiltration (reducing runoff) and improve water quality can be implemented with stormwater system improvements. As shown in the photos below, these projects can have multiple benefits.

*Figure 5-12. Infiltration and Water Quality Improvement Measures*



### Local Implementation

The Kane County Environmental and Water Resources Division addresses drainage problems in the county's unincorporated areas. Drainage problems are evaluated and prioritized depending on the severity of the problem. The Water Resources Division provides technical assistance and cost-sharing on specific drainage improvement projects.

### 5.4.7 Drainage System Maintenance

The drainage system may include detention ponds, stream channels, swales, ditches, and culverts. Drainage system maintenance is an ongoing program to clean out blockages caused by

an accumulation of sediment or overgrowth of weedy, non-native vegetation or debris and remediation of streambank erosion sites.

“**Debris**” refers to a wide range of blockage materials, including tree limbs and branches that accumulate naturally or large trash or lawn waste accidentally or intentionally dumped into channels, drainage swales, or detention basins. Maintenance of detention ponds may also require revegetation or repairs of the restrictor pipe, berm, or overflow structure.

Maintenance activities usually keep the shape of the channel or pond the same, but they affect how well the drainage system can do its job. Sometimes it is a fine line separating debris that should be removed from a natural material that helps form a habitat.

Therefore, written procedures consistent with state laws and environmental concerns are usually needed.

Government agencies usually accept responsibility for maintaining facilities on public property. However, in Illinois, the responsibility for drainage way maintenance on private property when no easements have been granted, is with the individual private property owner. This often results in very little maintenance being accomplished.

### **Local Implementation**

Kane County and municipalities have maintenance responsibility over drainage ways under their jurisdiction. Most Kane County communities inspect drainage systems and provide maintenance as needed.

In the case of detention ponds, a property owners’ association or the owner is responsible for the maintenance of residential developments or commercial properties. The appropriate government jurisdiction maintains detention ponds on public properties.

## **5.5 Emergency Services**

Emergency services measures protect people during and after a disaster. A good emergency management program addresses all hazards and involves all municipal and/or county departments.

At the state level, programs are coordinated by the Illinois Emergency Management Agency (IEMA). In Kane County, emergency services are coordinated through the Kane County Office of Emergency Management (OEM) in Geneva.

Kane County municipalities with emergency management programs generally coordinate them through their fire or police department or a separate emergency manager or Emergency Services and Disaster Agency coordinator. With two exceptions, when a municipality develops and adopts an emergency management plan, the plan is reviewed and approved by Kane County OEM for the State of Illinois. The two exceptions are the Cities of Aurora and St. Charles, accredited directly by IEMA.



### 5.5.1 Public Information and Warning Capabilities

When a threat is identified, Kane County OEM, municipalities, and/or entities such as the NWS notify the public.

The National Weather Service issues notice to the public using two levels of notification:

- *Watch*: conditions are right for flooding, thunderstorms, tornadoes, or winter storms
- *Warning*: a flood, tornado, etc., has started or has been observed

The communities in Kane County have the capability to disseminate a more specific warning in a variety of ways. The following are the more common notification methods:

- Outdoor warning sirens
- Commercial or public radio or TV stations
- IPAWS mass cell phone notification
- Community notification systems
- NOAA Weather Radio
- Tone-activated receivers in critical facilities
- Door-to-door contact
- Mobile public address systems
- E-mail notifications

Multiple or redundant systems are the most effective. If people do not hear one warning, they may still get the message from another part of the system. Each has advantages and disadvantages:

- Radio and television provide a lot of information, but people must know when to turn them on.
- NOAA Weather Radio can provide short messages of any impending weather hazard or emergency and advise people to turn on their radios or televisions, but only some have a Weather Radio.
- Outdoor warning sirens can reach many people quickly as long as they are outdoors. They do not get people in tightly-insulated buildings or those around loud noise, such as at a factory, during a thunderstorm, or in air-conditioned homes. They do not explain what hazard is coming, but people should know to turn on a radio or television.
- Newer cell phones come with the IPAWS system enabled at no extra cost to the user. NWS generates the IPAWS message; the user will be notified if the cell phone is turned on.
- Automated telephone notification services like CodeRED are also fast but can be expensive and do not work when phone lines are down. Nor do they work for unlisted numbers and calling screener services, although individuals can sign up for notifications.
- Going door-to-door and manual telephone trees can be effective when a threat has a longer lead time (e.g., flooding along the Fox River).

Just as important as issuing a warning is telling people what to do. A warning program should have a public information aspect. People need to know the difference between a tornado warning (when they should seek shelter in a basement) and a flood warning (when they should stay out of basements).

## Local Implementation

The Kane County OEM and municipal emergency services are responsible for disseminating warning information to the public and notifying response personnel during an emergency. Once the threat is perceived, the County's 911 dispatch center then transmits the warnings to these offices, as well as schools, hospitals, government offices, businesses, and the general public through the following systems:

- The Emergency Alert Radio System (EARS) is a tone alert system designed to provide weather watch and warning information to schools, hospitals, government offices, businesses, and the general public.
- The Emergency Alert System (EAS) is a national warning system that utilizes broadcast radio and television stations and local cable television systems. In Kane County, activation of the EAS will only be initiated if the event affects a large area of the County. It is impractical to warn affected residents using other means.
- CodeRED can place up to 60,000 phone calls per hour to inform residents of what is happening and provide essential instructions on what to do next.

## Incorporated Areas

Municipalities are responsible for the installation and operation of warning sirens. Fire chiefs, mayors, and police are authorized to activate these systems. Kane County OEM published *Guidelines for Operation Outdoor Warning Systems* to improve coordination and consistency in using sirens.

Aurora and South Elgin have provided the most critical facilities (schools, hospitals, nursing homes, and municipal facilities) with weather radios. Aurora also has its own municipally-owned AM station (1690) that broadcasts Weather Service notices and can be used to provide information to the public during and after a disaster.

## Rural Areas

Kane County OEM does not own or operate any outdoor warning system. Therefore, most unincorporated areas need warning sirens. For rural and unincorporated areas, Kane County OEM holds that the most effective means of public warning are the IPAWS system, Broadcast radio and television, cable systems (EAS), the EARS tone alert radios, and NOAA Weather Radios. OEM has recommended that all schools and manufactured home communities have weather radios.

### 5.5.2 StormReady Program

The National Weather Service established the StormReady program to help local governments improve the timeliness and effectiveness of hazardous weather-related warnings for the public. To be officially StormReady, a community must:

- Establish a 24-hour warning point and emergency operations center
- Have more than one way to receive severe weather warnings and forecasts and to alert the public
- Create a system that monitors weather conditions locally



- Promote the importance of public readiness through community seminars
- Develop a formal hazardous weather plan, which includes training severe weather spotters and holding emergency exercises.

The following are designated as StormReady communities: City of Aurora, City of Batavia, Village of Huntley, and City of St. Charles. It is also credited to the Community Rating System.

### 5.5.3 Response Capabilities

Protecting life and property is the foremost important task of emergency responders. Concurrent with threat recognition and issuing warnings, a community should respond with actions to prevent or reduce damage and injuries. Typical activities and responding parties include the following:

- Activating the emergency operations center (emergency management)
- Closing streets or bridges (police or public works)
- Shutting off power to threatened areas (utility company)
- Passing out sand and sandbags (public works or emergency management)
- Ordering an evacuation (mayor or county board chairman)
- Holding children at school/releasing children from school (school district)
- Opening evacuation shelters (Red Cross or local authority)
- Monitoring water levels (engineering)
- Security and other protection measures (police)

An emergency action plan ensures that all bases are covered, and the response activities are appropriate for the expected threat. These plans are developed in coordination with the agencies or offices given various responsibilities.

Emergency response plans should be updated annually to keep contact names and telephone numbers current and ensure that supplies and equipment that will be needed are still available. They should be critiqued and revised after disasters and exercises to take advantage of the lessons learned and changing conditions. The result is a coordinated effort implemented by people with experience working together so that available resources will be used most efficiently.

### Local Implementation

The *Kane County Emergency Operations Plan* is designed to present a common platform for coordinating major response activities for all natural and technological hazards. It establishes the Incident Management System, which assigns responsibilities during a disaster, such as communications, evacuation, and public health. Implementation of the plan relies on the combined effort of Kane County departments and municipal emergency management agencies.

The *Emergency Operations Plan* is supported by annexes, standard operating procedures, and other guidance documents that cover the details of various aspects of emergency response, such as communications, evacuation, sheltering, damage assessment, and severe weather. The EOP includes an annex specific to flooding and includes checklists of action items. It has a Pre-Emergency Operations Checklist with things like “Review county hazard analysis to determine possible locations of flood hazards.”

## **Kane County Municipalities**

Not all municipalities have emergency operation plans. As communities update or develop plans, they are sent to OEM for review. Municipalities that do not have emergency operations plans rely on assistance from the Kane County Office of Emergency Management. The County can provide additional resources if an emergency's severity or extent exceeds any municipality's capability.

## **5.6 Public Outreach**

A successful hazard mitigation program involves both the public and private sectors. Public information activities advise property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. These activities can motivate people to take the steps necessary to protect themselves and others.

This section starts with activities that reach out to people and tell them to be advised of the hazard and some of the things they can do. These are the key activities taking place in the county.

### **Community newsletters/direct mailings**

The most effective types of outreach projects are mailed or distributed to everyone in the community or, in the case of floods, to floodplain property owners. The majority of communities in Kane County have a community newsletter.

### **News media**

Local newspapers and television media can be strong allies in efforts to inform the public. All communities in Kane County have the ability to develop and issue press releases.

### **Website and Social Media**

Social Media websites such as Facebook, X (formerly known as Twitter), Nextdoor, Instagram, and many others have become part of everyday life. For the public that is interested and are willing to subscribe to the services, these outlets can be used for real-time updates and provide immediate access to information. It may be possible for the communities within Kane County to utilize these to quickly communicate with the residents.

The City of Aurora Emergency Management Agency is active on social media. Their outreach includes but are not limited to: up to date information about emergency management responses, weather information, situation updates about incidents in the city, road closures and traffic information, classes and training opportunities.

More communities in Kane County may be able to expand their efforts to be more engaged on social media, especially in times of disaster. All communities have a community website, however, only half have information directly referencing their key hazards and what to do during an emergency.

## Chapter 6: Mitigation Goals and Changes in Priority

Mitigation goals describe the broad direction that Kane County and participating jurisdictions will take to select mitigating projects, which are designed specifically to address risks posed by natural hazards. The goals are stepping-stones between the mission statement and the individual mitigation projects.

As stated in this Plan, the purpose of the hazard mitigation planning process is to identify hazard areas, to assess the risks, to analyze the potential for mitigation and to recommend mitigation strategies, where appropriate. Potential mitigation projects will be reviewed using criteria that stress the intrinsic value of the increased safety for people and property in relation to the monetary costs to achieve this (i.e., a cost-benefit analysis). With that in mind, the planning goals for this entire Plan were reassessed and updated.

The analysis of the Risk Assessment identified areas where mitigation improvements could be made, providing the framework for the committee to readdress and formulate planning goals.

### 6.1 Community Priorities

The following topics were identified by the planning team to be of priority for the county and participating jurisdictions:

- Life Safety
- Public Health
- Critical Infrastructure Maintenance and Protection
- Public Information and Warning
- Public Outreach, Education, and Awareness
- Equitable outcomes for underserved communities and socially vulnerable populations
- Inter-governmental Coordination
- Public-Private Partnerships
- Repetitive Loss Properties
- Climate Change

### 6.2 Goals

#### 6.2.1 Hazard Mitigation Goals

The following goals (shown in order of importance) were developed by the planning team for the purpose of guiding and directing the plan in accordance with governmental requirements, community priorities, and changing circumstances.

**Goal 1.** Protect the lives and health of the citizens of Kane County from the effects of natural hazards.

**Goal 2.** Protect critical infrastructure and community lifelines within Kane County by identifying and reducing vulnerabilities to the impacts of natural hazards.

**Goal 3.** Protect the assets (people, properties, key resources, etc.) within Kane County from the impacts of natural hazards through the implementation of structural mitigation projects, such as flood mitigation projects, green infrastructure, retrofitting, reducing the number of repetitively damaged structures in the County, etc.; and nonstructural mitigation activities, such as public outreach and education and improving/promoting advanced warning systems.

**Goal 4.** Strengthen relationships between the public sector, private sector entities, leaders from underserved communities, and residents to enhance community resilience through a whole-community approach, with specific emphasis on achieving equitable outcomes for all communities, including underserved communities and socially vulnerable populations.

**Goal 5.** Promote coordination between public service sectors, and encourage participation in sustainable and cost-effective mitigation projects.

**Goal 6.** Encourage systematic updates and adoptions of regulations and policies to ensure new and existing developments address changing environmental, climate change, and natural hazard concerns. Integrate hazard mitigation strategies and priorities into existing community plans.

## **6.2.2 Kane County Mission & Vision and Plan Integration**

The mission, vision, and Kane County 2040 Plan were considered when updating the hazard mitigation goals and is a reflection of the County's effort to integrate hazard mitigation efforts, where applicable.

### **Mission**

The Mission of Kane County Government is to be accountable to its citizens in providing innovative and high quality government services in an economical, fair, professional, and courteous manner to enhance and protect the health, welfare, and safety of those who live and work in Kane County.

### **Vision**

Being an innovative and strategic leader in providing essential and effective public services in a fiscally prudent manner; Being good stewards of the natural and economic resources that make up our unique urban and rural communities; Adapting to, and providing, governmental services to a growing and diverse population; Promoting and environment that advocates health, welfare and safety; Encouraging and valuing citizen communication, input, and involvement in governing so that residents are proud to call Kane County "home".

Kane County is one of the collar counties surrounding the Chicago metropolitan area and lies on the western edge of the northeastern Illinois region. The county is approximately 520 square miles in area. By the year 2040, the expected population is 789,295, representing a potential increase of 261,898.

The most notable natural feature in Kane County is the Fox River. The headwaters of the Fox River are in southern Wisconsin and flows over a rocky bed from Clinton until some distance below the southern line of Kane into Kendall County. In addition to having a thriving commercial base, farming has long been a way of life and important economic activity in Kane County. In an

effort to preserve the rich agricultural heritage, the County Board approved purchasing agricultural easements as part of the Kane County Farmland Preservation Program and the Federal Farmland Protection Program. This commitment has resulted in 5,298 acres of farmland being protected and funded for protection.

Since 1980, Kane County has experienced periods of rapid growth. In 1994, the county adopted the Conceptual Land Use Strategy, which identified three areas. This strategy was updated and reaffirmed in 2003 and 2010. The three areas include the Sustainable Urban Corridor (the eastern portion of the county), the Critical Growth Area (the middle portion of the county that is experiencing the most development pressure), and the Agricultural/Food, Farm, Small Town Area (the western portion of the county) where agricultural uses are the priority.

In 2012, the Kane County Board adopted the Kane County 2040 Plan. Kane County is recognized as the first county in Illinois to integrate health into a comprehensive plan. The 2040 Plan envisions Healthy People, Healthy Living, Healthy Communities in Kane County by advocating for a future where:

- The built environment promotes, rather than restricts, physical activity and mobility for residents of all ages
- All residents have convenient access to safe public parks, active recreation opportunities and open space areas
- Access to healthy food choices, clean air and a safe water supply is not restricted because of where people live or social/economic factors
- Planning for healthy results is standard practice for local governments
- Healthy living is a part of our local culture and the current trends in obesity and other chronic diseases have been reversed
- Kane County's residents are the healthiest people in Illinois

### 6.3 Changes in Priority

Mitigation priorities have not significantly changed for either Kane County or the participating jurisdictions since the update of the last plan. However, for the 2024 plan update, mitigation goals for Kane County and the entire planning area were significantly updated to better align with the County's current strategic framework, current federal priorities, ongoing sustainability and climate change efforts in jurisdictions, and a more concerted focus on achieving equitable outcomes for all communities, including underserved communities and socially vulnerable populations. The plan also underwent a rewrite to better align with new mitigation plan requirements.

Also, for past mitigation projects identified in previous iterations of the plan, a **2023 Status Update and Changes in Priority** section was included for each past action. A description of the update and changes in priority were included, if appropriate and applicable. The table below provides an example of how mitigation projects were captured for each jurisdiction.

<b>Mitigation Project</b>	
<b>Year Initiated</b>	Year
<b>Applicable Jurisdiction</b>	Community Name
<b>Lead Agency / Organization / Position</b>	Lead Agency / Organization / Position
<b>Supporting Agencies/ Organizations</b>	Supporting Agencies/ Organizations
<b>Applicable Goal(s)</b>	1, 2, 3, 4, 5, or 6
<b>Estimated Cost &amp; Analysis (Low, Medium, High)</b>	Low, Medium, or High
<b>Potential Funding Source</b>	Funding Source
<b>Benefits (Loss Avoided)</b>	Benefit or Loss Avoided
<b>Benefits Analysis (Low, Medium, High)</b>	Low, Medium, or High
<b>Projected Completion Date (Short-term, Long-term, or Ongoing)</b>	Short-term, Long-term, or Ongoing
<b>Actual Completion Date</b>	Date
<b>Priority and Level of Importance (Low, Medium, High)</b> <i>(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)</i>	Low, Medium, or High
<b>Hazard(s) Mitigated</b>	Hazard
<b>Action/Implementation Plan and Project Description, if applicable</b>	Project Description
<b>2023 Plan Update Status and Changes in Priority</b>	A description of the update and changes in priority, if appropriate and applicable



## Chapter 7: Mitigation Strategies and Actions

The heart of the mitigation plan is the mitigation strategy, which serves as the long-term blueprint for reducing the potential losses identified in the risk assessment. The mitigation strategy describes how the community will accomplish the overall purpose, or mission, of the planning process. In this section, mitigation actions/projects were updated/amended, identified, evaluated, and prioritized.

### 7.1 Mitigation Action Plan

The Action Plan for each mitigation project is presented in a table format. The table is designed to capture important details intended to support the implementation of the project. It is also designed to facilitate and encourage the annual review and maintenance of each mitigation action by allowing the Lead Agency/Organization to document the status of the project prior to and/or during the Annual Steering Committee meeting.

Mitigation Project	
<b>Year Initiated</b>	Year
<b>Applicable Jurisdiction</b>	Community Name
<b>Lead Agency / Organization / Position</b>	Lead Agency / Organization / Position
<b>Supporting Agencies/ Organizations</b>	Supporting Agencies/ Organizations
<b>Applicable Goal(s)</b>	1, 2, 3, 4, 5, 6, or 7
<b>Estimated Cost &amp; Analysis (Low, Medium, High)</b>	Low, Medium, or High
<b>Potential Funding Source</b>	Funding Source
<b>Benefits (Loss Avoided)</b>	Benefit or Loss Avoided
<b>Benefits Analysis (Low, Medium, High)</b>	Low, Medium, or High
<b>Projected Completion Date (Short-term, Long-term, or Ongoing)</b>	Short-term, Long-term, or Ongoing
<b>Actual Completion Date</b>	Date
<b>Priority and Level of Importance (Low, Medium, High)</b> <i>(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)</i>	Low, Medium, or High
<b>Hazard(s) Mitigated</b>	Hazard
<b>Action/Implementation Plan and Project Description, if applicable</b>	Project Description
<b>2023 Plan Update Status and Changes in Priority</b>	A description of the update and changes in priority, if appropriate and applicable

#### 7.1.1 Mitigation Strategy/Action Timeline Parameters

While the preference is to provide definitive project completion dates, this is not possible for every mitigation strategy/action. Therefore, the parameters for the timeline (**Projected Completion Date**) are as follows:

- **Short-term**—To be completed in 1 to 5 years
- **Long-term**—To be completed in greater than 5 years
- **Ongoing**—Currently being implemented under existing programs but without a definite completion date

### 7.1.2 Mitigation Strategy/Action Benefit Analysis Parameters

Benefit ratings are defined as follows:

- **High**—Project will provide an immediate reduction of risk exposure for life and property.
- **Medium**—Project will have a long-term impact on the reduction of risk exposure for life and property, or project will provide an immediate reduction in the risk exposure for property.
- **Low**—Long-term benefits of the project are difficult to quantify in the short term.

### 7.1.3 Mitigation Strategy/Action Estimated Cost Parameters

While the preference is to provide definitive costs (dollar figures) for each mitigation strategy/action, this is not possible for every mitigation strategy/action. Therefore, the estimated costs for the mitigation initiatives identified in this plan are identified as high, medium, or low, using the following ranges:

- **High**—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (e.g., bonds, grants, and fee increases).
- **Medium**—The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
- **Low**—The project could be funded under the existing budget or with staff time. The project is part of or can be part of an ongoing existing program.

### 7.1.4 Mitigation Strategy/Action Prioritization Process and Priority & Level of Importance

The action plan must be prioritized according to a benefit/cost analysis of the proposed projects and their associated costs (44 CFR, Section 201.6(c)(3)(iii)). The benefits of proposed projects were weighed against estimated costs as part of the project prioritization process. The benefit/cost analysis was not of the detailed variety required by FEMA for project grant eligibility under the Hazard Mitigation Grant Program (HMGP) and Building Resilient Infrastructure and Communities (BRIC) grant program. A less formal approach was used because some projects may not be implemented for up to 10 years, and associated costs and benefits could change dramatically in that time. Therefore, a review of the apparent benefits versus the apparent cost of each project was conducted. Parameters were established for assigning subjective ratings (high, medium, and low) to the costs and benefits of these projects.

The priorities are defined as follows:

- **High**—A project that addressed numerous goals or hazards, has benefits that exceed cost, has funding secured or is an ongoing project, and/or meets eligibility requirements

for the HMGP or BRIC grant program. High priority projects can typically be completed in the short term (1 to 5 years).

- **Medium**—A project that addressed multiple goals and hazards, that has benefits that exceed costs, and for which funding has not been secured but that is grant eligible under HMGP, BRIC, or other grant programs. The project can be completed in the short term once funding is secured. Medium priority projects will become high priority projects once funding is secured.
- **Low**—A project that will address few or no goals, mitigate the risk of one or few hazards, has benefits that do not exceed the costs or are difficult to quantify, for which funding has not been secured, that is not eligible for HMGP or BRIC grant funding, and for which the timeline for completion is long term (1 to 10 years). Low priority projects may be eligible for other sources of grant funding from other programs.

For many of the strategies identified in this action plan, the partners may seek financial assistance under the BRIC, HMGP or other HMA programs, all of which may require detailed benefit/cost analyses. These analyses will be performed on projects at the time of application using the FEMA benefit-cost model. For projects not seeking financial assistance from grant programs that require detailed analysis, the partners reserve the right to define “benefits” according to parameters that meet the goals of this plan.

To further support the prioritization process, all new mitigation actions were required to undergo the STAPLEE assessment, which includes seven criteria for evaluating a mitigation action: **S**ocial, **T**echnical, **A**dministrative, **P**olitical, **L**egal, **E**conomic, and **E**nvironmental. The STAPLEE method provides a systematic approach that considers the opportunities and constraints of implementing a particular mitigation action. Each criterion is ranked from 1 (strongly disagree) to 5 (strongly agree) and calculated by adding together all seven criteria. The STAPLEE scoring worksheet is provided below.

The STAPLEE score and past feasibility analyses for past mitigation projects informed the **Priority and Level of Importance** score for each mitigation project.

TABLE 1: NEW MITIGATION ACTIONS (KANE COUNTY)

Name:

Organization/Department:

E-mail:

Phone:

New Mitigation Action (Please Describe):

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Year Initiated	2023 (New Mitigation Action)
Applicable Jurisdiction	
Lead Agency/Organization	
Supporting Agencies/Organizations	
Potential Funding Source	
Estimated Cost	
Benefits (loss avoided)	
Projected Completion Date	
PRIORITY (High, Medium, Low)	

Please indicate if the mitigation goals and objectives below are applicable to the new mitigation action/project). Check All That Apply.

X	Place an "X" by the applicable goals, if applicable
	<b>Goal 1.</b> Protect the lives and health of the citizens of Kane County from the effects of natural hazards.
	<b>Goal 2.</b> Protect critical infrastructure and community lifelines within Kane County by identifying and reducing vulnerabilities to the impacts of natural hazards.
	<b>Goal 3.</b> Protect the assets (people, properties, key resources, etc.) within Kane County from the impacts of natural hazards through the implementation of structural mitigation projects, such as flood mitigation projects, green infrastructure, retrofitting, reducing the number of repetitively damaged structures in the County, etc.; and nonstructural mitigation activities, such as public outreach and education and improving/promoting advanced warning systems.
	<b>Goal 4.</b> Strengthen relationships between the public sector, private sector entities, leaders from underserved communities, and residents to enhance community resilience through a whole-community approach, with specific emphasis on achieving equitable outcomes for all communities, including underserved communities and socially vulnerable populations.
	<b>Goal 5.</b> Promote coordination between public service sectors, and encourage participation in sustainable and cost-effective mitigation projects.
	<b>Goal 6.</b> Encourage systematic updates and adoptions of regulations and policies to ensure new and existing developments address changing environmental, climate change, and natural hazard concerns. Integrate hazard mitigation strategies and priorities into existing community plans.

Handout: NEW Mitigation Actions (Kane County)

**This mitigation action:**

*Instructions: Circle the best option*

	Strongly Disagree (1)	Disagree (2)	Neither Agree or Disagree (3)	Agree (4)	Strongly Agree (5)
<b>Social:</b> Do you agree or disagree that the mitigation action is more likely to: be acceptable to the community; does not adversely affect a particular segment of the population; does not cause relocation of lower income people, and is compatible with the community's social and cultural values.	1	2	3	4	5
<b>Technical:</b> Do you agree or disagree that the mitigation action is technically effective in providing a long-term reduction of losses and has minimal secondary adverse impacts.	1	2	3	4	5
<b>Administrative:</b> Do you agree or disagree that your jurisdiction/organization has the necessary staffing and funding to carry-out this mitigation action.	1	2	3	4	5
<b>Political:</b> Do you agree or disagree that the mitigation action has the support of the public and stakeholders who have been offered an opportunity to participate in the planning process.	1	2	3	4	5
<b>Legal:</b> Do you agree or disagree that the jurisdiction or implementing agency has the legal authority to implement and enforce the mitigation action.	1	2	3	4	5
<b>Economic:</b> Budget constraints can significantly deter the implementation of mitigation actions. Do you agree or disagree that the mitigation action is cost-effective, as determined by a cost benefit review, and is possible to fund.	1	2	3	4	5
<b>Environmental:</b> Do you agree or disagree that the mitigation action is sustainable and does not have an adverse effect on the environment, complies with federal, state, and local environmental regulations, and is consistent with the community's environmental goals.	1	2	3	4	5

**Place an "X" by the hazard(s) this action/project will mitigate:**

Mitigated Hazards	
X	Place an "X" by the applicable hazard
	Applicable to <b>All Hazards</b>
	Flood: Riverine Flooding
	Flood: Urban/Flash Flooding
	Severe Summer Storms: Thunderstorms
	Severe Summer Storms: Lightning
	Severe Summer Storms: Hail
	Severe Summer Storms: High Winds
	Severe Summer Storms: Microbursts
	Severe Winter Storms: Blizzards
	Severe Winter Storms: Extreme Cold
	Severe Winter Storms: Ice Storms
	Tornadoes
	Drought
	Earthquakes
	Extreme Heat
	High Hazard Dams
	Ground Failure/Erosion

## 7.2 Mitigation Projects

Participating jurisdictions agreed upon a number of mitigation actions that apply to the county and all or some participating jurisdictions. These shared actions, some of which address all hazards, help to meet the following FEMA requirement:

- Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure?
- Does the plan include one or more action(s) per jurisdiction for each hazard identified within the risk assessment?

In addition to the mitigation measures that apply to the county and all participating jurisdictions, all communities identified additional mitigation actions unique to their jurisdiction.

The Mitigation Actions and Projects from the County and Municipalities are included in Volume II:

### Volume II:

- County Mitigation Actions (County Departments and Mitigation Actions that Apply to the County and All Participating Municipalities)
- Municipal Mitigation Actions (Cities and Villages)

Each entities' Mitigation Actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process
- **Ongoing Mitigation Actions** - These ongoing actions were included in the previous update, and have yet to be completed. Some of these actions have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended, as needed, to better define the action/project.
- **Completed Mitigation Actions** - Completed actions since 2003.



## Chapter 8: Plan Maintenance

The Steering Committee will continue to monitor, evaluate, and update the plan, specifically focusing on progress toward each action item within the Natural Hazard Mitigation Plan (Plan). The Steering Committee will dedicate one meeting annually to discuss the report's findings, progress each community has made, issues each community has experienced, and proposed projects. The annual meeting will also give the Steering Committee the opportunity to discuss needed revisions/amendments to this Plan.

Developing an annual report and meeting annually to discuss progress keeps the Steering Committee involved in the plan maintenance process, formalizes the maintenance process, and provides a level of accountability to work toward accomplishing the action items within the Plan. Kane County Department of Environmental and Water Resources and Kane County Office of Emergency Management (OEM) and staff assigned will be responsible for coordinating and overseeing the development of the annual report and its associated meeting. In addition, to continue to encourage community participation, annual meetings will be open to the public and a public comment period will be incorporated into each meeting.

Per the Federal Emergency Management Agency (FEMA), this Plan will be updated every five years. Again, Kane County departments and staff assigned will be responsible for coordinating and overseeing the next plan update. Kane County coordination will be overseen by the Kane County OEM and Kane County Department of Environmental and Water Resources. In addition, it is recommended that the next 5-year update be conducted over the process of one to two years. This will provide the Steering Committee ample time to meet, develop drafts, involve the public, coordinate with stakeholders, and finalize the plan.

This chapter describes the plan maintenance process for Kane County.

### 8.1 Formal Review Process

The Plan will be reviewed on an annual basis by the Steering Committee to determine the effectiveness of programs and to reflect changes that may affect mitigation priorities. The Director of the Kane County OEM, Stormwater Manager or designee will be responsible for contacting the Steering Committee and organizing the review. The Steering Committee will be responsible for monitoring and evaluating the progress of the mitigation strategies in the Plan. The Steering Committee will review the goals and action items to determine their relevance to changing situations in the county as well as changes in Federal policy and to ensure they are addressing current and expected conditions. The Steering Committee will also review the risk assessment portion of the Plan to determine if this information should be updated or modified, given any new available data. The organizations responsible for the various action items will report on the status of the projects, the success of various implementation processes, difficulties encountered, success of coordination efforts, and which strategies should be revised or removed.

The Director of the Kane County OEM and Stormwater Manager or designee will be responsible for ensuring the updating of the Plan. The Director of the Kane County OEM and Stormwater Manager will also notify all holders of the Plan and affected stakeholders when changes have been made. Every five years, the updated plan will be submitted to the Illinois Emergency

Management Agency (IEMA) and to the Federal Emergency Management Agency for review and approval.

## **8.2 Continued Public Involvement**

Kane County and the Steering Committee are dedicated to involving the public directly in the review and updates of the Plan. The public will have the opportunity to provide input into Plan revisions and updates. Copies of the Plan will be kept by appropriate county departments and outside agencies.

Public meetings will be held when deemed necessary by the Steering Committee. The meetings will provide a forum where the public can express concerns, opinions, or new alternatives that can then be included in the Plan. The Steering Committee, and specifically Kane County OEM and Kane County Department of Environmental and Water Resources, will be responsible for using county resources to publicize the public meetings and maintain public involvement.

To further facilitate continued public involvement in the planning process, Kane County will ensure that:

- Kane County OEM and Kane County Department of Environmental and Water Resources will keep a copy of the plan on hand at their respective office for review and comment by the public. The Plan will also be maintained on the OEM website.
- A public meeting will be held annually to provide the public with a forum for discussing concerns, opinions, and ideas with the Steering Committee.
- Mitigation flyers or mailings that contain mitigation activities and actions that promote reducing damages and risks of natural hazards are developed.

Also, the Kane County OEM webpage dedicated for the mitigation plan includes a section encouraging continued public participation and form that can be used to provide ongoing feedback on the plan.

Figure 8-1 Kane County Mitigation Web page and Draft Plan

### 2024 Plan Update

Kane County Office of Emergency Management and Kane County Department of Environmental and Water Resources, in conjunction with the participating cities and villages, completed the 5-year update of the Kane County Natural Hazard Mitigation Plan. Kane County is dedicated to involving the public directly in the review and update of the plan.

A draft of the plan can be accessed by clicking the link below. Upon state and FEMA approval, the final draft of the plan will replace the draft version of the plan.

### PDF LINK TO PLAN:

- [2024 Kane County NHMP Volume I and II DRAFT \(Public Version\).pdf](#)
- [Full Plan Link](#)

### Continued Public Involvement

Kane County is dedicated to involving the public directly in the review and updates of the Plan. The public will have the opportunity to provide input into future Plan revisions and updates. Copies of the Plan will be kept by appropriate county departments and outside agencies.

Public meetings will be held when deemed necessary by the Steering Committee. The meetings will provide a forum where the public can express concerns, opinions, or new alternatives that can then be included in the Plan.

To further facilitate continued public involvement in the planning process, the public has the opportunity to provide continual feedback and input. As future needs and concerns arise, or if you would like to provide feedback regarding the latest version of the Kane County Natural Hazard Mitigation Plan, please use the form below to provide your comments.

**LINK TO FORM:** <https://integratedsolutions.wufoo.com/forms/comment-form-kane-county-mitigation-plan/>

## 8.3 Monitoring, Evaluation, and Updating the Plan

To ensure the Natural Hazard Mitigation Plan continues to provide an appropriate path for risk reduction throughout the county, it is necessary to regularly evaluate and update it. The Steering

Committee will be responsible for monitoring the status of the plan and gathering appropriate parties to report the status of mitigation actions. The Steering Committee will convene on an annual basis to determine the progress of the identified mitigation actions. The Steering Committee will also be an active participant in the next plan update. As the Natural Hazard Mitigation Plan matures, new stakeholders, specifically those stakeholders and organizations that represent underserved populations and groups in the county, will be identified and encouraged to join the existing Steering Committee.

Kane County OEM and Kane County Department of Environmental and Water Resources are responsible for contacting Steering Committee members and organizing the annual meeting. The Steering Committee's responsibilities include:

- Annually reviewing each goal to determine its relevance and appropriateness.
- Monitor and evaluate the mitigation strategies in this Plan to ensure the document reflects current hazard analyses, development trends, code changes and risk analyses and perceptions.
- Ensure the appropriate implementation of annual status reports and regular maintenance of the plan.
- Create future action plans and mitigation strategies. These should be carefully assessed and prioritized using benefit-cost analysis (BCA) methodology that FEMA has developed.
- Ensure the public is invited to comment and be involved in mitigation plan updates.
- Ensure that the county complies with all applicable Federal statutes and regulations during the periods for which it receives grant funding, in compliance with 44 CFR.
- Reassess the plan in light of any major hazard event. The Steering Committee will convene within 45 days of any major event to review all applicable data and to consider the risk assessment, plan goals, and action items given the impact of the hazard event.
- Review the plan in connection to other plans, projects, developments, and other significant initiatives.
- Coordinate with appropriate municipalities and authorities to incorporate regional initiatives that transcend the boundaries of the county.
- Update the plan every five years and submit for FEMA approval.
- Amend the plan whenever necessary to reflect changes in State or Federal laws and statutes required in 44 CFR.

### **8.3.1 The Five-Year Action Plan**

This section outlines the implementation agenda that the Steering Committee should follow five years following adoption of this Plan, and then every five years thereafter. The Steering Committee is responsible to ensure the Natural Hazard Mitigation Plan is updated every five years.

The Steering Committee will consider the following an action plan for the five-year planning cycle. It should be noted that the schedule below can be modified as necessary and does not include any meetings and/or activities that would be necessary following a disaster event (which would include reconvening the Steering Committee within 45 days of a disaster or emergency to determine what mitigation projects should be prioritized during the community recovery). If an emergency meeting of the Steering Committee occurs, this proposed schedule may be altered to fit any new needs.

**Year 0:**

- **2023/2024:** Update Natural Hazard Mitigation Plan, including a series of meetings & public meetings. Submit 2024 Natural Hazard Mitigation Plan for FEMA approval.
- **2023/2024:** Work on mitigation actions. Kane County OEM and Kane County Department of Environmental and Water Resources to stay in contact with lead departments and municipalities to keep tabs on project status.

**Year 1:**

- **January 2024 – December 2024:** Work on mitigation actions. Kane County OEM and Kane County Department of Environmental and Water Resources to stay in contact with lead departments and municipalities to keep tabs on project status. Encourage plan integration efforts.
- **Fall/Winter 2024:** Reconvene Steering Committee for an annual meeting. Discuss opportunities for mitigation plan integration with other planning documents. Discuss recent hazards. Update the status of projects. Host a public meeting.

**Year 2:**

- **January 2025 – December 2025:** Work on mitigation actions. Kane County OEM and Kane County Department of Environmental and Water Resources to stay in contact with lead departments and municipalities to keep tabs on project status. Encourage plan integration efforts.
- **Fall/Winter 2025:** Reconvene Steering Committee for an annual meeting. Discuss opportunities for mitigation plan integration with other planning documents. Discuss recent hazards. Update the status of projects. Host a public meeting.

**Year 3:**

- **January 2026 – December 2026:** Work on mitigation actions. Kane County OEM and Kane County Department of Environmental and Water Resources to stay in contact with lead departments and municipalities to keep tabs on project status. Encourage plan integration efforts.
- **Summer/Fall 2026:** Apply for Building Resilient Infrastructure and Communities or Hazard Mitigation Grant Program funds to update the next iteration of the mitigation plan.
- **Fall/Winter 2026:** Reconvene Steering Committee for an annual meeting. Discuss opportunities for mitigation plan integration with other planning documents. Discuss recent hazards. Update the status of projects. Host a public meeting.

**Year 4:**

- **January 2027 – December 2027:** Work on mitigation actions. Kane County OEM and Kane County Department of Environmental and Water Resources to stay in contact with lead departments and municipalities to keep tabs on project status. Encourage plan integration efforts. Update 2024 Natural Hazard Mitigation Plan, including a series of meetings & public meetings.

**Year 5:**

- **2028:** Submit 2028 Natural Hazard Mitigation Plan for FEMA approval. Repeat.

## **8.4 Annual Natural Hazard Mitigation Steering Committee Planning Meetings**

During each annual Steering Committee meeting, the Steering Committee will be responsible for a brief evaluation of the 2024 Natural Hazard Mitigation Plan and to review the progress on mitigation actions.

### **8.4.1 Plan Evaluation**

To evaluate the plan, the Steering Committee should answer the following questions:

- Are the goals still relevant?
- Is the risk assessment still appropriate, or has the nature of the hazard and/or vulnerability changed over time?
- Are current resources appropriate for implementing this Plan?
- Have lead agencies participated as originally proposed?
- Has the public been adequately involved in the process? Are their comments being heard?
- Have county departments and participating jurisdictions been integrating mitigation into their planning documents?

If the answer to each of the above questions is “yes,” the plan evaluation is complete. If any questions are answered with a “no,” the identified gap must be addressed.

### **8.4.2 Review of Mitigation Actions**

Once the plan evaluation is complete, the Steering Committee will review the status of the mitigation actions. To do so, the Steering Committee should answer the following questions:

- Have the mitigation actions been implemented as planned?
- Have outcomes been adequate?
- What problems have occurred in the implementation process?

### **8.4.3 Meeting Documentation**

Each annual Steering Committee meeting must be documented, including the plan evaluation and review of mitigation actions. This may be done by survey or other means, as appropriate.

## **8.5 Implementation through Existing Programs**

Hazard mitigation practices must be incorporated within existing plans, projects, and programs. Therefore, the involvement of all departments, private non-profits, private industry, and appropriate jurisdictions is necessary in order to find mitigation opportunities within existing or planned projects and programs. To execute this, the Steering Committee will assist and coordinate resources for the mitigation actions and provide strategic outreach to implement mitigation actions that meet the goals identified in this Plan.

All participating jurisdictions will incorporate the hazard mitigation plan and its concepts when formally reviewing municipal-level comprehensive plans to ensure goals and strategies are aligned and integrated.



## References

FEMA. (2022). *Local Mitigation Planning Policy Guide*. Retrieved on: March 15, 2023. Retrieved from: [https://www.fema.gov/sites/default/files/documents/FEMA\\_local-mitigation-planning-policy-guide\\_042022.pdf](https://www.fema.gov/sites/default/files/documents/FEMA_local-mitigation-planning-policy-guide_042022.pdf)

## Appendix A: Stakeholder Participation and Documentation

This appendix describes the methods the County used to involve stakeholders in the mitigation planning process.

### A.1 Local representatives, participation activities, and planning documents to facilitate the planning process

#### A.1.1 Plan Participants and Representatives

Jurisdiction	Name	Title	Organization
Kane County	Anne Wilford	Water Sources Engineer	Kane County Department of Environmental and Water Resources
Kane County	Jon Mensching	Acting Director	Kane County OEM
Kane County	Rob Linke	Senior Water Resources Engineer	Kane County Department of Environmental and Water Resources
Kane County	Jason Verachtert	GIS Manager	Kane County
Kane County	Thomas Nicoski	Chief of GIS	Kane County
Kane County	Nisreen Wakileh	Manager for Homeless Services	Kane County
Kane County	Ivy Klee	Resource Management Coordinator	Kane County
Kane County	Kurt Lebo	Spatial Solutions Officer	Kane County
Kane County	Jodie Wollnik	Kane County Water Resources	Kane County
Kane County	Deanne Orlik	Development Technician	Kane County Water Resources
Kane County	Gary Swick	Friends of the Fox River	Friends of the Fox River
Kane County	Mike Zokosek	Asst. County Engineer	Kane County Division of Transportation
Kane County	Courtney Berg Meyer	Admin Asst.	Kane County
Kane County	Nicholas Krueger	GIS Specialist	Kane County
Kane County	Zach Tegge	Landscape Architect	Forest Preserve District of Kane County
Kane County	Matt Tansley	Planner	Kane County Development and Community Services
Kane County	Brent Braski	Director of Building Maintenance	Kane County
Kane County	Chris Kious	Commissioner	County Board
Kane County	Jennifer O'Connell	Chief of Design	Kane County Division of Transportation
Kane County	Karen Ann Miller	Executive Planner	Kane County
Kane County	Marc Smith	Director of Capital Projects	Kane County
Kane County	Mike Way	Maintenance Supervisor	Kane County Department of Transportation

Kane County	Mark VanKerkhoff	Community Development	Kane County
Algonquin	Michelle Zimmerman	Assistant Public Works Director	Algonquin
Aurora	Natalie Wiza	Emergency Management Coordinator	Aurora Emergency Management Agency
Aurora	Souts Thavong	Review Engineer/CRS Coordinator	City of Aurora Public Works / Engineering
Aurora	Herman Beneke	Director of Development Services	City of Aurora
Aurora	John Curley	Chief Development Services Officer	City of Aurora Development Services Building
Aurora	Michael Houston	Superintendent	City of Aurora, Water and Sewer
Aurora	Brian Witkowski	New Development Engineer	Aurora Engineering Department
Batavia	Gary Holm	Director of Public Works	City of Batavia
Batavia	Drew Rackow	Planning and Zoning Officer	Community and Economic Development
Big Rock	Angela Carey	Village Clerk	Village of Big Rock
Big Rock	Tim May	FOIA Officer	Village of Big Rock
Burlington	Christine Jones	Village Clerk	Village of Burlington
Burlington	Tim Paulson	Senior Project Manager	Engineering Enterprises, Inc
Burlington	John Whitehouse	Senior Project Manager, Village Engineer	Engineering Enterprises, Inc
Campton Hills	Denise Buchard	Village Administrator	Village of Campton Hills
Campton Hills	Dory Stipetic	Executive Assistant	Village of Campton Hills
Carpentersville	John Paul Schilling	Fire Chief / ESDA Coordinator	Village of Carpentersville Fire Department
Carpentersville	Tim Brinkmann	Assistant Community Development Director	Village of Carpentersville, Community Development
Carpentersville	Kevin Gray	Director of Public Works and Engineering	Village of Carpentersville
Carpentersville	Ajay Jain	Practice Leader - Water Resources	HR Green - on behalf of Carpentersville
Carpentersville	Ed Szydlowski	Assistant Director of Public Works	Village of Carpentersville
East Dundee	Jodi Kirstein	Road District	East Dundee Road District
East Dundee	Joseph Heinz	Village Consultant Engineer	Village of East Dundee
East Dundee	Chris Ranieri	Building Inspector	Village of East Dundee
Elburn	Nick Sikora	Chief of Police	Village of Elburn
Elburn	John Nevenhoven	Village Administrator	Village of Elburn
Elburn	Jeff Walter	Village President	Village of Elburn
Elburn	Erich Schlachta	Deputy Chief of Police	Village of Elburn
Elgin	Emily Kies	Senior Director of Emergency Management	Elgin Community College
Elgin	Stephen Stassen	Emergency Management Specialist	Elgin Community College
Elgin	Mike Oine	Division Chief of EMS / Emergency Management	City of Elgin
Elgin	Amanda Olsen	Engineer	City of Elgin, Engineering Dept.
Elgin	Ron Rudd	City Engineer	City of Elgin


Elgin	Ajay Jain	Practice Leader - Water Resources	HR Green on behalf of Elgin
Elgin	Brandon Daufenbach	Land Management Supervisor	City of Elgin Parks and Recreation
Elgin	Matthew Falco	Building and Development Manager	City of Elgin Community Development
Elgin	Damir Latinovic	Senior Planner	City of Elgin Community Development
Elgin	Max Heidgen	Engineer I	City of Elgin Engineering Department
Geneva	Michael Antenore	Fire Chief	City of Geneva Fire Department
Geneva	Brian Byrne	Building Commissioner	Building and Zoning Division - Geneva
Gilberts	Jacob Wellbank	Engineer	Robinson Engineering on behalf of Gilberts
Gilberts	Ryley Lynch	Management Analyst	Village of Gilberts
Gilberts	Todd Block	Chief of Police	Gilberts Police Department
Hampshire	Jay Hedges	Village Manager	Village of Hampshire
Hampshire	Josh Wray	Development Manager and Asst. to the Village Manager	Village of Hampshire
Hampshire	Tim Paulson	Senior Project Manager	Engineering Enterprises, Inc
Hampshire	Shauna Urlacher	Consulting Engineer	on behalf for Hampshire
Hampshire	Douglas Pann	Chief of Police	Hampshire Police Department
Huntley	Scott Hajek	Village Engineer Development	Village of Huntley
Huntley	Patrick Ullrich	Emergency Response & Preparedness Manager	Huntley Police Department
Huntley	Peter D'Agostino	Administrative Services Manager	Huntley Public Works
Lilly Lake	Jesse Heffernan	Village President	Village of Lily Lake
Maple Park	David Krull	Chief of Police	Village of Maple Park
Maple Park	Cheryl Aldridge	Village Administrator	Village of Maple Park
Montgomery	Tim Paulson	Senior Project Manager / Village Engineering Consultant	Engineering Enterprises, Inc
Montgomery	Mark Wolfe	Director of Public Works	Village of Montgomery
North Aurora	Brandon Tonarelli	Assistant Public Works Director and Village Engineer	Village of North Aurora
North Aurora	Brian Richter	Public Works Director	Village of North Aurora
North Aurora	Joe Gorski	Deputy Chief	North Aurora PD
North Aurora	Scott Buziecki	Deputy Chief	North Aurora PD / EMA
North Aurora	Steven Bosco	Village Administrator	North Aurora
North Aurora	Mike Klemencic	Fire Chief	North Aurora Fire Department
North Aurora	Nathan Darga	Community Development Director	North Aurora
Pingree Grove	Jeff Parsons	Chief of Police	Pingree Grove Police Department
Pingree Grove	Pat Doherty	Director of Public Works	Village of Pingree Grove / Public Works
Sleepy Hollow	Jeff Steele	Village Engineer	Village of Sleepy Hollow
Sleepy Hollow	Mark Thorne	Village Trustee	Village of Sleepy Hollow
Sleepy Hollow	Stephen Pickett	Village President	Village of Sleepy Hollow

South Elgin	Paul Kruse	Building and Code Enforcement Manager	Village of South Elgin
South Elgin	Lauren Blayney	Planner	Village of South Elgin
St. Charles	Ashley Spain	Civil Engineer	City of St. Charles
St. Charles	Chris Gottlieb	Public Works Manager	City of St. Charles
St. Charles	Ajay Jain	Practice Leader – Water Resources	HR Green on behalf of St. Charles
Sugar Grove	Pat Rollins	Chief of Police	Sugar Grove Police Department
Sugar Grove	Tim Paulson	Senior Project Manager	Engineering Enterprises, Inc
Sugar Grove	Brian Schiber	Village Engineer	Sugar Grove
Virgil	Paul Siegfried	Water Resources Dept. Manager	Village of Virgil
West Dundee	Mike Spiro	IT Director / Fire Chief	Village of West Dundee
West Dundee	Greg Chismark	President	West Dundee / WBK Engineering

### A.1.2 Stakeholders

Organization	Title	Name	Email
Northern Kane County Chamber of Commerce	President	Melissa Hernandez	melissa@nkcchamber.com
Elgin Area Chamber of Commerce	President and CEO	Carol Gieske	info@elginchamber.com
Algonquin Lake in the Hills Chamber of Commerce	Executive Director	Greg Urban	info@ALChamber.com
Association for Individual Development	President and CEO	Lore Baker	info@AIDcares.org
CASA Kane County	Executive Director	Jim Di Ciaula	info@casakanecounty.org
Kane County Health Department	Executive Director	Michael Isaacson	askus@kanecountyil.gov
The Salvation Army of Aurora	Corps Officer	Major Joaquin Rangel	Joaquin.Rangel@usc.salvationarmy.org
Kane County Department of Environmental and Water Resources	Sustainability Manager	Sarra Hinshaw	HinshawSarra@co.kane.il.us
Kane County Farm Bureau	Kane County Farm Bureau Manager	Steve Arnold	member@kanecfb.com
Batavia United Way	Executive Director	Kathy Evangelista	director@bataviaunitedway.org
Kane County Regional Office of Education	Regional Superintendent	Patricia Dal Santo	aknorr@kaneroe.org
Housing Authority of Elgin	Executive Director	Martell Armstrong	<a href="mailto:info@haelgin.org">info@haelgin.org</a>

### A.1.3 Mitigation Workshops



**Kane County, IL**  
**Natural Hazard Mitigation Plan Update 2023**  
*Kane County, Illinois*

## Workshop Agenda

Hazard Mitigation Planning Workshop | **Wednesday, June 28, 2023** (8 a.m. to 11:00 a.m.) | Kane County Government Center, Building A, First Floor Auditorium, 719 S. Batavia Avenue, Geneva, IL 60134

Hazard Mitigation Planning Workshop | **Thursday, June 29, 2023** (1:00 p.m. to 4:00 p.m.) | Kane County Government Center, Building A, First Floor Auditorium, 719 S. Batavia Avenue, Geneva, IL 60134

Introductions

Overview of mitigation: Why mitigate?

How the mitigation plan can benefit my community

Overview of key mitigation plan elements & plan process

New FEMA guidance that will affect the 2023 update

Risk Summary/Risk Assessment Discussion

Jurisdiction/Agency Hazard Summary

Mitigation Goals Discussion

New and Ongoing Mitigation Actions/Projects

Project schedule and key dates

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### A. 1.3.1 Mitigation Workshop Documentation

#### Hazards

**Kane County Jurisdiction-Specific Natural Hazards Assessment**

**Name:**

**Municipality (if applicable):**

**Organization/Department:**

**E-mail:**

**Phone:**

Instructions: *Please use this form to identify and describe how the natural hazards below have impacted (or could impact) your municipality or organization. Please be as specific as possible.*

Exposure and vulnerability to certain natural hazards **affect the entire county**. In other words, these hazards can affect the entire county (i.e. severe winter storm) or happen anywhere in the county (i.e. tornado). The following hazards fall into this category: Thunderstorms, lightning, hail, high winds, microbursts, severe winter storms, extreme cold, ice storms, tornadoes, drought, extreme heat, and earthquakes. Although the entire county may be vulnerable to these hazards, their impacts may vary based on existing community conditions (i.e. underserved or functional access needs populations may be more susceptible based on certain conditions, vulnerabilities, or needs). **Please indicate the hazards in which your community is uniquely vulnerable and provide a brief explanation.**

**Please describe how your municipality/organization is uniquely vulnerable to **Thunderstorms, Lightning, and Hail**** (example: indicate if there is a specific population subgroup that is uniquely vulnerable to this hazard).

**Please describe how your municipality/organization is uniquely vulnerable to **High Winds and Microbursts**** (example: indicate if there is a specific population subgroup that is uniquely vulnerable to this hazard, such as manufactured homes).

**Please describe how your municipality/organization is uniquely vulnerable to **Tornadoes**** (example: indicate if there is a specific population subgroup that is uniquely vulnerable to this hazard, such as manufactured homes and RVs, or gaps in warning sirens).

**Please describe how your municipality/organization is uniquely vulnerable to **Blizzards, Extreme Cold, and Ice Storms**** (example: indicate if there is a specific population subgroup that is uniquely vulnerable to this hazard or if certain long-term care facilities lack back-up generators).

Page 1 of 2

Please describe how your municipality/organization is uniquely vulnerable to **Drought**.

Please describe how your municipality/organization is uniquely vulnerable to **Extreme Heat** (example: indicate if there is a specific population subgroup that is uniquely vulnerable to extreme heat or if certain long-term care facilities lack sufficient air conditioning or back-up generators).

Please describe how your municipality/organization is uniquely vulnerable to **Earthquake** (example: identify specific buildings or structures in your community that are seismically unreinforced or prone to collapse).

Exposure and vulnerability to certain natural hazards are **geographically defined**. In other words, these hazards tend to affect certain areas in your community (i.e. riverine-based flooding). The following hazards fall into this category: flooding, dam failure, erosion and sinkholes. Please indicate the hazards in which your community is uniquely vulnerable and provide a brief explanation.

Please describe how your municipality/organization is impacted by **flood-related hazards** (flash flood; riverine flood). For example, describe how a specific intersection, and/or subdivision repeatedly floods.

Please describe how your municipality/organization is impacted by **dam failure**. For example, indicate the dam of concern, and describe how a failure of the dam could impact your community.

Please describe how your municipality/organization is impacted by **erosion and/or sinkholes**. Describe the location of concern and its potential impacts.

**Mitigation Actions**

Name:

Organization/Department:

E-mail:

Phone:

New Mitigation Action (Please Describe):

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Year Initiated	2023 (New Mitigation Action)
Applicable Jurisdiction	
Lead Agency/Organization	
Supporting Agencies/Organizations	
Potential Funding Source	
Estimated Cost	
Benefits (loss avoided)	
Projected Completion Date	
PRIORITY (High, Medium, Low)	

Please indicate if the mitigation goals and objectives below are applicable to the new mitigation action/project). Check All That Apply.

<input checked="" type="checkbox"/>	Place an "X" by the applicable goals, if applicable
<input type="checkbox"/>	Goal 1. Protect the lives and health of the citizens of Kane County from the effects of natural hazards.
<input type="checkbox"/>	Goal 2. Protect critical infrastructure and community lifelines within Kane County by identifying and reducing vulnerabilities to the impacts of natural hazards.
<input type="checkbox"/>	Goal 3. Protect the assets (people, properties, key resources, etc.) within Kane County from the impacts of natural hazards through the implementation of structural mitigation projects, such as flood mitigation projects, green infrastructure, retrofitting, reducing the number of repetitively damaged structures in the County, etc.; and nonstructural mitigation activities, such as public outreach and education and improving/promoting advanced warning systems.
<input type="checkbox"/>	Goal 4. Strengthen relationships between the public sector, private sector entities, leaders from underserved communities, and residents to enhance community resilience through a whole-community approach, with specific emphasis on achieving equitable outcomes for all communities, including underserved communities and socially vulnerable populations.
<input type="checkbox"/>	Goal 5. Promote coordination between public service sectors, and encourage participation in sustainable and cost-effective mitigation projects.
<input type="checkbox"/>	Goal 6. Encourage systematic updates and adoptions of regulations and policies to ensure new and existing developments address changing environmental, climate change, and natural hazard concerns. Integrate hazard mitigation strategies and priorities into existing community plans.

Hazard: *New Mitigation Action (Kane County)*

**This mitigation action:**

*Instructions: Circle the best option*

	Strongly Disagree (1)	Disagree (2)	Neither Agree or Disagree (3)	Agree (4)	Strongly Agree (5)
<b>Social:</b> Do you agree or disagree that the mitigation action is more likely to: be acceptable to the community; does not adversely affect a particular segment of the population; does not cause relocation of lower income people, and is compatible with the community's social and cultural values.	1	2	3	4	5
<b>Technical:</b> Do you agree or disagree that the mitigation action is technically effective in providing a long-term reduction of losses and has minimal secondary adverse impacts.	1	2	3	4	5
<b>Administrative:</b> Do you agree or disagree that your jurisdiction/organization has the necessary staffing and funding to carry-out this mitigation action.	1	2	3	4	5
<b>Political:</b> Do you agree or disagree that the mitigation action has the support of the public and stakeholders who have been offered an opportunity to participate in the planning process.	1	2	3	4	5
<b>Legal:</b> Do you agree or disagree that the jurisdiction or implementing agency has the legal authority to implement and enforce the mitigation action.	1	2	3	4	5
<b>Economic:</b> Budget constraints can significantly deter the implementation of mitigation actions. Do you agree or disagree that the mitigation action is cost-effective, as determined by a cost benefit review, and is possible to fund.	1	2	3	4	5
<b>Environmental:</b> Do you agree or disagree that the mitigation action is sustainable and does not have an adverse effect on the environment, complies with federal, state, and local environmental regulations, and is consistent with the community's environmental goals.	1	2	3	4	5

Place an "X" by the hazard(s) this action/project will mitigate:

Mitigated Hazards	
<input type="checkbox"/>	Place an "X" by the applicable hazard
<input type="checkbox"/>	Applicable to <b>All Hazards</b>
<input type="checkbox"/>	Flood: Riverine Flooding
<input type="checkbox"/>	Flood: Urban/Flash Flooding
<input type="checkbox"/>	Severe Summer Storms: Thunderstorms
<input type="checkbox"/>	Severe Summer Storms: Lightning
<input type="checkbox"/>	Severe Summer Storms: Hail
<input type="checkbox"/>	Severe Summer Storms: High Winds
<input type="checkbox"/>	Severe Summer Storms: Microbursts
<input type="checkbox"/>	Severe Winter Storms: Blizzards
<input type="checkbox"/>	Severe Winter Storms: Extreme Cold
<input type="checkbox"/>	Severe Winter Storms: Ice Storms
<input type="checkbox"/>	Tornadoes
<input type="checkbox"/>	Drought
<input type="checkbox"/>	Earthquakes
<input type="checkbox"/>	Extreme Heat
<input type="checkbox"/>	High Hazard Dams
<input type="checkbox"/>	Ground Failure/Erosion

**A.1.3.2 Workshop Attendee List**

<b>Name</b>	<b>Organization</b>	<b>Title</b>
Anne Wilford	Kane County	Stormwater Manager
Joe Gorski	North Aurora Police Department	Deputy Chief
Scott Buziecki	North Aurora Police Department / EMA	Deputy Chief
Cheryl Adridge	Maple Park	Village Administrator
Kevin Gray	Carpentersville	Director of Planning
Stephen Pickett	Village of Sleepy Hollow	Village President
Mark Thorne	Sleepy Hollow	Village Trustee
Mike Houston	Aurora, Water and Sewer	Superintendent
Nick Sikora	Elburn	Chief of Police
Nathan Darga	North Aurora	Community Developer
Deanne Orlik	Kane County Water Resources	Development Technician
Ivy Klee	Kane County	Resource Management
John Curley	City of Aurora	Chief Development Services Officer
Matt Tansley	Kane County Development	Planner
Brian Herrmann	St. Charles	Mapping Coordinator
David Krull	Maple Park Police Department	Chief of Police
Ed Szydlowski	Carpentersville	Assistant Director of Public Works
Jeff Steele	Sleepy Hollow	Village Engineer
Erich Schlachta	Elburn Police Department	Deputy Chief
Brian Schiber	Sugar Grove	Village Engineer
Max Heidgen	City of Elgin	Staff Engineer
Steven Bosco	North Aurora	Village Administrator
Brian Richter	North Aurora	Public Works Director
Natie Wiza	Aurora EMA	EM Coordinator
Souts Thavong	City of Aurora	Engineer
Mike Klemencic	North Aurora Fire	Fire Chief
Emily Kies	Elgin Community College	Emergency Management
Brian Witkowski	City of Aurora	Development Engineer
Ajay Jain	HR Green / St. Charles, Elgin, and Carpentersville	Practice Leader
Amanda Olsen	Elgin	Engineer I
Ron Rudd	Elgin	City Engineer
Greg Chismark	West Dundee (WBR)	President
Brandon Tonarelli	North Aurora	Village Engineer
John Nevernhoven	Elburn	Administrator
Peter D'Agostino	Village of Huntley	Administrative Services Manager
Jennifer O'Connell	Kane County Division of Transportation	Chief of Design
Ashley Spain	St. Charles	Civil Engineer
Mike Way	KDOT	Maintenance Supervisor
Paul Siegfried	Village of Virgil / Baxter and Woodman	Department Manager
Patrick Ullrich	Village of Huntley / Huntley Police Department	Emergency Response & Preparedness Planner
Michael Oine	City of Elgin FD	Division Chief
Angela Carey	Big Rock	Village Clerk
Brandon Daufenbach	City of Elgin Parks and Recreation	Land Management Supervisor
Chris Kious	Kane County Board	Commissioner
Lauren Blayney	South Elgin	Planner
Tim Brinkman	Village of Carpentersville / Community Development	Assistant Community Development Director

Matt Falco	City of Elgin	Building and Development Manager
Jay Hedges	Hampshire	Village Manager
Jesse Heffernan	Village of Lily Lake	Village Clerk
Denise Burchard	Campton Hills	Village Administrator
Tim Paulson	Montgomery	Senior Project Manager
John Whitehouse	Burlington	Village Engineer
Damir Latinovic	City of Elgin Community Development	Senior Planner
John Mensching	Kane County OEM	Acting Director
Jason Verachtert	Kane County	GIS Manager
Paul Kruse	South Elgin	Building Code Manager
Anne Wilford	Kane County	Stormwater Manager
Dan Anderegg	ISC	Consultant
George DeTella	ISC	Managing Director
Daiko Abe	ISC	Director



**A.1.4 Mitigation Webinar Participation**

Name	Organization	Title
Robert Linke	Kane County Department of Environmental and Water Resources	Senior Water Resources Engineer
Brian Herrmann	St. Charles-Public Works Engineering Division	Project Coordinator
Jodi Kirstein	East Dundee	
Jodie Wollnik	Kane County	Kane County Water Resources
Ivy Klee	Kane County	Resource Management Coordinator
Jeff Steele	Village of Sleepy Hollow	Village Engineer
Gary Holm	City of Batavia	Director of Public Works
Gary Swick	Friends of Fox River	Friends of Fox River
Scott Hajek	Village of Huntley	Village Engineer Development
Deanne Orlik	Kane County	Development Technician
Nisreen Wakileh	Kane County	Manager of Homeless Services
Kurt Lebo	Kane County	Spatial Solutions Officer
Anne Wilford	Kane County Department of Environmental and Water Resources	Water Sources Engineer
Natalie Wiza	Aurora Emergency Management Agency	Emergency Management Coordinator
Patrick Ullrich	Huntley Police Department	Emergency Preparedness Manager
Courtney Berg Meyer	Kane County	Admin Asst.
Jay Hedges	Hampshire	Village Manager
Anne Wilford	Kane County	Stormwater Manager
Mike Zakosek	Kane County Division of Transportation	Assistant County Engineer
Zachary Krug	IEMA	Disaster Services Planner
Nicholas Krueger	Kane County	GIS Specialist
Josh Wray	Hampshire	Development Manager and Asst. to the Village Manager
Paul Kruse	South Elgin	Building and Code Enforcement Manager
Tim Paulson	Montgomery and Hampshire	Senior Project Manager
Lauren Blayney	South Elgin	Planner
Angela Carey	Big Rock	Village Clerk
Ashley Spain	St. Charles	Civil Engineer I
Brandon Tonarelli	North Aurora	Assistant Public Works Director/Village Engineer
Brent Braski	Kane County	Director of Building Maintenance
Brian Richter	North Aurora	Public Works Director
Chris Gottlieb	St. Charles	Public Works Manager
Chris Kious	Kane County	County Board Member
Emily Kies	Elgin Community College	Senior Director of Emergency Management
Jacob Wellbank	Robinson Engineering on behalf of Gilberts	Engineer
Jason Verachtart	Kane County GIS	GIS Manager
Jennifer O'Connell	Kane County	Chief of Design
Jesse Heffernan	Lilly Lake	Village President

Jospeh Heinz	Village of East Dundee	Village Consultant Engineer
Karen Ann Miller	Kane County	Executive Planner
Marc Smith	Kane County	Director of Capital Projects
Mark Thorne	Sleepy Hollow	Village Trustee
Matt Tansley	Kane County	Planner
Michael Antenore	Geneva Fire Dept.	Fire Chief
Michele Zimmerman	Algonquin	Interim Public Works Director
Nicholas Sikora	Elburn	Police Chief
Shauna Urlacher	Consulting Engineer	On behalf of Hampshire
Souts Thavong	City of Aurora Public Works	Review Engineer
Stephan Pickett	Sleepy Hollow	Village President
Stephen Stassen	Elgin Community College	Emergency Management Specialist
Zach Tegge	Forest Preserve District of Kane County	Landscape Architect

### A.1.5 Mitigation Participation Crosswalk

Jurisdiction	2023 Hazard Mitigation Plan Webinar	2023 Hazard Mitigation Plan Workshop	Other Participating Activities (Public Survey)	Hazard Analysis	New Mitigation Action	Reviewed/Updated Past Mitigation Project(s), as applicable
Kane County	X	X	X	X	X	X
Algonquin	X	-	X	X	X	X
Aurora	X	X	X	X	X	X
Batavia	X	-	X	X	X	X
Big Rock	X	-	X	X	X	X
Burlington	-	X	X	X	X	X
Campton Hills	-	-	X	X	X	X
Carpentersville	-	X	X	X	X	X
East Dundee	X	-	X	X	X	X
Elburn	X	X	X	X	X	X
Elgin	X	X	X	X	X	X
Geneva	X	-	X	X	X	NA
Gilberts	X	-	X	X	X	X
Hampshire	X	-	X	X	X	X
Huntley	X	X	X	X	X	NA
Lily Lake	X	-	X	X	X	X
Maple Park	-	X	X	X	X	X
Montgomery	X	-	X	X	X	X
North Aurora	X	X	X	X	X	X
Pingree Grove	-	-	X	X	X	X
Sleepy Hollow	X	X	X	X	X	X
South Elgin	X	X	X	X	X	X
St. Charles	X	X	X	X	X	X
Sugar Grove	X	X	X	X	X	NA
Virgil	-	X	X	X	X	X
West Dundee	-	X	X	X	X	X

## Appendix B: Public Involvement Activities and Documentation

Below are samples of public information and public involvement activities that were used during the development of the Kane County Natural Hazard Mitigation Plan, including:

- Survey Results
- Public Meeting Announcements / News Releases
- Outreach Activities

Jurisdiction	Outreach Activity	Method of Sharing
Kane County	Press Release for Webinars	County Website / Emails / Phone Calls
Kane County	Press Release for Workshops	County Website / Social Media
Kane County	Workshop Announcement	Kane County Digital Newsletter, Kane County Connects

### B.1 Survey Outreach







[Past Articles](#)



Downed tree in unincorporated Kane County

### Kane County Invited to Take Community Preparedness Survey

*Kane County Office of Emergency Management 9/6/2023 11:00AM*

Kane County residents and businesses can help the County update its emergency preparedness plans by participating in a voluntary online questionnaire. Feedback from the confidential 10-minute survey will enable the Kane County Office of Emergency Management to better serve residents and businesses before, during, and after an emergency or disaster.

Those who live or work in Kane County are encouraged to share their experiences, knowledge, and concerns about local hazards by participating in the brief questionnaire. To fill out the questionnaire, go to: <http://kane.preparedness.alchemer.com/s3/>

The questionnaire will remain open until September 30, 2023.

Information provided in Kane County's community preparedness questionnaire will help the county and local communities create strategies and implement actions to reduce future risk of death, injuries, and property damage from hazards.

To learn more about the Kane County Hazard Mitigation Plan, disaster preparedness, and opportunities to get involved, go to <http://www.kcoem.org/>

The U.S. Government requires local and state governments to have a FEMA-approved Multi-Hazard Mitigation Plan as established by the Disaster Mitigation Act of 2000 in order to qualify for hazard mitigation assistance grant dollars. These programs are critical sources of federal funding, especially for a community that wants to proactively initiate mitigation projects using mitigation grant dollars.

**Source/Kane County Office of Emergency Management**

### **Kane County: Social Media for Promoting the Survey**

#### **Facebook and NextDoor:**

- Are you prepared for the next disaster? Let the County know! Kane County residents and businesses can help the county update its emergency preparedness plans by participating in a voluntary online questionnaire. Feedback from the confidential 10-minute survey will enable the Kane County Office of Emergency Management to better serve residents and businesses before, during and after an emergency or disaster.

To fill out the questionnaire, go to: <http://kane.preparedness.alchemer.com/s3/>

The survey will remain open until September 30, 2023.

- Kane County Office of Emergency Management wants to know how it can better prepare you for disasters. All responses are confidential, and will greatly help improve preparedness in the county. Join the conversation at <http://kane.preparedness.alchemer.com/s3/>
- Kane County Office of Emergency Management invites you to take our disaster preparedness survey! Don't miss out on your opportunity to join the conversation. <http://kane.preparedness.alchemer.com/s3/>
- What have you done to prepare for the next disaster? How can Kane County help? Let us know by taking this survey! <http://kane.preparedness.alchemer.com/s3/>

#### **X (formerly known as Twitter):**

- Are you #prepared for the #nextdisaster? Let the County know! #KaneCounty needs your help by completing a preparedness survey. Go to <http://kane.preparedness.alchemer.com/s3/>
- Are you #DisasterResilient? Let us know how you've prepared for #disasters! <http://kane.preparedness.alchemer.com/s3/> #KaneDisasterSurvey
- How prepared is #KaneCounty for #disasters? Join the conversation at <http://kane.preparedness.alchemer.com/s3/> #KaneDisasterSurvey
- What will you do if a #disaster hits #KaneCounty? Let us know at <http://kane.preparedness.alchemer.com/s3/> #KaneDisasterSurvey
- What have you done to prepare for the #NextDisaster? How can #KaneCounty help? Let us know by taking this survey! <http://kane.preparedness.alchemer.com/s3/>

## B.2 Public Outreach Activities

All meetings, including the workshop, were open to the public and were advertised accordingly.

### Public Press Releases

#### Webinar

##### Media Release

Jon Mensching, Acting Director  
Kane County Office of Emergency Management  
630-208-2050 (Office)  
E-Mail: [MenschingJonathan@KaneCountyIL.gov](mailto:MenschingJonathan@KaneCountyIL.gov)

Anne Wilford, Stormwater Manager  
Kane County Department of Environmental and Water Resources  
630-232-3496 (Office)  
Email: [WilfordAnne@co.kane.il.us](mailto:WilfordAnne@co.kane.il.us)

#### **Webinar for Communities Interested in Participating in Kane County Natural Hazards Mitigation Plan Update**

The Kane County Office of Emergency Management and Department of Environmental and Water Resources is in the process of updating the County's mitigation plan. To ensure eligibility for pre- and post-disaster federal funding, every jurisdiction in Kane County is requested to participate in the development of the plan and to adopt the hazard mitigation plan (per the Disaster Mitigation Act of 2000).

We would like to invite you to participate in a webinar to discuss this year's update of the mitigation plan. The primary audience for the webinar is the city, village, and township representatives. Members of the public are also welcome to attend. Multiple sessions are being offered to accommodate your busy schedule. Please join us on the day and time that best meets your schedule. You and/or your planning team only need to participate in one (1) session.

- Wed, May 31, 2023: 10:00 AM - 11:00 AM CST
- Thu, June 1, 2023: 10:00 AM - 11:00 AM CST
- Thu, June 1, 2023: 1:00 PM - 2:00 PM CST
- Thu, June 8, 2023: 10:00 AM - 11:00 AM CST

This webinar will provide important information regarding FEMA's Hazard Mitigation Program directive, and more importantly, demonstrate how participating in this plan will enable your jurisdiction to be eligible for pre- and post-disaster funding. Finally, we will demonstrate how to access your portion of the plan via the online planning system. FEMA requires proof of participation, and attending one of these webinars will count toward that requirement. Please feel free to share this registration page link with other members of your local planning team. If you are a CRS Community please plan on having two people from your staff participate.

REGISTRATION LINK: <https://attendee.gotowebinar.com/rt/1473436172411862361>

Four webinars are scheduled over a two-week period including morning and afternoon sessions. Please register for the date and time that works best for you. After registering you will receive a confirmation e-mail containing information about joining the training.



If you have any questions about the webinar or mitigation planning in general, please do not hesitate to reach out to Jon Mensching or Anne Wilford.



Workshops

**For registration assistance contact:**

Jon Mensching, Acting Director  
Kane County Office of Emergency Management  
224-833-9760 (Cell) | 630-208-2050 (Office)  
E-Mail: [Mensching.Jonathan@KaneCountyIL.gov](mailto:Mensching.Jonathan@KaneCountyIL.gov)

Anne Wilford, Stormwater Manager  
Division of Environmental and Water Resources  
Kane County Government  
680-232-3496 (Office)  
E-Mail: [WilfordAnne@KaneCountyIL.gov](mailto:WilfordAnne@KaneCountyIL.gov)

Daiko Abe, Consultant at [daiko\\_abe@i-s-consulting.com](mailto:daiko_abe@i-s-consulting.com) or  
847.565.8791



**2023 Kane County Mitigation Plan: Local Jurisdictional Workshops**

**What:** Register today and bring local planning teams to the Kane County mitigation workshop. This in-person workshop will give your local planning team an opportunity to work with the Kane County Office of Emergency Management and Kane County Division of Environmental and Water Resources to identify local hazards and areas of concern, review previously identified mitigation actions, develop future mitigation projects, prioritize mitigation projects moving forward and update your jurisdiction's section of the 2023 Kane County Natural Hazard Mitigation Plan.

Registration Here: <http://www.isc-registration.com/kane-984561.html>

**Why:** Participating in updates to the mitigation plan is a FEMA Requirement to be eligible for certain federal disaster funding before and after disasters. By bringing your local planning team to one of these workshops, you will be completing that requirement.

**Who Should Attend:** This workshop should be attended by **EVERY participating** jurisdiction within Kane County. Recommended attendees include: Building Code Enforcement | City/Village/Township Administration/Management | Elected Officials | Fire & Law Enforcement | Floodplain Administrator | Legal | Parks & Recreation | Planning/Community Development/GIS | Public Works/Transportation (Roads & Bridges) | Storm Water Management | Treasurer/Tax Assessor

**WHEN & WHERE THE WORKSHOPS WILL TAKE PLACE (You Only Need to Attend One Workshop):**

- Hazard Mitigation Planning Workshop | **Wednesday, June 28, 2023** (8 a.m. to 11:00 a.m.) | Kane County Government Center, Building A, First Floor Auditorium, 719 S. Batavia Avenue, Geneva, IL 60134

- Hazard Mitigation Planning Workshop | **Thursday, June 29, 2023** (1:00 p.m. to 4:00 p.m.) | Kane County Government Center, Building A, First Floor Auditorium, 719 S. Batavia Avenue, Geneva, IL 60134

**Register here:** <http://www.isc-registration.com/kane-984561.html>

Survey



**NEWS RELEASE**

**FOR IMMEDIATE RELEASE**

**Contact:**  
Kane County Office of Emergency Management  
719 S. Batavia Ave., Bldg C | Geneva, Illinois 60134  
Office: 630-232-5985  
Email: [KaneCountyEOC@KaneCountyIL.gov](mailto:KaneCountyEOC@KaneCountyIL.gov)

**KANE COUNTY RESIDENTS  
INVITED TO PARTICIPATE IN COMMUNITY PREPAREDNESS STUDY**

**GENEVA, ILLINOIS** – Kane County residents and businesses can help the county update its emergency preparedness plans by participating in a voluntary online questionnaire. Feedback from the confidential 10-minute survey will enable the Kane County Office of Emergency Management to better serve residents and businesses before, during, and after an emergency or disaster.

Those who live or work in Kane County are encouraged to share their experiences, knowledge, and concerns about local hazards by participating in the brief questionnaire. To fill out the questionnaire, go to: <http://kane.preparedness.alchemer.com/s3/>

The questionnaire will remain open until September 30, 2023.

Information provided in Kane County’s community preparedness questionnaire will help the county and local communities create strategies and implement actions to reduce future risk of death, injuries, and property damage from hazards.

To learn more about the Kane County Hazard Mitigation Plan, disaster preparedness, and opportunities to get involved, go to <http://www.kcoem.org/>

The U.S. Federal government requires local and state governments to have a FEMA-approved Multi-Hazard Mitigation Plan as established by the Disaster Mitigation Act of 2000 in order to qualify for hazard mitigation assistance grant dollars. These programs are critical sources of Federal funding, especially for a community that wants to proactively initiate mitigation projects using mitigation grant dollars.

**###**



## Public-facing Community Newsletter

May 25, 2023



**KANE COUNTY CONNECTS**

ENGAGED CITIZENS. INVOLVED COMMUNITIES. OPEN GOVERNMENT.

A twice a week (Tuesday/Thursday) newsletter for residents of Kane County.

Thursday May 25, 2023

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### ANNOUNCEMENTS



**Catch a Conversation with the Kane County State's Attorney**

Kane County State's Attorney Jamie Mosser will be sitting down with community leaders during two stops in Aurora on May 31 to talk about her office, expungements, community needs and more.

[READ MORE](#)



**Longtime U-46 Educator Chosen As Next Superintendent**

Elgin School District U-46's Board of Education has selected Dr. Suzanne Johnson as the next superintendent for the state's second-largest school district. [READ MORE](#)



**Kane County Health Dept. Now Hiring**

The Kane County Health Department is looking for candidates to fill several open positions.

[READ MORE](#)



**Webinar for Communities Interested in Participating in Kane County Natural Hazards Mitigation Plan Update**

The Kane County Office of Emergency Management and Department of Environmental and Water Resources is in the process of updating the County's mitigation plan and invites communities to participate in a webinar to discuss the update. [READ MORE](#)

June 22, 2023



**KANE COUNTY CONNECTS**

ENGAGED CITIZENS. INVOLVED COMMUNITIES. OPEN GOVERNMENT.

*A twice a week (Tuesday/Thursday) newsletter for residents of Kane County.*

**Thursday June 22, 2023**

Trouble viewing this email? [View as Webpage](#)

## Climate Concerns Draw Dozens to Kane County Gathering



A certified naturalist, a retired physicist, a farmer, a city administrator and a concerned parent/grandparent were just some of the people who attended the introductory meeting of the Kane County Climate Action Implementation Plan (CAIP) Team. [READ MORE](#)

## ANNOUNCEMENTS



### Aurora Announces Death of Longtime Alderman

Aurora Alderman Sheketa Hart-Burns, the first African-American elected to the Aurora City Council, passed away on June 19. [READ MORE](#)



### 2023 Kane County Mitigation Plan: Local Jurisdictional Workshops

This in-person workshop will give city/village/township planners the opportunity to work with Kane County to identify local hazards and review, develop and prioritize mitigation projects. [READ MORE](#)



Public-facing Community Newsletter – Article

**Natural Hazard, Natural Hazard Mitigation, the Natural Hazard Mitigation Plan and the Update**



**What is a Natural Hazard?**

- “Hazard means an event or physical condition that has the potential to cause fatalities, injuries, property damage, infrastructure damage, agricultural loss, damage to the environment, interruption of business, or other types of harm or loss” -FEMA 1997

When we talk about Natural Hazards we are referring to those hazards that occur naturally. These hazards might include geological hazards (such earthquakes or volcanos), meteorological hazards (such as heat waves, freezing rains or hurricanes) or hydrological hazards (like floods and droughts). Biological hazards such as infectious diseases (like COVID-19 virus), are **not** considered part of the Natural Hazards in the Natural Hazard Mitigation Planning process.

**What is Hazard Mitigation?**

- “Any sustained action taken to reduce or eliminate long term-term risk to human life and property from a hazard event.” –FEMA

Some examples include:

- Acquisition of Floodplain properties to convert to Open Space
- Elevating homes in the Floodplain so the first floor is above the 100 year flood elevation
- Dry Flood proofing businesses that are flood prone areas
- Building Safe Rooms to be used in the event of a Tornado

More information about Natural Hazards and Mitigation Ideas can be found here:

[https://mountainland.org/maps/hazard/fema\\_mitigation.pdf](https://mountainland.org/maps/hazard/fema_mitigation.pdf)





**What is Hazard Mitigation Planning?**

- “Engaging in any process to identify risks and vulnerabilities associated with natural disasters and develop long-term strategies for protecting people and property from future hazard events.” -FEMA
- “Hazard mitigation activities may be implemented prior to, during, or after an event. However, it has been demonstrated that hazard mitigation is most effective when based on an inclusive, comprehensive, long-term plan that is developed before a disaster occurs.” – FEMA

**What does a Natural Hazards Mitigation Plan look like?**

Federal Regulations governing the Plan are given in the Disaster Mitigation Act of 2000. You can read more about this Act here: [https://www.fema.gov/sites/default/files/2020-03/stafford-act\\_2019.pdf](https://www.fema.gov/sites/default/files/2020-03/stafford-act_2019.pdf). This Act establishes eligibility for FEMA Hazard Mitigation Assistance and the requirement for local governments to have a Hazard Mitigation Plan submitted and reviewed by the State and FEMA. Title 44 Code of Federal Regulations (CF) 201.6 publishes requirements of the Plan.

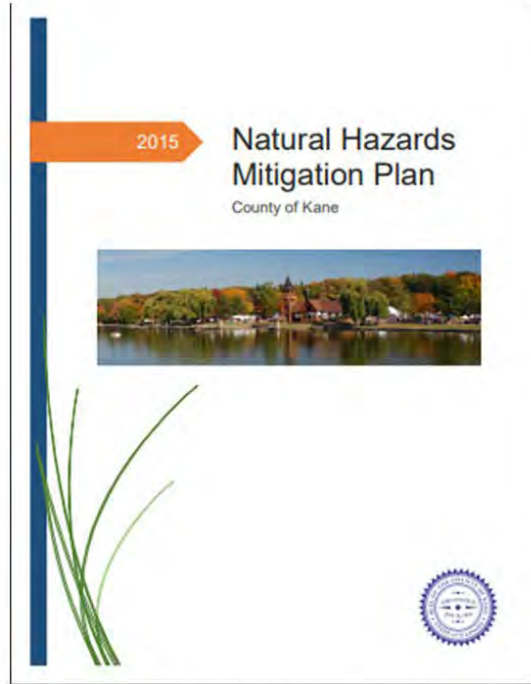
The Kane County Natural Hazards Mitigation Plan was first adopted in 2003 by the County Board Resolution 03-308 and is updated every five years. The Plan is a multi-jurisdictional plan. See below for a chart of the communities that have adopted the County’s Plan and are part of the Natural Hazards Mitigation Planning Committee. The Plan involves a risk assessment of the Natural Hazards that can

affect the County, previous events that have occurred and the probability of the future hazard events occurring. The Plan considers the impact of these hazards on the community. The Plan must consider the assets of the community including people, the economy, structures, critical facilities, infrastructure and the natural environment. The Plan also considers the capabilities of the community such as planning documents and regulations, administrative and technical expertise, funding resources, and education and community outreach.

The following is a list of the municipalities that passed a resolution adopting the September 2003 Plan.

Municipality	Date Passed
Algonquin, Village of	11/04/03
Aurora, City of	01/13/04
Batavia, City of	10/20/03
Big Rock, Village of	11/03/03
Burlington, Village of	10/20/03
Campton Hills, Village of	01/20/09
Carpentersville, Village of	10/07/03
East Dundee, Village of	11/17/03
Elburn, Village of	10/20/03
Elgin, City of	04/14/04
Geneva, City of	01/05/04
Gilberts, village of	11/04/03
Hampshire, Village of	10/02/03
Huntley, Village of	10/23/03
Lily Lake, Village of	10/20/03
Maple Park, Village of	11/04/03
Montgomery, Village of	11/10/03
North Aurora, Village of	12/08/03
Sleepy Hollow, Village of	01/05/04
South Elgin, Village of	10/20/03
St. Charles, City of	11/17/03
Sugar Grove, Village of	11/18/03
Virgil, Village of	11/13/03
Wayne, Village of	02/03/04
West Dundee, Village of	11/03/03


The County's Plan was last updated in 2015 and a copy of the Plan can be found here:  
[http://www.kcoem.org/Documents/Mitigation/haz\\_mit\\_plan.pdf](http://www.kcoem.org/Documents/Mitigation/haz_mit_plan.pdf)





The Plan needs to be updated every five years and the County is currently working on the update to the 2015 Plan

## Other Public Meetings Held Throughout the 5-year Planning Period to Support Mitigation Efforts

### Virtual Floodplain Awareness Open House








Past Articles

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KANE COUNTY 2022 VIRTUAL FLOODPLAIN AWARENESS OPEN HOUSE

Brought to you by Kane County Department of Environmental and Water Resources and The Conservation Foundation

Calling All Residents, Floodplain Professionals, Realtors, and more!

Flooding is the most common, most expensive natural disaster in the United States. Join us to learn more about what you can do to be more prepared! Check out the schedule and RSVP at our website: [www.countyofkane.org/EDER/Pages/environmentalResources/waterResources/floodplain.aspx](https://www.countyofkane.org/EDER/Pages/environmentalResources/waterResources/floodplain.aspx)

Workshops will cover:

- Intro to Floodplains
- Active and Passive Flood Protection
- Wetlands and Detention Basins
- FEMA & NFIP
- Conservation at Home

Floodplain Awareness Week

## 2022 Kane County Virtual Floodplain Awareness Open House

Kane County Connects Staff 9/21/2022 7:00AM

Kane County Department of Environmental and Water Resources invites you to the first Floodplain Awareness Virtual Open House, with support from The Conservation Foundation.

Flooding is the most common, most expensive natural disaster in the United States. Learn more about what you can do to be more prepared.

This daily educational series September 26-30, will benefit Kane County residents, realtors and floodplain professionals.

Check out the Open House schedule and register at our website: <https://www.countyofkane.org>

For residents, the program will cover an introduction to floodplains, the common terms used and where it can flood (*here's a hint, anywhere it rains*). Learn about what regulations you need to know as a property owner in a floodplain and what every resident should know about flood insurance protection. Attendees will also learn how to set up backyard rain barrels and rain gardens, and what responsibilities Homeowner Associations have for stormwater basin management. In addition, learn about the role of wetlands and their natural benefits to our homes and communities.

For floodplain professionals, the program will take you through the ins and outs of elevation certificates, and how to accurately market floodplain properties. You will also learn more about what can be done in constructing or retrofitting a building for wet and dry flood proofing, options for long-term maintenance, and conservation-minded

development that support stormwater management.

Please join us, for one or all presentations, to learn much more about Floodplain Awareness in Kane County. Reach out to WilfordAnne@co.kane.il.us or Kleelvy@co.kane.il.us with any questions.

Tags: [Featured](#) [Around Town](#) [Community](#) [Community Involvement](#) [Education](#) [Environment](#) [Families](#) [Kane Government](#) [Recycling](#)

### Floodplain Training







Past Articles

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NFIP State Training for Municipal Building & Floodplain Officials



Substantial Damage/Improvement, Definitions, Data Sources, Permitting  
Demo of SDE 3.0. Get your questions answered!

February 28th, 2023 from 9am-noon  
Auditorium Bldg A at the Kane County Government Center  
719 S. Batavia Ave, Geneva IL 60134

NFIP Training

## Floodplain Training Opportunity in Kane County

Kane County Connects Staff 2/13/2023 8:00AM

Kane County's Division of Environmental and Water Resources is holding a National Flood Insurance Program training event on February 28, 2023 at 9 a.m. at the Kane County Government Center, in the Auditorium of Building A, 719 S. Batavia Ave, Geneva.

This training benefits municipal building department staff and floodplain officials.

Learn more about substantial damage/improvement, NFIP definitions, flood inspections, permitting in the floodplain, a live demo of SDE 3.0 and more.

Coffee and Donuts will be provided!

Please RSVP to Anne Wilford at [wilfordanne@co.kane.il.us](mailto:wilfordanne@co.kane.il.us)

Tags:




Appendix B: Public Involvement Activities and Documentation

292



Floodplain Awareness Week



**KANE COUNTY, ILLINOIS**  
ESTABLISHED JANUARY 16, 1836

ENHANCED BY Google

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Environmental Resources

Water Resources

Floodplain Information

Local Drainage Improvements

Stormwater Management & Permitting

Watershed Planning & Special Projects

Water Supply Planning

Electronic Payments

### Floodplain Information

Kane County serves as the local repository for floodplain maps and studies produced by the Federal Emergency Management Agency (FEMA). Water Resources staff are available to answer questions regarding floodplain management within the unincorporated areas of Kane County and provide access to the FEMA published information.

#### Floodplain Mapping & Insurance

Kane County Water Resources has copies of all current and historic FEMA published "Flood Insurance Rate Maps" (FIRMS). Excerpts from these maps called "Firmettes" may be produced upon request. Please use the "[Request for Information](#)" form to obtain a firmette.

*For floodplain maps or insurance information, visit the following pages:*

[FEMA Map Service Center](#)  
[Letter of Map Changes \(LOMCS\)](#)  
[FloodSmart National Flood Insurance Program \(NFIP\)](#)

#### Floodplain Management

*For residential improvements in the floodplain:*


[50% Rule - Substantial Improvement or Substantial Damage Stormwater Permit Packet](#)

*For any construction or disturbance in the floodplain:*


[Floodplain Management Resource Guide for Illinois Communities \(DNS\)](#)

#### Natural Hazards Mitigation

[FEMA site](#)  
[Kane County Natural Hazards Mitigation Plan](#)  
[Kane County Natural Hazards Annual Report - 2016](#)  
[Disaster Debris Management Guide](#)



**Floodplain Awareness Week**  
With Kane County  
September 26th - October 1



**KANE COUNTY 2022 VIRTUAL FLOODPLAIN AWARENESS OPEN HOUSE**  
Brought to you by Kane County Department of Environment and Water Resources and The Conservation Foundation

Calling all Residents, Floodplain Professionals, Doctors, and more!

Flooding is the most common, most expensive natural disaster in the United States. Join us to learn more about what you can do to be more prepared! Check out the schedule and RSVP at our website:  
[www.kane.org/Environment/Departments/EnvironmentResources/WaterResources/Floodplain.aspx](http://www.kane.org/Environment/Departments/EnvironmentResources/WaterResources/Floodplain.aspx)

Workshop will cover:

- Intro to Floodplains
- Active and Passive Flood Protection
- Wetlands and Detention Basins
- FEMA & NFIP
- Construction of Home

Fox River Dams – Public Meetings September 2023



Picture Courtesy of Corinne Pierog

## New Meeting Location - U.S. Army Corps of Engineers Study Recommends Removing Nine Fox River Dams

Kane County Connects Staff / U.S. Army Corps of Engineering Chicago 9/13/2023 9:00AM

**See the new meeting location below**

The U.S. Army Corps of Engineers (USACE) in Chicago has released a draft report on the Fox River and is recommending the removal of nine dams from Carpentersville to Montgomery. The USACE, in its multi-year study, examined a range of measures to improve water quality, restore habitat and reduce pollution on the Fox River. The options included: taking no action, rock ramps, bypass channels, partial removal or full removal of the dams. In its report dated September 5, the USACE is recommending the removal of the Fox River dams in Carpentersville, Elgin, South Elgin, St. Charles, Geneva, Batavia, North Aurora, Aurora and Montgomery.

The dam in Carpentersville is already scheduled to be removed by the Kane County Forest Preserve District, which owns the dam.

According to the USACE report, the majority of the dams were built in the mid to late 1800s to power industrial operations and are now obsolete. The study adds that the dams present a safety concern, are expensive to maintain and have led to a proliferation of invasive plant and animal species in the warm, slow moving pools behind them.

The Fox River Study Group, which is a consortium of municipal and county governments, water reclamation districts and environmental organizations in the watershed, has conducted extensive water quality sampling and river

modelling. Their findings suggest that removal of the dams is the most cost effective means to improve water quality concerns that must be addressed, according to the Illinois EPA. Kane County is a contributing member of the Fox River Study Group.

Proponents of keeping the dams on the Fox River worry removing them would dramatically change the look of the river and may prohibit the use of certain types of recreational watercraft.

The USACE is hosting three meetings to provide a summary of the study findings and to hear public comments. Meetings will be from 5:30 p.m. to 7:30 p.m. on the following dates and locations:

- Monday, September 18 at the St. Charles Public Work Facility, 1405 S. 7th Avenue, St. Charles.
- **Monday, September 18 at the Kane County Branch Court, 530 S. Randall Road, St. Charles**
- Tuesday, September 19 at the Heritage Ballroom at the Centre of Elgin, 100 Symphony Way, Elgin
- Wednesday, September 20 at Waubesa Community College, 18 S. River Street, Aurora

A copy of the report and recommendations are available online at the following link: <https://www.lrc.usace.army.mil/Missions/Civil-Works-Projects/Public-Review-Documents/>.

USACE is accepting comments through Monday, November 6, 2023. Comments and/or questions can be sent to Mr. Ryan Johnson, Biologist, at [Fox-River-Study@usace.army.mil](mailto:Fox-River-Study@usace.army.mil).



## Public Review of Draft Plan

# COUNTY OF KANE

Public Information Office



Kane County Government Center  
719 South Batavia Avenue  
Geneva, IL, 60134  
MannJulie@co.kane.il.us  
www.countyofkane.org

## Kane County 2024 Natural Hazard Mitigation Plan Update

(3-11-2024) Kane County Office of Emergency Management and Kane County Department of Environmental and Water Resources, in conjunction with the participating cities and villages, have completed the 5-year update of the Kane County Natural Hazard Mitigation Plan.

A draft of the plan can be accessed by clicking the link below. Upon state and FEMA approval, the final draft of the plan will replace the draft version of the plan.

### PDF LINK TO PLAN:

- [2024 Kane County NHMP Volume I and II DRAFT \(Public Version\).pdf](#)
- FULL URL to the Plan:  
<https://integratedsolutionscorp.sharepoint.com/:b:/g/Projects/EfYkwsfWrqJNs87gsVJ5-WsBde2VtDS4vq1Wr1rTUCIWcw?e=Jcn5pO>

### Purpose of the Hazard Mitigation Plan

- Ensure Kane County, Illinois and the participating cities and villages qualify for federal funding, before and after a disaster occurs.
- Identify common threats and hazards the County faces.
- Develop common mitigation strategies, ensuring a comprehensive and county-wide approach is used.
- Develop intergovernmental partnerships within the County.
- Gain public insight and share public information, increasing residents' knowledge and preparedness against the County's threats and hazards.

### What is Hazard Mitigation?

According to the Federal Emergency Management Agency (FEMA), hazard mitigation is: “the effort to reduce loss of life and property by lessening the impact of disasters. It is most effective when implemented under a comprehensive, long-term mitigation plan. State, tribal, and local governments engage in hazard mitigation planning to identify risks and vulnerabilities associated with natural disasters and develop long-term strategies for protecting people and property from future hazard events.”

### **Continued Public Involvement**

Kane County is dedicated to involving the public directly in the review and updates of the Plan. The public will have the opportunity to provide input into future Plan revisions and updates. Copies of the Plan will be kept by appropriate county departments and outside agencies.

Public meetings will be held when deemed necessary by the Steering Committee. The meetings will provide a forum where the public can express concerns, opinions, or new alternatives that can then be included in the Plan.


To further facilitate continued public involvement in the planning process, the public has the opportunity to provide continual feedback and input. As future needs and concerns arise, or if you would like to provide feedback regarding the latest version of the Kane County Natural Hazard Mitigation Plan, please use the form below to provide your comments.


**LINK TO FORM:** <https://integratedsolutions.wufoo.com/forms/comment-form-kane-county-mitigation-plan/>


### **Questions or Comments?**

Public and stakeholder participation and feedback are a vital part of the hazard mitigation planning process. Please check this page regularly for information on upcoming opportunities to engage in the planning process. If you would like to get in touch with the project team, please use the following contact information:

Anne Wilford, CFM  
Stormwater Manager  
Department of Environmental and Water Resources  
Kane County Government  
719 S. Batavia Avenue  
Geneva, IL 60134  
WilfordAnne@KaneCountyIL.gov








Past Articles

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Hazard Mitigation Plan  
Are You Prepared?

Are you Ready for a Disaster?

## 2024 Kane County Natural Hazard Mitigation Plan

*Anne Wilford, CFM, Stormwater Manager, Department of Environmental and Water Resources 3/11/2024 7:00AM*

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- FULL URL to the Plan: <https://integratedsolutionscorp.sharepoint.com/:b/g/Projects/EfykwsfWrqJNs87qsVJ5-WsBde2VtDS4vq1Wr1rTUCIWcw?e=Jcn5pO>

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Anne Wilford, CFM  
Stormwater Manager  
Department of Environmental and Water Resources



The plan draft was shared on social media sites, such as Facebook and LinkedIn.



## **Appendix C: Hazard Mitigation Questionnaire**

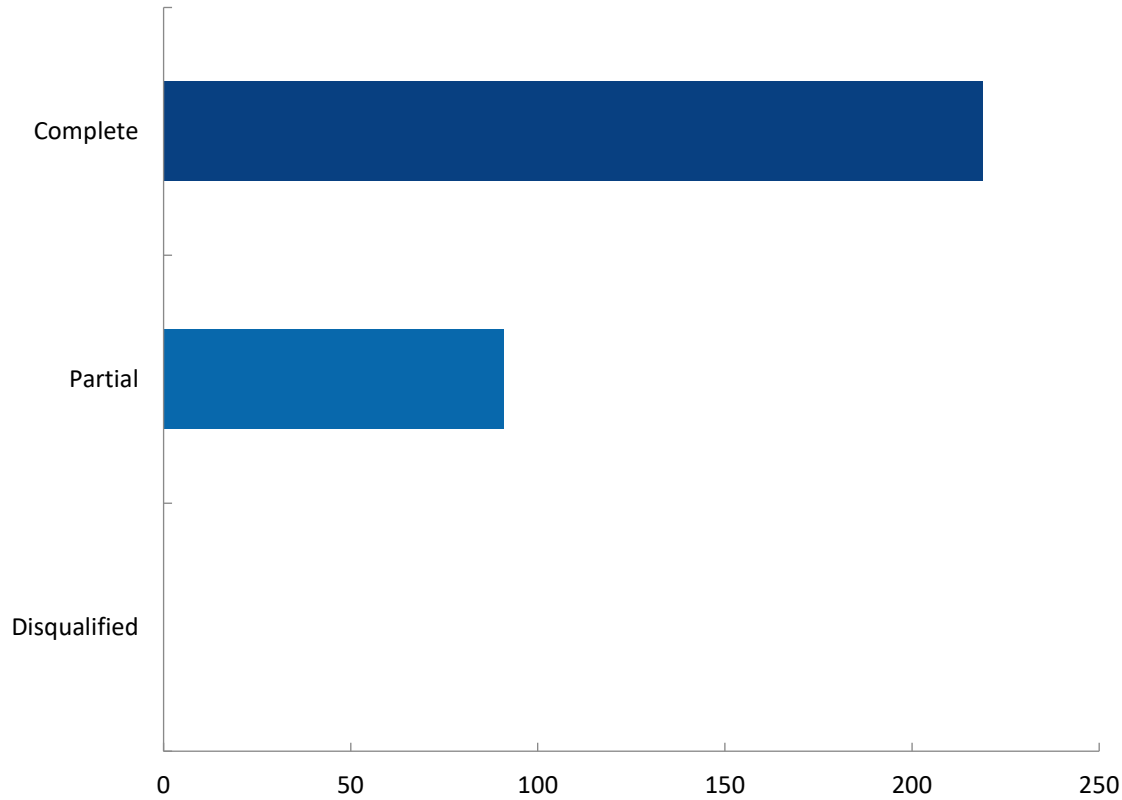
**Report for 2023 Kane County, IL:**

**Disaster Preparedness and Mitigation Questionnaire**

### **Redacted Version**

***NOTE: This is the redacted version of the questionnaire. Open-ended responses from the public were NOT included in this version to ensure confidentiality and privacy.***

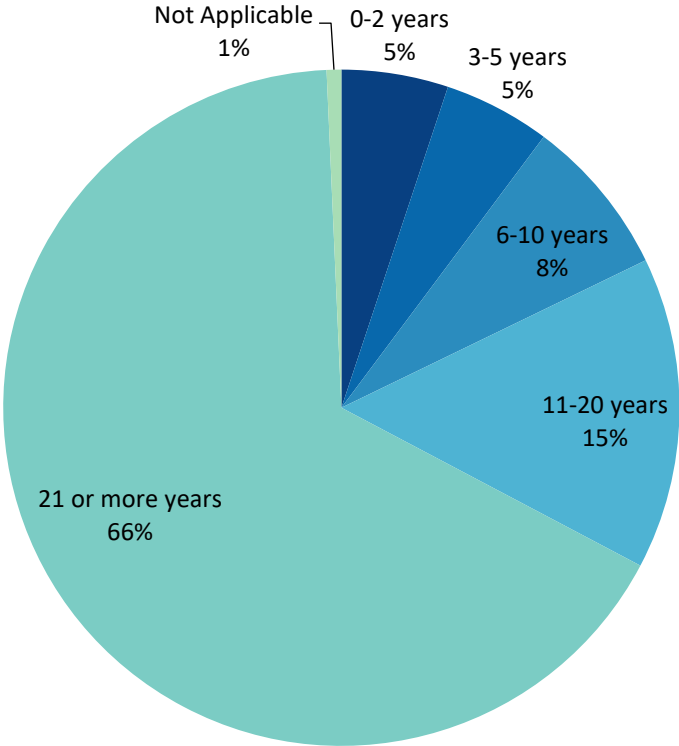
### Response Statistics



	Count	Percent
Complete	219	70.6
Partial	91	29.4
Disqualified	0	0
Total	310	



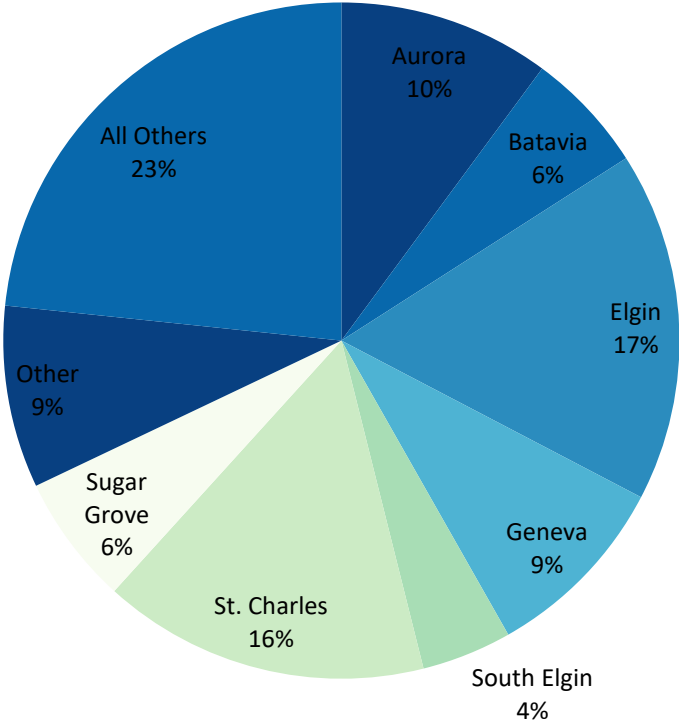
**1. Approximately how many years have you lived or worked (if you are not a resident) in Kane County, Illinois?**



Value	Percent	Count
0-2 years	5.1%	14
3-5 years	5.1%	14
6-10 years	7.6%	21
11-20 years	14.9%	41
21 or more years	66.5%	183
Not Applicable	0.7%	2

	Total	275
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2. Please indicate the jurisdiction that best represents the location of your home address/place of residence.

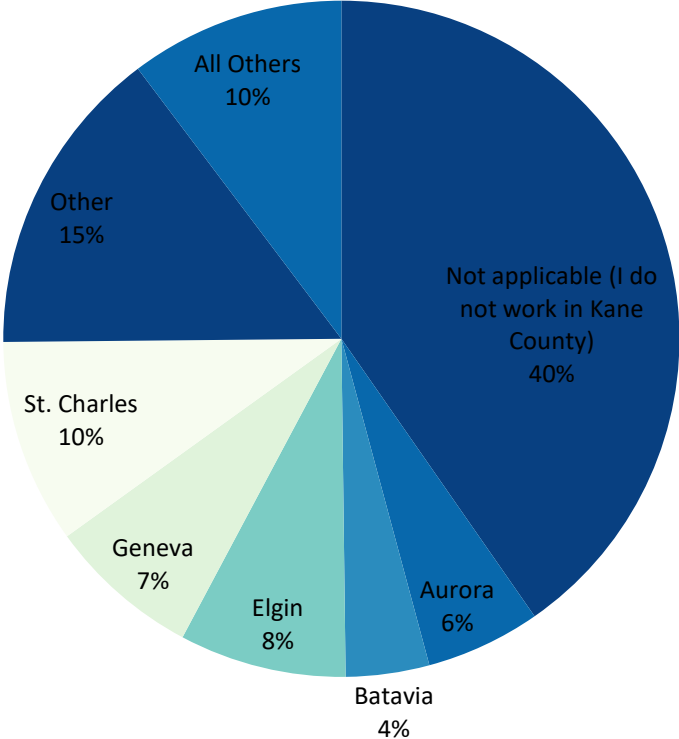


Value	Percent	Count
Not applicable (I do not live in Kane County)	1.8%	5
Algonquin	0.7%	2
Aurora	10.1%	28
Batavia	5.8%	16
Big Rock	0.7%	2

Burlington	0.7%	2
Carpentersville	2.2%	6
East Dundee	0.7%	2
Elburn	2.9%	8
Elgin	16.7%	46
Geneva	9.1%	25
Gilberts	1.4%	4
Hampshire	2.5%	7
Huntley	2.9%	8
Maple Park	0.7%	2
North Aurora	2.2%	6
Sleepy Hollow	0.7%	2
South Elgin	4.3%	12
St. Charles	15.6%	43
Sugar Grove	6.2%	17
Virgil	0.7%	2
West Dundee	2.5%	7
Other	8.7%	24
	Total	276

Other	Count
Campton Hills	14
Pingree Grove	6
Plato Center	2
Plato Township	1
Unincorporated Elgin	1

**3. Please indicate the jurisdiction that best represents the location where you work (i.e. place of business).**



Value	Percent	Count
Not applicable (I do not work in Kane County)	40.4%	111
Algonquin	0.7%	2
Aurora	5.5%	15
Batavia	4.0%	11
Carpentersville	1.5%	4
Elburn	1.5%	4
Elgin	8.0%	22

Geneva	7.3%	20
Hampshire	0.7%	2
Huntley	1.1%	3
Maple Park	0.4%	1
North Aurora	0.7%	2
South Elgin	1.1%	3
St. Charles	9.8%	27
Sugar Grove	1.1%	3
Wayne	0.4%	1
West Dundee	1.1%	3
Other	14.9%	41
	Total	275

Other	Count
Retired	16
Campton Hills	6
Chicago	1
Dekalb	1
Plato Center	1
Pingree Grove	2
Plato Township	1
Remote	1

**4. What is the zip code of your place of residence or place of business (if you are not a resident)?**

Response
60601
60110
60120
60174
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60140
Home 60175, business 60510
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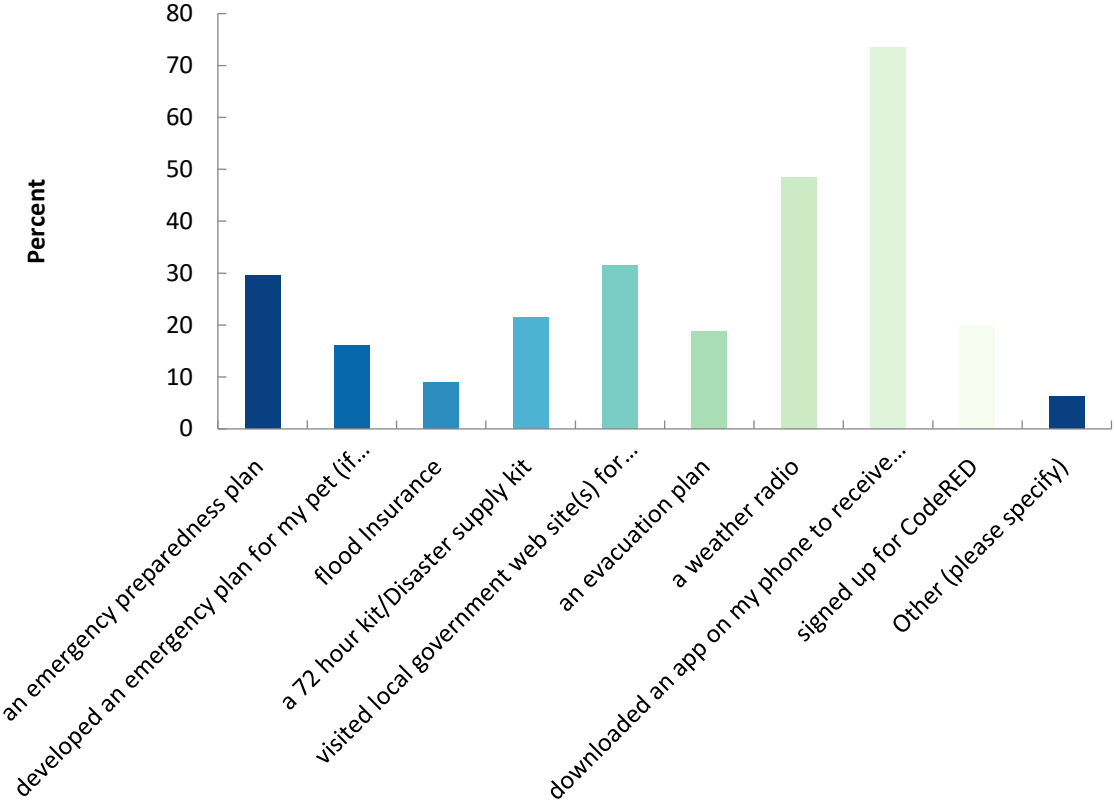
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**5. Please indicate those activities you have done to prepare for emergencies and disasters. Please select ALL that apply. I have...**



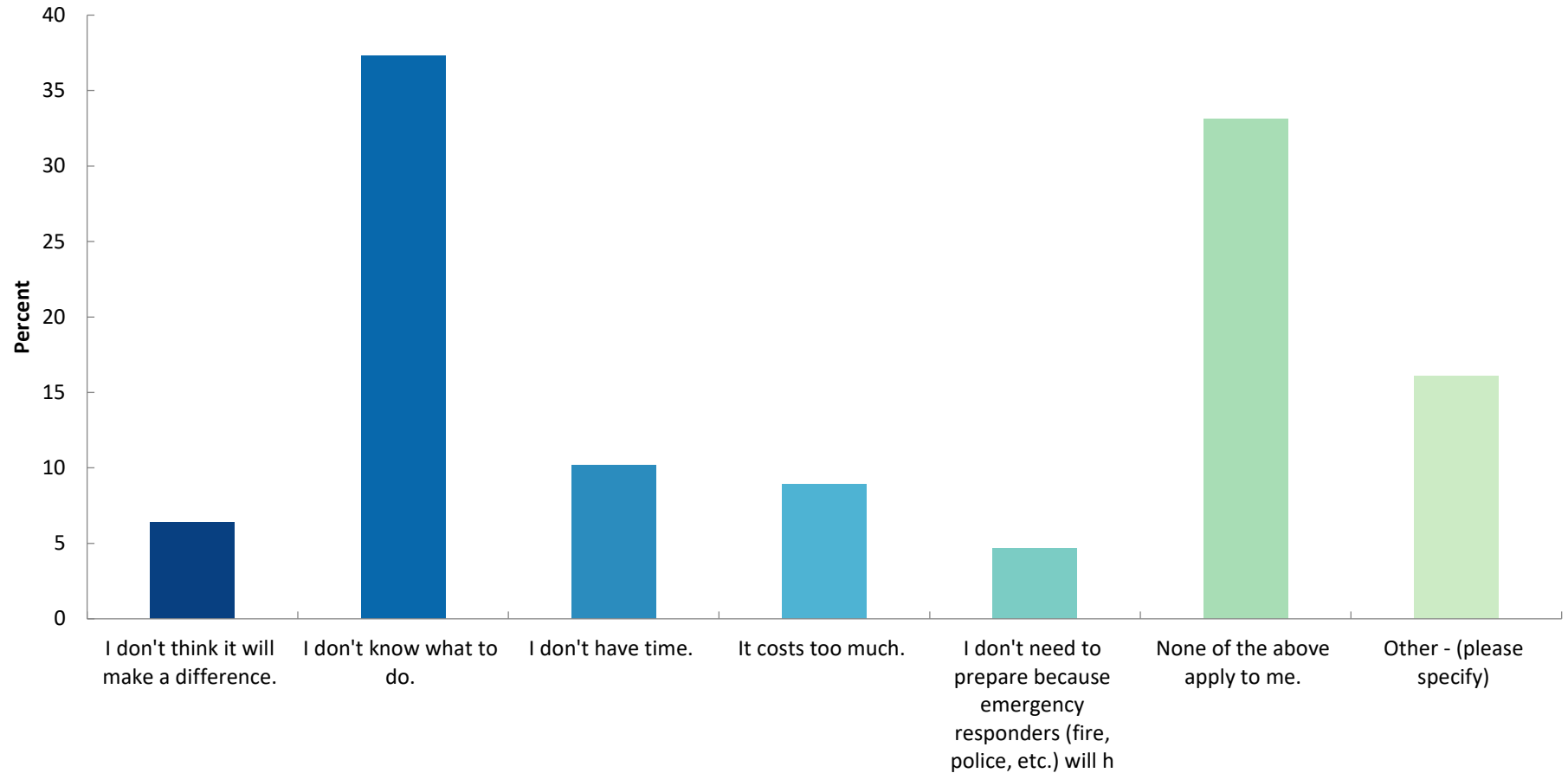


Value	Percent	Count
an emergency preparedness plan	29.6%	66
developed an emergency plan for my pet (if applicable)	16.1%	36
flood Insurance	9.0%	20
a 72 hour kit/Disaster supply kit	21.5%	48
visited local government web site(s) for emergency preparedness information	31.4%	70
an evacuation plan	18.8%	42
a weather radio	48.4%	108

downloaded an app on my phone to receive emergency alerts	73.5%	164
signed up for CodeRED	19.7%	44
Other (please specify)	6.3%	14

Other (please specify)	Count
REDACTED	1
Total	13

**6. Have any of the reasons below prevented you from pursuing additional preparedness activities? Please select ALL that apply.**

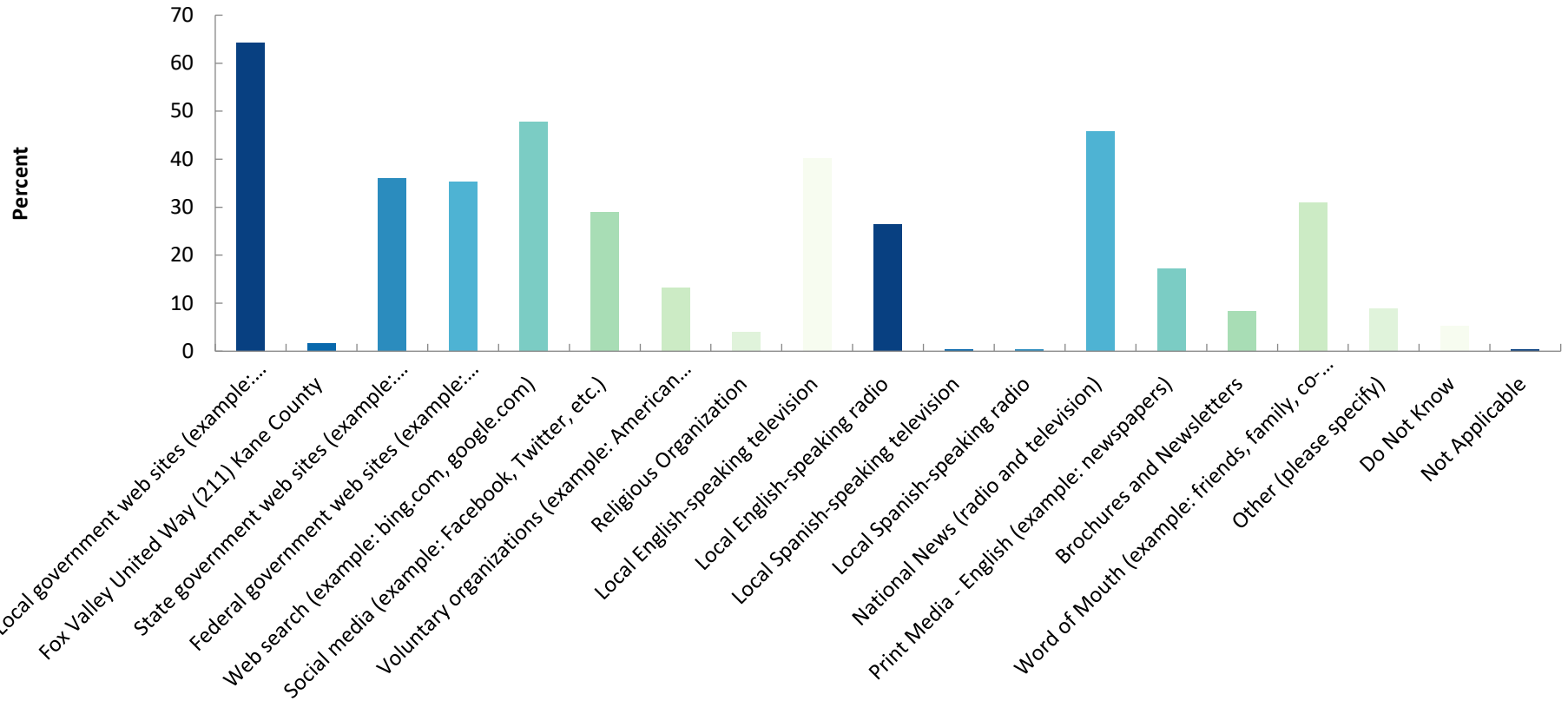


Value	Percent	Count
I don't think it will make a difference.	6.4%	15
I don't know what to do.	37.3%	88
I don't have time.	10.2%	24
It costs too much.	8.9%	21

I don't need to prepare because emergency responders (fire, police, etc.) will help me during an emergency.	4.7%	11
None of the above apply to me.	33.1%	78
Other - (please specify)	16.1%	38

Other - (please specify)	Count
REDACTED	2
Total	38

**7. Please indicate where you go to obtain emergency and disaster related information? Please select ALL that apply.**



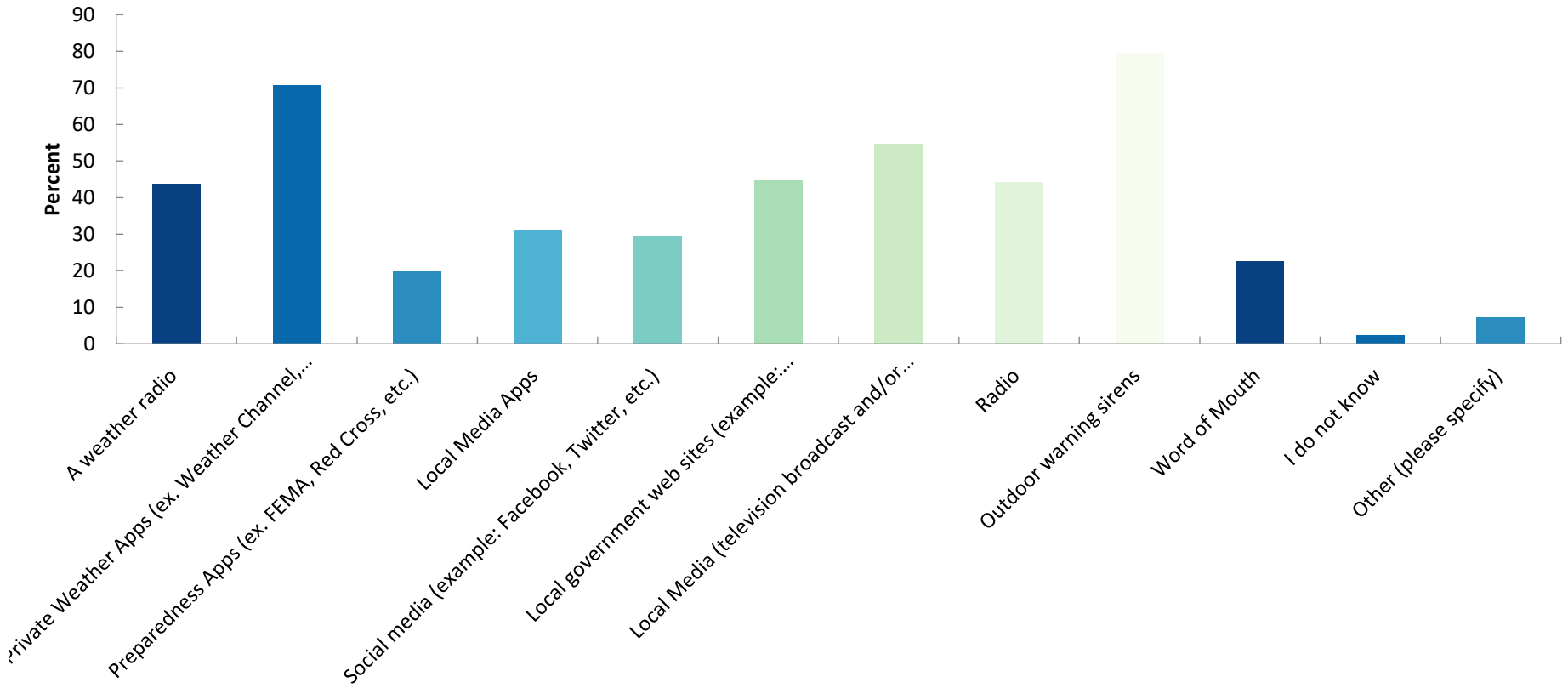
Value	Percent	Count
Local government web sites (example: www.countyofkane.org/ and www.kcoem.org/)	64.3%	160
Fox Valley United Way (211) Kane County	1.6%	4
State government web sites (example: www.illinois.gov)	36.1%	90
Federal government web sites (example: www.fema.gov)	35.3%	88

Web search (example: bing.com, google.com)	47.8%	119
Social media (example: Facebook, Twitter, etc.)	28.9%	72
Voluntary organizations (example: American Red Cross, Salvation Army, etc.)	13.3%	33
Religious Organization	4.0%	10
Local English-speaking television	40.2%	100
Local English-speaking radio	26.5%	66
Local Spanish-speaking television	0.4%	1
Local Spanish-speaking radio	0.4%	1
National News (radio and television)	45.8%	114
Print Media - English (example: newspapers)	17.3%	43
Brochures and Newsletters	8.4%	21
Word of Mouth (example: friends, family, co-workers)	30.9%	77
Other (please specify)	8.8%	22
Do Not Know	5.2%	13
Not Applicable	0.4%	1

Other (please specify)	Count
REDACTED	1
Total	21



**8. Please indicate how you expect to receive alerts and information during an emergency. Please select ALL that apply.**



Value	Percent	Count
A weather radio	43.8%	109
Private Weather Apps (ex. Weather Channel, Wunderground, Weatherbug, AccuWeather, etc.)	70.7%	176
Preparedness Apps (ex. FEMA, Red Cross, etc.)	19.7%	49

Local Media Apps	30.9%	77
Social media (example: Facebook, Twitter, etc.)	29.3%	73
Local government web sites (example: www.countyofkane.org/ and www.kcoem.org/)	44.6%	111
Local Media (television broadcast and/or smartphone app)	54.6%	136
Radio	44.2%	110
Outdoor warning sirens	79.5%	198
Word of Mouth	22.5%	56
I do not know	2.4%	6
Other (please specify)	7.2%	18

Other (please specify)	Count
REDACTED	1
Total	18

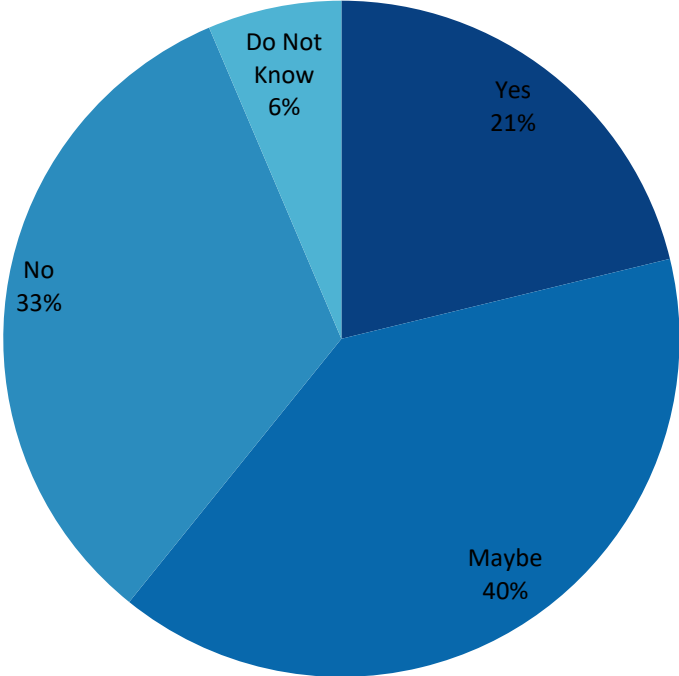
**9. Would you agree or disagree with the following statements?**

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Do Not Know	Responses
	Row %	Row %	Row %	Row %	Row %	Row %	Count
Kane County is providing the services necessary to prepare me for a disaster.	4.0%	30.4%	31.6%	4.0%	0.8%	29.2%	250
I am familiar with Kane County’s web site (www.countyofkane.org) and can easily obtain information about emergencies and disasters.	10.7%	35.7%	25.4%	10.2%	4.1%	13.9%	244
During times of emergency, information is provided in a format I can understand.	11.8%	44.9%	19.6%	4.5%	1.2%	18.0%	245
I can easily obtain emergency information in times of crisis.	6.9%	40.8%	22.4%	7.8%	2.4%	19.6%	245

**10. Please indicate how Kane County can better assist you in preparing for emergencies and disasters (example: provide preparedness materials in my language).**

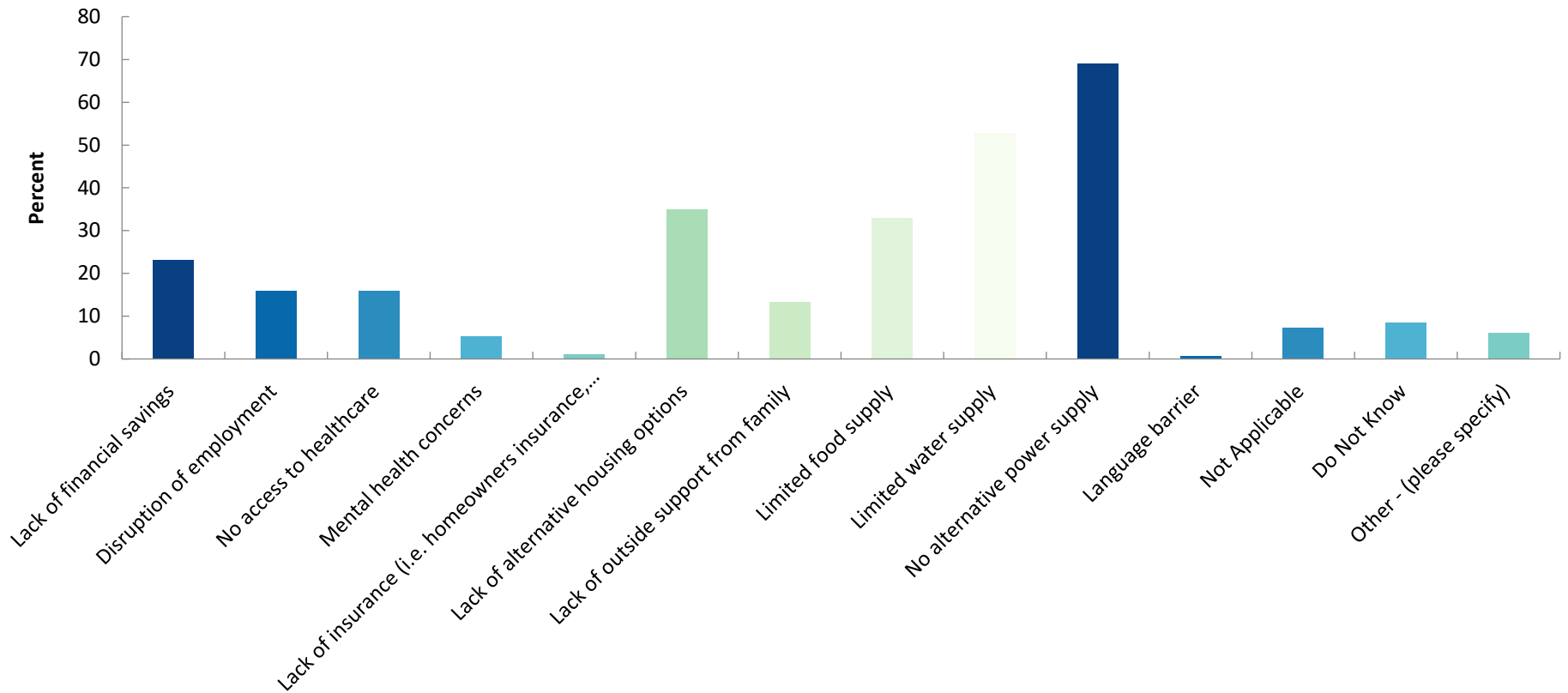
Response
REDACTED

**11. If a disaster (i.e. ice storm) impacted Kane County, knocking out electricity and running water, would your household be able to manage on its own for at least seven (7) days?**



Value	Percent	Count
Yes	21.2%	53
Maybe	39.6%	99
No	32.8%	82
Do Not Know	6.4%	16
	Total	250

**12. Which of the following may prevent you from recovering from a disaster? Please select ALL that apply.**



Value	Percent	Count
Lack of financial savings	23.2%	57
Disruption of employment	15.9%	39
No access to healthcare	15.9%	39
Mental health concerns	5.3%	13

Lack of insurance (i.e. homeowners insurance, renter's insurance, flood insurance, etc.)	1.2%	3
Lack of alternative housing options	35.0%	86
Lack of outside support from family	13.4%	33
Limited food supply	32.9%	81
Limited water supply	52.8%	130
No alternative power supply	69.1%	170
Language barrier	0.8%	2
Not Applicable	7.3%	18
Do Not Know	8.5%	21
Other - (please specify)	6.1%	15

Other - (please specify)	Count
REDACTED	
Total	15



**13. Do you believe that your household and/or place of business might ever be threatened by the following natural hazards? Please rate what natural hazards present the greatest risk.**

- Low Risk = Low impact on threat to life and property damage
- Medium Risk = Medium impact on threat to life and property damage
- High Risk = High impact on threat to life and property damage

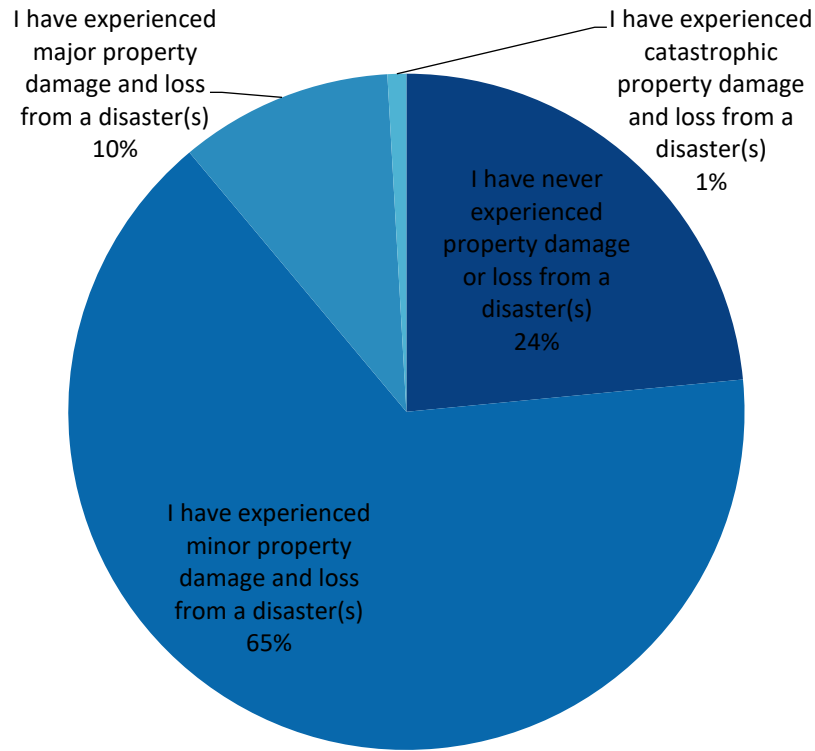
	Low Risk		Medium Risk		High Risk		Not Applicable		Responses
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count
Urban Flooding/Flash Flooding	135	61.4%	75	34.1%	7	3.2%	3	1.4%	220
Riverine Flooding	153	73.2%	28	13.4%	5	2.4%	23	11.0%	209
Thunderstorms and Lightning	27	12.1%	111	49.6%	85	37.9%	1	0.4%	224
Hail	29	12.8%	120	53.1%	77	34.1%	0	%	226
High Winds	13	5.8%	100	44.2%	113	50.0%	0	%	226
Microbursts	29	13.0%	105	47.1%	87	39.0%	2	0.9%	223
Severe Winter Storms/Blizzards	15	6.6%	116	51.3%	95	42.0%	0	%	226
Extreme Cold	30	13.6%	109	49.5%	81	36.8%	0	%	220
Ice Storms	25	11.2%	112	50.2%	86	38.6%	0	%	223
Tornadoes	24	10.6%	100	44.2%	102	45.1%	0	%	226
Drought	80	36.2%	90	40.7%	50	22.6%	1	0.5%	221
Extreme Heat	58	26.4%	102	46.4%	60	27.3%	0	%	220
Earthquakes	176	79.6%	29	13.1%	8	3.6%	8	3.6%	221
Ground Failure (erosion and sinkholes)	175	79.2%	32	14.5%	4	1.8%	10	4.5%	221
Dam Failure	165	76.0%	15	6.9%	3	1.4%	34	15.7%	217

**14. Do you believe that your household and/or place of business might ever be threatened by the following hazards? Please rate what hazards present the greatest risk.**

- Low Risk = Low impact on threat to life and property damage
- Medium Risk = Medium impact on threat to life and property damage
- High Risk = High impact on threat to life and property damage

	Low Risk		Medium Risk		High Risk		Not Applicable		Responses
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count
Pandemic	57	25.3%	103	45.8%	64	28.4%	1	0.4%	225
Hazardous Materials Release	83	36.9%	100	44.4%	41	18.2%	1	0.4%	225
Radiological Incident	138	62.2%	54	24.3%	25	11.3%	5	2.3%	222
Terrorism Incident	134	60.1%	57	25.6%	31	13.9%	1	0.4%	223
Civil Unrest	101	45.1%	88	39.3%	34	15.2%	1	0.4%	224
Major Transportation Incident	110	48.9%	83	36.9%	31	13.8%	1	0.4%	225

**15. Please select the answer that best describes your experience.**



Value	Percent	Count
I have never experienced property damage or loss from a disaster(s)	23.5%	53
I have experienced minor property damage and loss from a disaster(s)	65.5%	148
I have experienced major property damage and loss from a disaster(s)	10.2%	23
I have experienced catastrophic property damage and loss from a disaster(s)	0.9%	2
	Total	226

**16. If you have experienced any damage(s) or injury(ies) from a disaster, please list the hazard(s) that caused the damages/losses and/or injuries (Example: flooding, wind, winter storm)**

Responses were redacted, as needed.

Response
None
Hail, high winds, ice storm
wind
Tornado winds, winter storm
Hail, wind, flooding
Wind and hail
Heavy rainstorms
Hail
Ice storm, flooding, wind, power loss, landline loss, vandalism, hail
hail, wind
Hail damage
storm water
flooding, wind
flooding
heavy rain & wind
hailstorm
Microburst and tree damage
hail, wind Lightning, snow
High winds and ice damage
Wind
River flooding/winds
Hail
Hailstorm
hail damage
Microburst and High Winds
Hailstorm
Wind/ hail
Winter storm & falling tree limbs
wind
wind, microburst

wind
Hail, wind
Flooding
Tornado, hail, wind, ice
Hail
Hail
Hail, wind
Theft
Severe Thunderstorm
Urban flooding
Wind
Flooding, ice storms, severe wind gusts, major snowfall
wind/trees
Falling tree resulting from high winds
Wind
High wind caused tree to fall.
Rain flood damage
Hail & Wind
Hail damage
Straight line winds
trees, no power, bad roads
High wind, hail damage
hail damage to roof, home and auto
Wind and hail
severe thunderstorms, high winds, ice storm, flooding
Flooding winter storm hailstorm
High winds
wind
Lack of storm water drainage due to clogged storm drains
flooding, major tree damage
Roof and siding damaged by wind, flooded basement from power outage, downed trees/branches from ice storms
hail
Wind and rain causing tree to fall
Microburst damaged roof
Hail
hail

Wind, falling trees, power failure
Wind
flooding, winter storm, wind, ice
flooding
Hail, wind
Wind, Hail
Flooding and hail
hail
microburst
Hail damage to house
Wind
wind, hail
Tornado high wind hail
Wind damage and lightning damage
ice dam on roof
Direct lightning strike
Hail
hail, basement flooding
Flooding, winds
Tornado
flash flood
Hurricane
Hailstorm
Wind and hail
Hail
Microburst
Wind, Hail
Water damage
Winter storm
Basement flooded, hail damage to siding and roof
Hail damage, basement flooding
Summer storms, winter ice damage to trees, and roof.
Water leaking from ceiling
Winter storms, tornado
Wind
Hail



Storm
Wind, hail, flooding
Wind, winter storm
Tornado
Hail
Hail
Hail, wind
Rain - basement flooding
Tree branch fell on our house
Wind, ice storm, tornado, snowstorm, rain,
Wind
flooding, hail
Hail and high wind or microburst
High wind, hail
Lightning strike
Hail, snow
Flooding/hail
hail
flooding due to downpours, high winds, trees limbs
Flooding
Wind/tree damage to roof
flooding, wind damage
Wind and hail
Microburst winds
Wind
Flooding
Hail and lightning
Fallen trees from storms and heavy ice
Hail
flood, wind
flooding
hail
lightning, minor flooding
flooding
Wind and Water
Wind and Water

tornado, ice storm, and flooding
High winds, ice storms
High wind damage
Wind
Lightning strike
Flooding
Flood
Flood, wind
Sump Pump Failure
high winds and heavy rain after a long dry period and a microburst (separate)
High winds
Hail, flooding
Microburst
flooding and wind
n/a
wind
flood, wind

**17. If you have experienced any damage(s) or injury(ies) from a disaster, please indicate where this occurred (Example: my home, on a roadway or intersection, at work, on vacation, etc.)**

Responses were redacted, as needed.

Response
Home, roadway, work
Home
Home
Home
Home
Home
home
home
home
roof
home, roadway
basement
My home
Home
Home
home
At my home
Home
Home. Work
home
home
Home
My home
Roof of residence
Roof of my home and my car.
Traveling for work/pleasure
Home
My home
My home
Fallen tree branches and trees

My home, and on the road
my home
Home
Home
North Aurora
My home
home, work
At home
home
My home and on a roadway
home, roadway
Home and on the road.
home
home
Home
home
Home
My home
my home
Home, roadway
Home
my home
home/basement
Home, work, roadway
no
Home, roadway
Home
home
my home
Home
Home
home
My home
At my home
My roof and siding
Home

Home
My home, my place of business
Home
my home
home
My home
My home and car
Home
Home
Home
Home
My home
at home
Home
house
On my property.
My home
HOME
My home
home
My home
My Home
roadway
My home
Home and property
My home
My home
Home
Home
My home
Home
home
Home
My home
My home
Home

home
Home
home and work
Roof of my home
Home
My home and my property.
My home
My home
Home
Home
in our wood back yard, front yard
Home
home
My roof
my home & car
home
in home
my home
My home/property
Home
on roadways and at work
Home
My home
My home
My home
My home
My home, roadways on way to work, at work
Home
My home
Weekend
my home
My home
At work
My home
Home
home



n/a
my home
home

**18. If you have experienced any damage(s) or injury(ies) from a disaster, please describe the damages and/or injuries. (Example: basement flooded, roof was damaged, vehicle was damaged, broken bones, lacerations, etc.)**

Responses were redacted, as needed.

Response
Damage to roof, siding and car
basement flooded
Window leaks, tree loss
Basement flooded, roof and car hail damage, fence downed, chimney damaged by lightning
Roof damage
Roof damage
Roof damage/car damage/ hail
roof, siding
Roof, gutters, window screens
lower level water seepage
basement, 1st floor flood
flooded basement & roof damage from storm
Tree damaged
roof, vehicle, building damage
Flooded basement
Porch damaged
Basement flooding, hail damage to roof, major tree limbs down
Roof
hail damage to home
Lost shingles and knocked over the shed
basement flooded and roof was damaged
Trees down, auto damage hail
Flooded basement due to rain & sewage sewers being connected
roof damaged, vehicle damaged

branches from trees coming down
Roof damage, window damage
Basement partially flooded
Basement flooded, hail damage, tornado damage, ice damage, high winds damage
House shingles damaged
Roof damage and car damage
Basement flooded, roof damaged due to hail
Roof damage. Vehicle Damage. Tree Damage
Roof was damaged, and 3 separate times basement flooded
Basement flooding
trees down
Mild roof damage, fence knocked down
Roof and siding
Crawl space, furnace, walls floor
Tree damage, siding & roof
Roof and siding damage
roof damaged, trees lost, vehicle damaged
Roof damaged
Minor hail dents on car and on home.
tree loss, roof damage, crawl space flooded
Roof damage and vehicle damage.
flooded basement
Flooded basement fixed now
Flooded basement, roof and siding damaged by wind and hail
roof damage
Roof damaged
Roof was damaged
Shingles damaged
roof and siding damage
Roof damage
minor structure damage
basement flooded
Roof, car, fence, trees damaged
Roof and siding damaged. Vehicle damaged
Basement flooded, roof damaged, car damaged
roof damage

damage to outdoor structures
Roof, car damage
roof, vehicle
Roof & siding damage; vehicle dents
Roof damaged
Damage to yard and neighborhood.
Roof and home damaged by hail and winds.
Fence blew over
sewer back up in basement
Loss of trees, damage to ground
roof damage
Fence blew over
Roof, siding and car
Roof damaged and needed replacement
Basement flooded, Roof and Vehicle damaged, household items damaged
Trees downed
Water in basement
Power was out, food spoiled
garage had to be righted
Basement flooded more than once. Hail damage to siding and roof.
Basement flooding and roof damage
Cost of removing downed trees.
Roof was damaged
Water damage to ceiling
Roof damaged , basement flooded
Minor roof damage
roof damaged
Basement flood, roof damage, fence damage
Damage to the house
Roof damage, siding damage, landscape damage, injury to arm and shoulder
Basement flooding, roof damage
Basement flooded due to sump pump problem.
Roof damage, water seepage in basement, well damage, electric lines down
Roof
Roof and siding damaged
Roof damage, appliance damage, chimney damage

Home, landscaping
roof
basement flood due incorrect grading of drainage
Basement flooded
Roof damage.
flooding, damaged siding
Damaged roof
None
Vehicle and siding/roof damage
Roof was damaged, lost trees and plants.
Roof damaged
Lost everything to a house fire
Roof
Basement flooded
Roof damage
Windows, Siding Roof
Roof had to be replaced
roof & car damaged
power loss 3 days, lost a tree.
roof hit by lightning. basement flooding
basement flooded
Trees blown down
Neighbor's large tree crashed into my yard
Roof and property damaged
basement flooding.
basement flooded, tree limbs down on house
Basement flooded
Yard flooded, sewage backup, Basement flooded, tree fell in yard and damaged house and fence
Basement Flooded
fallen trees, damaged roof and fences
Severe roof damage
Power outage that led to disruption of business /relocation with snowstorms and pandemic and flood basement.
Roof damaged, basement flooded
Garage roof
vehicle damage and flooded driveway and yard

### 19. Based on YOUR PERCEPTION of your jurisdiction's natural hazards, to what degree of emphasis would you expect your jurisdiction to mitigate the following natural hazards?

**Mitigation definition:** The purpose of mitigation planning is to identify policies and actions that can be implemented over the long term to reduce risk and future losses. Mitigation forms the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage.

- No Mitigation Needed = No mitigation on this hazard is expected or needed
- Low Priority = This hazard should be mitigated, but is not a high priority compared to other hazards
- Medium Priority = It is important to mitigate this hazard
- High Priority = It is a high priority to emphasize mitigation for this hazard

	No Mitigation Needed		Low Priority		Medium Priority		High Priority		Responses
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count
Urban Flooding/Flash Flooding	21	9.5%	52	23.6%	98	44.5%	49	22.3%	220
Riverine Flooding	35	16.1%	64	29.5%	74	34.1%	44	20.3%	217
Thunderstorms and Lightning	38	17.3%	62	28.2%	85	38.6%	35	15.9%	220
Hail	49	22.4%	69	31.5%	76	34.7%	25	11.4%	219
High Winds	33	15.1%	39	17.8%	98	44.7%	49	22.4%	219
Microbursts	47	21.6%	55	25.2%	73	33.5%	43	19.7%	218
Severe Winter Storms/Blizzards	14	6.4%	33	15.0%	96	43.6%	77	35.0%	220
Extreme Cold	21	9.7%	57	26.4%	80	37.0%	58	26.9%	216
Ice Storms	16	7.3%	44	20.0%	94	42.7%	66	30.0%	220
Tornadoes	17	7.7%	21	9.5%	85	38.3%	99	44.6%	222
Drought	37	16.7%	79	35.6%	79	35.6%	27	12.2%	222
Extreme Heat	28	12.8%	64	29.2%	78	35.6%	49	22.4%	219
Earthquakes	85	39.0%	96	44.0%	22	10.1%	15	6.9%	218
Ground Failure (erosion and sinkholes)	70	32.3%	99	45.6%	35	16.1%	13	6.0%	217
Dam Failure	76	35.0%	77	35.5%	34	15.7%	30	13.8%	217

**20. Based on YOUR PERCEPTION of your jurisdiction's hazards, to what degree of emphasis would you expect your jurisdiction to mitigate the following hazards?**

**Mitigation definition:** The purpose of mitigation planning is to identify policies and actions that can be implemented over the long term to reduce risk and future losses. Mitigation forms the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage.

- No Mitigation Needed = No mitigation on this hazard is expected or needed
- Low Priority = This hazard should be mitigated, but is not a high priority compared to other hazards
- Medium Priority = It is important to mitigate this hazard
- High Priority = It is a high priority to emphasize mitigation for this hazard

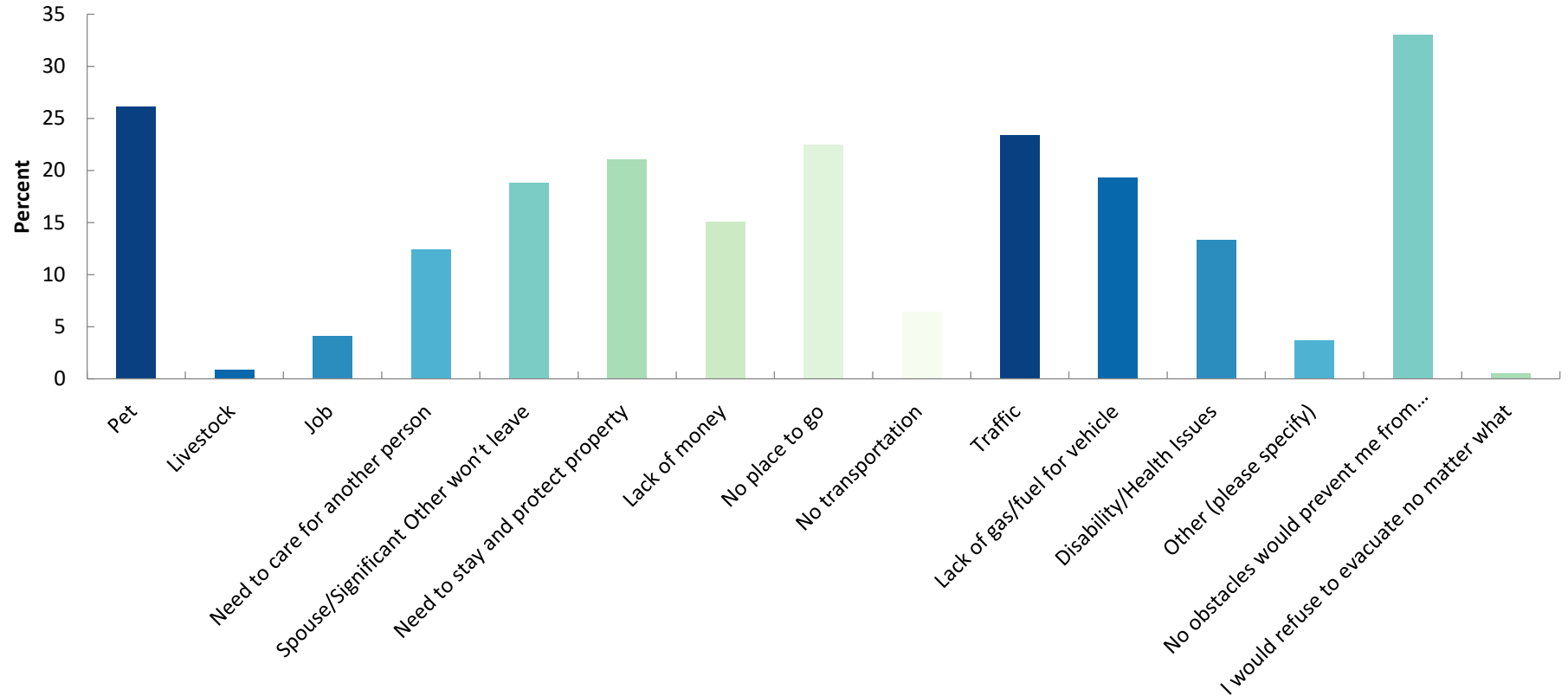
	No Mitigation Needed		Low Priority		Medium Priority		High Priority		Responses
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count
Pandemic	16	7.2%	43	19.3%	80	35.9%	84	37.7%	223
Hazardous Materials Release	10	4.5%	48	21.5%	72	32.3%	93	41.7%	223
Radiological Incident	24	11.0%	69	31.5%	57	26.0%	69	31.5%	219
Terrorism Incident	19	8.6%	58	26.1%	62	27.9%	83	37.4%	222
Civil Unrest	17	7.7%	52	23.5%	71	32.1%	81	36.7%	221
Major Transportation Incident	16	7.2%	57	25.8%	82	37.1%	66	29.9%	221



**21. If an evacuation was suggested for your area, please indicate how likely you would be to do the following.**

	Very Likely		Somewhat Likely		Not Very Likely		Not Likely at All		Do Not Know		Not Applicable		Responses
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count
Immediately evacuate as instructed.	84	38.4%	105	47.9%	20	9.1%	1	0.5%	9	4.1%	0	%	219
I would first consult with family and friends outside my household before making a decision to evacuate.	75	35.2%	74	34.7%	30	14.1%	28	13.1%	4	1.9%	2	0.9%	213
Wait and see how bad the situation is going to be before deciding to evacuate.	26	12.4%	86	41.0%	59	28.1%	29	13.8%	10	4.8%	0	%	210
Refuse to evacuate no matter what.	0	%	5	2.4%	46	21.9%	141	67.1%	12	5.7%	6	2.9%	210

**22. What might prevent you from leaving your place of residence if an evacuation was suggested?  
Please select ALL that apply.**

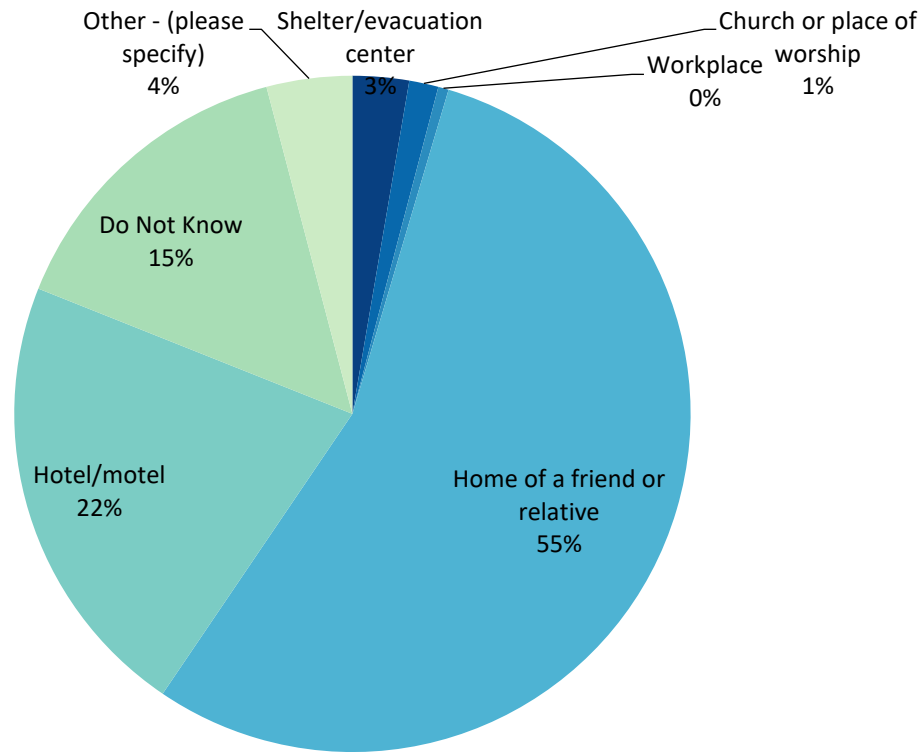


Value	Percent	Count
Pet	26.1%	57
Livestock	0.9%	2
Job	4.1%	9
Need to care for another person	12.4%	27
Spouse/Significant Other won't leave	18.8%	41
Need to stay and protect property	21.1%	46
Lack of money	15.1%	33

No place to go	22.5%	49
No transportation	6.4%	14
Traffic	23.4%	51
Lack of gas/fuel for vehicle	19.3%	42
Disability/Health Issues	13.3%	29
Other (please specify)	3.7%	8
No obstacles would prevent me from evacuating	33.0%	72
I would refuse to evacuate no matter what	0.5%	1

Other (please specify)	Count
REDACTED	
Total	8

**23. If you were to evacuate, where would you most likely stay? Please select the best answer.**

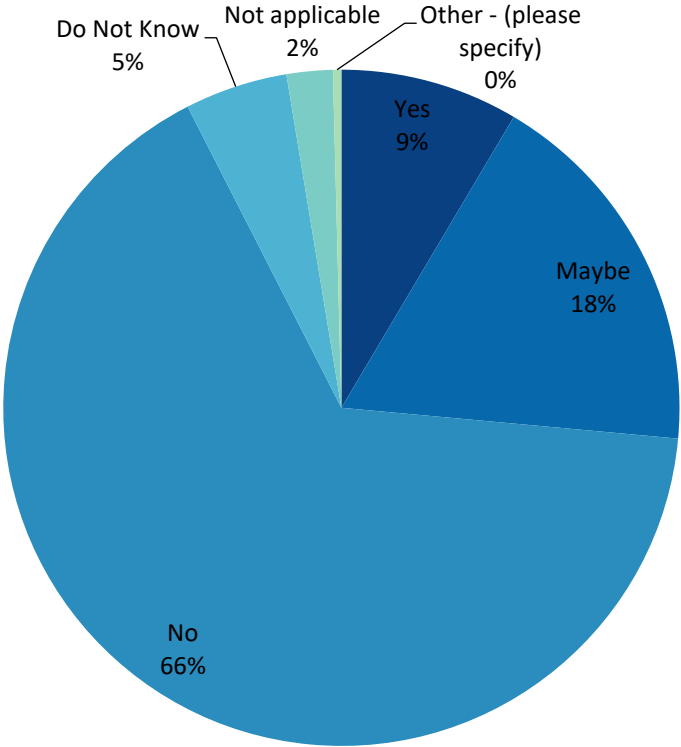


Value	Percent	Count
Shelter/evacuation center	2.7%	6
Church or place of worship	1.4%	3
Workplace	0.5%	1
Home of a friend or relative	55.0%	122
Hotel/motel	21.6%	48
Do Not Know	14.9%	33
Other - (please specify)	4.1%	9

	Total	222
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Other - (please specify)	Count
REDACTED	
Total	9

**24. In an evacuation, would you or anyone in your household require special assistance?**

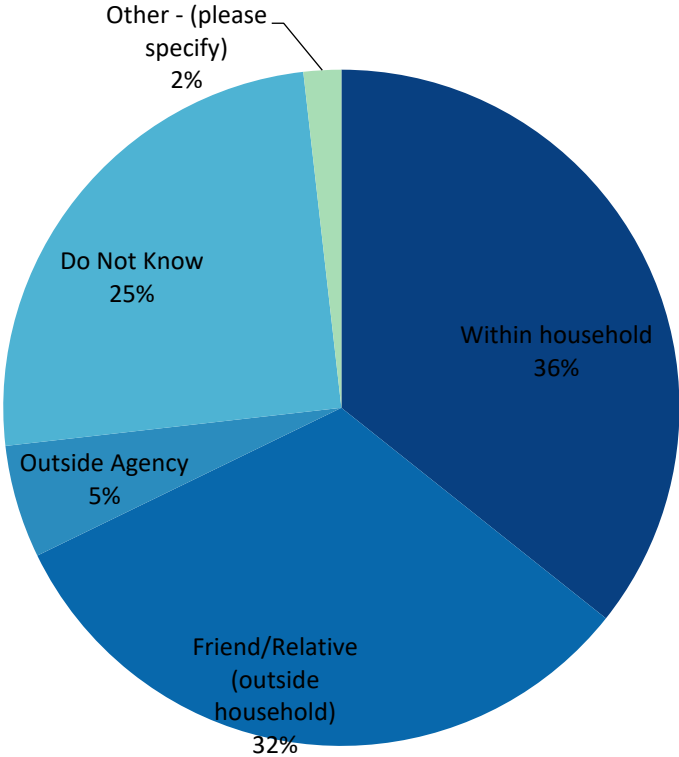


Value	Percent	Count
Yes	8.5%	19
Maybe	17.9%	40
No	65.9%	147
Do Not Know	4.9%	11
Not applicable	2.2%	5
Other - (please specify)	0.4%	1
	Total	223



Other - (please specify)	Count
REDACTED	
Total	1

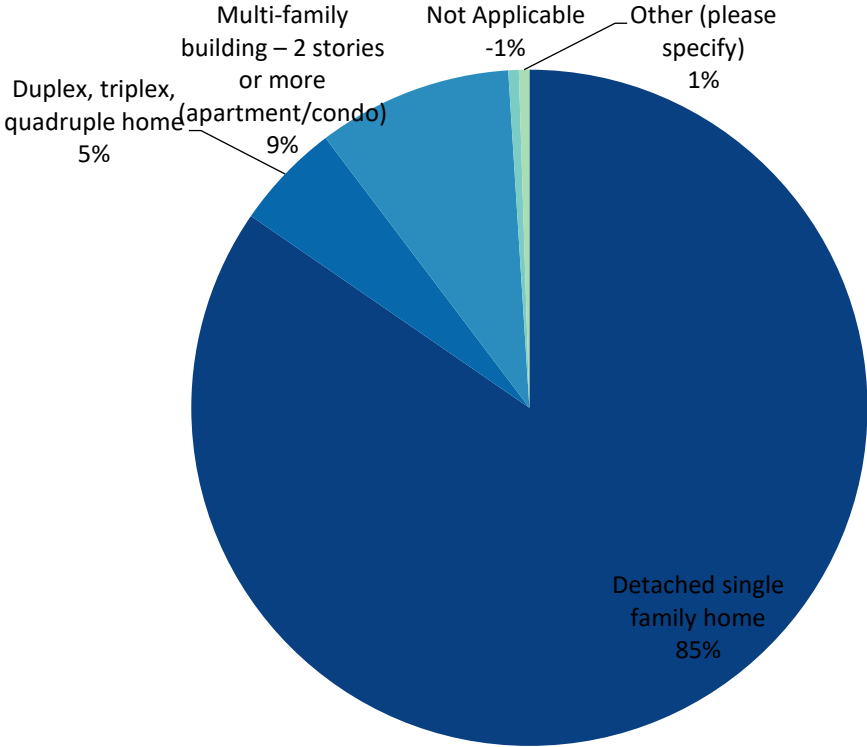
**25. If yes, would that assistance be provided by someone within your household, by an outside agency, or by a friend or relative outside your household?**



Value	Percent	Count
Within household	35.7%	20
Friend/Relative (outside household)	32.1%	18
Outside Agency	5.4%	3
Do Not Know	25.0%	14
Other - (please specify)	1.8%	1
	Total	56

Other - (please specify)	Count
REDACTED	
Total	1

**26. What type of structure do you live in?**



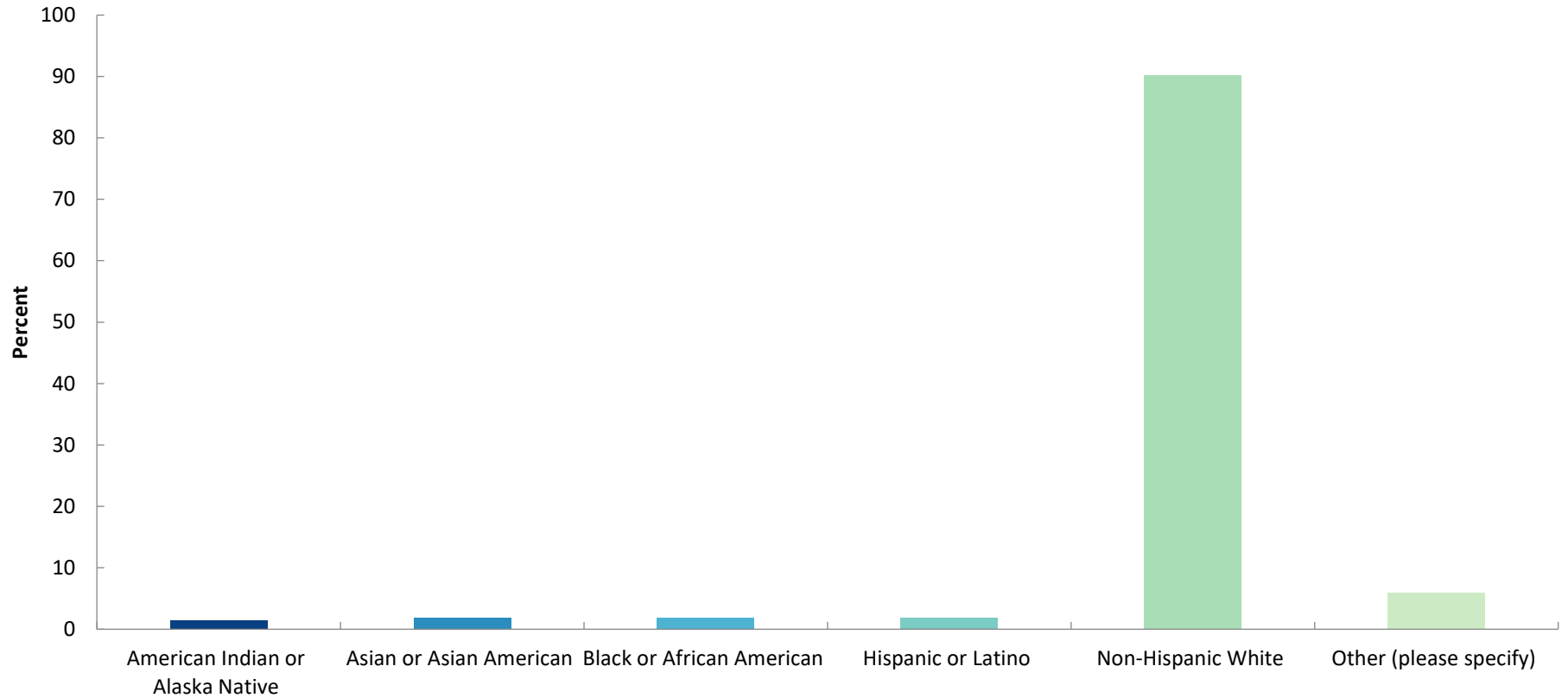
Value	Percent	Count
Detached single family home	84.6%	181
Duplex, triplex, quadruple home	5.1%	11
Multi-family building – 2 stories or more (apartment/condo)	9.3%	20
Not Applicable	0.5%	1
Other (please specify)	0.5%	1
	Total	214

Other (please specify)	Count
REDACTED	
Total	1

**27. How many persons, including yourself, are currently living in your household?**

	Number of people in household		Responses
	Row %	Count	
Under age 5:	100.0%	115	115
Ages 6-10:	100.0%	117	117
Ages 11-19:	100.0%	121	121
Ages 20-44:	100.0%	125	125
Ages 45-64:	100.0%	147	147
Ages 65-79:	100.0%	175	175
Ages 80+	100.0%	125	125

**28. Which of the following best describes your race/ethnicity? Please select ALL that apply.**

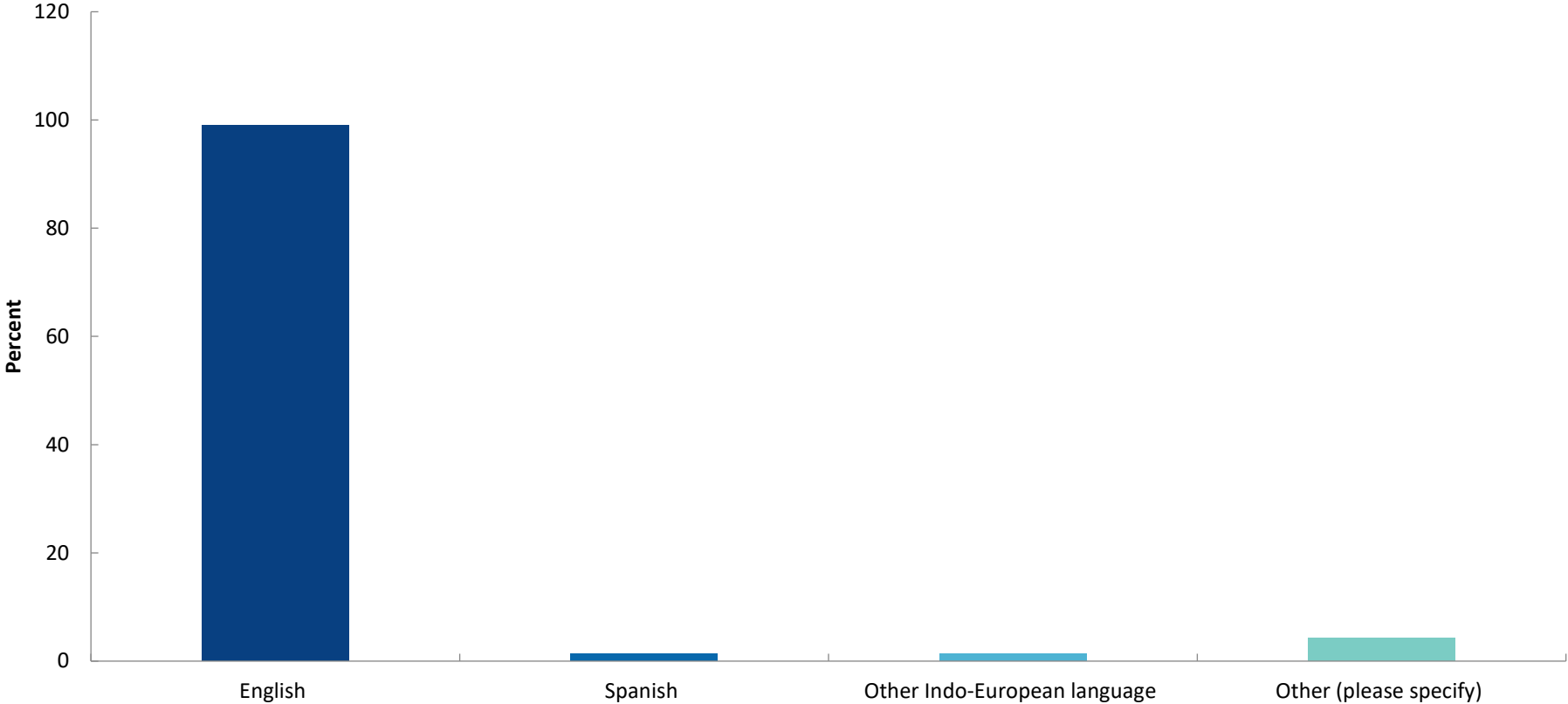


Value	Percent	Count
American Indian or Alaska Native	1.4%	3
Asian or Asian American	1.9%	4
Black or African American	1.9%	4
Hispanic or Latino	1.9%	4
Non-Hispanic White	90.2%	194
Other (please specify)	6.0%	13



Other (please specify)	Count
REDACTED	
Total	10

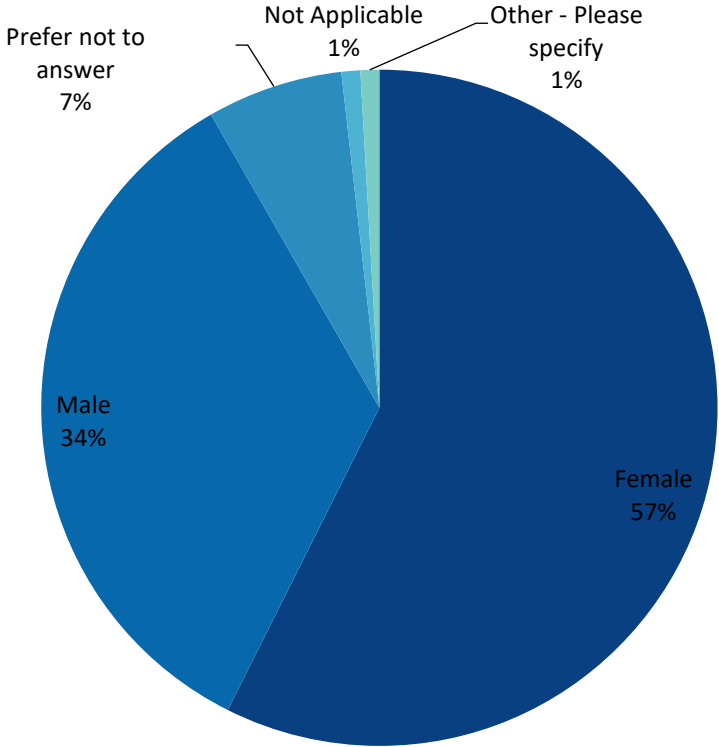
**29. Please indicate the language(s) spoken in your household. Please select ALL that apply.**



Value	Percent	Count
English	99.1%	214
Spanish	1.4%	3
Other Indo-European language	1.4%	3
Other (please specify)	4.2%	9

Other (please specify)	Count
German	5
French	1
Polish	1
Portuguese	1
Urdu	1
Total	9

**30. Please indicate your sex.**



Value	Percent	Count
Female	57.4%	124
Male	34.3%	74
Prefer not to answer	6.5%	14
Not Applicable	0.9%	2
Other - Please specify	0.9%	2
	Total	216

**(OPTIONAL): If you have any additional comments, questions, or feedback, please use the space below to provide your comment.**

Response

REDACTED

## Appendix D: Disadvantaged Communities

Figure D-1. Kane County Census Tract 17089850301

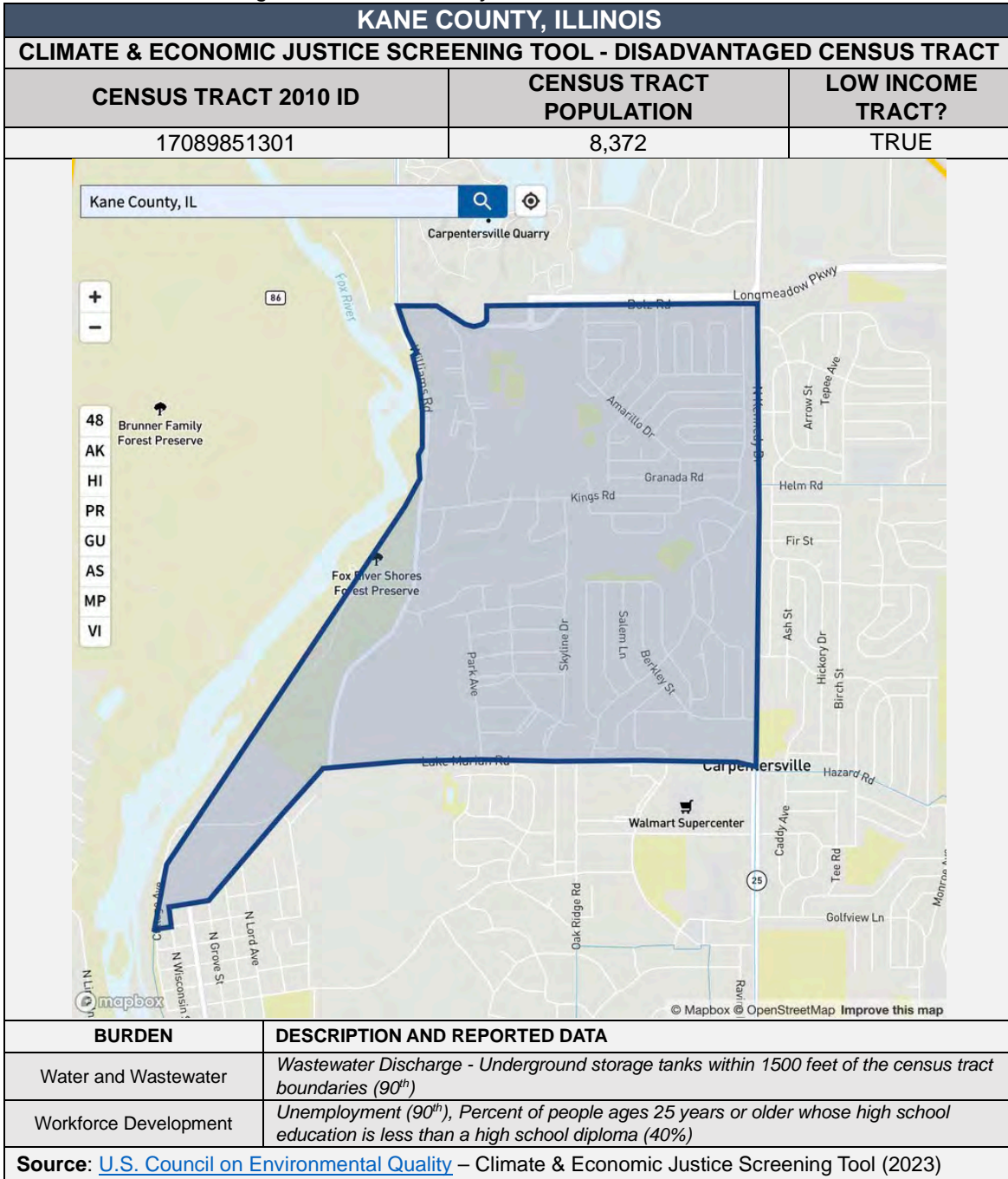




Figure D-2. Kane County Census Tract 17089851301

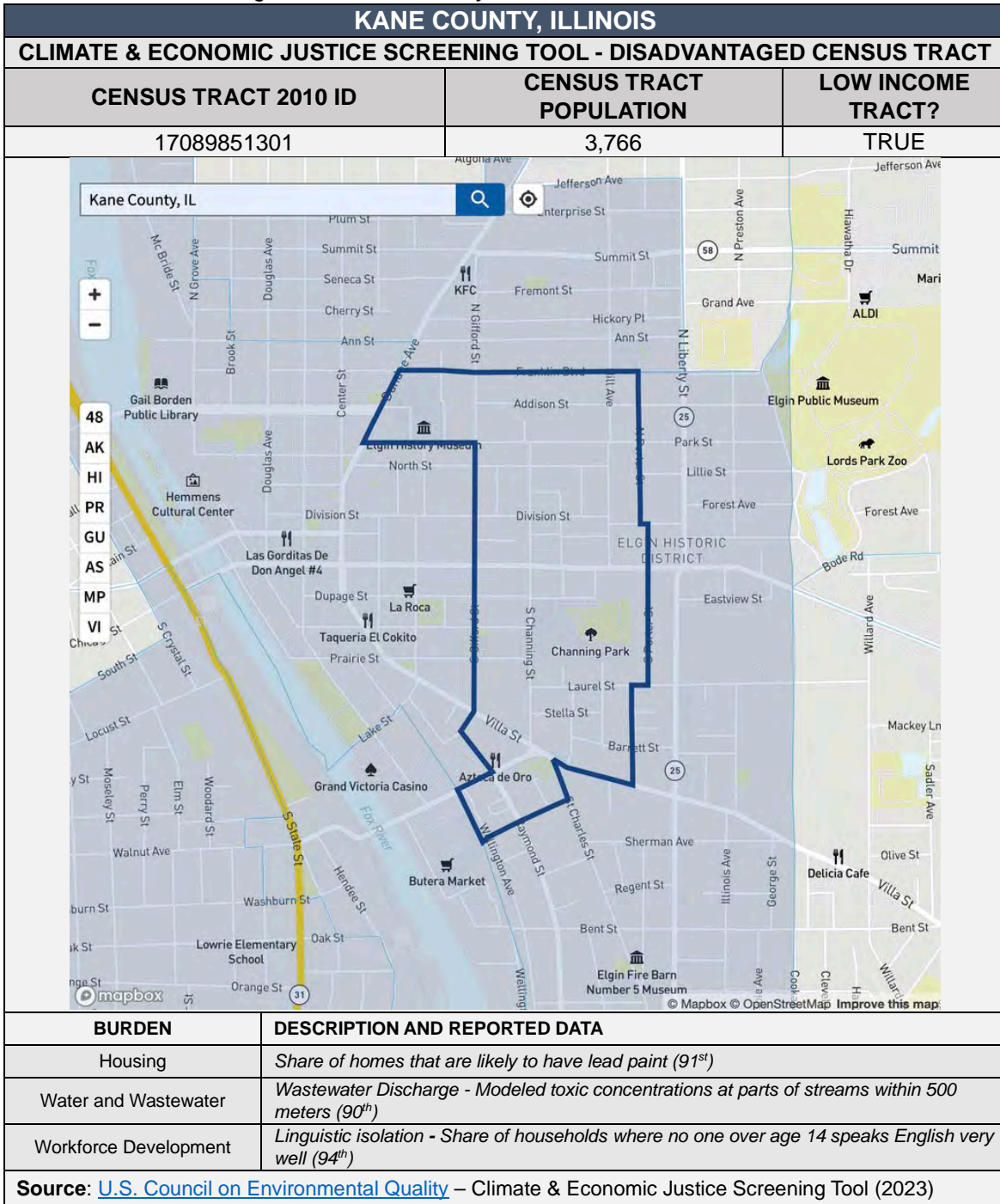


Figure D-3. Kane County Census Tract 17089851302

KANE COUNTY, ILLINOIS		
CLIMATE & ECONOMIC JUSTICE SCREENING TOOL - DISADVANTAGED CENSUS TRACT		
CENSUS TRACT 2010 ID	CENSUS TRACT POPULATION	LOW INCOME TRACT?
17089851302	3,432	TRUE
BURDEN	DESCRIPTION AND REPORTED DATA	
Housing	Share of homes that are likely to have lead paint (90 <sup>th</sup> )	
Water and Wastewater	Underground storage tanks and releases (98 <sup>th</sup> ), Wastewater Discharge - Underground storage tanks within 1500 feet of the census tract boundaries (90 <sup>th</sup> )	
Workforce Development	Linguistic isolation - Share of households where no one over age 14 speaks English very well (94 <sup>th</sup> ), Percent of people ages 25 years or older whose high school education is less than a high school diploma (35%)	
Source: <a href="#">U.S. Council on Environmental Quality</a> – Climate & Economic Justice Screening Tool (2023)		

Figure D-4. Kane County Census Tract 17089851400

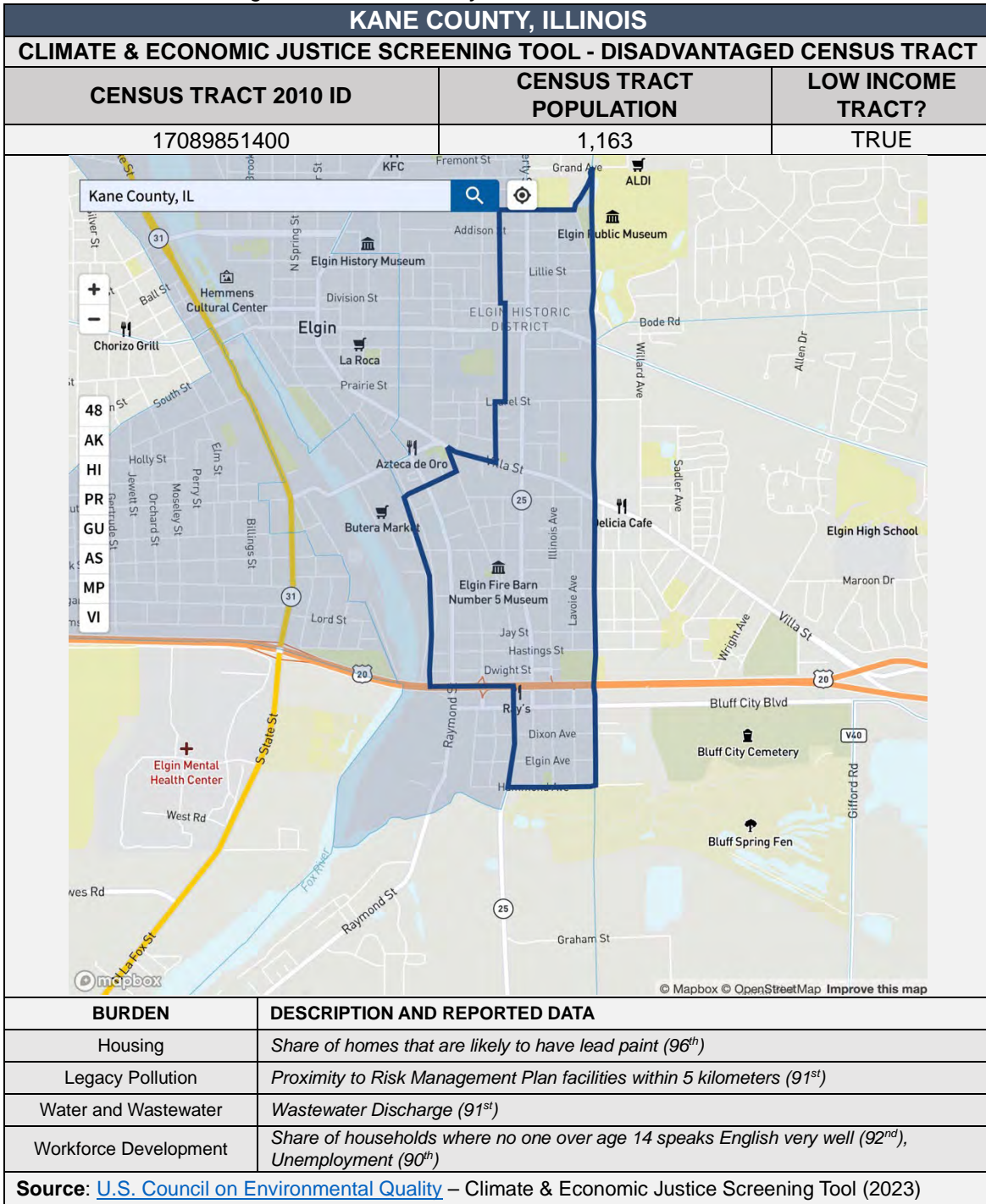




Figure D-5. Kane County Census Tract 17089851500

KANE COUNTY, ILLINOIS		
CLIMATE & ECONOMIC JUSTICE SCREENING TOOL - DISADVANTAGED CENSUS TRACT		
CENSUS TRACT 2010 ID	CENSUS TRACT POPULATION	LOW INCOME TRACT?
17089851500	1,163	TRUE
BURDEN	DESCRIPTION AND REPORTED DATA	
Climate Change	Projected flood risk - Projected risk to properties from projected floods, from tides, rain, riverine and storm surges within 30 years (95 <sup>th</sup> )	
Legacy Pollution	Proximity to Risk Management Plan facilities within 5 kilometers (94 <sup>th</sup> )	
Water and Wastewater	Underground storage tanks and releases (92 <sup>nd</sup> ), Wastewater Discharge (94 <sup>th</sup> )	
Workforce Development	Share of households where no one over age 14 speaks English very well (92 <sup>nd</sup> ), Percent of people ages 25 years or older whose high school education is less than a high school diploma (26%)	
Source: <a href="#">U.S. Council on Environmental Quality</a> – Climate & Economic Justice Screening Tool (2023)		

Figure D-6. Kane County Census Tract 17089851600

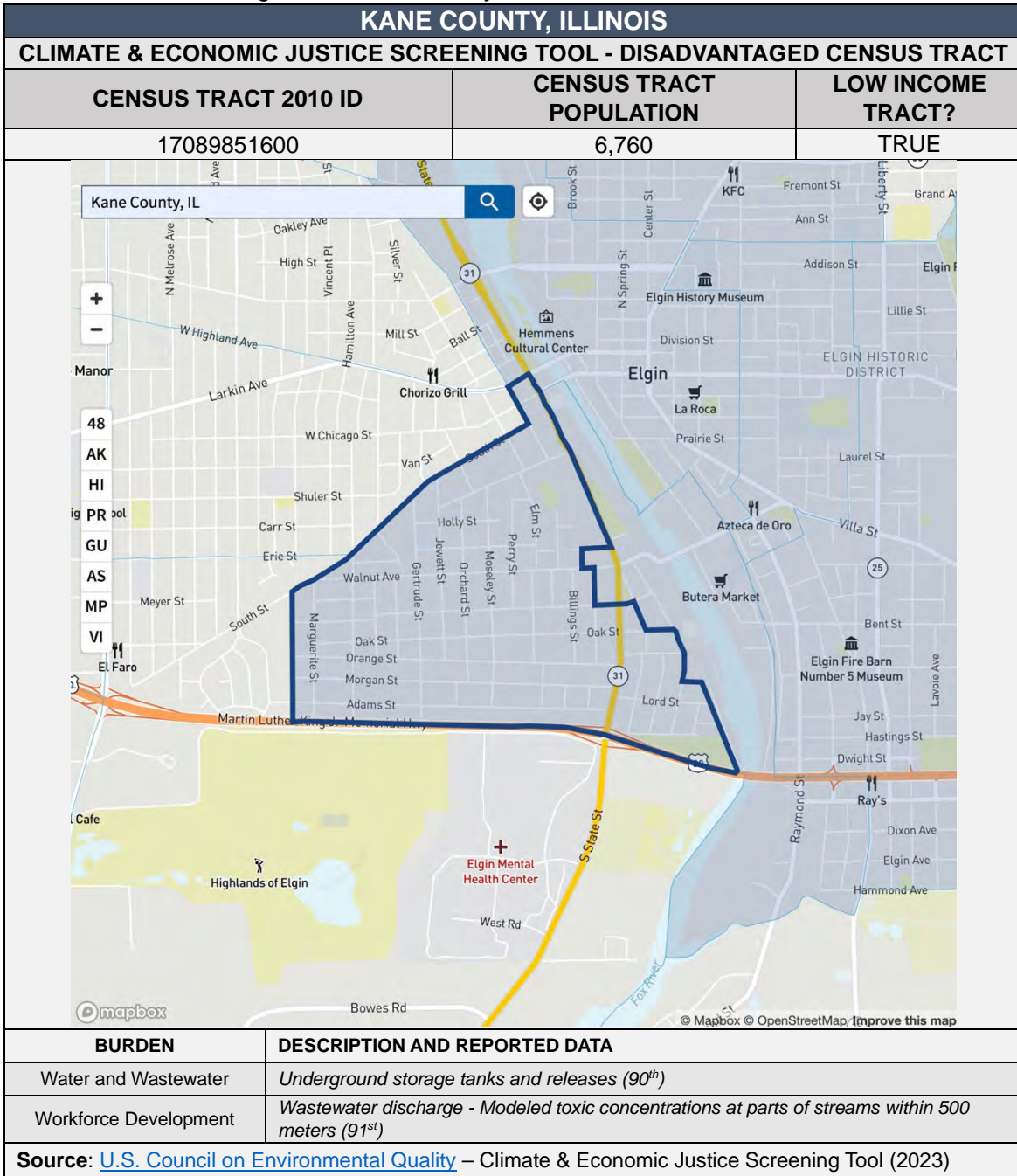


Figure D-7. Kane County Census Tract 17089852904

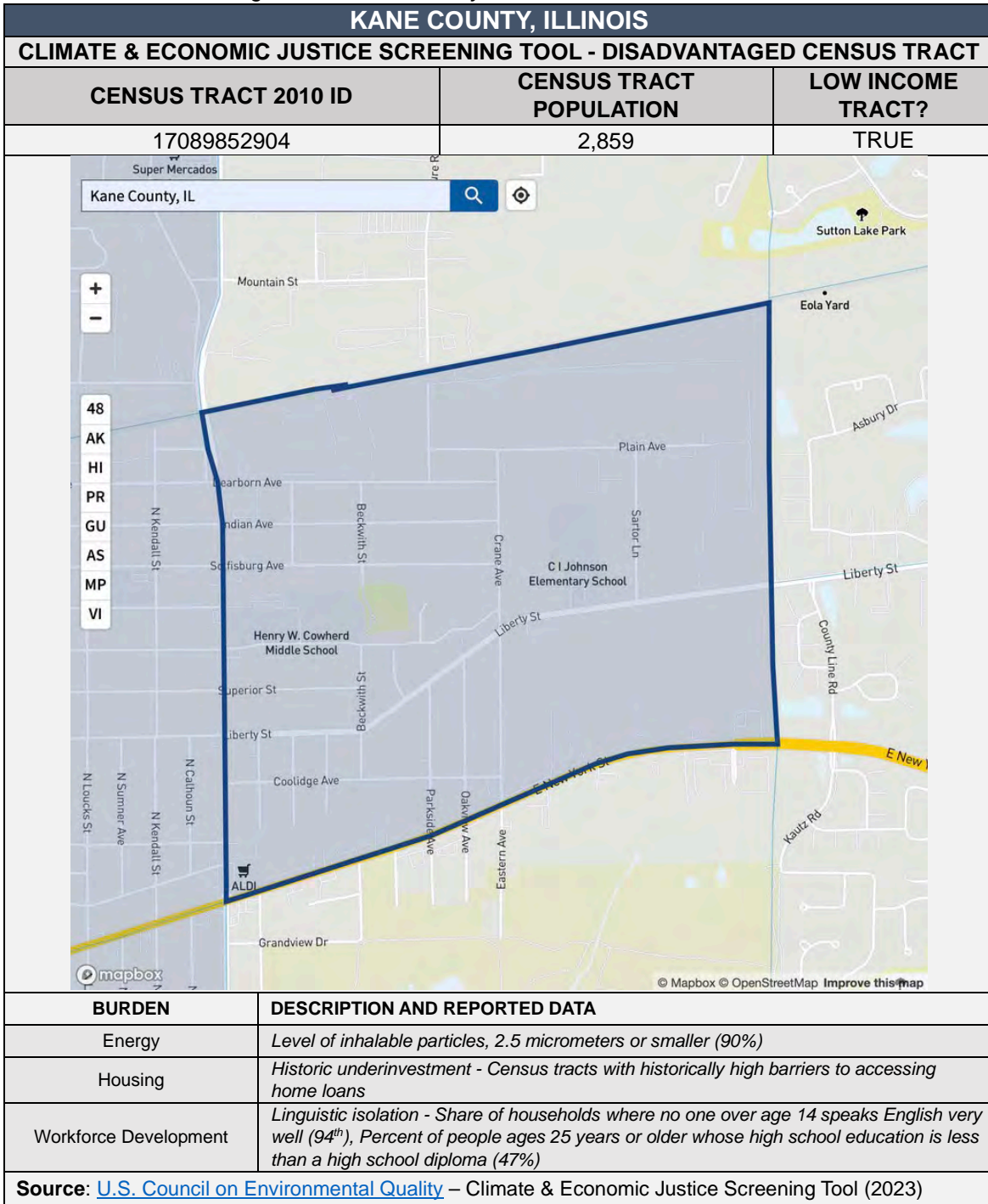




Figure D-8. Kane County Census Tract 17089852905

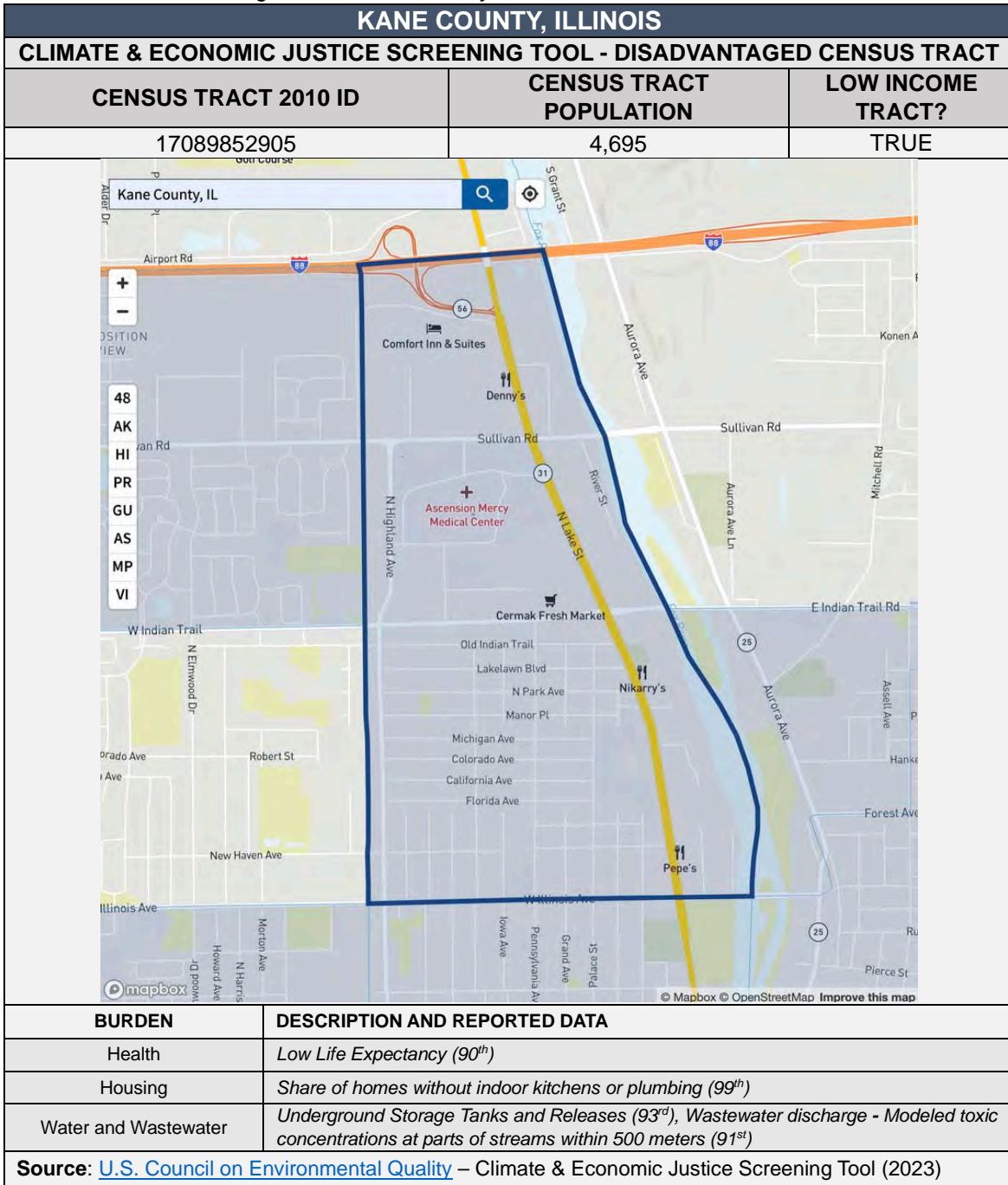


Figure D-9. Kane County Census Tract 17089852907

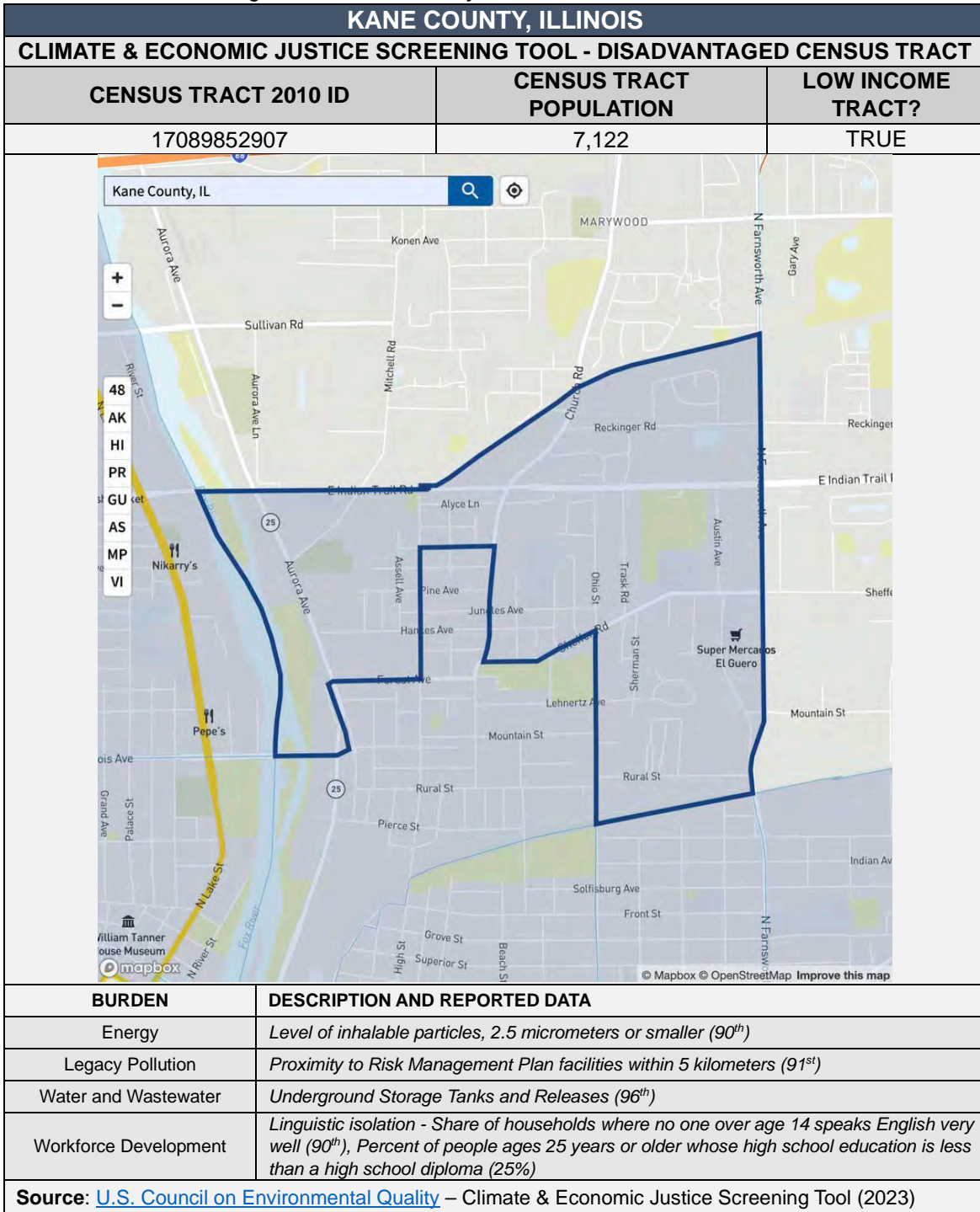


Figure D-10. Kane County Census Tract 17089853008

KANE COUNTY, ILLINOIS		
CLIMATE & ECONOMIC JUSTICE SCREENING TOOL - DISADVANTAGED CENSUS TRACT		
CENSUS TRACT 2010 ID	CENSUS TRACT POPULATION	LOW INCOME TRACT?
17089853008	7,122	FALSE
BURDEN	DESCRIPTION AND REPORTED DATA	
Workforce Development	Linguistic isolation - Share of households where no one over age 14 speaks English very well (90 <sup>th</sup> ), Percent of people ages 25 years or older whose high school education is less than a high school diploma (24%)	
Source: <a href="#">U.S. Council on Environmental Quality</a> – Climate & Economic Justice Screening Tool (2023)		

Figure D-11. Kane County Census Tract 17089853100

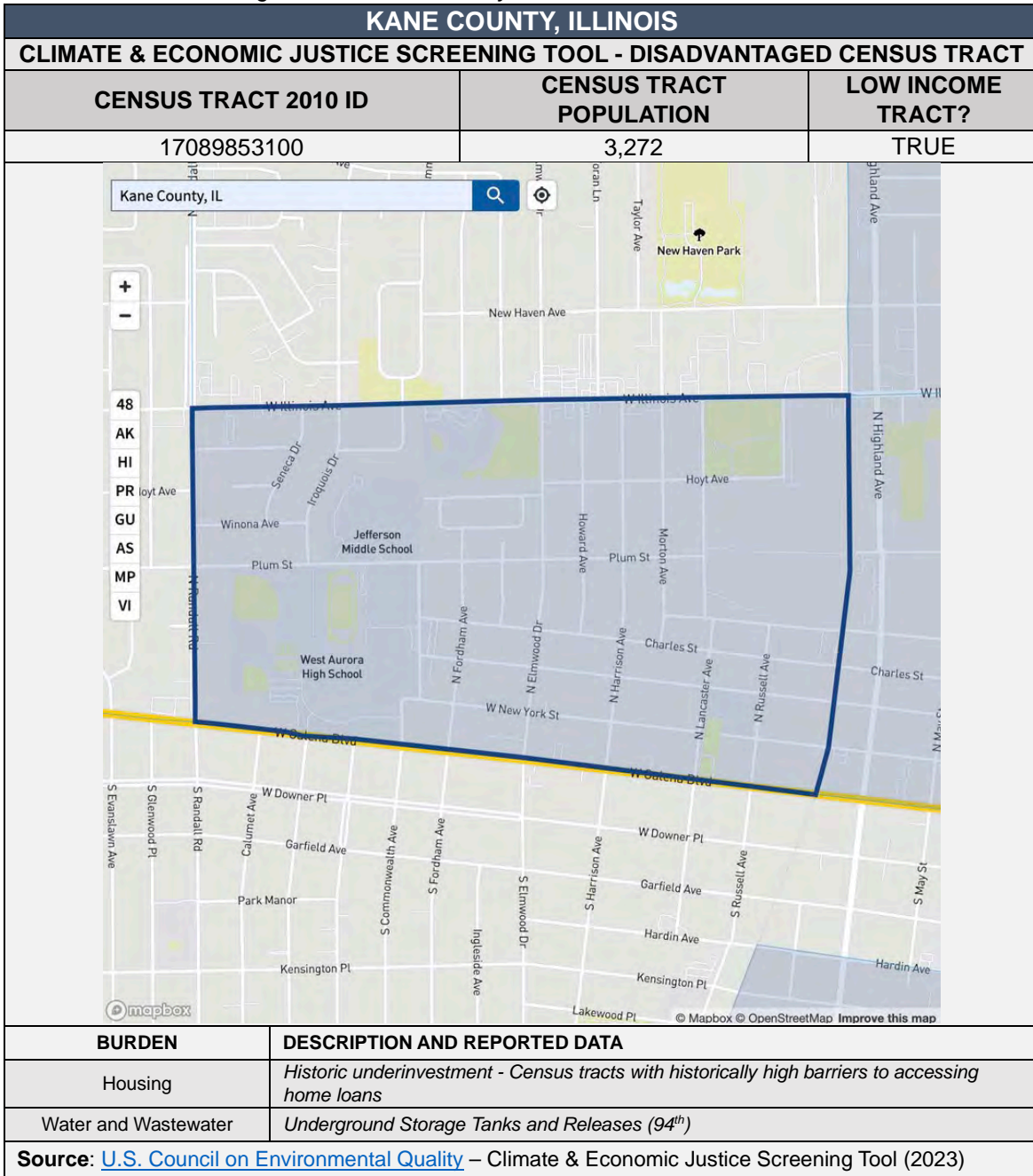




Figure D-12. Kane County Census Tract 17089853200

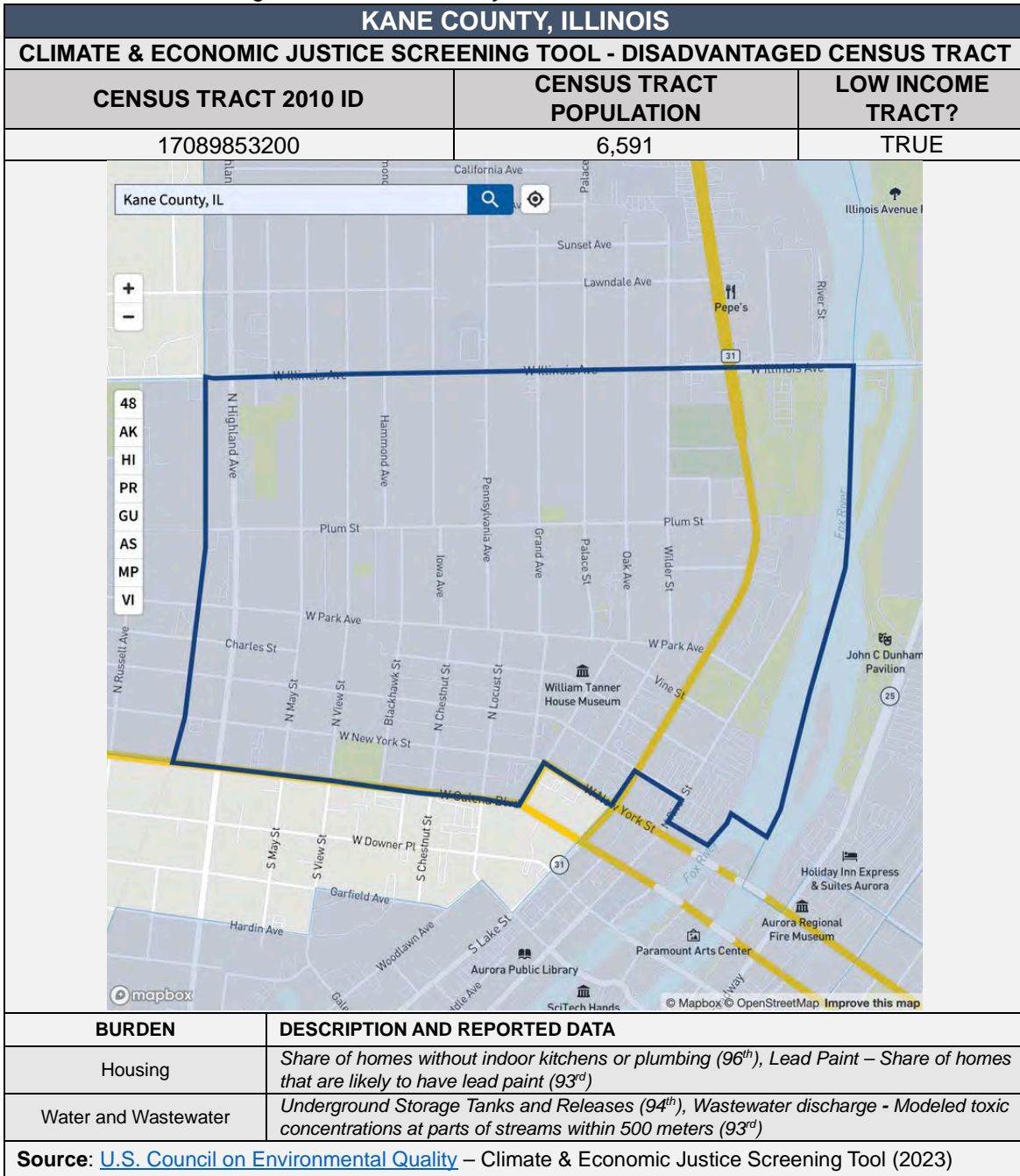


Figure D-13. Kane County Census Tract 17089853300

KANE COUNTY, ILLINOIS		
CLIMATE & ECONOMIC JUSTICE SCREENING TOOL - DISADVANTAGED CENSUS TRACT		
CENSUS TRACT 2010 ID	CENSUS TRACT POPULATION	LOW INCOME TRACT?
17089853300	5,080	TRUE
BURDEN	DESCRIPTION AND REPORTED DATA	
Energy	Level of inhalable particles, 2.5 micrometers or smaller (90 <sup>th</sup> )	
Housing	Historic underinvestment - Census tracts with historically high barriers to accessing home loans, Lead Paint – Share of homes that are likely to have lead paint (93 <sup>rd</sup> )	
Water and Wastewater	Underground Storage Tanks and Releases (94 <sup>th</sup> ), Wastewater discharge - Modeled toxic concentrations at parts of streams within 500 meters (90 <sup>th</sup> )	
Source: <a href="#">U.S. Council on Environmental Quality</a> – Climate & Economic Justice Screening Tool (2023)		



Figure D-14. Kane County Census Tract 17089853400

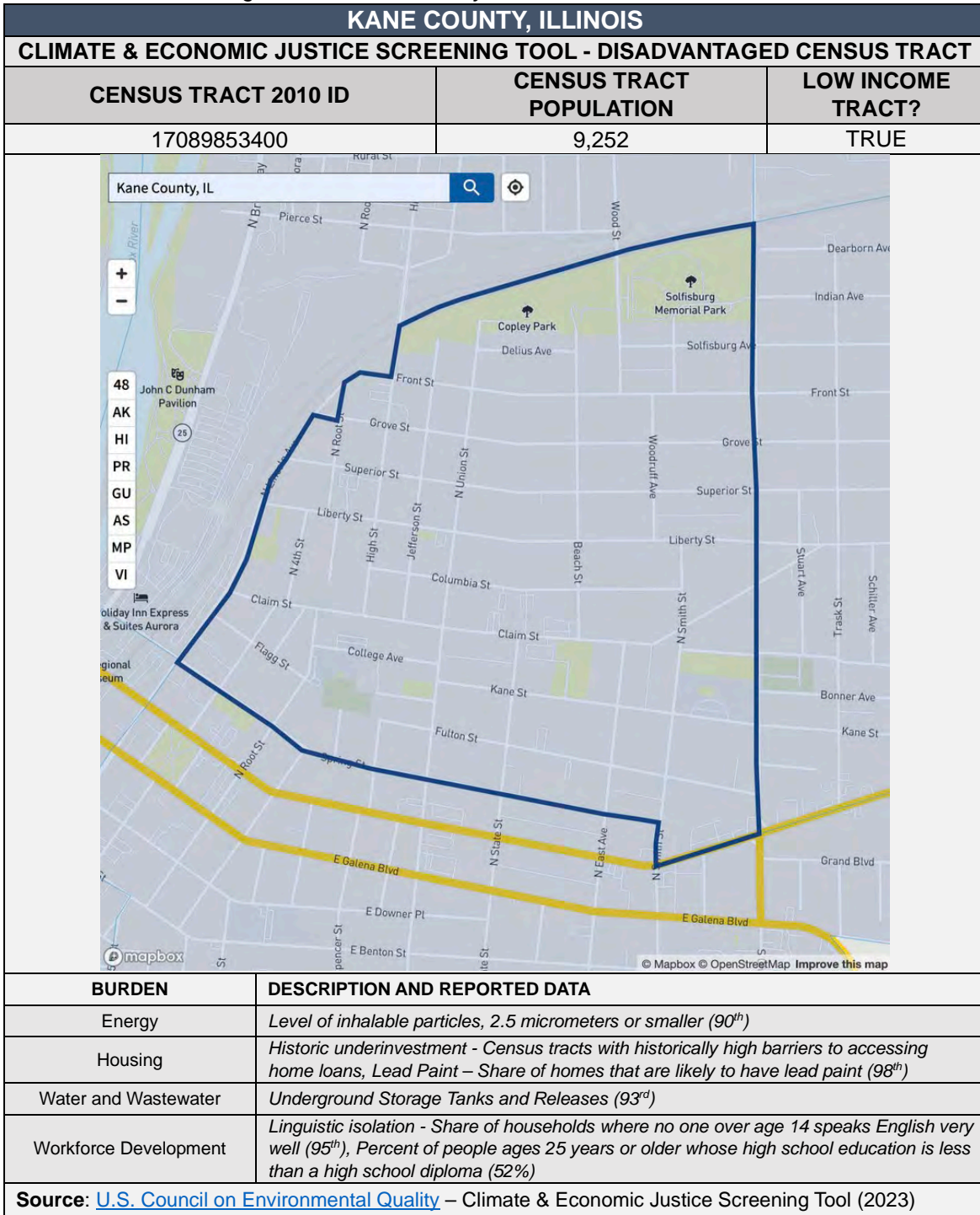


Figure D-15. Kane County Census Tract 17089853500

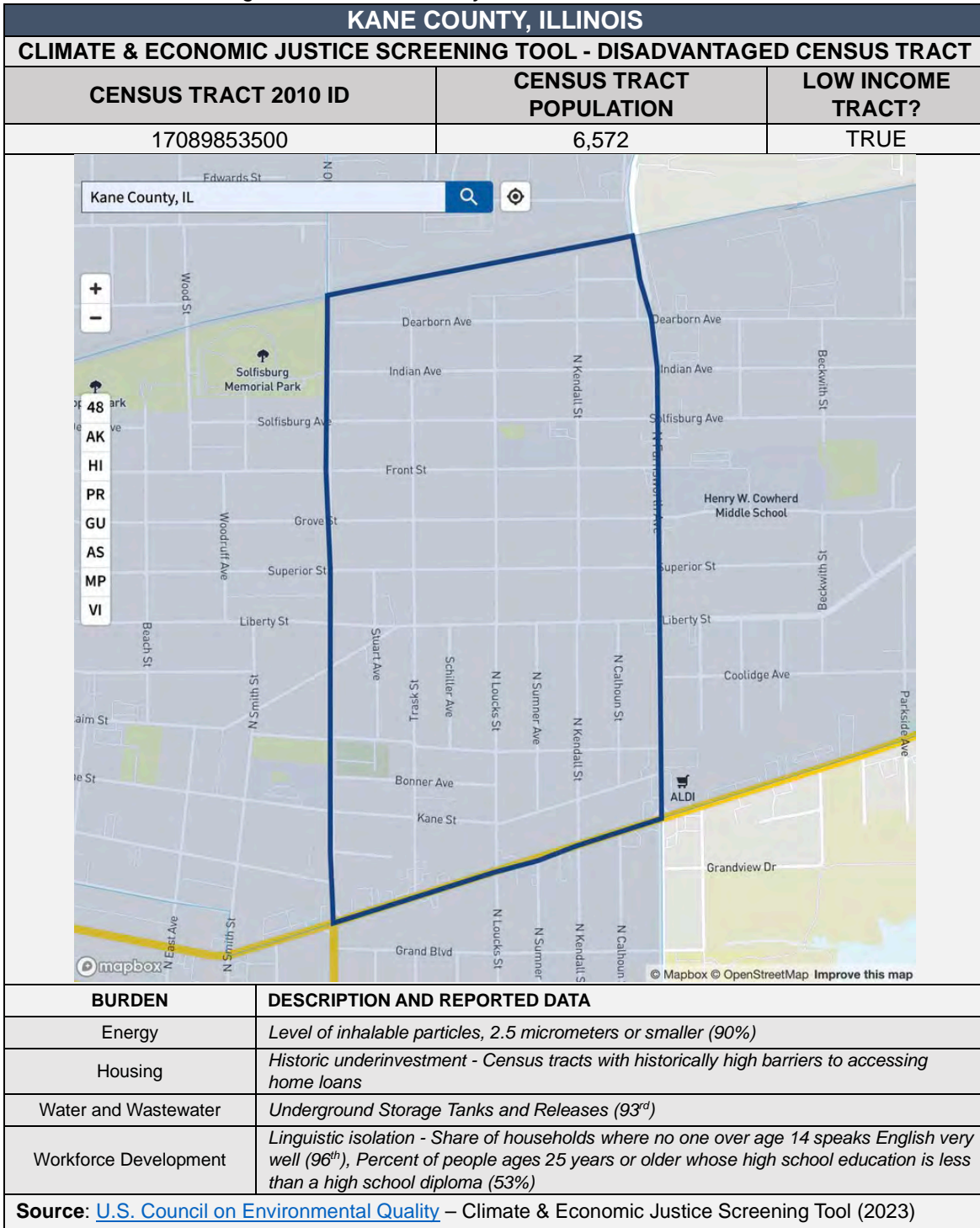


Figure D-16. Kane County Census Tract 17089853600

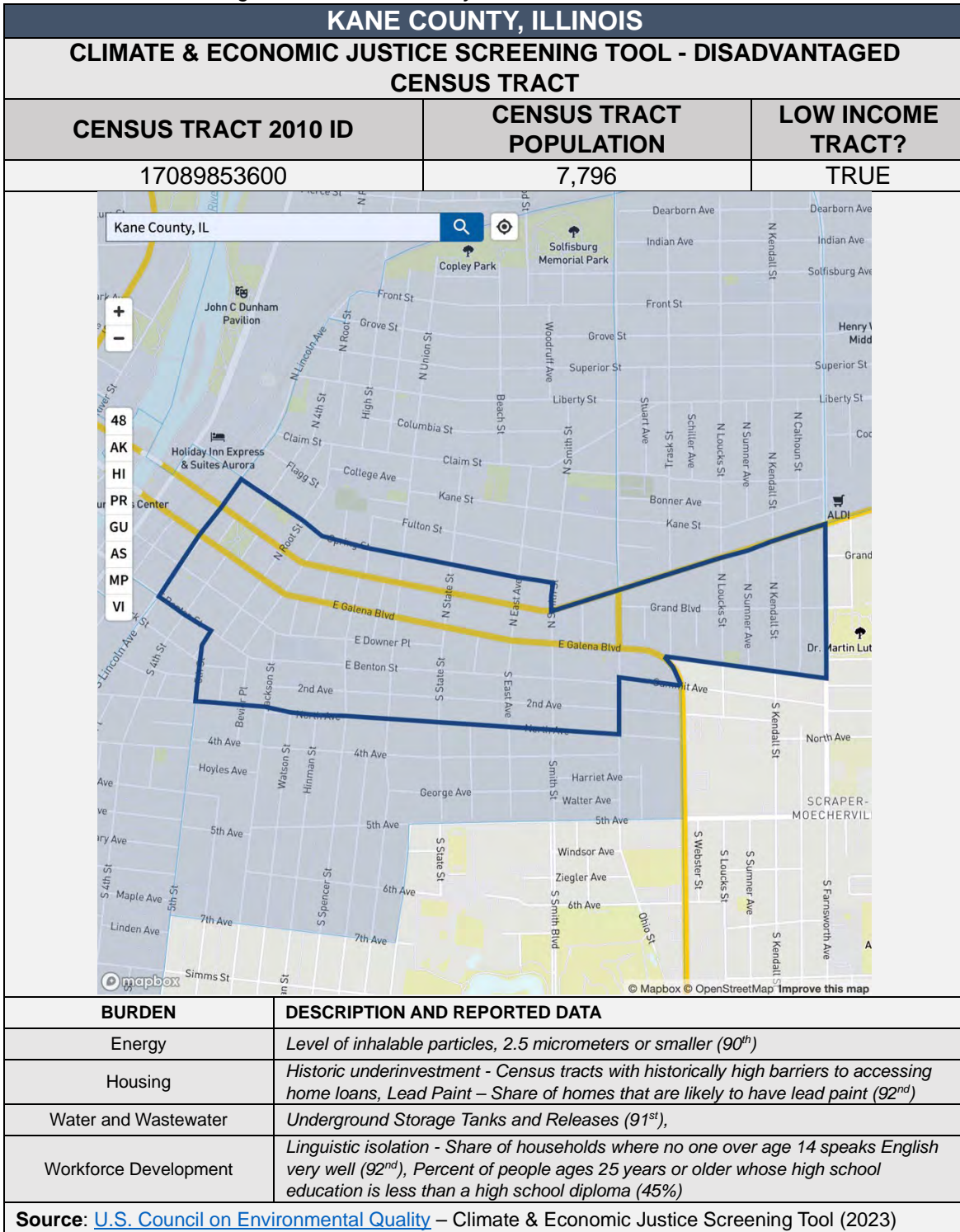




Figure D-17. Kane County Census Tract 17089854100

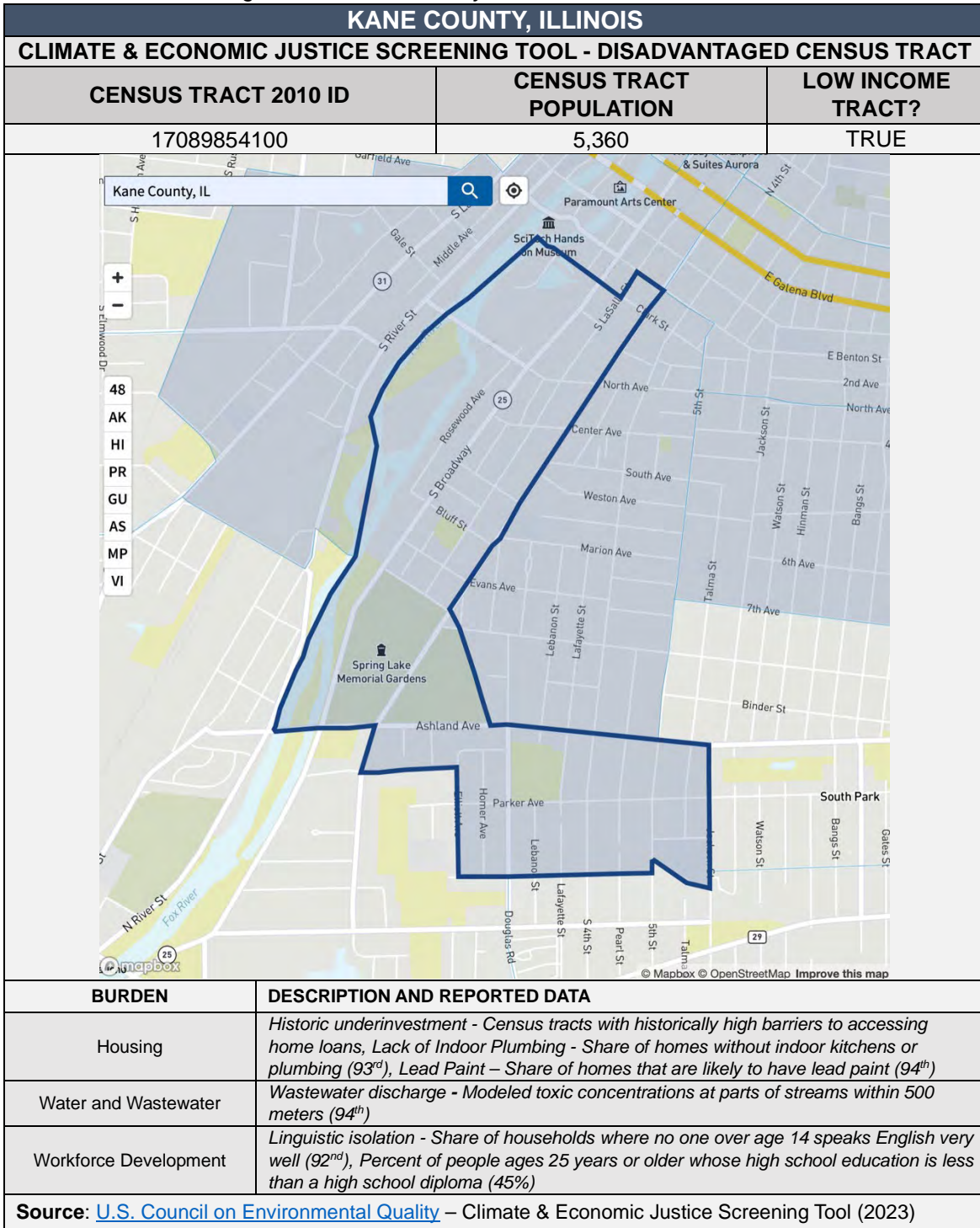


Figure D-18. Kane County Census Tract 17089854200

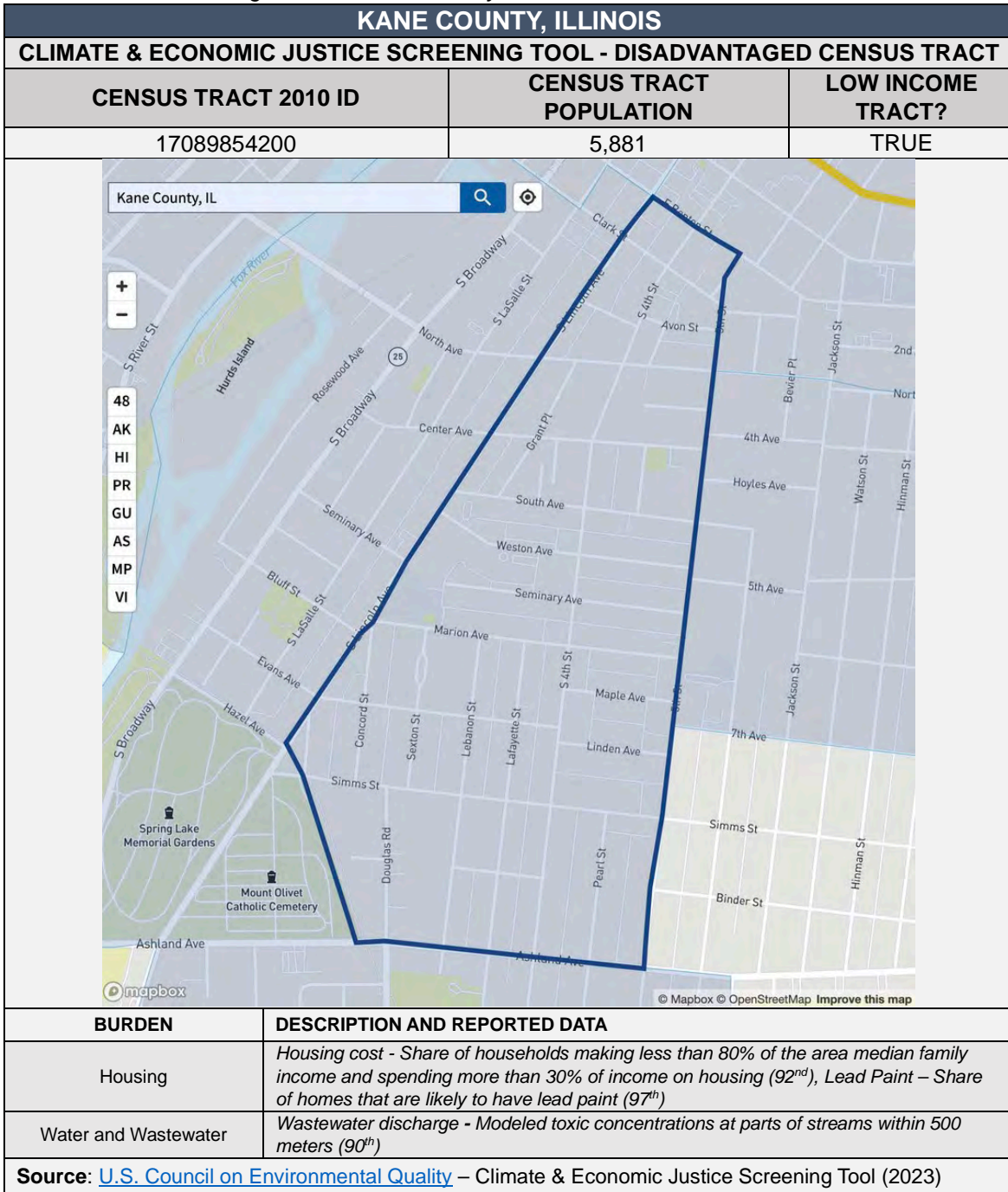


Figure D-19. Kane County Census Tract 17089854301

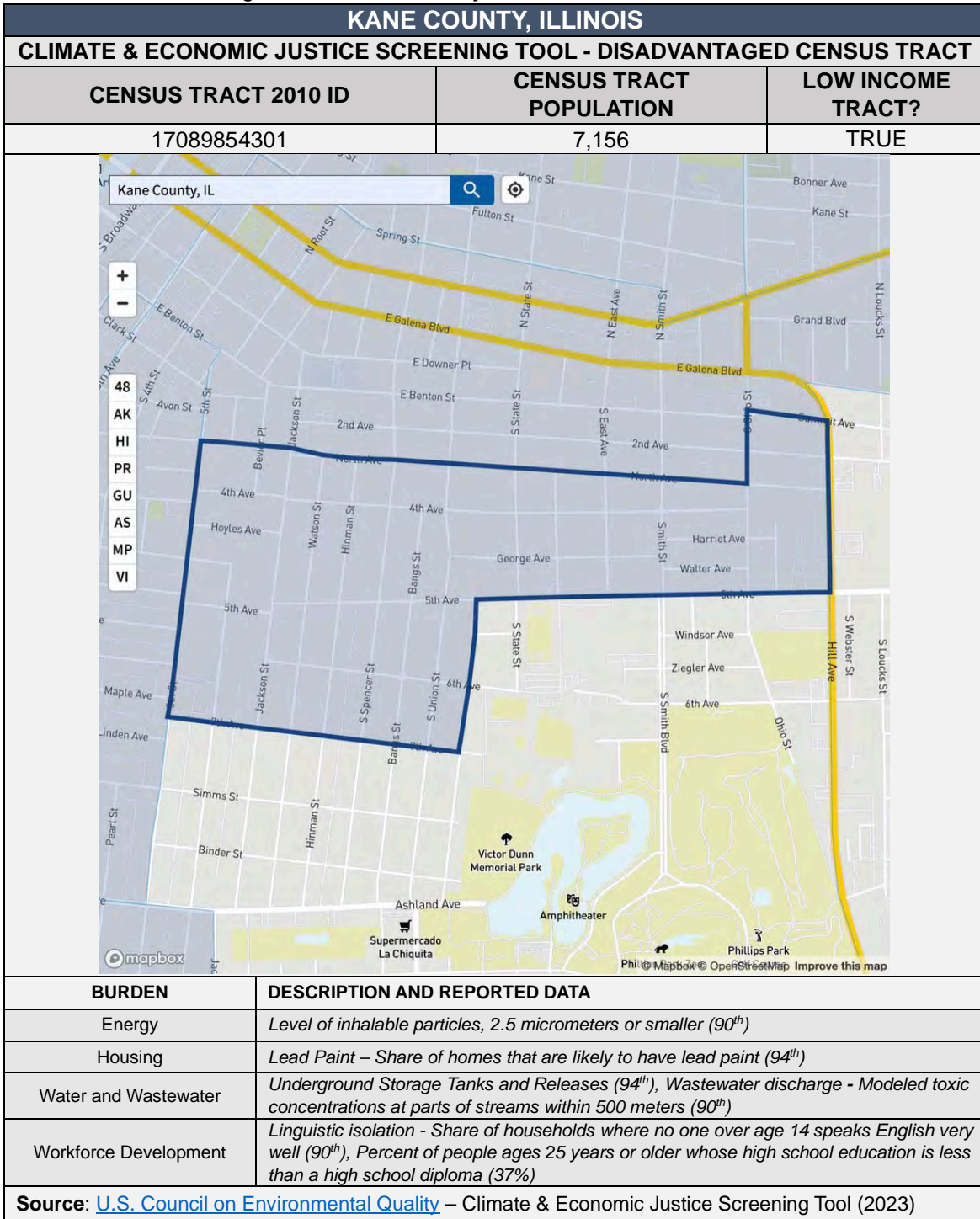




Figure D-20. Kane County Census Tract 17089854600

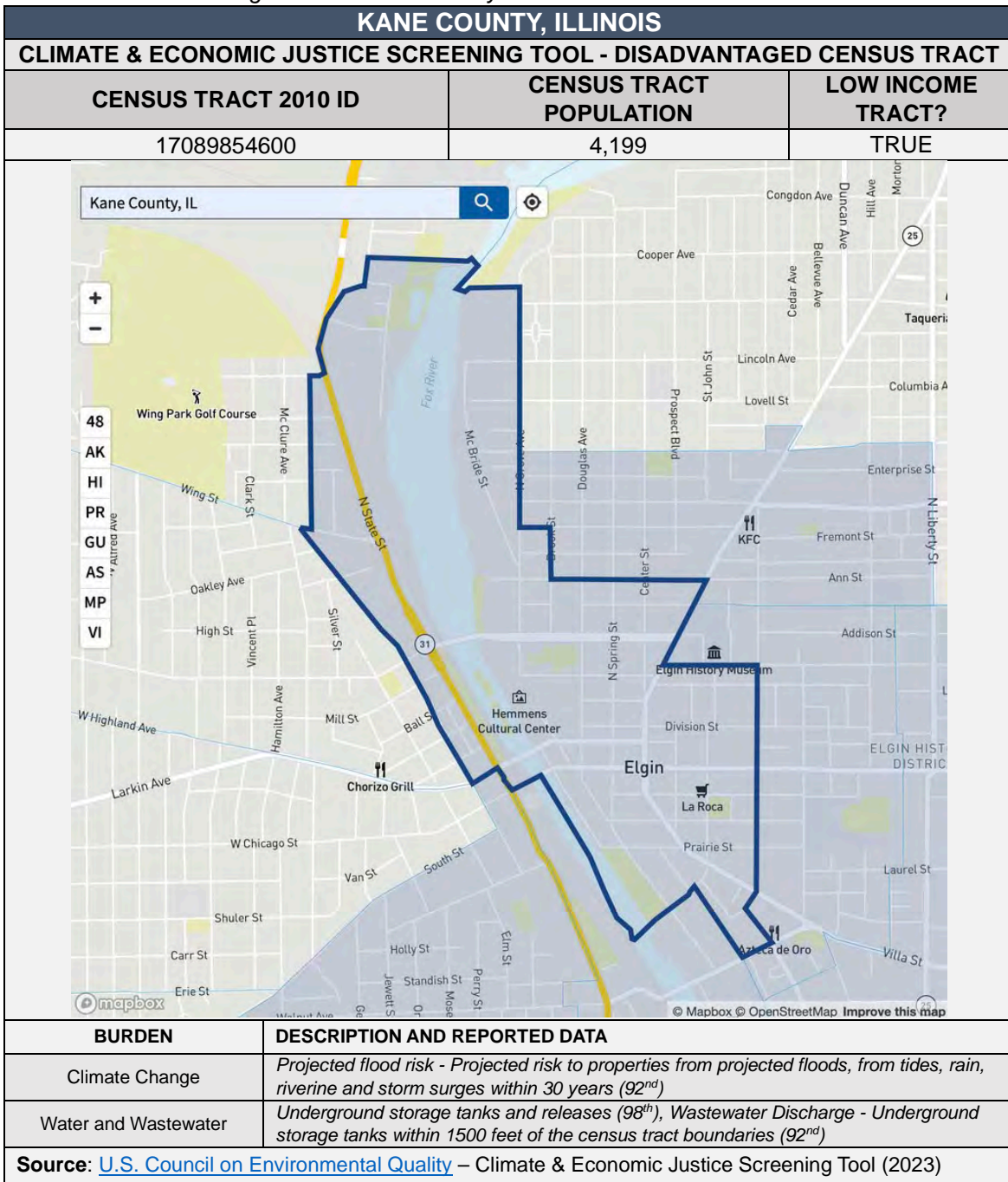
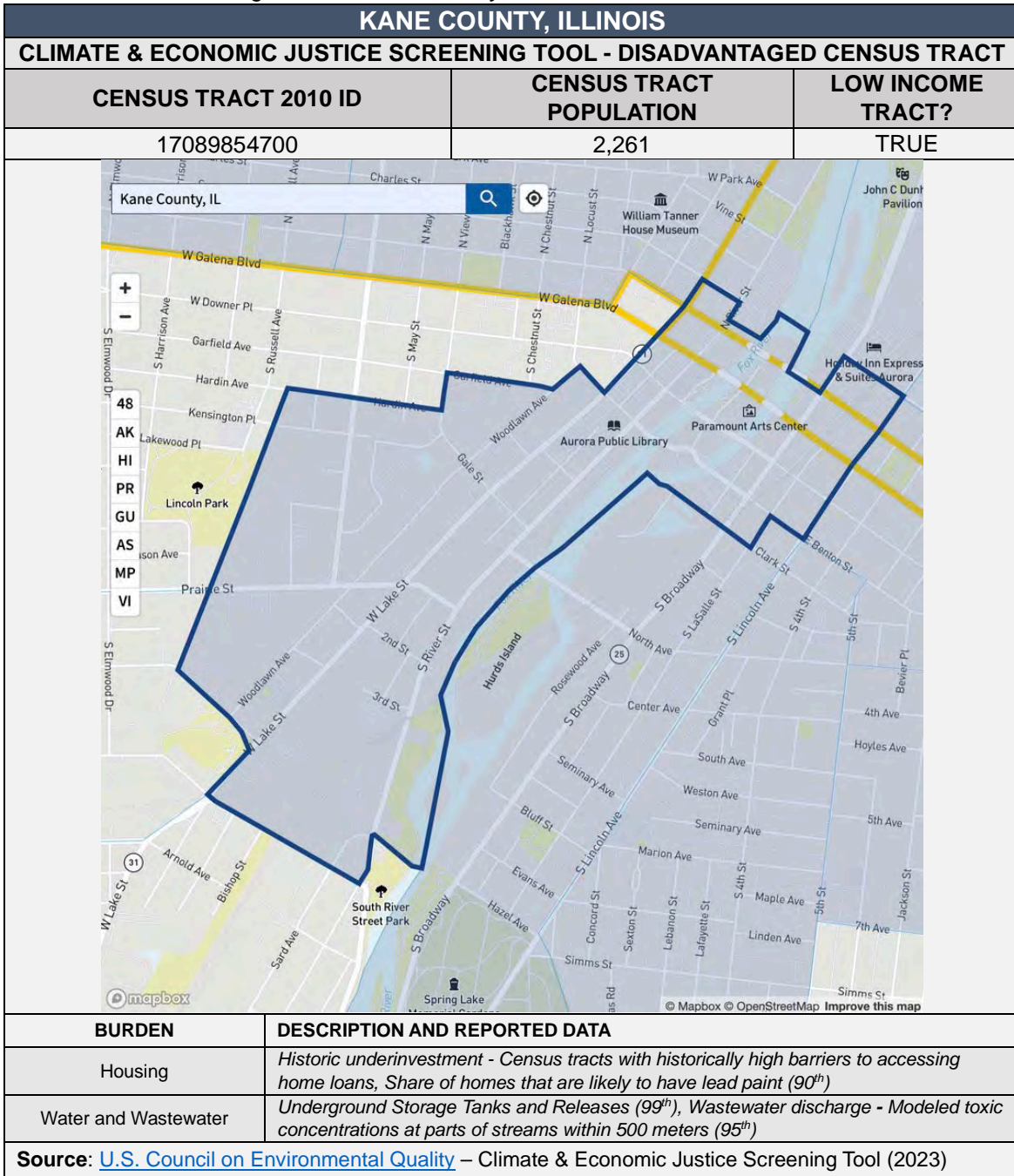


Figure D-21. Kane County Census Tract 17089854700



# Volume II: Kane County Natural Hazard Mitigation Plan

## What is in Volume II:

### Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2024 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to each municipality.

### Mitigation Strategies and Actions

- County Mitigation Actions (County Departments and Mitigation Actions that Apply to the County and All Participating Municipalities)
- Municipal Mitigation Actions (Cities and Villages)

Each jurisdiction's mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

# Table of Contents

Volume II: Kane County Natural Hazard Mitigation Plan .....	1
Table of Contents .....	2
Mitigation Strategies & Actions .....	7
County-Specific (County-led) Mitigation Strategies and Actions .....	10
Mitigation Strategy & Initiatives .....	10
New Mitigation Actions (County-Specific) .....	10
Ongoing Mitigation Actions (County-Specific) .....	15
Completed Mitigation Actions (County-Specific) .....	16
County and All Participating Jurisdictions Mitigation Strategies and Actions .....	17
Hazards Analysis .....	17
Mitigation Strategy & Initiatives .....	19
New Mitigation Actions (County and All Participating Jurisdictions) .....	19
Ongoing Mitigation Actions (County and All Participating Jurisdictions) .....	21
Completed Mitigation Actions (County and All Participating Jurisdictions) .....	35
Village of Algonquin .....	39
Hazards Analysis .....	39
Mitigation Strategies and Actions .....	39
New Mitigation Actions .....	39
Ongoing Mitigation Actions .....	40
Completed Mitigation Actions .....	41
City of Aurora .....	43
Hazards Analysis .....	43
Mitigation Strategies and Actions .....	47
New Mitigation Actions .....	47
Ongoing Mitigation Actions .....	60
Completed Mitigation Actions .....	62
City of Batavia .....	65
Hazards Analysis .....	65
Mitigation Strategies and Actions .....	65
New Mitigation Actions .....	65
Ongoing Mitigation Actions .....	68
Completed Mitigation Actions .....	68
Village of Big Rock .....	71
Hazards Analysis .....	71
Mitigation Strategies and Actions .....	71
New Mitigation Actions .....	71

Ongoing Mitigation Actions .....	72
Completed Mitigation Actions .....	78
Village of Burlington .....	79
Hazards Analysis .....	79
Mitigation Strategies and Actions .....	79
New Mitigation Actions .....	79
Ongoing Mitigation Actions .....	83
Completed Mitigation Actions .....	83
Village of Campton Hills .....	85
Hazards Analysis .....	85
Mitigation Strategies and Actions .....	85
New Mitigation Actions .....	86
Ongoing Mitigation Actions .....	87
Completed Mitigation Actions .....	88
Village of Carpentersville .....	90
Hazards Analysis .....	90
Mitigation Strategies and Actions .....	91
New Mitigation Actions .....	91
Ongoing Mitigation Actions .....	95
Completed Mitigation Actions .....	100
Removed Mitigation Actions .....	107
Village of East Dundee .....	108
Hazards Analysis .....	108
Mitigation Strategies and Actions .....	108
New Mitigation Actions .....	108
Ongoing Mitigation Actions .....	109
Completed Mitigation Actions .....	111
Village of Elburn .....	112
Hazards Analysis .....	112
Mitigation Strategies and Actions .....	113
New Mitigation Actions .....	113
Ongoing Mitigation Actions .....	115
Completed Mitigation Actions .....	117
City of Elgin .....	118
Hazards Analysis .....	118
Mitigation Strategies and Actions .....	119
New Mitigation Actions .....	119
Ongoing Mitigation Actions .....	122
Completed Mitigation Actions .....	124

Removed Mitigation Actions .....	124
City of Geneva .....	126
Hazards Analysis .....	126
Mitigation Strategies and Actions .....	126
New Mitigation Actions .....	126
Ongoing Mitigation Actions .....	127
Completed Mitigation Actions .....	127
Village of Gilberts.....	130
Hazards Analysis.....	130
Mitigation Strategies and Actions .....	130
New Mitigation Actions .....	130
Ongoing Mitigation Actions .....	131
Completed Mitigation Actions .....	133
Village of Hampshire.....	134
Hazards Analysis.....	134
Mitigation Strategies and Actions .....	134
New Mitigation Actions .....	134
Ongoing Mitigation Actions .....	136
Completed Mitigation Actions .....	136
Removed Mitigation Actions .....	138
Village of Huntley .....	139
Hazards Analysis.....	139
Mitigation Strategies and Actions .....	140
New Mitigation Actions .....	140
Ongoing Mitigation Actions .....	143
Completed Mitigation Actions .....	144
Village of Lily Lake.....	145
Hazards Analysis.....	145
Mitigation Strategies and Actions .....	146
New Mitigation Actions .....	146
Ongoing Mitigation Actions.....	148
Completed Mitigation Actions .....	149
Village of Maple Park .....	150
Hazards Analysis.....	150
Mitigation Strategies and Actions .....	151
New Mitigation Actions .....	151
Ongoing Mitigation Actions.....	153
Completed Mitigation Actions .....	154
Village of Montgomery.....	155



<b>Hazards Analysis</b> .....	<b>155</b>
<b>Mitigation Strategies and Actions</b> .....	<b>155</b>
<b>New Mitigation Actions</b> .....	<b>155</b>
<b>Ongoing Mitigation Actions</b> .....	<b>157</b>
<b>Completed Mitigation Actions</b> .....	<b>160</b>
<b>Removed Mitigation Actions</b> .....	<b>161</b>
<b>Village of North Aurora</b> .....	<b>163</b>
<b>Hazards Analysis</b> .....	<b>163</b>
<b>Mitigation Strategies and Actions</b> .....	<b>164</b>
<b>New Mitigation Actions</b> .....	<b>164</b>
<b>Ongoing Mitigation Actions</b> .....	<b>166</b>
<b>Completed Mitigation Actions</b> .....	<b>168</b>
<b>Village of Pingree Grove</b> .....	<b>169</b>
<b>Hazards Analysis</b> .....	<b>169</b>
<b>Mitigation Strategies and Actions</b> .....	<b>169</b>
<b>New Mitigation Actions</b> .....	<b>169</b>
<b>Ongoing Mitigation Actions</b> .....	<b>170</b>
<b>Completed Mitigation Actions</b> .....	<b>171</b>
<b>Village of Sleepy Hollow</b> .....	<b>172</b>
<b>Hazards Analysis</b> .....	<b>172</b>
<b>Mitigation Strategies and Actions</b> .....	<b>173</b>
<b>New Mitigation Actions</b> .....	<b>173</b>
<b>Ongoing Mitigation Actions</b> .....	<b>175</b>
<b>Completed Mitigation Actions</b> .....	<b>177</b>
<b>Village of South Elgin</b> .....	<b>178</b>
<b>Hazards Analysis</b> .....	<b>178</b>
<b>Mitigation Strategies and Actions</b> .....	<b>178</b>
<b>New Mitigation Actions</b> .....	<b>178</b>
<b>Ongoing Mitigation Actions</b> .....	<b>181</b>
<b>Completed Mitigation Actions</b> .....	<b>181</b>
<b>City of St. Charles</b> .....	<b>184</b>
<b>Hazards Analysis</b> .....	<b>184</b>
<b>Mitigation Strategies and Actions</b> .....	<b>184</b>
<b>New Mitigation Actions</b> .....	<b>184</b>
<b>Ongoing Mitigation Actions</b> .....	<b>187</b>
<b>Completed Mitigation Actions</b> .....	<b>187</b>
<b>Removed Mitigation Actions</b> .....	<b>188</b>
<b>Village of Sugar Grove</b> .....	<b>190</b>
<b>Hazards Analysis</b> .....	<b>190</b>

<b>Mitigation Strategies and Actions</b> .....	<b>190</b>
<b>New Mitigation Actions</b> .....	<b>190</b>
<b>Ongoing Mitigation Actions</b> .....	<b>191</b>
<b>Completed Mitigation Actions</b> .....	<b>191</b>
<b>Removed Mitigation Actions</b> .....	<b>191</b>
<b>Village of Virgil</b> .....	<b>193</b>
<b>Hazards Analysis</b> .....	<b>193</b>
<b>Mitigation Strategies and Actions</b> .....	<b>193</b>
<b>New Mitigation Actions</b> .....	<b>194</b>
<b>Ongoing Mitigation Actions</b> .....	<b>195</b>
<b>Completed Mitigation Actions</b> .....	<b>195</b>
<b>Village of West Dundee</b> .....	<b>196</b>
<b>Hazards Analysis</b> .....	<b>196</b>
<b>Mitigation Strategies and Actions</b> .....	<b>202</b>
<b>New Mitigation Actions</b> .....	<b>202</b>
<b>Ongoing Mitigation Actions</b> .....	<b>204</b>
<b>Completed Mitigation Actions</b> .....	<b>205</b>
<b>Appendix A: Jurisdiction Participation</b> .....	<b>208</b>

# Mitigation Strategies & Actions

The heart of the mitigation plan is the mitigation strategy, which serves as the long-term blueprint for reducing the potential losses identified in the risk assessment. The mitigation strategy describes how the community will accomplish the overall purpose, or mission, of the planning process. In this section, mitigation actions/projects were updated/amended, identified, evaluated, and prioritized.

The Mitigation Actions and Projects from the County and Municipalities are included in Volume II:

## Volume II (This document):

- County Mitigation Actions (County Departments and Mitigation Actions that Apply to the County and All Participating Municipalities)
- Municipal Mitigation Actions (Cities and Villages)

Each entities' Mitigation Actions are organized as follows:

- **New Mitigation Actions** – New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** – These ongoing actions were included in the previous update and have yet to be completed. Some of these actions have no definitive end. During the 2024 update, these “ongoing” mitigation actions and projects were modified and/or amended, as needed, to better define the action/project.
- **Completed Mitigation Actions** – Completed actions since 2003.

The Action Plan for each mitigation project is presented in a table format. The table is designed to capture important details intended to support the implementation of the project. It is also designed to facilitate and encourage the annual review and maintenance of each mitigation action by allowing the Lead Agency/Organization to document the status of the project prior to and/or during the Annual Steering Committee meeting.

Mitigation Project	
<b>Year Initiated</b>	Year
<b>Applicable Jurisdiction</b>	Community Name
<b>Lead Agency / Organization / Position</b>	Lead Agency / Organization / Position
<b>Supporting Agencies/ Organizations</b>	Supporting Agencies/ Organizations
<b>Applicable Goal(s)</b>	1, 2, 3, 4, 5, 6, or 7
<b>Estimated Cost &amp; Analysis (Low, Medium, High)</b>	Low, Medium, or High
<b>Potential Funding Source</b>	Funding Source
<b>Benefits (Loss Avoided)</b>	Benefit or Loss Avoided
<b>Benefits Analysis (Low, Medium, High)</b>	Low, Medium, or High
<b>Projected Completion Date (Short-term, Long-term, or Ongoing)</b>	Short-term, Long-term, or Ongoing
<b>Actual Completion Date</b>	Date
<b>Priority and Level of Importance (Low, Medium, High)</b>	Low, Medium, or High

<i>(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)</i>	
<b>Hazard(s) Mitigated</b>	Hazard
<b>Action/Implementation Plan and Project Description, if applicable</b>	Project Description
<b>2023 Plan Update Status and Changes in Priority</b>	A description of the update and changes in priority, if appropriate and applicable

### Mitigation Strategy/Action Timeline Parameters

While the preference is to provide definitive project completion dates, this is not possible for every mitigation strategy/action. Therefore, the parameters for the timeline (**Projected Completion Date**) are as follows:

- **Short-term**—To be completed in 1 to 5 years
- **Long-term**—To be completed in greater than 5 years
- **Ongoing**—Currently being implemented under existing programs but without a definite completion date

### Mitigation Strategy/Action Benefit Analysis Parameters

Benefit ratings are defined as follows:

- **High**—Project will provide an immediate reduction of risk exposure for life and property.
- **Medium**—Project will have a long-term impact on the reduction of risk exposure for life and property, or project will provide an immediate reduction in the risk exposure for property.
- **Low**—Long-term benefits of the project are difficult to quantify in the short term.

### Mitigation Strategy/Action Estimated Cost Parameters

While the preference is to provide definitive costs (dollar figures) for each mitigation strategy/action, this is not possible for every mitigation strategy/action. Therefore, the estimated costs for the mitigation initiatives identified in this plan are identified as high, medium, or low, using the following ranges:

- **High**—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (e.g., bonds, grants, and fee increases).
- **Medium**—The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
- **Low**—The project could be funded under the existing budget or with staff time. The project is part of or can be part of an ongoing existing program.

## Mitigation Strategy/Action Prioritization Process and Priority & Level of Importance

The action plan must be prioritized according to a benefit/cost analysis of the proposed projects and their associated costs (44 CFR, Section 201.6l(3)(iii)). The benefits of proposed projects were weighed against estimated costs as part of the project prioritization process. The benefit/cost analysis was not of the detailed variety required by FEMA for project grant eligibility under the Hazard Mitigation Grant Program (HMGP) and Building Resilient Infrastructure and Communities (BRIC) grant program. A less formal approach was used because some projects may not be implemented for up to 10 years, and associated costs and benefits could change dramatically in that time. Therefore, a review of the apparent benefits versus the apparent cost of each project was conducted. Parameters were established for assigning subjective ratings (high, medium, and low) to the costs and benefits of these projects.

The priorities are defined as follows:

- **High**—A project that addressed numerous goals or hazards, has benefits that exceed cost, has funding secured or is an ongoing project, and/or meets eligibility requirements for the HMGP or BRIC grant program. High priority projects can typically be completed in the short term (1 to 5 years).
- **Medium**—A project that addressed multiple goals and hazards, which has benefits that exceed costs, and for which funding has not been secured but that is grant eligible under HMGP, BRIC, or other grant programs. The project can be completed in the short term once funding is secured. Medium priority projects will become high priority projects once funding is secured.
- **Low**—A project that will address few or no goals, mitigate the risk of one or few hazards, has benefits that do not exceed the costs or are difficult to quantify, for which funding has not been secured, that is not eligible for HMGP or BRIC grant funding, and for which the timeline for completion is long term (1 to 10 years). Low priority projects may be eligible for other sources of grant funding from other programs.

For many of the strategies identified in this action plan, the partners may seek financial assistance under the BRIC, HMGP or other HMA programs, all of which may require detailed benefit/cost analyses. These analyses will be performed on projects at the time of application using the FEMA benefit-cost model. For projects not seeking financial assistance from grant programs that require detailed analysis, the partners reserve the right to define “benefits” according to parameters that meet the goals of this plan.

To further support the prioritization process, all new mitigation actions were required to undergo the STAPLEE assessment, which includes seven criteria for evaluating a mitigation action: **S**ocial, **T**echnical, **A**dministrative, **P**olitical, **L**egal, **E**conomic, and **E**nvironmental. The STAPLEE method provides a systematic approach that considers the opportunities and constraints of implementing a particular mitigation action. Each criterion is ranked from 1 (strongly disagree) to 5 (strongly agree) and calculated by adding together all seven criteria. The STAPLEE scoring worksheet is provided below.

The STAPLEE score and past feasibility analyses for past mitigation projects Informed the **Priority and Level of Importance** score for each mitigation project.

# County-Specific (County-led) Mitigation Strategies and Actions

## Mitigation Strategy & Initiatives

The following mitigation strategies in this section represent those mitigation initiatives that the County will lead. In some cases, while the County is leading the effort, other jurisdictions may still be listed as participating entities.

## New Mitigation Actions (County-Specific)

The following mitigation actions in this section are “New Mitigation Actions” identified during this 2024 update process.

<b>Dam GIS Analysis</b>	
Year Initiated	2023
Applicable Jurisdiction	Kane County Dept. of GIS, Dept. of Environmental and Water Resources
Lead Agency/ Organization / Position	Kane County Dept. of GIS, Dept. of Environmental and Water Resources
Supporting Agencies/ Organizations	USACE, IDNR, Municipalities
Applicable Goal(s)	1, 2, 3, 4
Estimated Cost & Analysis (Low, Medium, High)	High
Potential Funding Source	General Funds, BRIC, HMGP
Benefits (Loss Avoided)	Potentially high
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	2028
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	High Hazard Dams
Action/Implementation Plan and Project Description	Dam GIS analysis – map potential dams not on the registry, follow up on dam plans and inundation analysis
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023



Road Overtopping Analysis	
Year Initiated	2023
Applicable Jurisdiction	Kane County Dept. of GIS, Dept. of Environmental and Water Resources, Division of Transportation, Office of Emergency Management
Lead Agency/ Organization / Position	Kane County Dept. of GIS, Dept. of Environmental and Water Resources
Supporting Agencies/ Organizations	Public works, Transportation Depts, Townships, Emergency Response, Municipalities
Applicable Goal(s)	1, 2, 3, 4,5
Estimated Cost & Analysis (Low, Medium, High)	High
Potential Funding Source	General Funds, BRIC, HMGP
Benefits (Loss Avoided)	Potentially high
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	2028
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description	Road Overtopping analysis – map potential sites of road overtopping to identify for future projects, maintenance, traffic routing and emergency response considerations in flood event
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Kane County Climate Action Implementation Plan	
Year Initiated	2023
Applicable Jurisdiction	Kane County and Municipalities
Lead Agency/ Organization / Position	Kane County Department of Environment and Consultant
Supporting Agencies/ Organizations	Municipal Staff, local organizations, Kane County Staff
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	\$450,000 - Phase 1 of Implementation
Potential Funding Source	EPA Climate pollution reduction grants
Benefits (Loss Avoided)	Potentially high
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for	High

each mitigation action during the update process)	
Hazard(s) Mitigated	Flooding, Severe Summer Storms, Severe Winter Storms, Tornadoes, Extreme Heat, Drought
Action/Implementation Plan and Project Description, if applicable	Adopt Actions Items from the Climate Action Plan to mitigate climate change and promote sustainable practices within the County and municipalities.
2023 Plan Update Status and Changes in Priority	New mitigation actions for 2023 (Begin implementation of Climate Action Plan in 2024)

Agricultural Land Conservation Plan	
Year Initiated	2023
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	KC Development, Water Resources, Kane, DuPage Soil and Water Conservation Dist.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	Medium
Potential Funding Source	NRCS/USDA
Benefits (Loss Avoided)	Reduced flooding and soil loss
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	2028
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Agricultural land conservation plan development and funding. Supporting the development of farm-specific conservation plans to promote better water infiltration/retention and reduce soil loss; paired funding and technical assistance to complete improvements (e.g. cover cropping; edge of field practices, etc.); encourage climate smart farming practices
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Replacement of Road Pavement	
Year Initiated	2023
Applicable Jurisdiction	KDOT
Lead Agency/ Organization / Position	KDOT
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	High

Potential Funding Source	BRIC, HMGP, General funds
Benefits (Loss Avoided)	Roadway access and emergency vehicle access maintained
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	Unknown
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Flooding, Severe Summer Storms, Severe Winter Storms, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Replacement of damaged road pavement due to severe storm and tornado. Especially but not limited to our most highly traveled roads; Randall Rd, Kirk Rd., Fabyan Pkwy, and Longmeadow Pkwy and Orchard Rd.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Replacement of Bridges and Large Culverts	
Year Initiated	2023
Applicable Jurisdiction	KDOT
Lead Agency/ Organization / Position	KDOT
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	High
Potential Funding Source	BRIC, HMGP, General funds
Benefits (Loss Avoided)	Roadway access and emergency vehicle access maintained
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	Unknown
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Flooding, Severe Summer Storms, Severe Winter Storms, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Replacement of bridges and large culverts due to severe storms and tornadoes. Especially but not limited to our highly traveled roads such as Randall Rd, Kirk Rd, Fabyan Pkwy, Longmeadow Pkwy, and Orchard Rd.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Digital Radio Upgrade</b>	
Year Initiated	2023
Applicable Jurisdiction	KDOT
Lead Agency/ Organization / Position	KDOT
Supporting Agencies/ Organizations	Kane OEM
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	\$200,000 and up
Potential Funding Source	HSGP, General funds
Benefits (Loss Avoided)	Public Safety
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	2030
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Digital radio upgrade, current system has holes in coverage in rural underdeveloped areas of the county. Current system cannot communicate with other first responders in county. Can't communicate during severe weather.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Solar and Battery-Operated Mobile Surveillance Trailer</b>	
Year Initiated	2023
Applicable Jurisdiction	KDOT
Lead Agency/ Organization / Position	KDOT
Supporting Agencies/ Organizations	KDOT
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	\$40,000
Potential Funding Source	General Funds, HSGP
Benefits (Loss Avoided)	Can be leveraged on the scene of a disaster to surveil the situation, very flexible usage.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	N/A
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for	Medium

each mitigation action during the update process)	
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Solar and battery-operated mobile surveillance trailer with PTZ camera and cellular communication
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Retrofit and harden emergency facilities, such as windows with Hurricane Shutters, that house essential emergency response staff including Kane Comm</b>	
Year Initiated	2023
Applicable Jurisdiction	Kane County Office of Emergency Management, Kane Comm
Lead Agency/ Organization / Position	Kane County Office of Emergency Management
Supporting Agencies/ Organizations	FEMA and IEMA
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	High
Potential Funding Source	BRIC, HMPG, General funds
Benefits (Loss Avoided)	Protect windows in emergency management and response facilities during severe weather, including wind and tornadoes. This will support continuity of operations of essential staff to be able to operate during inclement weather.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Short-term
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Severe Summer Storms, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Retrofit and harden facilities, such as windows with Hurricane Shutters, that house essential emergency response staff including Kane Comm site during intense weather events
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

**Ongoing Mitigation Actions (County-Specific)**

The following in this section are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these “ongoing” mitigation actions and projects were modified and/or amended as needed.

- There are no ongoing mitigation actions.

### **Completed Mitigation Actions (County-Specific)**

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

- No completed or removed mitigation actions were identified.



# County and All Participating Jurisdictions Mitigation Strategies and Actions

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

### Thunderstorms, Lightning, and Hail

- Gaps in warning system (for all hazards), not provided in rural areas.
- Agricultural areas of the county have been vulnerable to crop damage from high-intensity storms during the growing season.
- Thunderstorms, lightning, and hail can disrupt traffic and emergency vehicle access by causing power outages, downed trees, downed signage, and pavement overtopping.

### High Winds and Microbursts

- High winds and hail have contributed to periodic crop damage in agricultural areas.
- High winds and microbursts can cause signage, powerlines, and trees to come down. These obstructions on our roadways can damage pavement and obstruct emergency vehicle routes. All of these obstacles impact traffic flow.

### Tornadoes

- The KDOT provides support and engineering assistance to all 16 townships within the County. Tornadoes can cause trees to block roadways and damage bridges and structures. They can cause roadway signage to blow away, disrupt traffic flow, and cause power outages, which impact traffic signals and disrupt traffic flow.

### Blizzards, Extreme Cold, and Ice Storms

- The DOT is responsible for plowing and providing roadway ice control during snow events.
- This responsibility is exacerbated during blizzards and ice storms. Blowing snow causes plowing operations to extend well beyond the length of the storm event, upwards of 3 to 4 days. The west half of the county is particularly vulnerable to these events. These rural areas are more vulnerable and at risk.

### Drought

- They were working on the Kane County Climate Action Plan. The consultant working with us on the plan conducted a vulnerability assessment for Kane County using regional

data. The report determined drought to be a high likelihood/vulnerability unique to Kane County.

- The agricultural industry is vulnerable to drought, extreme heat, and erosion.
- Occasional drought has contributed to economic losses for farms and other agricultural businesses. This can impact the agricultural sector broadly, but the negative impacts on specialty crop farms can be significant due to their shallower root systems.
- Drought may increase the erosion rate, which can cause roadway pavements to fail. Pavement conditions must remain possible for emergency vehicle access and general traffic flow.

### **Extreme Heat**

- Additionally, extreme heat was identified as unique to Kane County regarding specific populations. The consultant's analysis identified a few groups of populations with the highest risk: people of color, older people, food insecure people, and young children.
- Increased pests/insects affecting crops.
- Farm laborers and agricultural operators can be susceptible to high temperatures / extreme heat while working in fields. These workers may have limited access to shade or other cooling environments. Fixed-income residents are less likely to have accessible means of air conditioning or cooling.
- Extreme heat can impact concrete in negative ways. Extreme heat can cause concrete pavement to fail.

### **Earthquakes**

- Additionally, crop yield is a climate vulnerability risk, and power failure, line grid failure, and energy failure/electric outage are other high risks for Kane County.
- The DOT owns and maintains multiple bridges, large culvert structures, and our 750-lane miles of roadways. These roads and bridges provide emergency routes.

### **Flooding**

- Flooding was also identified as a high vulnerability risk for Kane County neighborhoods.
- Agricultural areas of the county are vulnerable to incidents of flooding. Flood-prone fields could be impacted by the presence and quality of drain tiles and the soil composition of farmland. Recurring flooding incidents remove cropped areas from production, contributing to economic loss.
- Montgomery Road in Montgomery repeatedly floods during storms. This roadway could benefit from a detention project.
- Flooding can overtop our roadways and disrupt traffic flow and emergency vehicle access. Flooding can increase and cover our bridges and large culverts.

### **Dam Failure**

- Knowledge of dams not registered – needs enhancing.
- Dam failure can cause roadway flooding (see above for flooding impacts)

### **Erosion/Sinkholes**

- Erosion issues along Fox River, Ferson Creek, and other creeks

- Erosion has contributed to soil loss from drainage water runoff on agricultural lands. The loss of quality soil contributes to the increased cost of inputs for agricultural activity. Areas with limited vegetation/plant density may be more vulnerable.
- Erosion and sinkholes can cause roadway pavement to fail and bridges and culverts to weaken.
- Pavement and bridge conditions must remain passable for emergency vehicle access and general traffic flow.

The Climate Action plan for Kane County will include mitigation and adaptation strategies in end goals. The plan will be a free resource/tool for Kane County municipalities to implement, but it will not be required.

## Mitigation Strategy & Initiatives

The following mitigation strategies in this section represent those mitigation initiatives that pertain to all participating jurisdictions. Lead agencies/organizations and support agencies/organizations may be listed in some cases, but the participating jurisdictions include all jurisdictions in Kane County.

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** – New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** – Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these “ongoing” mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** – Completed actions.

### New Mitigation Actions (County and All Participating Jurisdictions)

The following mitigation actions in this section are “New Mitigation Actions” identified during this 2024 update process.

South Park Flood Reduction Project Design/Study and Implementation of Project Based on Design	
Year Initiated	2023
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Kane County Departments and township transportation departments.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$1.5 Million (High)
Potential Funding Source	General Funding, BRIC, HMGP
Benefits (Loss Avoided)	Design and implement flood reduction site improvements to reduce flooding of the South Park neighborhood. No adverse impacts will be transferred on to neighboring or downstream properties.
Benefits Analysis (Low, Medium, High)	High

Projected Completion Date (Short-term, Long-term, or Ongoing)	Short-term (To be determined as funding becomes available)
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Design and implement flood control projects site improvements, where they prove to be the most appropriate approach to reduce flood damage. Stormwater infrastructure, including storm sewer and best management practices will be included in the project.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2024

Lundstrom Manor Flood Reduction Project Design/Study and Implementation of Project Based on Design	
Year Initiated	2023
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Kane County Departments and township transportation departments.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$300,000 (High)
Potential Funding Source	General Funding, BRIC, HMGP
Benefits (Loss Avoided)	Design and implement flood reduction site improvements to reduce flooding of Lundstrom Manor Subdivision. No adverse impacts will be transferred on to neighboring or downstream properties.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Short-term (To be determined as funding becomes available)
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Design and implement flood control projects site improvements, where they prove to be the most appropriate approach to reduce flood damage. Stormwater infrastructure, including storm sewer and best management practices will be included in the project.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2024

<b>Conduct Property and/or Land Acquisitions to Remove Assets Vulnerable to Flooding or to Establish Flood Storage through Open Space to Mitigate the Impacts of Flooding</b>	
Year Initiated	2023
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Kane County Departments, municipalities, park districts, Kane County Forest Preserve, Townships
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	High, Costs depend on individual property to be acquired.
Potential Funding Source	BRIC, HMGP, Staff time
Benefits (Loss Avoided)	FEMA and IEMA only fund projects where the benefits are shown to exceed the costs. A benefit/cost analysis must be run for each property in order to qualify for FEMA funds.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Acquisition is the recommended property protection approach for areas where a cost/benefit analysis demonstrates a net benefit. Land acquired provide flood storage as well as recreational and ecological benefits to the community while reducing the number structures vulnerable to flooding.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2024

### Ongoing Mitigation Actions (County and All Participating Jurisdictions)

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

<b>Building Code Improvements</b>	
Year Initiated	2003
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Kane County Development Department and building departments of municipalities. The organizations of building department staff should take the lead on drafting new code language.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 6
Estimated Cost & Analysis (Low, Medium, High)	Medium
Potential Funding Source	Staff Time, General Funds, BRIC

Benefits (Loss Avoided)	This 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.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	This action item will be continuous, and each jurisdiction should adopt the latest building codes 18 months after they are published. This will allow “the bugs” to be worked out of the I-Codes, which has been a concern of many communities, and will allow a full review of the changes by each community.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Adopt the latest international series of codes, the new national standard that is being adopted throughout the country. Code revisions should be pursued to strengthen new buildings against damage by high winds, tornadoes and hail. Requiring tornado “safe rooms” in certain structures should be considered. Any code revisions should be consistent with the efforts undertaken by multi-community organizations of building department staff.
2023 Plan Update Status and Changes in Priority	Ongoing - 2021 in use by Kane County Building Department Jurisdiction:

Improved Code Enforcement	
Year Initiated	2003
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Kane County Departments to develop training. Municipal building staff to participate.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 5
Estimated Cost & Analysis (Low, Medium, High)	Medium
Potential Funding Source	Staff Time, General Funds
Benefits (Loss Avoided)	A better educated staff will pay more attention to the details of factors vital to natural hazard mitigation when they review plans and inspect sites, such as ensuring that a structure is securely connected to the foundation. Training will also ensure that staff understand new I-Code provisions, the County’s stormwater ordinance and their responsibilities under the National Flood Insurance Program. A regular training program can improve BCEGS scores, too.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	This action item will now be continuous. Each jurisdiction should continue to improve code enforcement by providing



	training to the code enforcement staff in the areas listed above. As the jurisdiction adopts the newest international series of codes; training should be provided to code enforcement staff as soon as possible
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Develop and conduct training for building department staff on the natural hazard's aspects of the International Codes, regulation of mobile home installation, and the County stormwater ordinance and its flood protection, wetland protection, erosion and sediment control, and best management practices provisions.
2023 Plan Update Status and Changes in Priority	Ongoing

Review of Plans and Development Regulations	
Year Initiated	2003
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Kane County Departments, municipal planning, zoning, engineering, and community development departments.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	Medium
Potential Funding Source	Staff Time, General Funds
Benefits (Loss Avoided)	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.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	This action item will be continuous, and each jurisdiction should continue to incorporate mitigation provisions and strategies into plans as they are developed or updated.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	When they are up for revision, comprehensive plans, land use plans, and zoning and subdivision ordinances should

	<p>incorporate mitigation provisions, especially:</p> <ul style="list-style-type: none"> <li>– Open space provisions that will protect properties from flooding, preserve wetlands, and enhance groundwater infiltration;</li> <li>– Appropriate farmland preservation measures;</li> <li>– Standards for streets and water systems that facilitate access and use by fire and emergency equipment;</li> <li>– Requirements to bury utility lines; and</li> <li>– Mandating storm shelters in new mobile home parks.</li> </ul>
2023 Plan Update Status and Changes in Priority	Ongoing

<b>Retrofitting Incentives</b>	
Year Initiated	2003
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Kane County Departments. Municipal offices to be designated by the community's adopting resolution.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Medium, the level of effort depends upon the size of the community but a 5/100 of 1% of the municipality's budget (0.0005) would be a good target.
Potential Funding Source	General Funds, BRIC, HMGP
Benefits (Loss Avoided)	Using a 25% rebate level, for every dollar spent by the community, \$4 will be spent to protect a property from damage. Communities have found this approach 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.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Each jurisdiction is encouraged to develop and implement incentive programs. It is understood that funding is limited, however, when funding becomes available jurisdictions should consider implementing an incentive program.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	<p>Establish a program of technical assistance and financial incentives to encourage property protection measures on private property, such as:</p> <ul style="list-style-type: none"> <li>– Surface and subsurface drainage improvements,</li> <li>– Swales and regrading for shallow surface flooding,</li> <li>– Sewer backup protection</li> <li>– Relocating furnaces and water heaters out of basements</li> </ul>

	<ul style="list-style-type: none"> <li>– Tornado safe rooms</li> <li>– Installing lightning rods</li> </ul>
2023 Plan Update Status and Changes in Priority	Ongoing: Continue to encourage retrofits, funding has not been available

Repetitive Loss Projects	
Year Initiated	2003
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Kane County Departments (repetitive loss areas 8 and 9) and the appropriate office in Elgin (area 7) and Montgomery (areas 12 and 14).
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	High, Costs depend on individual property to be elevated or acquired. Staff time.
Potential Funding Source	BRIC, HMGP
Benefits (Loss Avoided)	FEMA and IEMA only fund projects where the benefits are shown to exceed the costs. A benefit/cost analysis must be run for each property in order to qualify for FEMA funds.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	The Kane County Departments are continuing to work with IEMA and FEMA on the repetitive loss areas in the county.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Protect the buildings in repetitive loss areas 7, 8, 9, 12, and 14. These are the top priority areas based on the flood hazard and type of construction, as explained in the criteria on pages 5-12. Acquisition is the recommended property protection approach for areas 7, 8, 9, and 12, and elevation is recommended for areas 9, 12, and 14. Properties in the other repetitive loss areas could be protected by retrofitting measures that could be funded for much less under the cost share program proposed in action item 4. The specific measure to use on each property should be determined by an audit of the building and the owner's preferences. In each case, no action should be taken without the owner's full willing cooperation.
2023 Plan Update Status and Changes in Priority	Ongoing: No current buyouts. 1 proposed for next funding cycle (partner with park districts, forest preserves, and township).

Drainage Maintenance	
Year Initiated	2003
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Municipal public works departments, township road districts, drainage districts. The Kane County Division of Transportation is to be responsible for the maintenance of roadside ditches under its jurisdiction.

Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	Medium
Potential Funding Source	Staff Time, General Funds, BRIC, HMGP
Benefits (Loss Avoided)	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 \$1,000's in flood damage, closed streets and threat to people.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Each jurisdiction is encouraged to develop and implement a drainage maintenance program and ensure that current maintenance programs are up to date and appropriate.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	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, preparing procedures modeled on CRS 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 the maintenance of their own properties. The procedures would treat natural streams differently from drainage ditches and developed areas differently from vacant lands. Enforcing stream and wetland dumping regulations should also be a part of the program.
2023 Plan Update Status and Changes in Priority	From Carpentersville: Carpentersville Public Works Department contracted out the rehabilitation of an existing roadway ditch along Elmwood Drive.

Urban Forestry	
Year Initiated	2003
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Municipal public works departments
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	\$2 per capita, staff time
Potential Funding Source	General Funds
Benefits (Loss Avoided)	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.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Each jurisdiction is encouraged to implement an urban forestry program and work towards Tree City USA designation as funding allows.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Severe Summer Storms, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Implement an urban forestry program that qualifies the municipality 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 pages 6-10: <ul style="list-style-type: none"> <li>– A tree board or department</li> <li>– A tree care ordinance</li> <li>– A community forestry program with an annual budget of at least \$2 per capita</li> <li>– An Arbor Day observance and proclamation</li> </ul>
2023 Plan Update Status and Changes in Priority	The County has not joined Tree City USA, but a tree protection ordinance is being proposed for the County. Municipalities are encouraged to participate in Tree City USA.  Update from Carpentersville - Funds in the amount of \$85,000 were allocated within the 2022 fiscal year budget for a tree replacement and tree trimming program.

Flood Threat Recognition	
Year Initiated	2003
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Kane County Departments
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	Medium
Potential Funding Source	Staff Time, General Funds, BRIC, HMGP
Benefits (Loss Avoided)	Early recognition of an impending flood can save lives and prevent property damage. For example, 10 minutes of lead time could allow evacuation of a parking lot or installation of emergency protection measures. The data collected would also help in evaluating watershed plans and models and designing storm drainage works.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Continue to monitor gage needs in Kane County. Participate in annual Stream Gage Cooperators' Meetings and evaluate gaging needs upon onset of all new hydrologic and hydraulic modeling projects.

Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Continue current funding of rain and stream gages throughout county. Review the gauging network, especially the western rural areas, to determine if additional rain and stream gages are necessary. This work would identify any potential new sites where gages would be most productive and estimate the cost of installing and maintaining them. Participate in the annual Stream Gage Cooperators' meeting through the USGS, Fox River Coordinating Group with IDNR, and develop gaging capabilities as funding permits and projects call for additional capabilities.
2023 Plan Update Status and Changes in Priority	Ongoing - Essential part of flood warning system

Improved Emergency Response	
Year Initiated	2003
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Kane County Office of Emergency Management. Municipal leads to be designated by the municipality's adopting resolution.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	Medium, Depends on project and Staff time
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Some communities have no plan and others are revising theirs. Very few have special procedures for natural hazards. An emergency response plan that has been carefully prepared, that utilizes all available data on the hazards and their potential impact, and that is regularly exercised will greatly improve local disaster response capabilities.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	This action item will be continuous and should be reviewed annually by each jurisdiction. Jurisdictions should strive to improve overall emergency response to natural hazards.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes



Action/Implementation Plan and Project Description, if applicable	<p>Conduct a review of emergency response plans and programs to:</p> <ul style="list-style-type: none"> <li>– Ensure that each municipality has an emergency management coordinator or liaison.</li> <li>– Identify where additional activities are needed to respond to natural hazards, especially activities that can be undertaken after a flood warning and before the flood arrives.</li> <li>– Ensure there is adequate and current information on critical facilities.</li> <li>– Incorporate post-disaster procedures for public information, reconstruction regulation and mitigation project identification.</li> <li>– Conduct a table top exercise at least once a year</li> <li>– Identify what rural areas could use additional warning capabilities.</li> </ul>
2023 Plan Update Status and Changes in Priority	Ongoing

Flood Control Projects	
Year Initiated	2003
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Kane County Departments, municipal public works departments, State, County and township transportation departments.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	The cost of each project will vary. This action item calls for ensuring the projects meet the criteria set in Section 8.8.
Potential Funding Source	General Funding, BRIC, HMGP
Benefits (Loss Avoided)	The benefits of each project will vary. This action item calls for ensuring the projects meet the criteria set in Section 8.8. Several of those criteria assure that adverse impacts will not be transferred on to neighboring or downstream properties.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Each jurisdiction is encouraged to continue to implement and improve flood control projects.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Implement flood control projects, including farm drainage improvements and projects to improve bridges and culverts, where they prove to be the most appropriate approach to reduce flood damage. Such projects need to meet the criteria listed in Section 8.8, especially the first two – ensuring no adverse impacts on other properties and coordinating projects on a watershed basis.
2023 Plan Update Status and Changes in Priority	Ongoing - An essential part of the county's drainage improvement is typically a cost-share basis.

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Montgomery
Lead Agency/ Organization / Position	Village of Montgomery Public Works and Kane County
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$100,000 for the replacement of approximately 4500 feet of 12-inch drain tile
Potential Funding Source	General Funds, BRIC, HMGP
Benefits (Loss Avoided)	By replacing the drain tile normal drainage can be restored to the Montgomery Overflow area. This will restore the capacity of the soils for infiltration allowing the Overflow to function better in flooding events. Restoring normal drainage to the area will also allow the agricultural lands to be farmed and reduce the impacts that high water tables have had on surrounding residential areas.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently, the Village has no funding for this project and a deadline will depend on when funding becomes available. The project can be constructed in phases with the first phase starting after funding is secured and the whole project completed within two years of funding.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	The Montgomery Overflow of Blackberry Creek conveys flood water from Blackberry Creek to the Fox River in large flooding events. In normal conditions, the area is drained by a 12-inch agricultural drain tile which is currently in disrepair and there is standing water through much of the overflow route. The Village proposes to replace the drain tile and restore drainage to the area allowing the soils to drain and restoring their water holding and infiltration capacity allowing the Overflow to function better in flooding events.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - The Village has looked at this project during the 2015 update and decided that the project is still a good project but currently no funding is available for the project. 2023/2024 Update: Ongoing - progress is being determined.

Hazard Mitigation Materials	
Year Initiated	2003
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Kane County Office of Emergency Management, Water Resources Department, and municipalities. The Red Cross should provide technical advice.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 5
Estimated Cost & Analysis (Low, Medium, High)	Medium
Potential Funding Source	Staff Time, General Funds
Benefits (Loss Avoided)	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 that likelihood that the messages will get out. The messages will also be technically correct and consistent throughout the County.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	Each jurisdiction is encouraged to continue to develop materials for the public on natural hazard mitigation strategies and then use the materials for action item 12. Outreach Projects, listed below
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Prepare background information, articles, and other explanations of hazard mitigation topics, including: <ul style="list-style-type: none"> <li>– The natural hazards that threaten Kane County</li> <li>– What the sirens and warnings mean</li> <li>– Safety and health precautions</li> <li>– What government agencies are doing and how they can help</li> <li>– The hazard mitigation benefits of preventive measures</li> <li>– The procedures that should be followed to ensure that new developments do not create new problems.</li> <li>– The need to protect streams and wetlands from dumping and inappropriate development.</li> <li>– The hazard mitigation benefits of restoring agricultural drainage and rivers, wetlands and other natural areas.</li> </ul> These materials are to be provided to County, municipal, school, and private offices for use in presentations, newsletter articles, webpages, brochures and other outreach projects.
2023 Plan Update Status and Changes in Priority	Ongoing - Not interacting with Red Cross now as in the past

Outreach Projects	
Year Initiated	2003
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Kane County Office of Emergency Management. Municipal leads to be designated by the municipality's adopting resolution. The Red Cross should also participate.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 5
Estimated Cost & Analysis (Low, Medium, High)	Low, most projects will only cost staff time, such as newsletter articles and websites. Others, such as directed mailings and brochures, will have printing and/or postage expenses.
Potential Funding Source	General Funds
Benefits (Loss Avoided)	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.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	Each jurisdiction is encouraged to continue implementing outreach projects and provide mitigation information to the public
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	<p>Prepare and disseminate mitigation information based on the materials provided under action item 11. Such projects should include articles in newsletters, news releases, directed mailings, handouts, websites, and displays. Different media should be used for the following audiences:</p> <ul style="list-style-type: none"> <li>– The general public</li> <li>– Floodplain residents</li> <li>– Developers and builders</li> <li>– Farm owners and operators</li> <li>– Decision makers</li> <li>– Schools and teachers</li> </ul> <p>Provide building departments, libraries, and other interested offices with a list of references on property protection. Include a request that they make the references available for public use. A special effort should be made to identify references on insurance, floodproofing, and other methods of flood protection.</p>
2023 Plan Update Status and Changes in Priority	Ongoing

Plan Adoption	
Year Initiated	2003
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	County Board, Village Boards and City Councils
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	Staff Time, General Funds
Benefits (Loss Avoided)	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
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	With each update of the plan the county and participating jurisdictions will need to adopt or re-adopt the updated plan within one year of tentative plan approval from FEMA.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Adopt this Natural Hazards Mitigation Plan by passing a resolution. The County's resolution creates the Mitigation Coordinating Committee which is described in the next action item. The municipal resolutions adopt each action item that is pertinent to the community and assigns a person responsible for it.
2023 Plan Update Status and Changes in Priority	Ongoing - Would like to adopt @ the draft stage as a living document.

Mitigation Coordinating Committee	
Year Initiated	2003
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	The Kane County Development and Community Services Department, Division of Transportation, Environmental and Water Resources Department, GIS Technology Department, and the Office of Emergency Management as well as a representative from each participating jurisdiction.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	Staff Time, General Funds

Benefits (Loss Avoided)	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 should be evaluated in light of progress, changed conditions, and new opportunities.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	The yearly report is due to the County Board in December of each year. The reports should also be made available to all participating jurisdictions. An annual evaluation of the plan's implementation is required for credit under 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.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	<p>The Natural Hazards Mitigation Planning Committee has been converted to a permanent advisory body in the County's original resolution to adopt this Plan. The Committee:</p> <ul style="list-style-type: none"> <li>• Act as a forum for hazard mitigation issues,</li> <li>• Disseminate hazard mitigation ideas and activities to all participants,</li> <li>• Monitor implementation of this Action Plan, and</li> <li>• Report on progress and recommended changes to the County Board and each municipality.</li> </ul> <p>The Committee does not have any powers over staff or the municipalities. It is purely an advisory body. Its primary duty is to collect information and report to the County Board, the municipalities, and the public on how well this Plan is being implemented. Other duties include reviewing mitigation proposals, hearing resident concerns about flood protection and related matters and passing the concerns on to the appropriate entity. The Mitigation Committee is, in effect, Kane County's hazard mitigation conscience, reminding the member 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.</p>
2023 Plan Update Status and Changes in Priority	Ongoing - The committee meets 2x per year and reports on action items annually. Annual report presenting to Kane County Public Safety Committee.



Community Rating System	
Year Initiated	2003
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Kane County Departments. Municipal leads to be designated by the municipality's adopting resolution. Technical support and a workshop can be provided by the Insurance Services Office.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 6
Estimated Cost & Analysis (Low, Medium, High)	Medium
Potential Funding Source	Staff Time, General Funds
Benefits (Loss Avoided)	There are many benefits to CRS participation, as explained in the document, CRS Application. In addition to saving residents money, it has been shown to provide an effective incentive to implement and maintain floodplain management activities, even during times of drought.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	This action item will be continuous.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Host a workshop to review floodplain management activities currently undertaken and those recommended by this Plan (see the paragraphs on CRS credit at the end of the discussion of each mitigation measure in chapters 4 – 9). Participants will determine whether to apply for a Community Rating System flood insurance premium rate discount. If so, they would submit an application.
2023 Plan Update Status and Changes in Priority	Ongoing - Kane County continues efforts to join CRS. The County offers education and outreach opportunities in cooperation with CRS communities in the County to staff and residents.

### Completed Mitigation Actions (County and All Participating Jurisdictions)

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Kane County / Big Rock
Lead Agency/ Organization / Position	The Village is the lead agency for the study/project. Kane County's Water Resources is the coordinating agency. The Village's Waste/Stormwater Committee is the contact and administrative agency.
Supporting Agencies/ Organizations	N/A

Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	The conceptual study is expected to cost \$5,000. The costs for actions identified by the study are not known but are expected to be beyond the Village's funding means.
Potential Funding Source	General Funds, BRIC, HMGP
Benefits (Loss Avoided)	The Tenerelli Subdivision was developed prior to the adoption of the Kane County Stormwater Ordinance. The residents suffer from habitual ponding of water that jeopardizes the proper function of septic leach fields. During storm events, some residents cannot access their homes until the rising water recedes. The subdivision is bordered by undeveloped land with channel drainage that is choked with vegetation. This drainage channel empties into a deteriorating and undersized agricultural drain tile which carries the water from a 2,000-acre watershed to Welch Creek. On another side, the subdivision's drainage system must accommodate the run-off from a major pass-through highway with inadequate right-of-way drainage provisions. Any action taken as a result of the study will meet the criteria set in Section 8.8 designed to ensure that adverse impacts will not be transferred to neighboring or downstream properties.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	The deadlines for actions resulting from the study are not known at this time.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Project was put out to bid in Spring 2013
2023 Plan Update Status and Changes in Priority	Project Completed in Fall 2013

Improved Emergency Response	
Year Initiated	2003
Applicable Jurisdiction	Geneva
Lead Agency/ Organization / Position	Geneva, City of and all municipal jurisdictions in the county
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	Benefits will be unified structure for requesting and receiving help from other communities in the event of natural hazards.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	2015

Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The county had a committee of building department officials from each municipality. For the most part this committee has ceased to exist. The committee worked on common building department issues including mutual aid of building officials for emergencies and disasters. The lead agency for this committee has been the city of Geneva Building Department. It has been determined that this committee should be resurrected.
2023 Plan Update Status and Changes in Priority	2015 Update: Completed - The local municipalities started to meet again monthly back in 2012. Starting in February of 2015 all local municipalities are reviewing the 2015 I codes as a group for possible adoption.

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Batavia, City of, Geneva, City of & Kane County
Lead Agency/ Organization / Position	Batavia, City of, Geneva, City of & Kane County
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	To prevent or reduce future flooding in the Braeburn and Crestview Subdivisions.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	The study for this item was completed in 2010/2011 and the construction was completed in 2012/2013
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Kane County and the cities of Batavia and Geneva have identified that flooding occurs near and along the Braeburn Marsh during heavy rain events. The City has contracted with a consultant to model the watershed and identify flood mitigation projects for the area. Once the mitigation projects have been identified the city will prioritize the projects and start construction; assuming funding will be available from the city or grants are obtained.
2023 Plan Update Status and Changes in Priority	2010/2011 - Completed - The study for this item was completed in 2010/2011. 2012/2013 - Completed - The construction was completed in 2012/2013.

<b>High-Capacity Inlet Special Project</b>	
Year Initiated	2019
Applicable Jurisdiction	Carpentersville
Lead Agency/ Organization / Position	Carpentersville Village Public Works Department
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	\$450,000 and \$650,000
Potential Funding Source	
Benefits (Loss Avoided)	This project will minimize the clogging of storm sewer inlets associated with nuisance roadway flooding.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	Completed in 2020-2022
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	This project consisted of the installation of High-Capacity Inlet Special storm structures and associated piping at various locations on the east side of the Village.
2023 Plan Update Status and Changes in Priority	Completed - Completed in 2020-2022

# Village of Algonquin

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

- The Village of Algonquin did not indicate any unique/varied vulnerabilities not already addressed in Volume 1.

## Mitigation Strategies and Actions

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

## New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public	
Year Initiated	2023
Applicable Jurisdiction	Algonquin
Lead Agency / Organization / Position	Algonquin Village Manager's office
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High)	High

(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	<p>Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include:</p> <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

Drainage Maintenance	
Year Initiated	2015
Applicable Jurisdiction	Algonquin
Lead Agency/ Organization / Position	Public Works Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	\$700,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	The proposed improvements will stabilize Dixie Creek, open up Lake Braewood for additional stormwater capacity and ultimately protect Gaslight Drive and both Village and private property.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Short-term
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High)	High



(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Dixie Creek Streambank Stabilization & Lake Braewood Naturalization. The existing channel of this creek is subject to high velocities and severe erosion has occurred in the open stream. This has caused Lake Braewood to silt in considerably and it no longer maintains its original stormwater storage capacity. This causes Gaslight Drive, the adjacent park and an adjacent homeowner to flood.
2023 Plan Update Status and Changes in Priority	Currently, funding for this project is not available. When funding becomes available the project should be completed in 3 years

### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Algonquin
Lead Agency/ Organization / Position	Village of Algonquin
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	N/A
Estimated Cost & Analysis (Low, Medium, High)	N/A
Potential Funding Source	General Funds
Benefits (Loss Avoided)	The proposed improvements will stabilize the Ratt Creek Tributary streambank and ultimately protect Edgewood Drive and Harper Drive. Any action taken as a result of the study will meet the criteria set in Section 8.8 designed to assure that adverse impacts will not be transferred to neighboring or downstream properties.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	N/A
Actual Completion Date	Date not listed
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Ratt Creek Tributary adjacent to Edgewood Drive. The existing channel is subject to high velocities and severe erosion has occurred in the open stream resulting in severely sloped banks and potential undermining of Edgewood Drive and Harper Drive. The Village has developed Streambank Stabilization plans for the

	above reach of Ratt Creek Tributary to stabilize the channel and protect adjacent roadways.
2023 Plan Update Status and Changes in Priority	Completed - The Village of Algonquin has completed this project.

# City of Aurora

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

### Thunderstorms, Lightning, and Hail:

- Aging buildings with limited maintenance, private sector
- Senior housing complexes do not have backup generators.
- The City of Aurora Airport and FAA Center; Control Towers and Buildings Impacted in the past.

### High Winds and Microbursts:

- Aging buildings with limited maintenance, private sector
- Mature tree loss
- Utility loss, specifically power

### Tornadoes:

- Structural Vulnerability and Disruption of Essential Systems:
  - Tornadoes can cause significant damage to buildings, mainly if they are not constructed to withstand high winds.
  - Tornadoes can disrupt essential systems such as public utilities (electricity, water, sewer), telecommunications, and transportation routes.
- Debris and Fallen Trees:
  - After high winds, fallen trees and debris are common, blocking road access, bringing down power lines, and damaging public and private buildings.
- Impact on the Natural Environment:
  - Tornadoes and high wind events impact trees and woodland most, uprooting trees, shrubs, and bushes.
  - Street trees are highly susceptible to high winds.
- Vulnerable Communities:
  - The Aurora community most susceptible to wind or tornado events includes individuals over 65, under 5, living below the poverty line, unsheltered, and those with communication barriers.
  - Socioeconomic factors can hinder an individual's ability to prepare for and respond to a disaster, affecting their access to services after the event.
  - Individuals relying on electricity for life-sustaining equipment are also at higher risk due to the likelihood of utility disruptions.
- Mitigation Gaps:
  - Small siren gaps due to urban growth may impact early warning systems.
  - There might be a public information gap for non-English speakers who need help understanding sirens or other warning signals.
  - Existing overhead wires pose a risk during high wind events.

- Critical infrastructure, such as water and sewer treatment plants and multiple schools, are vulnerable to tornado impacts.
- Power outages can affect lift stations, causing disruptions in sewage treatment.

### **Extreme Cold Impacts:**

- Extremely cold air during the winter affects millions across the United States.
- The highly long-lasting arctic air and brisk winds can lead to dangerously cold wind chill values.
- People exposed to extreme cold are susceptible to frostbite and hypothermia in a matter of minutes.
- Winters are generally mild in Illinois, but Arctic air masses from Canada can bring frigid temperatures for extended periods.
- Polar vortex situations can move in and deliver below-zero temperatures for several days.
- Vulnerable populations (homeless and those with dwellings but inadequate heat) are at the most risk for these situations.
- Extreme cold can cause freezing or bursting pipes and lead to flooded or iced-over locations. Power outages may also occur in cold conditions, leading to the inability to heat homes safely.

### **Extreme Cold Mitigation:**

- Communities should prepare for extreme cold weather by ensuring vulnerable populations can access adequate shelter and heating facilities.
- Regular maintenance and insulation of water pipes can help prevent freezing or bursting, reducing the risk of flooding and iced-over locations.
- Emergency plans should be in place to assist residents during power outages, ensuring their ability to heat their homes safely.

### **Extreme Heat Impacts:**

- Extreme heat can cause buckling of highways, resulting in detours that can significantly affect traffic patterns.
- Extreme heat will increase the community's water usage, which could lead to water shortages.
- Increased power usage for air conditioning may cause power outages or brownouts.

### **Extreme Heat Mitigation:**

- To mitigate the impacts of extreme heat, communities can implement energy conservation measures and promote water conservation during heat waves.
- Investment in the electrical grid's resilience can help prevent power outages or brownouts caused by high power usage for air conditioning.

### **Aging Critical Infrastructure:**

- Cold weather can cause aging critical infrastructure and systems such as electrical, water wastewater, and gas systems to fracture and fail.

### **Vulnerable Populations:**

- Extreme weather events, whether heat or cold, can significantly impact vulnerable populations.
- The homeless population, including the homeless shelter at 659 S. River St in Aurora, will be particularly affected during extreme heat or cold events.
- Senior housing and long-term care facilities without power generators or backups may face challenges during such weather conditions.

**Winter Storm on Frozen Ground:** Frozen ground can result in stormwater runoff. Within the combined sewer area, these areas can experience surface flooding and backup of storm sewer when sewer capacity is exceeded.

**Drought:** The city depends on two sources of water: surface water from the Fox River and a blend of water from several shallow and deep wells. The blend is typically about 60% surface water/river water and 40% well water; this percentage can vary. During drought conditions, the City's capacity to produce clean drinking water can be impacted:

- Low flow in the Fox River means that more water from the shallow and deep wells is needed to make up this difference (loss of supply surface and groundwater)
- Increase in demand from customers.
- Deterioration of water quality
- Increase in treatment & pumping costs.

The Aurora Water Treatment Plant can fully treat 36.5 million gallons of water per day.

**Flooding:** CSO, combined sewer overflows are located in underserved areas and could discharge into the river

The following area within the Borealis Terrace, located west of N. Farnsworth Ave and north of Reckinger Road, has experienced flooding.

The properties are affected areas 1401, 1411, 1421, 1431, 1441, 1451, and 1461 Austin Ave. Flooding sources are the overland flow of stormwater and overflow from Indian Creek.

These subdivisions are located within a regulatory floodplain and have experienced flooding. These properties are located within a known repetitive area. The City provides yearly outreach letters to these property owners.

**Area#1** Properties (7) is located within the Borealis Terrace Subdivision (1401-1461 Austin Avenue). Flooding source due to the overland flow of stormwater and overflow from Indian Creek)

**Area#2** Properties (523) located East View Estates (located south of Molitor Rd and Selmarten Rd), Acorn Woods Subdivision (located north of Molitor Road and West of Selmarten Road), Lindenwood Woods Subdivision (located north of Molitor Road and West of Selmarten), Walden Woods Condo (located on Tall Oaks Drive), and Oak Creek West Townhomes (located at Charles and Elizabeth Lane). Flooding source due to overflow from Indian Creek and its tributaries.

**Area# 3** Properties (9) are located near Marshall Blvd and N. Farnsworth Ave. Flooding source due to overflow from Indian Creek

**Area# 4** Properties (58) are located within the Mastodon Lake and Little Doe Lake Area. The area bounded Talma Street to the west and Howell Place to the east. Bardwell/Parker Avenue is to the south, and 6th Avenue is to the north—flooding source due to Mastodon and Little Doe Lake overflow.

**Area# 5** Properties (5) located west of Kautz road, north and south side of E. New York Street. Flooding due to overflow of stormwater.

**Area# 6** Properties (7) located within Sherwood Glen Unit 4 Subdivision. Flooding sources are due to the overland flow of stormwater.

**Dam Failure:** The city is responsible for six low-head dams, classified by IDNR as Class III-Low Hazard Dam. The dams in question are:

- Ellington Dam- Unnamed Blackberry Creek. Class III- Location: Culvert crossing at Ellington Drive, just north of Keating Drive
- Farnsworth Dam- Unnamed Blackberry Creek. Class III- Location: Amber Field Subdivision, culvert crossing at S. Farnsworth Avenue, just north of Summerlin Drive
- Orchard Road Dam- Blackberry Creek. Class III- Location: Culvert crossing at W. Galena Blvd, east of Orchard Road
- Savannah 1 Dam- Indian Creek- Class III-Location: Savannah Subdivision, culvert crossing at Savannah Drive, just east of Solitude Lane
- Savannah 2 Dam- Indian Creek- Class III-Location: Savannah Subdivision, culvert crossing at multi-use path, just NE of the Butterfield and Savannah Drive Intersection.
- Fox River Dam (Downtown)- Fox River. Location: Downtown Aurora.

Potential Impacts: Streets closure for an extended time to repair and restore damaged areas. Flooded yards. The costs of repair will impact the city's budget and personnel.

## Lift Stations

Lift stations with measures in place could be in trouble if they fail.

The City of Aurora owns and maintains storm and sanitary sewer lift stations. The storm sewer lift station protects against storm events.

The storm sewer lift stations are:

- Orchard Lift Station, located at 595 S Orchard Road
- Manchester Lift Station at 155 Manchester Way
- Molitor Lift Station at 1610 Molitor Road
- Waubensee Creek Lift Station at 4300 E. New York Street
- Ginger Wood Lift Station at Ginger Woods Subdivision

The sanitary sewer lift stations are:



- Frieder Lane Lift Station at 2550 Frieder Lane
- Barns Road Lift Station at 3112 Moraine Drive

## Mitigation Strategies and Actions

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

### New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Sewer Separation Project	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	Water and Sewer, Engineering
Applicable Goal(s)	1
Estimated Cost & Analysis (Low, Medium, High)	High
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Reducing Contamination
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	2024
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Sewer separation project to reduce contaminated water flowing into Fox River
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Public Awareness Campaign	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Aurora Emergency Management
Supporting Agencies/ Organizations	N/A

Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	\$5,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Increase citywide resiliency through catered and appropriately curated public information products relevant to specific populations, including those most vulnerable, and the city as a whole.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Develop a multi-lingual public awareness campaign to educate the public on multiple natural hazards and actions to reduce and/or eliminate those hazards. The program will focus on the following for the next five years: <ul style="list-style-type: none"> <li>- Public enrollment in Aurora Alert, the local public emergency notification system.</li> <li>- Promotion of water conservation and loss program</li> <li>- Protection and mitigation of private homeowner utilities</li> <li>- Updating all flood products to include bilingual offerings</li> </ul>
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Establish Minimum Temperature Requirements with Code Update	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Development Services
Supporting Agencies/ Organizations	Emergency Management Agency
Applicable Goal(s)	1, 3, 4, 6
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	Staff Time
Benefits (Loss Avoided)	Reduce and/or eliminate extreme temperature impacts to residents, especially vulnerable populations who are more likely to rent rather than own their home.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	2025
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High

Hazard(s) Mitigated	Extreme Heat, Severe Winter Storms
Action/Implementation Plan and Project Description, if applicable	Review and update housing/landlord codes to establish minimum temperature requirements for occupied residences/dwellings.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Lift Station Improvements	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	Public Works - Water/Sewer Division
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	Medium
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Reduce and/or eliminate loss of critical infrastructure during a flooding event and minimize secondary impacts of sewage backups and/or basement flooding to residential, commercial, and business sectors.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Continue to support the repair and/or replacement of eight existing lift stations throughout the city. With special attention to: 155 Manchester Way is located within the regulatory floodplain. Identify plans to provide flood protection, including elevating existing equipment, installing a backup generator, and other structural mitigation products. Upgrading the Clark Street and White Eagle lift stations. Currently scheduled to install a new force main for the White Eagle lift station in 2023.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Drainage Solutions	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	Infrastructure and Technology Committee, Public Works - Water/Sewer Division
Applicable Goal(s)	1, 2, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$200,000, annually
Potential Funding Source	General Funds
Benefits (Loss Avoided)	By providing allocated funds year over year, the city will reduce and/or eliminate public reported flooding areas, especially those that have legacy construction where vulnerable populations reside.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Flooding, Severe Summer Storms, Other
Action/Implementation Plan and Project Description, if applicable	Alleviate reported and known drainage problems throughout the city including but not limited to re-grading of ditches, adding underdrains, and installing small storm sewer extension and structures.
2023 Plan Update Status and Changes in Priority	New mitigation plan for 2023

Climate Adaptation Project	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Aurora Emergency Management Agency
Supporting Agencies/ Organizations	All City Departments
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	\$300,000
Potential Funding Source	Grant Funding
Benefits (Loss Avoided)	Establish commitment to the community through understanding of how critical infrastructure and populations may be vulnerable to changing climate conditions, and how to combat climate change through informed adaptation.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	2025

Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Low
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	<p>Perform a two phased climate adaptation project to include a vulnerability study and then use the information gained from the study to develop a citywide climate adaptation and response plan.</p> <p>The project will consist of four [preliminary] assessments including climate hazard, social vulnerability, physical vulnerability, and cascading impacts.</p> <p>The project will consist of five [preliminary] methodology areas: identification of exposure to hazards, identification of key populations and infrastructure, sensitivities of infrastructure and populations to hazards, vulnerability to individual hazards, and effect on adaptive capacity.</p> <p>All assessments will maintain an equitable core focus, but the final report and plan will/may identify and account for specific populations that are more vulnerable to climate hazards. Aurora's highest rated natural hazards will be evaluated: extreme heat/cold, riverine/surface flooding, drought, and tornadoes.</p> <p>During phase two of the project, results of the assessment will support changes in, but not limited to, response plans, comprehensive plans, policies, and building/construction codes to enhance resiliency in the face of climate change for all of Aurora.</p>
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Water Loss Control	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Varies
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Reduce and/or eliminate costs to the city and residents with attention paid to sections of the city with legacy construction that may have older watermain and service connections and where more vulnerable populations reside.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing

Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Drought, Extreme Heat
Action/Implementation Plan and Project Description, if applicable	Maintain a water loss control program to protect drinking water source(s) and adapt to climate change through examination of all aspects of the City's water delivery, metering, and distribution systems to identify and mitigate water loss while promoting water conservation through established ordinance, increased inspections and citations, and bilingual public education, particularly during periods of extreme drought.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Floodplain Maintenance	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	Public Works - Water Production
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	Varies
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Reduce and/or eliminate loss of critical infrastructure and minimize impacts to the community.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	2026
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Flooding, Severe Summer Storms
Action/Implementation Plan and Project Description, if applicable	Identify and evaluate wells and well houses within a regulatory floodplain, and develop a plan to relocate, elevate, and/or floodproof wells/equipment located in a 100 to 500-year floodplain. Wells and their associated equipment in the floodplain are #21 and #101. Well #103 and the associated outdoor electrical supply, control cabinet, and underground meter vault are in a floodplain, but it is planned to be abandoned.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023



<b>Emergency Pump Agreement</b>	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	Emergency Management Agency
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	None
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Reduce response and recovery time and minimize impacts to the community during a flooding event.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	2025
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Flooding, Severe Summer Storms
Action/Implementation Plan and Project Description, if applicable	Procure emergency backup pump(s) or establish an emergency pumping services agreement with vendor for fuel and extra equipment and supplies and identify and implement potential interconnection with surrounding communities to utilize during emergency response.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Sanitary Sewer Evaluation</b>	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$2,500,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Reduce and/or eliminate back-ups and damages from sanitary sewers, with attention paid to sections of the city with legacy construction where more vulnerable populations reside.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High)	Medium

(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	Flooding, Severe Summer Storms
Action/Implementation Plan and Project Description, if applicable	Budget funding and continue to support the annual sanitary sewer evaluation of existing sanitary sewer and combined sewers throughout the city. Activities of the evaluation include: sewer televising, manhole inspections, cured in place pipe lining, and sanitary sewer spot repairs.
2023 Plan Update Status and Changes in Priority	New mitigation actions for 2023

Floodplain Management for Electrical Services	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Development Services
Supporting Agencies/ Organizations	Private Sector
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	\$500,000
Potential Funding Source	BRIC, HMGP
Benefits (Loss Avoided)	Reduce and/or eliminate loss of electrical systems and components.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	2028
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Low
Hazard(s) Mitigated	Earthquake, Flooding, Severe Summer Storms, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Identify the location of electrical services, backup generators, and fire alarm panels in the city to determine which exists below the 3ft base floodplain elevation and then prioritize removal and relocation.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Floodplain Management Hazardous Materials Hardening	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Development Services
Supporting Agencies/ Organizations	Emergency Management Agency, Public Works
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	\$500,000
Potential Funding Source	BRIC, HMGP

Benefits (Loss Avoided)	Reduce and/or eliminate recreational and drinking water contamination to the community.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	2028
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Low
Hazard(s) Mitigated	Flooding, Severe Summer Storms
Action/Implementation Plan and Project Description, if applicable	Work to remove, limit expansion, and harden the containment of hazardous materials, which could become contaminants during a flood event, within the 500-year floodplain; achieved through a study and then subsequent improvements to ordinance and code.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Geospatial Information System Floodplain Mapping	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	Public Works - Engineering Division, Information Technology
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	N/A
Potential Funding Source	General Funding
Benefits (Loss Avoided)	Provide data for residents to make informed decisions on protecting their property, especially areas with legacy construction where more vulnerable populations reside.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Flooding, Severe Summer Storms
Action/Implementation Plan and Project Description, if applicable	Continue to work with geospatial information systems to update and improve floodplain map and coordinated information with Kane, DuPage, Kendall, and Will counties. Illustrate flood risk and limits to the public by obtaining and adding depth grid data and/or flood inundation areas. Make improved maps available to the public.

2023 Plan Update Status and Changes in Priority	New mitigation action for 2023
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<b>Bury Overhead Wires</b>	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	Private Sector Utilities
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	Varies
Potential Funding Source	HMGP
Benefits (Loss Avoided)	Reduce and/or eliminate the disruption of overhead utilities, lessen the cost of recovery in time and funding, and ensure secured public health, safety, and welfare during an incident.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Low
Hazard(s) Mitigated	Severe Summer Storms, Severe Winter Storms, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Consider as part of future roadway projects to bury all overhead wires located within the project area.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Combined Sewer Overflow Long-Term Control Plan Maintenance</b>	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 4
Estimated Cost & Analysis (Low, Medium, High)	\$2,500,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Reduce and/or eliminate reported flooding and sewer back-ups generally and would reduce and/or eliminate impacts to areas of the city with legacy construction where more vulnerable populations reside.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium

Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Maintain and address the Illinois Environmental Protection Agency mandated local Combined Sewer Overflow Long-Term Control plan through various projects and annual program update/reporting. Proposed critical structures (treatment plant and pump stations) shall be constructed 1' over the 500-year Base Flood Elevation per Executive Order 11988. Sewer separation, in areas where known history of combined sewer overflow has occurred frequently. Construction of green infrastructure. Combined sewer treatment plant. Pump station improvements.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Hire Resiliency Specialist</b>	
Year Initiated	2023
Applicable Jurisdiction	Aurora Emergency Management
Lead Agency/ Organization / Position	Aurora Emergency Management
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	\$65,000
Potential Funding Source	General funds
Benefits (Loss Avoided)	Will ensure mitigation efforts are contemporary, following mandates, and provide for community longevity in the face of climate changes.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	2024
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Low
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Increase citywide mitigation efforts through the hiring of an Emergency Management Resiliency Specialist to maintain and monitor development and implementation of mitigation plans and programs.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Develop Agreements for Drinking Water Loss	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Aurora Emergency Management
Supporting Agencies/ Organizations	Public Works, Development Services
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	N/A
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Will secure the public health and safety of all populations affected by a loss of drinking water through equitable access to potable water during an emergency or disaster and less
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Extreme Heat
Action/Implementation Plan and Project Description, if applicable	Identify suppliers and develop agreements for secondary water sources that may be used in extreme drought conditions or when drinking water is contaminated.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Heating and Cooling Center	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Aurora Emergency Management
Supporting Agencies/ Organizations	Community Services, Public Facilities
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	\$2,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Will secure the public health and safety of all populations, especially the most vulnerable, through the maintenance and provision of shelters during extreme temperature conditions when access to heating or cooling is unavailable.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for	Medium



each mitigation action during the update process)	
Hazard(s) Mitigated	Extreme Heat, Severe Winter Storm
Action/Implementation Plan and Project Description, if applicable	Maintain operations of and promote access to emergency heating and cooling centers for vulnerable populations.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

GIS Natural Hazard Analysis and Community Vulnerability	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Aurora Emergency Management
Supporting Agencies/ Organizations	Public Works, Development Services, Information Technology, Community Services, Kane County Water Resources
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	N/A
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Assist city departments in making informed decisions pertaining to economic growth, the offering of mitigation programs to the public, and emergency response and mitigation efforts.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Low
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Utilize geospatial information system (GIS) to develop and make publicly available historical, current, and future natural hazard information and trends to analyze impacts across the city with consideration for vulnerable populations and economic growth. Information may include, but is not limited to: <ul style="list-style-type: none"> <li>- Hydrological and riverine data, specifically tracking of high water</li> <li>- Tornado and severe storm tracks over a certain threshold</li> <li>- Identification of legacy construction sections of the city</li> <li>- Identification of vulnerable populations of the city</li> <li>- Identification of critical community lifelines within the vulnerable sector</li> </ul>
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Flood Inundation Signage	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	Emergency Management
Applicable Goal(s)	1, 3, 4
Estimated Cost & Analysis (Low, Medium, High)	\$10,000
Potential Funding Source	General Funds or Grants
Benefits (Loss Avoided)	Reduce and/or eliminate flooding incidents (i.e. - stranded motorists, drowning, property loss etc.) where inundation flooding occurs.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	2028
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Flooding, Severe Summer Storms
Action/Implementation Plan and Project Description, if applicable	Install Turn Around, Don't Drown flooding signage at identified inundation flood locations around the city to inform the public of dangerous roadway conditions when floodwaters are present.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

Building Code Update	
Year Initiated	2023
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Development Services Department
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 6
Estimated Cost & Analysis (Low, Medium, High)	Low, \$30,000
Potential Funding Source	General Fund
Benefits (Loss Avoided)	Reduce and/or eliminate the effects of an emergency or disaster by creating stronger buildings, reducing time lost post-incident, and minimizing indirect costs such as business interruption and lost income.
Benefits Analysis (Low, Medium, High)	High

Projected Completion Date (Short-term, Long-term, or Ongoing)	Short-term
Actual Completion Date	
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Adopt the 2021 International Building Code to maintain minimum requirements for building systems to promote sustainability, efficiency, and resilience.
2023 Plan Update Status and Changes in Priority	Ongoing

<b>Maintain participation in the Community Rating System program as a Class 7 community and identify Community Rating System activities to improve city ranking to a class 6.</b>	
Year Initiated	2015
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	Public Works - Engineering Division, Emergency Management
Applicable Goal(s)	1, 2, 3, 6
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Reduce and/or eliminate pre- and post-event costs (i.e. - insurance premiums, repair, etc.) citywide, especially to sections of the city with legacy construction where vulnerable populations reside.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Short-term
Actual Completion Date	
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Riverine/Urban/Flash Flooding, Thunderstorms
Action/Implementation Plan and Project Description, if applicable	Maintain participation in the Community Rating System program as a Class 7 community and identify Community Rating System activities to improve city ranking to a class 6.
2023 Plan Update Status and Changes in Priority	Ongoing

Perform regular preventative drainage system maintenance and improvements	
Year Initiated	2015
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	Public Works -Water/Sewer Division
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	Medium
Potential Funding Source	
Benefits (Loss Avoided)	Reduce and/or eliminate flooding citywide with attention paid to sections of the city with legacy construction where more vulnerable populations reside.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Riverine/Urban/Flash Flooding, Thunderstorms, Microbursts.
Action/Implementation Plan and Project Description, if applicable	Continue to perform regular preventative drainage system maintenance and improvements, such as sediment and debris clearance, manholes, ditches, and stormwater facilities, with special attention paid to periods of long-duration precipitation and increased precipitation amounts; example 1" of rain in one hour.
2023 Plan Update Status and Changes in Priority	Ongoing

### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	City of Aurora
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	Replacement of the undersized culvert should alleviate the flooding.
Benefits Analysis (Low, Medium, High)	

Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	8/27/2011
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The City of Aurora has experienced flooding upstream of Illinois Avenue in a drainage from Greenfield Lake to Orchard Lake. The city has identified the cause of this flooding to be undersized culverts under Illinois Avenue. The undersized culverts need to be replaced.
2023 Plan Update Status and Changes in Priority	2011 Update: Completed - Completed on 08-27-11 with a final cost of \$228,972.00

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	City of Aurora
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	2010-2011
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The City of Aurora is proposing to construct storm sewers within sewer basins 5, 6, and 13.
2023 Plan Update Status and Changes in Priority	2010-2011: Completed - 2.1 Basin 6 Fulton, Smith, and Fenton St. Storm and Sanitary Sewer Improvements – which consists of approximately 6,800 lineal feet of storm sewers ranging in size from 12” to 42” in diameter. Completed on 4-21-11 with a final cost of \$1,452,066.81  2.2 Basin13 River St Sub Basin Storm Sewer Improvements Phase 2 - which consists of approximately 3,900 lineal feet of storm sewer ranging in size from 6” to 27” in diameter.

	<p>Completed on 10-5-10 with a final cost of \$307,436.86</p> <p>2.3 Basin13 River St Sub Basin Storm Sewer Improvements Phase 3 - which consists of approximately 7,800 lineal feet of storm sewer ranging in size from 12" to 26" in diameter.</p> <p>Completed on 12-10-10 with a final cost of \$2,046,580.07</p>
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Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	City of Aurora
Lead Agency/ Organization / Position	City of Aurora
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	Completed project should reduce frequency of sewage overflows into the Fox River and Indian Creek.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	2010
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The city is in the process of preparing a CSO LTCP that will be used as a planning tool to decrease the frequency of combined sewage overflows into the Fox River and Indian Creek. The plan is a requirement listed in the City's CSO NPDES permit.
2023 Plan Update Status and Changes in Priority	2010: Completed - The preparation and review of the LTCP was completed in July of 2010.



# City of Batavia

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

### High Winds and Microbursts:

- As one of only three municipally-owned electric utilities within the county, the City of Batavia is uniquely vulnerable to high winds and microbursts and their associated impacts on our overhead electric infrastructure, which serves our entire population.

### Tornadoes:

- As one of only three municipally-owned electric utilities within the county, the City of Batavia is uniquely vulnerable to tornadoes and their associated impacts on our overhead electric infrastructure, which serves our entire population.

## Mitigation Strategies and Actions

Each jurisdiction’s mitigation actions are organized as follows:

- New Mitigation Actions** - New actions identified during this 2024 update process.
- Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- Completed Mitigation Actions** - Completed actions.

### New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Carriage Crest Subdivision Drainage Improvements	
Year Initiated	2023
Applicable Jurisdiction	City of Batavia
Lead Agency/ Organization / Position	City of Batavia Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	3
Estimated Cost & Analysis (Low, Medium, High)	\$4.5 million
Potential Funding Source	ARPA grant funding and General Funds
Benefits (Loss Avoided)	Minimize/eliminate basement flooding of multiple homes

Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	2024
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Construction of stormwater pumping station and force main to drain stormwater basin within Carriage Crest subdivision that was originally designed in the early 90's to have no outlet. Water within the pond currently infiltrates into the ground. This causes groundwater levels to rise which in turn results in localized basement flooding.
2023 Plan Update Status and Changes in Priority	New

<b>Upgrade of Emergency Power System at Public Works Facility</b>	
Year Initiated	2023
Applicable Jurisdiction	City of Batavia
Lead Agency/ Organization / Position	City of Batavia Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	2, 3
Estimated Cost & Analysis (Low, Medium, High)	\$500,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Ensures continuing operations at Public Works in the event of power outage
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	2024
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Severe Summer Storms, Severe Winter Storms, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Replacement of existing backup power generator at Public Works facility. New generator will have increased capabilities and enable the entire Public Works facility to be served with power in the event of a system outage. This will ensure the continuity of operations during emergencies.
2023 Plan Update Status and Changes in Priority	New mitigation action in 2023

<b>Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public</b>	
Year Initiated	2023
Applicable Jurisdiction	Batavia
Lead Agency / Organization / Position	Batavia Administration Department, City Administrator and Mayor
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	<p>Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include:</p> <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

## Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

- There are no ongoing mitigation actions.

## Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

<b>Improved Emergency Response</b>	
Year Initiated	2003
Applicable Jurisdiction	Batavia
Lead Agency/ Organization / Position	City of Batavia
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	Provide backup power source for Public Works facility in support of emergency operations.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	2011
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The City of Batavia has identified the Public Works facility as being vital to emergency operations. The existing emergency backup generator within the facility is insufficient to support all tasks necessary for emergency operations. The existing generator will be replaced with a larger natural gas-powered unit.
2023 Plan Update Status and Changes in Priority	Completed - The City completed this work in 2011.

<b>Flood Control Projects</b>	
Year Initiated	2009
Applicable Jurisdiction	City of Batavia, City of Geneva, & Kane County
Lead Agency/ Organization / Position	City of Batavia, City of Geneva, & Kane County
Supporting Agencies/ Organizations	

Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	To prevent or reduce future flooding in the Braeburn and Crestview Subdivisions.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	The study for this item was completed in 2010/2011 and the construction was completed in 2012/2013
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Kane County and the cities of Batavia and Geneva have identified that flooding occurs near and along the Braeburn Marsh during heavy rain events. The City has contracted with a consultant to model the watershed and identify flood mitigation projects for the area. Once the mitigation projects have been identified the city will prioritize the projects and start construction; assuming funding will be available from the city or grants are obtained.
2023 Plan Update Status and Changes in Priority	Completed - The study for this item was completed in 2010/2011. The construction was completed in 2012/2013

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Batavia
Lead Agency/ Organization / Position	Batavia
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	To prevent sanitary sewer overflows. To reduce groundwater levels.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	2010/2011
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High

Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The City of Batavia has identified the need to reconstruct the Carriage Crest sanitary lift station. The station serves approximately three hundred acres with a flow of 2,100 /- P.E. The station was constructed in 1968 and is nearing the end of its useful life. Failure of the lift station would result in sanitary sewer overflows. The Carriage Crest Lift Station is located within the Crestview subdivision. Depending on the results of the ongoing Braeburn March drainage study, the lift station may be reconstructed to include a separate storm water lift station.
2023 Plan Update Status and Changes in Priority	Completed - The construction for this action item was completed in 2010/2011

Improved Emergency Response	
Year Initiated	2009
Applicable Jurisdiction	Batavia
Lead Agency/ Organization / Position	City of Batavia
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	\$200,000
Potential Funding Source	
Benefits (Loss Avoided)	Ensure safe and efficient operation of the City's wastewater utility.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	Fiscal year 2017
Actual Completion Date	COMPLETED
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The City of Batavia has identified the need to replace the Wastewater utility SCADA system. The system provides day-to-day operating information. The system also provides emergency and system alarms. The system was partially installed in 2014 and will be completed with ongoing treatment plant improvements in 2017. The system is vital to ensure the safe and efficient operation of the City's wastewater utility.
2023 Plan Update Status and Changes in Priority	2015 Update: This action item originally included replacing the electric and water utility systems. The electric system was completed in 2013 and the water system was completed in 2014. The Wastewater system is to be completed in combination with ongoing treatment plant improvements in 2017. 2023/2024 Update: Completed - This project has been completed



# Village of Big Rock

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

- The Village of Big Rock did not indicate any unique/varied vulnerabilities not already addressed in Volume 1.

## Mitigation Strategies and Actions

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

## New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

<b>Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public</b>	
Year Initiated	2023
Applicable Jurisdiction	Big Rock
Lead Agency / Organization / Position	Big Rock Village Board of Trustees
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High)	High

(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	<p>Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include:</p> <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following in this section are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

Review of Plans and Development Regulations	
Year Initiated	2009
Applicable Jurisdiction	Big Rock
Lead Agency/ Organization / Position	The Village of Big Rock's Plan Commission, Board of Trustees, and Administrative Office.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	Low - \$5 - \$10,000 in legal and engineering review fees and staff time
Potential Funding Source	General Funds
Benefits (Loss Avoided)	<p>The new Ordinance and Specifications will incorporate mitigation provisions, especially:</p> <ul style="list-style-type: none"> <li>– Open space provisions that will protect properties from flooding, preserve wetlands, and enhance groundwater infiltration;</li> <li>– Appropriate farmland preservation measures;</li> <li>– Standards for streets and water systems that facilitate access and use by fire and emergency equipment;</li> <li>– Requirements to bury utility lines; and</li> <li>– Mandating storm shelters in new mobile home parks.</li> </ul>

Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	January 1, 2010
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	The Village will adopt a Subdivision Control Ordinance and accompanying Standard Specifications.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Currently, the Village does not have any funding for this project. The Village is looking for grants so that we can move forward on our projects.  2023/2024 Update: Ongoing

Retrofitting Incentives	
Year Initiated	2009
Applicable Jurisdiction	Big Rock
Lead Agency/ Organization / Position	The Village Board of Trustees with the advice and administrative assistance from the Drainage Committee.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Medium, Incremental
Potential Funding Source	General Funds
Benefits (Loss Avoided)	While certain subdivisions in the Village do not currently have access to drainage systems, other developed areas (Timberview and Welton Subdivisions) can access limited drainage tiles. The Village will work with the residents to identify small local projects on a cost share basis that will alleviate localized flooding without the necessity to undertake a major drainage project.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	The Village is planning to work with homeowners on a property protection program for surface and subsurface drainage improvements

2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Currently the Village does not have any funding for this project. The Village is looking for grants so that we can move forward on our projects. 2023/2024 Update: Ongoing
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Improved Emergency Response	
Year Initiated	2009
Applicable Jurisdiction	Big Rock
Lead Agency/ Organization / Position	The Village Board of Trustees will appoint a public safety committee. The committee will research, draft, and recommend a plan to the Board.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	Estimated \$5 – 10,000 in legal and consultant review fees and staff time
Potential Funding Source	General Funds
Benefits (Loss Avoided)	<p>Since the Village has discovered through the recent responses during flood conditions that the responses have been disorganized, the residents would be better served during emergencies if the Village adopted and followed an Emergency Operations Plan. The Village would</p> <ul style="list-style-type: none"> <li>– Appoint an emergency management coordinator or liaison.</li> <li>– Identify where additional activities are needed to respond to natural hazards, especially activities that can be undertaken after a flood warning and before the flood arrives.</li> <li>– Ensure there is adequate and current information on critical facilities.</li> <li>– Incorporate post-disaster procedures for public information, reconstruction regulation and mitigation project identification.</li> <li>– Conduct a table top exercise at least once a year</li> </ul>
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	December 31, 2012, depending on availability of staff and funding.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	The Village will draft an Emergency Operations Plan
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Currently the Village does not have any funding for this project. The Village is looking for grants so that we can move forward on our projects.

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Kane County / Big Rock
Lead Agency/ Organization / Position	The Village is the lead agency for the study/project. Kane County's Water Resources is the coordinating agency. The Village's Waste/Stormwater Committee is the contact and administrative agency.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	The conceptual study is expected to cost \$5,000. The costs for actions identified by the study are not known but expected to be beyond the Village's funding means.
Potential Funding Source	General Funds
Benefits (Loss Avoided)	The Tenerelli Subdivision was developed prior to the adoption of the Kane County Stormwater Ordinance. The residents suffer with habitual ponding of water that jeopardizes the proper function of septic leach fields. During storm events, some residents cannot access their homes until the rising water recedes. The subdivision is bordered by undeveloped land with channel drainage that is choked with vegetation. This drainage channel empties into a deteriorating and undersized agricultural drain tile which carries the water from a 2,000 acres watershed to Welch Creek. On another side, the subdivision's drainage system must accommodate the run-off from a major pass through highway with inadequate right of way drainage provisions. Any action taken as a result of the study will meet the criteria set in Section 8.8 designed to assure that adverse impacts will not be transferred to neighboring or downstream properties.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	The deadlines for actions resulting from the study are not known at this time.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	The Village is collaborating with Kane County's Water Resource Department to conceptually study the drainage/flooding issues plaguing the Tenerelli Subdivision. The Village will determine a course of action upon reviewing the results of that study.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Currently the Village does not have any funding for this project. The Village is looking for grants so they can move forward on the projects. 2023/2024 Update: Ongoing

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Big Rock
Lead Agency/ Organization / Position	The Village Board of Trustees with the advice and administrative assistance from the Drainage Committee.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Medium
Potential Funding Source	General Funds
Benefits (Loss Avoided)	The South Side of Big Rock is currently underserved by the Rhodes Ave. trunk sewer line which has the capacity to accommodate additional lateral lines for road right of way run-off. The area is also served by an inadequate and deteriorating nuisance flow drainage system. But the system may be able to be replaced on a sectional basis over a period of years to drain flooded and ponding areas on the South Side.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Unknown at this time due to funding
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	After the installation of the Water Reclamation Facility, the Village is researching the feasibility of assuming responsibility for and improving the existing tile line on the south side of the town center to mitigate drainage/flooding conditions in that section of town versus developing a separate nuisance flow system and improved roadway drainage.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Currently the Village does not have any funding for this project. The Village is looking for grants so that we can move forward on our projects

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Big Rock
Lead Agency/ Organization / Position	The Village Board of Trustees with the advice and administrative assistance from the Drainage Committee.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Preliminary estimate, \$250,000 – \$500,000 for the initial phase.
Potential Funding Source	General Funds
Benefits (Loss Avoided)	The roadways and driveways in these residential areas are often impassable during and after storm events. Further,



	ponding on residential property negatively impacts septic field function. A properly sized and functioning system would eliminate these ponding issues and the associated health risks. By coordinating the drainage measures with the adjacent developing property, a more comprehensive solution will be implemented that considers the needs for all of the residents in that area.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	At this time the village does not have funding for this project and a deadline cannot be specified until funding is established.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Two subdivisions, Bergman Estates and Raymond Woods, have been newly annexed to the Village (April 2009). The roadways and yards of these residential areas suffer from severe ponding during heavy rains or storm events. The culverts and drainage ways are deteriorating and undersized. Since an adjacent area has been subdivided in preparation for residential development, the Village would like to extend the drainage measures that will be installed for the developing area to serve the adjacent areas.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Currently the Village does not have any funding for this project. The Village is looking for grants so that we can move forward on our projects. 2023/2024 Update: Ongoing

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Big Rock
Lead Agency/ Organization / Position	The Village Board of Trustees with the advice and administrative assistance from the Drainage Committee.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	A preliminary engineering estimate placed the projects costs in excess of \$1.5 million dollars.
Potential Funding Source	General Funds
Benefits (Loss Avoided)	The school property as the land locked depression area holds water during any wet season and floods excessively in heavy rains and storm events. The residential properties and roadways flood in moderate to severe events. A properly sized and functioning system would eliminate these ponding issues and the associated health risks. Additional Item: An alley behind homes on Main Street would flood when there were heavy rains. After televising the drain tile, it was determined that the installation of a new manhole 25 to 30 years ago, damaged the drain tile and was not connected to the current drainage system. Removal of the damaged drain tile and installation of proper

	drainage lines have alleviated standing water and flooding issues previously experienced by the residents in this block of Main Street.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	At this time the village does not have funding for this project and a deadline cannot be specified until funding is established.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	The residences and school on the North Side of Big Rock drain to an inadequate and deteriorating agricultural drain tile system. Because the cost to separate these “urbanized” drainage requirements from the agricultural drain tiles is currently prohibitive, an effort has been made to re-organize the drainage district that once regulated the tile system. However, Big Rock will eventually need to create a separate drainage plan for the residential, commercial, and institutional uses for the Route 30 corridor.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Currently the Village does not have any funding for this project. The Village is looking for grants so that we can move forward on our project. 2023/2024 Update: Ongoing

### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

- No completed or removed mitigation actions were identified.

# Village of Burlington

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

### Blizzards

Rural communities with many rural roads are vulnerable to blizzards and drifting to close roads. Minimal public works equipment and staff are challenged to provide prompt roadway clearing.

### Drought

The Village of Burlington has over 3,000 acres of agricultural land extremely vulnerable to drought.

### Flooding

The lack of a comprehensively planned and constructed storm sewer collection and conveyance system contributed to localized flooding of streets throughout the original (1852-1958) portions of the village.

### Dam Failure

It is not affected by dam or detention fundamental berm failure.

## Mitigation Strategies and Actions

Each jurisdiction's mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

### New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Improvement of Road Clearance in Extreme Winter Weather	
Year Initiated	2023
Applicable Jurisdiction	Village of Burlington
Lead Agency/ Organization / Position	Public Works Department
Supporting Agencies/ Organizations	IL Municipal Purchasing COOP
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	\$160,000
Potential Funding Source	Grants / General Fund
Benefits (Loss Avoided)	Possibly Major Benefit
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	3rd Quarter 2024
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Severe Winter Storms
Action/Implementation Plan and Project Description, if applicable	Purchase of new 6-wheel dump truck with snow plowing and salt spreading attachments
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Roadway Cross-Culvert Replacement	
Year Initiated	2023
Applicable Jurisdiction	Village of Burlington
Lead Agency/ Organization / Position	Public Works Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2
Estimated Cost & Analysis (Low, Medium, High)	\$100,000
Potential Funding Source	Village General Fund / BRIC / HMGP
Benefits (Loss Avoided)	Minimal
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	3rd Quarter, 2025
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Low
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Roadway cross-culvert replacement and roadway ditch regrading at various locations

2023 Plan Update Status and Changes in Priority	New mitigation action for 2023
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Plan, design and construct storm sewer collection and conveyance system	
Year Initiated	2023
Applicable Jurisdiction	Village of Burlington
Lead Agency/ Organization / Position	Public Works Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	\$1,000,000
Potential Funding Source	Grants / Village General Fund / BRIC / HMGP
Benefits (Loss Avoided)	(\$250,000 of roadway damage avoided)
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	2025
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Low
Hazard(s) Mitigated	Flooding, Ground Failure/Erosion
Action/Implementation Plan and Project Description, if applicable	Plan, design and construct storm sewer collection and conveyance system for pre-1960s developed areas of village.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Enhance Communication Methods	
Year Initiated	2023
Applicable Jurisdiction	Village of Burlington
Lead Agency/ Organization / Position	Village Clerk's Office
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4
Estimated Cost & Analysis (Low, Medium, High)	\$10,000
Potential Funding Source	Village General Fund / SHSGP
Benefits (Loss Avoided)	Immeasurable
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	3rd quarter, 2024
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes

Action/Implementation Plan and Project Description, if applicable	Enhance communication methods with all residents by village website, social media and new resident welcome kits
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public	
Year Initiated	2023
Applicable Jurisdiction	Burlington
Lead Agency / Organization / Position	Burlington Village Clerk's Office
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	<p>Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include:</p> <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.



## Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

- There are no ongoing mitigation actions.

## Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Burlington
Lead Agency/ Organization / Position	Village of Burlington
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	To alleviate damages to businesses, homes, well and property in the Village of Burlington.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	2013
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	To alleviate flooding on the east side of the Village of Burlington wants to improve the drainage from the south side of the railroad tracks to the north side of the railroad tracks. This work would involve replacing drainage tile that has been in place under the railroad since the late 1890's and replace the section of tile on the north side of the tracks, going under the abandoned grain mill and continuing to the northeast that is collapsing. During 2008 the Village undertook steps to assess the condition of the drainage tile after experiencing backup flooding in the eastern area of the Village. Portions of this tile were televised, and the collapsing state of the tile was seen. Further improvements would include a grate over the opening of the tile on the south side of the tracks and drainage improvements/replacement of drainage tile.
2023 Plan Update Status and Changes in Priority	Completed -In 2013, the Village of Burlington completed this project using grant money.

<b>Urban Forestry</b>	
Year Initiated	2009
Applicable Jurisdiction	Burlington
Lead Agency/ Organization / Position	Village of Burlington
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	Approximately \$10,000 annually
Potential Funding Source	
Benefits (Loss Avoided)	To mitigate potential damage during winter and spring summer storms due to high winds and or ice.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	Some work has been completed on this project but currently the village has no funding to finish or expand this project.
Actual Completion Date	2017
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The Village of Burlington would like to establish a tree program (urban forestry) for the Village for maintenance and tree planting/conservation
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Installation of several trees around the main detention pond has been completed. As additional funds or grant funding becomes available this project will be expanded further. 2023/2024 Update: Completed - Finished in 2017

# Village of Campton Hills

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

### Tornadoes

A large section of the Village, North and West, cannot hear the sirens currently in place. The village has a site available but have yet to acquire a siren. Two sirens may be needed to cover the entire village.

### Blizzards, Extreme Cold, and Ice Storms

The Village has some areas where older people live in rural areas. It would be difficult for them to get out due to the ice and cold.

### Extreme Heat

The Village has some areas where older people live in rural areas, who may be more vulnerable to an extreme heat incident.

### Flood

- The village has many areas where flooding occurs.
- Castle Lake areas is one, Harley Rd and Campton Hills Drive
- Various regions of Hunters Hill Subdivision
- The area off of Longshadow and Burlington Roads

## Mitigation Strategies and Actions

Each jurisdiction's mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

## New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Emergency Generator for Police Department / Village Hall	
Year Initiated	2023
Applicable Jurisdiction	Village of Campton Hills
Lead Agency/ Organization / Position	Police Department and Administration and Finance Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2
Estimated Cost & Analysis (Low, Medium, High)	Medium - Dependent upon gas vs. solar
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Continuity of services
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Short-term
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Emergency Generator - recently renovated Police Department / Village Hall. Need a generator to keep police facilities going and operate a shelter in a disaster. We have lost power during a windstorm within the past year. Interrupted police operations for several hours.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public	
Year Initiated	2023
Applicable Jurisdiction	Campton Hills
Lead Agency / Organization / Position	Campton Hills Administration and Finance Department
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP

Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include: <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

Improved Emergency Response	
Year Initiated	2015
Applicable Jurisdiction	Campton Hills
Lead Agency/ Organization / Position	Village of Campton Hills Administration and Finance Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	\$15,000 for installation of each siren
Potential Funding Source	General Funds

Benefits (Loss Avoided)	The warning system benefits the residents of Campton Hills by alerting them in advance of a tornado allowing them to seek shelter.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	The first siren should be installed in the spring of 2015 with other sirens added to the system as funding becomes available.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Tornadoes
Action/Implementation Plan and Project Description, if applicable	There currently is no tornado warning siren system in the Village of Campton Hills. The village would like to install a warning system for the purpose of alerting the residents of approaching tornados. Several sirens will need to be installed to cover the Villages 17 square miles. During the spring of 2015, the Village will complete the installation of the first early warning siren at Wasco Elementary School. The project will be completed with the assistance of School District 303, the Fox River and Countryside Fire/Rescue District, and the Cities of Service Grant provided to the Village through Bloomberg Philanthropies. The siren, valued at \$10,000, will be donated by Fulton Technologies and the installation, estimated at \$12,000-\$15,000, will be funded through the Cities of Service Grant. The siren is expected to serve well over 1,000 residents, two elementary schools, one Fire Station, the combined Village Hall/Police Station, and downtown Campton Hills businesses. Fulton Technologies has agreed to donate the remaining sirens necessary to cover the entire 17 square miles of the Village. Due to funding constraints, the Village will not be able to complete the installation of these sirens in the immediate future but will continue its pursuit of grant funds to do so.
2023 Plan Update Status and Changes in Priority	One siren installed - Looking for funding for 2 sirens. Have on site with electric ready, ongoing requests. Not completed - Fulton Technologies has agreed to donate the remaining sirens necessary to cover the entire 17 square miles of the Village. Due to funding constraints, the Village will not be able to complete the installation of these sirens in the immediate future but will continue its pursuit of grant funds to do so.

### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Campton Hills
Lead Agency/ Organization / Position	Campton Hills



Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	This project would eliminate additional ongoing costs needed to keep the road open, allow access to emergency vehicles and the citizens of the village, and prevent or reduce flooding to the adjacent property.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	No Date Listed
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	During extended wet weather or major storms extensive flooding occurs along Denker Road in the area of the Vestuto property. This flooding creates a wash –out of Denker Road closing the road to traffic affecting 750 vehicles per day. The adjacent property is also being flooded. To elevate these problem 2-24 inch culverts will need to be placed to increase conveyance of 345 cfs of flow. Additional re-grading of Denker Road and the driveway approach to the private residence and ditch grading will also need to be completed.
2023 Plan Update Status and Changes in Priority	COMPLETED - This project was completed, and the Village has not had any more issues up to the present, within this area causing road closures or flooding of nearby residences.

# Village of Carpentersville

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

### Thunderstorms, Lightning, and Hail

- Thunderstorm – currently in the Village’s action plan related to flooding.
- Hail – the entire police fleet is kept outside. Damaged vehicles could delay response times.
- Threats of a power outage at the wastewater plant. Need funding for a standby Generator

### High Winds and Microburst

- There are no manufactured homes, however, there are some older "pole barn" / metal-type buildings on the east portion of the village that could be at risk.
- The entire police fleet is kept outside. See above.
- The east portion of the village has overhead utility lines. Convert to UG (underground) from overhead utilities to reduce vulnerability.
- The majority of the Village of Carpentersville west of IL. Rte. 31 is supplied by overhead power lines from ComEd.
- During severe storm events, residents experience power outages much more frequently than our population, which has its power lines buried.

### Tornadoes

- Power lines on the east side (overhead lines versus underground lines)
- The Village currently has no manufactured homes or RV parks; however, most of the Village of Carpentersville is west of IL. Rte. 31 is supplied by overhead power lines from ComEd.
- During severe storm events, residents experience power outages much more frequently than our population, which has its power lines buried.

### Blizzards, Extreme Cold, and Ice Storms

- Many homes in the Golfview Highlands subdivision on the East side of Carpentersville need better insulation. They could be vulnerable if a severe winter storm caused a power outage for a few days.
- The majority of the Village of Carpentersville west of IL. Rte. 31 is supplied by overhead power lines from ComEd.
- During severe ice storm events, residents experience power outages much more frequently than our population, whose power lines are buried.

**Drought**

Dry grasses pose fire hazards near residential areas.

**Extreme Heat**

Homes in the Golfview Highlands subdivision are poorly insulated and could be structurally strong enough to withstand a major earthquake.

**Flood**

- Most flooding hazards are site-specific. Our action plan ID's areas and status
- The Village of Carpentersville has numerous locations on the east side of the village that experience localized flooding during severe rainstorms.
- One location in particular is Sioux Avenue, which has continuously flooded since the early 1970's.

**Dam Failure**

The village maintains no dams. Kane County is in the process of removing the existing Fox Fiver Dam just north of Main St. Bridge.

**Mitigation Strategies and Actions**

Each jurisdiction's mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

**New Mitigation Actions**

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Railroad Bridge removal crossing the Fox River	
Year Initiated	2023
Applicable Jurisdiction	Village of Carpentersville (VOC)
Lead Agency/ Organization / Position	Village of Carpentersville, Public Works
Supporting Agencies/ Organizations	IDNR
Applicable Goal(s)	1, 2, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$900,000
Potential Funding Source	General Funds (TIF)
Benefits (Loss Avoided)	This project will remove a dilapidated railroad bridge from the Fox River. The bridge is currently in a rapid state of dilapidation and could have impacts to the Village's Main

	Street roadway bridge that is directly downstream of the railroad bridge. The removal of the railroad bridge will eliminate the high hazard threat of it collapsing and potentially preventing damage to the Village's Main Street Roadway bridge which is located approximately 800 feet down stream of the railroad bridge
Benefits Analysis (Low, Medium, High)	HIGH
Projected Completion Date (Short-term, Long-term, or Ongoing)	2024
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	HIGH
Hazard(s) Mitigated	Earthquake, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Tornadoes
Action/Implementation Plan and Project Description, if applicable	This project will consist of removing a dilapidated railroad bridge that cross the Fox River, approximately 800 feet upstream of the Village's Main Street roadway bridge. The removal of the railroad bridge would remove a potential hazard from the Fox River during flood stages. Additionally, the removal of the railroad bridge would eliminate hazards from the river for recreational kayakers and boaters.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Installation of Back-up Generator at Wastewater Treatment Facility	
Year Initiated	2023
Applicable Jurisdiction	Village of Carpentersville
Lead Agency/ Organization / Position	Village of Carpentersville, Public Works
Supporting Agencies/ Organizations	IEPA
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	\$1,150,000.00
Potential Funding Source	BRIC/HMGP, General Funds
Benefits (Loss Avoided)	The project will provide a continuous supply of electricity during power outages
Benefits Analysis (Low, Medium, High)	HIGH
Projected Completion Date (Short-term, Long-term, or Ongoing)	2025
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	HIGH
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes

Action/Implementation Plan and Project Description, if applicable	Currently the Village's Wastewater Facility does not have an emergency generator. When power outages occur, the equipment for the treatment process ceases to function. With the installation of a generator, the Facility could run without the needs of the ComEd power grid during extended power outages.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Installation of new storm sewers to alleviate drainage issues along Highland Avenue; Replacement of 8-inch watermain beneath the Fox River</b>	
Year Initiated	2023
Applicable Jurisdiction	Village of Carpentersville
Lead Agency/ Organization / Position	Village of Carpentersville, Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	\$2,500,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Provides the Village with a redundant water main river crossing and emergency vehicle access during severe storms to both the Village of Carpentersville and the Village of West Dundee
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	2023
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Earthquake, Flooding, Severe Summer Storms
Action/Implementation Plan and Project Description, if applicable	This project consists of the installation of storm sewers along Highland Avenue, South Lincoln Avenue, and Hillside Street. Additionally, the existing 8-inch water main that was installed in 1914 crossing beneath the Fox River will be replaced.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Construct a redundant water main feed for the west side of the Village</b>	
Year Initiated	2023
Applicable Jurisdiction	Village of Carpentersville
Lead Agency/ Organization / Position	Village of Carpentersville, Public Works
Supporting Agencies/ Organizations	IEPA
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	\$3,000,000
Potential Funding Source	General Funds (Enterprise)

Benefits (Loss Avoided)	The installation of a water main would allow the Village to continuously supply water to the west side during emergency situations. Currently, the Village utilizes an emergency water main interconnect with the Village of West Dundee.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	2027
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake
Action/Implementation Plan and Project Description, if applicable	The Village currently only has one water main feed that serves the entire west side of the Village. This water main has broken numerous times in the last 5 years, causing the Village to operate its emergency water main interconnect with the Village of West Dundee on both occurrences. A redundant water main feed would allow the village to make repairs to the older water main during emergency situations without utilizing The Village of West Dundee's water for long periods of time. Additionally, a majority of the existing water main is located within the IL. Rte. 31 right-of-way making it extremely difficult to maintain during emergency operations. The majority of the new water main would be located within open space which would make the maintenance of the water main much safer.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public	
Year Initiated	2023
Applicable Jurisdiction	Carpentersville
Lead Agency / Organization / Position	Carpentersville Village Manager
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High)	High



(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	<p>Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include:</p> <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Carpentersville and East Dundee
Lead Agency/ Organization / Position	Village of Carpentersville and Village of East Dundee, Public Works Departments
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$2,000,000 estimated, including 4-acre land acquisition of vacant land, design, permitting, and construction costs
Potential Funding Source	General Funds
Benefits (Loss Avoided)	The construction of a proposed 25-30 acre-feet stormwater detention basin will bring this site into compliance with current stormwater regulations, to significantly reduce or eliminate downstream channel erosion.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently, neither village has funding for this project and a deadline will depend on when funding becomes available. Estimated at 2 years after funding approval, for design, environmental permitting, land acquisition, and construction
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High)	High

(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	L W Besinger Drive Stormwater Detention Facility. The current Meadowdale Mall was constructed in the late 1950's, prior to any stormwater detention requirements. The tributary area is about 90% impervious surface with fairly steep slopes, leading to intense stormwater runoff with no attenuation. This runoff has severely eroded the downstream drainage channel, in areas downcutting exists up to 10 feet deep and beginning to encroach near existing residential properties.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Due to funding restrictions, no action has been taken on this project. 2023/2024 Update: Ongoing

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Carpentersville
Lead Agency/ Organization / Position	Village of Carpentersville Public Works Departments
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$1,670,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Benefits will include improved drainage, construction of stormwater detention facilities to reduce downstream discharge rates, and restoration of eroded areas.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently, the village has no funding for this project and a deadline will depend on when funding becomes available. Estimated at 4 years after funding approval, for design, environmental permitting, land acquisition and construction.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Sioux Avenue to IL RT 62 and along RT 62 Stormwater Detention and Storm Sewer Project The current drainage system is severely undersized, resulting in roadway overtopping of Sioux Avenue in a 2-to-5-year interval, and severe stormwater ponding on residential property in both the Village of Carpentersville and the Village of Barrington Hills. The existing storm sewer system is in an advance state of deterioration, resulting in a court ordered twice-annually cleaning and jetting program.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Due to funding restrictions no action has been taken on this project. 2023/2024 Update: Ongoing

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Carpentersville
Lead Agency/ Organization / Position	Village Public Works Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	<del>\$251,000</del> - Update to \$2.0 million
Potential Funding Source	General Funds
Benefits (Loss Avoided)	The acquisition of one home (included in cost estimate), the replacement of this culvert, and channel improvement upstream to the RT 25 storm sewer outfall will address condition, roadway overtopping, and streambank stabilization and naturalization issues
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently the village has no funding for this project and a deadline will depend on when funding becomes available. Estimated at 2 years after funding approval, for design, environmental permitting, land acquisition and construction
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Lake Marian Watershed - Alt. C1 Alameda Avenue Culvert Replacement and channel improvement (Alameda and Kings culvert replacements and channel improvements are part of same drainage issue, can be combined if funding available for both) The existing cast in place triple box cell culvert is in an advance state of deterioration. Severe erosion has occurred in the open stream, resulting in nearly vertical banks and near-undermining of an existing Village watermain. With the existing culvert, Alameda Avenue currently overtops at between the 25- and 50-year interval.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Due to funding restrictions no action has been taken on this project. 2023/2024 Update: Ongoing - Updated to \$2.0 million for cost.

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Village Public Works Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	<del>\$183,000</del> - updated to \$2 million

Potential Funding Source	General Funds
Benefits (Loss Avoided)	The replacement of this culvert and channel improvement upstream to the Alameda Avenue culvert outfall will address the condition, roadway overtopping, and streambank stabilization and naturalization issues
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently the village has no funding for this project and a deadline will depend on when funding becomes available. Estimated at 2 years after funding approval, for design, environmental permitting, and construction
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Lake Marian Watershed - Alt. C1 Kings Avenue Culvert Replacement (Alameda and Kings culvert replacements and channel improvements are part of same drainage issue, can be combined if funding available for both) Severe erosion has occurred in the open stream, resulting in nearly vertical banks, encroaching near residential properties. With the existing culvert, Kings Road currently overtops at between the 50- and 100-year interval.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Due to funding restrictions no action has been taken on this project. 2023/2024 Update: Ongoing - updated to \$2 million for estimated cost.

Flood Control projects	
Year Initiated	2009
Applicable Jurisdiction	Carpentersville
Lead Agency/ Organization / Position	Village Public Works Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	<del>\$342,000</del> updated to \$1.2 Million
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Severe erosion has occurred in the open stream, resulting in downcutting and nearly vertical banks. Debris clogging of the existing undersized culvert resulted in roadway overtopping, roadway closure, and partial roadway washout in August 2007 storm event. With the existing culvert, Algonquin Road currently overtops at between the 25- and 50-year interval. The replacement of this culvert will provide adequate drainage capacity to prevent overtopping and closure of the roadway
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently, the village has no funding for this project and a deadline will depend on when funding becomes available. Estimated at 2 years after funding approval, for design, environmental permitting, and construction

Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Lake Marian Watershed - Alt. C1 Williams Road Culvert Replacement Severe erosion has occurred in the open stream, resulting in downcutting and nearly vertical banks. Debris clogging of the existing undersized culvert resulted in roadway overtopping, roadway closure, and partial roadway washout in August 2007 storm event. With the existing culvert, Williams Road currently overtops at between the 25- and 50-year interval.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Due to funding restrictions no action has been taken on this project. 2023/2024 Update: Ongoing - Updated \$1.2 million for cost. Changes from Algonquin Avenue to Williams Road

Flood Control projects	
Year Initiated	2009
Applicable Jurisdiction	Carpentersville
Lead Agency/ Organization / Position	Village Engineering Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$40,000-- \$60,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	This project is necessary due to massive erosion from 2007 storm event which significantly widened drainage channel, very likely resulting in lowered flood elevations and possibly remapping to remove some or all of the existing 22 homes from the floodplain.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently, the village has no funding for this project and a deadline will depend on when funding becomes available. The study could begin within months after funding becomes available, with an approximate study duration of 18 months, including FEMA concurrence
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Four Winds Way Creek - FEMA restudy to determine new accurate flood elevations
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Due to funding restrictions no action has been taken on this project. 2023/2024 Update: Ongoing - Updated to \$60,000 for cost.

## Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

Improved Emergency Response	
Year Initiated	2003
Applicable Jurisdiction	Carpentersville
Lead Agency/ Organization / Position	Village of Carpentersville
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	Reduce the impact of natural and man-made disasters and emergencies to the community due to increased response capability. The EOC can be a vital resource in coordinating the Village's response to provide the highest level of service to the community. The EOC will then be fully outfitted with radios, computers, phones, and other supplies in a "ready" state.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	2013
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Currently, the village Emergency Operations Center (EOC) is located in the Police Department and doubles as the Departments Roll Call room. Anytime the room is activated, phones, computers, tables, chairs, and other supplies are assembled. The Village has plans for a new Public Works facility where an EOC will be added to the basement area. Currently, the Village collects approximately \$5,000/year for the ESDA operating budget. Any grant money would be used to supplement this amount.
2023 Plan Update Status and Changes in Priority	2013 Update: Completed - The Village constructed the public works facility and established an EOC within the facility in 2013.

Improved Emergency Response	
Year Initiated	2003
Applicable Jurisdiction	West Dundee and Carpentersville
Lead Agency/ Organization / Position	Village of West Dundee and Village of Carpentersville
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	



Potential Funding Source	
Benefits (Loss Avoided)	This project will provide emergency access to adjacent community's water supply in the event of extended high fire flows, catastrophic event of reservoir supply (tower failure) or extended disruption of water production capability. Also, this project will enhance the ability to perform preventative maintenance on existing water distribution/production system with little to no impact on maintaining current and required water system pressures.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	Date not Listed
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Administrative staff has met with our equivalents from Carpentersville to discuss the possibility of a water system interconnect. Carpentersville's west water tower is in need of routine maintenance, including cleaning and painting. However, without that tower, their water distribution system would have a difficult time maintaining adequate water pressure through the western half of their Village. West Dundee will face similar obstacles when the Randall Road Water Tower is serviced in the future. A resolution for both communities needs would be to interconnect each Village's water systems. This would allow for one community's tower to be taken out of service and then utilize the other community's tower to maintain their system's pressures. The interconnect would be utilized only during times of tower maintenance, high fire volume flows or in response to a catastrophic event. Pending approval by the two communities, construction would be in 2010 with the interconnect available for use by spring, 2011. The estimated cost for this project would be split between the two communities.
2023 Plan Update Status and Changes in Priority	Completed - This project has been completed.

Drainage Maintenance	
Year Initiated	2009
Applicable Jurisdiction	Village of Carpentersville
Lead Agency/ Organization / Position	Village Public Works Department
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	\$200,000
Potential Funding Source	
Benefits (Loss Avoided)	Reduce debris clogging of downstream drainage structures, maintain optimal hydraulic capacity of the creek channel, and improve water quality.

Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently, the village has no funding for this project and a deadline will depend on when funding becomes available. This will be an ongoing annual program, starting within months of funding being made available. Debris and brush removal have taken place on an annual basis.
Actual Completion Date	
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Lake Marian Watershed - Alt. B1 Keith Andres Park Stream Maintenance Debris Removal and Vegetation Management
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Due to funding restrictions no action has been taken on this project. 2023/2024 Update: Completed

Flood Control Projects	
Year Initiated	2014
Applicable Jurisdiction	Carpentersville
Lead Agency/ Organization / Position	Village of Carpentersville Public Works
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$1,200,000
Potential Funding Source	
Benefits (Loss Avoided)	This project is necessary to improve the conveyance of Carpenter Creek through the culvert as well as to reduce the regulatory floodplain adjacent to the project. Approximately 6 structures would be removed from the regulatory floodplain.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently, the village has no funding for this project and a deadline will depend on when funding becomes available. However, a floodplain study has been completed and will need to be updated.
Actual Completion Date	
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Washington Street Bridge Culvert Replacement Project
2023 Plan Update Status and Changes in Priority	Completed

Flood Control Projects	
Year Initiated	2014
Applicable Jurisdiction	Carpentersville
Lead Agency/ Organization / Position	Village of Carpentersville Public Works
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$1,111,500
Potential Funding Source	
Benefits (Loss Avoided)	This project will improve and stabilize the stream banks along Carpenter Creek as well as to enhance water quality in the area. In addition, the Village also desires to improve the channel conveyance and floodplain storage along a portion of this reach to potentially remove approximately 40 structures from the regulatory floodplain. The project was listed as the highest BOD reduction project within the Jelkes Creek-Fox River Watershed Action Plan
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	The Village recently received funding through the IEPA Section 319 grant program for bank stabilization and water quality improvements to a 1,500 linear foot stretch directly north of Maple Avenue of Carpenter Creek. The project is currently scheduled to commence in the spring of 2015 pending the design, environmental permitting, and land acquisition.
Actual Completion Date	Completed
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Carpenter Creek Reach #2 – Stabilization and Runoff Storage Project
2023 Plan Update Status and Changes in Priority	Completed

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Carpentersville
Lead Agency/ Organization / Position	Village Public Works Department
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$100,000
Potential Funding Source	
Benefits (Loss Avoided)	Culvert was massively overtopped in 2007 storm event, resulting in some roadway damage and road closure for over a week. Culvert replacement to pass 100-year storm under roadway will addressing overtopping and closure issues
Benefits Analysis (Low, Medium, High)	

Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently the village has no funding for this project and a deadline will depend on when funding becomes available. Estimated at 2 years after funding approval, for design, environmental permitting, and construction
Actual Completion Date	completed
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Four Winds Way Creek - Riversview Drive culvert replacement
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Due to funding restrictions no action has been taken on this project. 2023/2024 Update: Completed

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Carpentersville
Lead Agency/ Organization / Position	Village Public Works Department
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$50,000
Potential Funding Source	
Benefits (Loss Avoided)	Prevent debris clogging and roadway overtopping problems
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently, the village has no funding for this project and a deadline will depend on when funding becomes available. Estimated at 1 year after funding approval, for design, environmental permitting, and construction
Actual Completion Date	Completed
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Lake Marian Watershed - Alt. Z3 Skyline Avenue Debris Control Structure to improve protection of existing creek outlet structure under Skyline Avenue
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Due to funding restrictions no action has been taken on this project. 2023/2024 Update: Completed

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Carpentersville
Lead Agency/ Organization / Position	Village Public Works Department and Dundee Township Highway Department
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$253,000
Potential Funding Source	
Benefits (Loss Avoided)	Protect Skyline Avenue embankment and structural stability of roadway from erosion and damage due to poor orientation of creek related to the outlet structure
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently, the village has no funding for this project and a deadline will depend on when funding becomes available. Estimated at 2 years after funding approval, for design, environmental permitting, and construction
Actual Completion Date	Completed
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Lake Marian Watershed - Alt. Z2 Skyline Avenue Gabion Embankment Stabilization
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Due to funding restrictions no action has been taken on this project. 2023/2024 Update: Completed

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Carpentersville
Lead Agency/ Organization / Position	Village Public Works Department
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$295,000
Potential Funding Source	
Benefits (Loss Avoided)	Improve creek sinuosity at desired locations by utilizing erosive velocities and reduce continued erosion of existing stream system
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently the village has no funding for this project and a deadline will depend on when funding becomes available. Estimated at 2 years after funding approval, for design, environmental permitting, and construction
Actual Completion Date	Completed
Priority and Level of Importance (Low, Medium, High)	N/A

(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Lake Marian Watershed - Alt. B3 or Z1 Keith Andres Park J-Hook Vanes (or) In-stream Grade Control Structures
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Due to funding restrictions no action has been taken on this project. 2023/2024 Update: Completed

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Carpentersville
Lead Agency/ Organization / Position	Village Public Works Department
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$570,000
Potential Funding Source	
Benefits (Loss Avoided)	Create 5 check dams and over 23 ac-ft of storage to reduce downstream runoff impacts, create stream crossing locations that would allow a more extensive network of trails within this 25-acre park
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently the village has no funding for this project and a deadline will depend on when funding becomes available. Estimated at 2 years after funding approval, for design, environmental permitting, and construction
Actual Completion Date	
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Lake Marian Watershed - Alt. S2 Keith Andres Park Check Dams Create 5 check dams and over 23 ac-ft of storage to reduce downstream runoff impacts, create stream crossing locations that would allow a more extensive network of trails within this 25-acre park
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Due to funding restrictions no action has been taken on this project. 2023/2024 Update: Completed

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Carpentersville
Lead Agency/ Organization / Position	Village Public Works Department
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$130,000



Potential Funding Source	
Benefits (Loss Avoided)	Allow stream to reach dynamic stability by dissipating and distributing energy throughout the channel, reduce continued erosion of existing stream system.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently, the village has no funding for this project and a deadline will depend on when funding becomes available. Estimated at 2 years after funding approval, for design, environmental permitting, and construction
Actual Completion Date	Completed
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Lake Marian Watershed - Alt. B2 Keith Andres Park Riffle Pool Restoration / Enhancement
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Due to funding restrictions no action has been taken on this project. 2023/2024 Update: Completed

In 2022, the Village acquired 155 S. Washington Street Parcel and razed the existing structure. The Village is in the process of determining the best use of the property.

### Removed Mitigation Actions

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Carpentersville
Lead Agency/ Organization / Position	Carpentersville
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	REMOVED
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Lake Marian Watershed - Alt. S1 Keith Andres Park Class II Dam Installation
2023 Plan Update Status and Changes in Priority	Removed

# Village of East Dundee

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

- The Village of East Dundee did not indicate any unique/varied vulnerabilities not already addressed in Volume 1.

## Mitigation Strategies and Actions

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

## New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

<b>Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public</b>	
Year Initiated	2023
Applicable Jurisdiction	East Dundee
Lead Agency / Organization / Position	East Dundee Administration Department, Village Administrator
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for	High

each mitigation action during the update process)	
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include: <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Carpentersville and East Dundee
Lead Agency/ Organization / Position	Village of Carpentersville and Village of East Dundee, Public Works Departments
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$2,000,000 estimated, including 4-acre land acquisition of vacant land, design, permitting, and construction costs
Potential Funding Source	General Funds
Benefits (Loss Avoided)	The construction of a proposed 25-30 acre-feet stormwater detention basin will bring this site into compliance with current stormwater regulations, to significantly reduce or eliminate downstream channel erosion.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently, neither village has funding for this project and a deadline will depend on when funding becomes available. Estimated at 2 years after funding approval, for design, environmental permitting, land acquisition, and construction
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High)	High

(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	L W Besinger Drive Stormwater Detention Facility. The current Meadowdale Mall was constructed in the late 1950's, prior to any stormwater detention requirements. The tributary area is about 90% impervious surface with fairly steep slopes, leading to intense stormwater runoff with no attenuation. This runoff has severely eroded the downstream drainage channel, in areas downcutting exists up to 10 feet deep and beginning to encroach near existing residential properties.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing- Due to funding restrictions no action has been taken on this project. 2023/2024 Update: Ongoing

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	East Dundee
Lead Agency/ Organization / Position	East Dundee Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	The estimated cost of construction including engineering is \$750,000. The estimate does not include land acquisition, which would be necessary. The village would need significant funding assistance to move forward with this project. It is recommended that the downstream detention area be constructed first as funding becomes available.
Potential Funding Source	General Funds
Benefits (Loss Avoided)	The completion of this project will prevent or reduce flooding for the residents downstream
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Presently there is insufficient funding in the village budget to complete this project.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	The Village of East Dundee has experienced significant flooding adjacent to the McIntosh Creek watershed. All of the major crossings upstream from Van Buren Street experience frequent overtopping of the roadway causing a significant erosion control problems. The village has identified two areas where storm water detention facilities would greatly improve the quality of life for downstream residents and reduce the likelihood of property damage during exceptional rain events.

2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - This Project has not moved forward due to the lack of funding resources. This is still a viable project for the Village of East Dundee. 2023/2024 Update: Ongoing
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<b>Flood Control Projects</b>	
Year Initiated	2009
Applicable Jurisdiction	East Dundee
Lead Agency/ Organization / Position	East Dundee Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	The estimated cost of construction including engineering is \$200,000. The estimate does not include land acquisition, but the Dundee Park District has been contacted and they seem agreeable in concept and would likely grant an easement to the village. The village would need significant funding assistance to move forward on this project.
Potential Funding Source	General Funds
Benefits (Loss Avoided)	The completion of this project will prevent or reduce flooding Terrace and Fox River Bluff Subdivisions.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Presently there is insufficient funding in the village budget to complete this project.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Implement flood control projects, including farm drainage improvements and projects to improve bridges and culverts, where they prove to be the most appropriate approach to reduce flood damage. Such projects need to meet the criteria listed in Section 8.8, especially the first two – ensuring no adverse impacts on other properties and coordinating projects on a watershed basis.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Currently the Village of East Dundee is working on Phase II design engineering with FEMA grant process. Final funding has not been awarded to the Village. The Village should receive notification on FEMA funding during the winter of 2015. 2023/2024 Update: Ongoing

### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

- No completed or removed mitigation actions were identified.

# Village of Elburn

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

### Thunderstorms, Lightning, and Hail

- Senior Housing (not assisted living)
- Power grid reliability is lacking.

### High Winds and Microbursts

- Power grid reliability is lacking.

### Tornadoes

- Warning systems other than Outside Warning Systems are needed.

### Blizzards, Extreme Cold, and Ice Storms

- High winds / blowing drifting of roads.
- Warming houses

### Drought

- The Village is currently reliant on deep water wells.

### Extreme Heat

- The Village needs cooling housing/shelters.
- The Village needs back-up generators for critical infrastructure.

### Flood

- Insufficient stormwater conveyance in the new quadrant of town

### Dam Failure

- A dam failure may impact homes outside of the village limits.

### Erosion/Sinkholes

- Sinkholes are historically associated with failures in stormwater conveyance systems.



## Mitigation Strategies and Actions

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

### New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Generators for Wastewater Treatment Plant	
Year Initiated	2023
Applicable Jurisdiction	Village of Elburn
Lead Agency/ Organization / Position	Village of Elburn, Public Services Unit, Utilities Department
Supporting Agencies/ Organizations	Com Ed
Applicable Goal(s)	1, 2, 3, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	High
Potential Funding Source	w/s fund grants, BRIC, HMGP
Benefits (Loss Avoided)	Power to water wells, lift stations and WWTP
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	Unknown
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Extreme Heat, Severe Summer Storms, Severe Winter Storms, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Vulnerable Electrical Grid: Overhead power lines, including but not limited to back-up generators at wastewater treatment plant, lift stations and water wells.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Improvement of Road Clearance During Extreme Winter Weather	
Year Initiated	2023
Applicable Jurisdiction	Village of Elburn; KDOT, IDOT
Lead Agency/ Organization / Position	Village of Elburn, Public Services Unit
Supporting Agencies/ Organizations	KDOT; IDOT
Applicable Goal(s)	1, 2, 5, 6

Estimated Cost & Analysis (Low, Medium, High)	High
Potential Funding Source	Explore outside sources of funding to support implementation
Benefits (Loss Avoided)	Open roads, emergency services (Rescue)
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	Unknown
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Severe Winter Storm
Action/Implementation Plan and Project Description, if applicable	Winter Storms - high winds / snow drifts: Rt 47, Rt 38, Anderson, Keslinger Rd, plus others
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public</b>	
Year Initiated	2023
Applicable Jurisdiction	Elburn
Lead Agency / Organization / Position	Elburn Village Administrator
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include:

	<ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

Flood Threat Recognition	
Year Initiated	2009
Applicable Jurisdiction	Elburn
Lead Agency/ Organization / Position	Village of Elburn Public Works Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	Unknown at this time. No quotes for replacement have been received.
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Monitoring of water levels at the dam in the wetlands area, would allow those residents living in the southern flood zone to receive adequate warning of potential flooding during heavy rain events.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently, the Village has no funding available for this project. Once funding is secured, the project should be completed within one year.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	The Blackberry Creek Subdivision, located south of Keslinger Road and east of Rout 47, contains wetlands of considerable size. These wetlands are part of the natural drainage for the water from rain events for an area roughly bounded by Route 47 on the west, Pouley Road on the east, and Route 38 on the north. During very heavy rain events, this area can be taxed to

	the point of overflowing and threaten flooding of homes at the far south end of Blackberry Creek Subdivision. To help mitigate the flooding threat, a dam was built during the initial construction phase of the subdivision. A spillway runs under Patriot Parkway. The water height at the dam is monitored by an electronic flood gage. The flood gage has been damaged by ice, and is no longer functioning, and needs to be replaced.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - This project is still viable, however, due to budgetary constraints, there is no funding available for FY 2015-2016. The project will be re-evaluated during the budgeting process for FY 2016-2017. 2023/2024 Update: Ongoing - Needs updating and refining.

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Elburn
Lead Agency/ Organization / Position	The Village of Elburn Public Works Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Unknown at this time. The cost will ultimately have to be part of any future development of the area immediately adjacent to the south side of the Union Pacific Railroad tracks.
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Flooding of streets and basements in the northwest quadrant of the Village will be reduced significantly. The existing storm water drainage system will not be overwhelmed by moderately heavy rain events.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	When the property immediately south of the Union Pacific Railroad tracks is developed, the Village will require an improved storm water drainage and retention system.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	The northwest quadrant of Elburn (north of the Union Pacific Railroad Tracks and west of Route 47) is one of the oldest sections of the Village. The existing stormwater drainage system is old. It was not built to handle stormwater runoff from the number of residences and businesses that are tied into it. This means that the system is easily overwhelmed during, even moderately heavy, rain events. Adding to this problem are the existing drainage channels that run under the Union Pacific Railroad tracks. These channels are not large enough to completely accommodate the stormwater runoff in the quadrant. The Elburn Public Works Department keeps the channels open as much as possible by regularly removing debris and blockages.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - This project is still viable, however, due to budgetary constraints for, and lack of commercial

	development in area, it is doubtful that any action can be taken on this project for FY 2015-2016. This project will be re-evaluated during the budgeting process for FY 2015-2016. 2023/2024 Update: Ongoing - Costs, acquisition of easements.
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### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

- No completed or removed mitigation actions were identified.

# City of Elgin

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

### High Winds and Microbursts

Manufacture home communities (listed below), power lines, low-hanging wires, and extended care facilities.

### Tornadoes

Manufactured home communities are at risk:

- Willow Lake
- Community on McLean Blvd (between College Green and Torrey Pines, east side of street)
- Old Oaks Estates

### Extreme Heat

Nursing homes and hospital patients are at risk.

### Earthquakes

- Dam failure could cause flooding at Kimball Street Dam. Ponds of Story Creek impoundment, Copper Springs, Lincolnwood Terrace, not limited to Lords Park are also at risk.
- 2 Major pipelines run through Elgin which could be at risk in the event of an earthquake.

### Flooding

- Several areas in the City of Elgin are prone to flooding when heavy rain occurs due to drainage concerns.
- Manufactured home communities listed in "tornadoes".
- Storm and Sanitary sewer systems that are combined.
- Homes/residences/industries access in floodplains
- Poplar Creek flooding, along with other tributaries
- Jamsen Drive Culvert capacity increase and other undersized culverts, not limited to

### Dam Failure

The dam in the Fox River north of Kimball St. Bridge. Failure of this dam would affect the city and three Fox River bridges - Kimball St., Chicago St., and National St.



## Mitigation Strategies and Actions

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

### New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Poplar Creek Flooding Mitigation	
Year Initiated	2023
Applicable Jurisdiction	City of Elgin
Lead Agency/ Organization / Position	City of Elgin Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3
Estimated Cost & Analysis (Low, Medium, High)	High
Potential Funding Source	BRIC and General Funds
Benefits (Loss Avoided)	Decrease flooding in some flood-prone areas of the City of Elgin
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Possibly 2024 or 2025 (2026 or 2027)
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Proposed improvements will consist of improving conveyance capacity along the creek by replacing or adding additional bridge cross-sectional area and culvert capacity, as well as channel improvements to reduce flood elevations along the creek. The channel improvements will include nature-based solutions such as a two-stage low-flow channel, floodplain bench, and native vegetation to improve water quality to the extent practical.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023. Working on agreement with consultant.

<b>New Mobile Command Vehicle</b>	
Year Initiated	2023
Applicable Jurisdiction	City of Elgin
Lead Agency/ Organization / Position	Elgin Fire Department
Supporting Agencies/ Organizations	Elgin Police Department
Applicable Goal(s)	1, 5
Estimated Cost & Analysis (Low, Medium, High)	\$1,000,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Better coordination of emergency operations during an event.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	2023
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	We are receiving a 43' long mobile command vehicle. This will greatly enhance communications and emergency response. This will also be the Emergency Operations Center (EOC) for the City of Elgin.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Installation of 2 Outdoor Emergency Sirens</b>	
Year Initiated	2023
Applicable Jurisdiction	City of Elgin
Lead Agency/ Organization / Position	Elgin Fire Department
Supporting Agencies/ Organizations	Elgin Police Department
Applicable Goal(s)	1, 3
Estimated Cost & Analysis (Low, Medium, High)	\$40,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Better alerting for areas not covered by the existing City of Elgin siren network
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	2024
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for	Medium

each mitigation action during the update process)	
Hazard(s) Mitigated	Tornadoes
Action/Implementation Plan and Project Description, if applicable	Due to city expansion, there are 2 areas identified in the far west area that have been identified as not being covered by the current outdoor siren network. The addition of these sirens will provide better coverage for those areas.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

New Emergency Siren Software	
Year Initiated	2023
Applicable Jurisdiction	City of Elgin
Lead Agency/ Organization / Position	Elgin Police Department
Supporting Agencies/ Organizations	Elgin Fire Department
Applicable Goal(s)	1, 3
Estimated Cost & Analysis (Low, Medium, High)	\$125,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Improvement from the current/outdated software
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	2024
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Tornadoes
Action/Implementation Plan and Project Description, if applicable	The current software used to activate the emergency siren network is outdated and even has not functioned properly during the regular monthly test on occasion. This new software will improve upon the current software.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public	
Year Initiated	2023
Applicable Jurisdiction	Elgin
Lead Agency / Organization / Position	Elgin City Manager
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP

Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include: <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

Repetitive Loss Projects	
Year Initiated	2003
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Kane County Departments (repetitive loss areas 8 and 9) and the appropriate office in Elgin (area 7) and Montgomery (areas 12 and 14).
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	Costs depend on individual property to be elevated or acquired. Staff time.
Potential Funding Source	General Funds

Benefits (Loss Avoided)	FEMA and IEMA only fund projects where the benefits are shown to exceed the costs. A benefit/cost analysis must be run for each property in order to qualify for FEMA funds.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	The Kane County Departments are continuing to work with IEMA and FEMA on the repetitive loss areas in the county.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Protect the buildings in repetitive loss areas 7, 8, 9, 12, and 14. These are the top priority areas based on the flood hazard and type of construction, as explained in the criteria on pages 5-12. Acquisition is the recommended property protection approach for areas 7, 8, 9, and 12, and elevation is recommended for areas 9, 12, and 14. Properties in the other repetitive loss areas could be protected by retrofitting measures that could be funded for much less under the cost share program proposed in action item 4. The specific measure to use on each property should be determined by an audit of the building and the owner's preferences. In each case, no action should be taken without the owner's full willing cooperation.
2023 Plan Update Status and Changes in Priority	Ongoing

Improved Emergency Response	
Year Initiated	2009
Applicable Jurisdiction	Elgin
Lead Agency/ Organization / Position	Elgin Fire Department has identified the locations and how many storm sirens are needed.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	Estimated to be over \$250,000.
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Currently, new annexations are not within coverage of storm sirens. By identifying the locations and installing storm sirens, citizens in those areas will be included in storm siren activation. By replacing some existing warning siren heads, pockets of housing previously not covered in the older parts of town will now receive sufficient warning coverage and overlap without cost of tower infrastructure.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	2015, pending budget allocations
Actual Completion Date	N/A

Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Tornadoes
Action/Implementation Plan and Project Description, if applicable	Due to new annexations, identify and install all areas without storm siren coverage. – Ensure that all areas are included when storm sirens are activated. – Identify what areas are without coverage. – Upgrade/retrofit older technology 7,000' diameter siren buffer sirens with new 11,000' diameter buffer technology sirens providing better coverage while reducing the overall number of sirens to maintain. – Add solar and battery backup to all existing warning sirens and include same for new sirens. – Purchase and install sirens in needed areas.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - This project was updated to include upgrading older technology and adding solar and battery backups. Cost estimates have also been updated. 2023/2024 Update: Ongoing

### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

- No completed mitigation actions were identified.

### Removed Mitigation Actions

Improved Emergency Response	
Year Initiated	2015
Applicable Jurisdiction	Elgin
Lead Agency/ Organization / Position	Fire Department will oversee the renovation through the Office of Emergency Management.
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	Estimated to be approximately \$30,000
Potential Funding Source	
Benefits (Loss Avoided)	The City of Elgin has been fortunate that it has not had to stand up an EOC yet. Part of the reason for this is that it lacked an adequately equipped facility. By enhancing the room with technology and communications capabilities the room will be activated when appropriate. The new design will allow the room to be utilized by all of City Hall as a functional classroom and Emergency Management training will be scheduled on a quarterly basis. These improvements will result in a safer and more efficient response to all hazards disaster responses.



Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	Early 2015
Actual Completion Date	
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The City of Elgin EOC is located in the basement of city hall. Currently there is no radio signal in the EOC, there is no Wi-Fi access, and there is no technology for displaying critical display information in the room. The room is small and congested and is furnished with some folding tables and chairs. The EOC will be remodeled to include all new furnishings with computer classroom style tables and electric and Cat. 5 capabilities at every seat. A wall will be removed to enlarge the EOC by 260 square feet and 12 computers will be installed so the room can be utilized for training purposes. Four 42" monitors will be mounted to display weather status, police CAD, fire CAD, and other display information. A state-of-the-art Smartboard will be installed at the front of the room and there will be 4 "consolettes" installed to provide direct communications with emergency dispatch center and the Incident Command Post. An additional 500 square foot room adjacent to the EOC will be set up as conference/breakout room.
2023 Plan Update Status and Changes in Priority	DISCARDED - Abandoned this EOC plan in lieu of new command vehicle

# City of Geneva

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

- The City of Geneva did not indicate any unique/varied vulnerabilities not already addressed in Volume 1.

## Mitigation Strategies and Actions

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

## New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public	
Year Initiated	2023
Applicable Jurisdiction	Geneva
Lead Agency / Organization / Position	City of Geneva’s Administrator’s Office
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for	High

each mitigation action during the update process)	
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include: <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

- There are no ongoing mitigation actions.

### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

Building Code Improvements	
Year Initiated	2009
Applicable Jurisdiction	Geneva
Lead Agency/ Organization / Position	City of Geneva
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	Benefits will include improved construction of facilities, consistent application of the codes.
Benefits Analysis (Low, Medium, High)	

Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	June 2011
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The City of Geneva will review the 2009 I-codes for amendments and adoption
2023 Plan Update Status and Changes in Priority	2015 Update: COMPLETED - The City of Geneva adopted the 2009 International Building Code in June of 2011.

Improved Emergency Response	
Year Initiated	2003
Applicable Jurisdiction	Geneva
Lead Agency/ Organization / Position	Geneva, City of and all municipal jurisdictions in the county
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	Benefits will be unified structure for requesting and receiving help from other communities in the event of natural hazards.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	2015
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The county had a committee of building department officials from each municipality. For the most part this committee has ceased to exist. The committee worked on common building department issues including mutual aid of building officials for emergencies and disasters. The lead agency for this committee has been the city of Geneva Building Department. It has been determined that this committee should be resurrected.
2023 Plan Update Status and Changes in Priority	2015 Update: COMPLETED - The local municipalities started to meet again monthly back in 2012. Starting in February of 2015 all local municipalities are reviewing the 2015 I code as a group for possible adoption.

<b>Flood Control Projects</b>	
Year Initiated	2009
Applicable Jurisdiction	Batavia, City of, Geneva, City of & Kane County
Lead Agency/ Organization / Position	Batavia, City of, Geneva, City of & Kane County
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	To prevent or reduce future flooding in the Braeburn and Crestview Subdivisions.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	The study for this item was completed in 2010/2011 and the construction was completed in 2012/2013
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Kane County and the cities of Batavia and Geneva have identified that flooding occurs near and along the Braeburn Marsh during heavy rain events. The City has contracted with a consultant to model the watershed and identify flood mitigation projects for the area. Once the mitigation projects have been identified the city will prioritize the projects and start construction; assuming funding will be available from the city or grants are obtained.
2023 Plan Update Status and Changes in Priority	2010/2011 - COMPLETED - The study for this item was completed in 2010/2011 2012/2013 - COMPLETED - The construction was completed in 2012/2013

# Village of Gilberts

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

- The Village of Gilberts did not indicate any unique/varied vulnerabilities not already addressed in Volume 1.

## Mitigation Strategies and Actions

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

## New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

<b>Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public</b>	
Year Initiated	2023
Applicable Jurisdiction	Gilberts
Lead Agency / Organization / Position	Village of Gilbert’s Administrator’s Office
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High)	High



(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include: <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

Improved Emergency Response	
Year Initiated	2009
Applicable Jurisdiction	Gilberts
Lead Agency/ Organization / Position	Public Works Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	\$600,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	With an improved bridge, responding emergency vehicles could use McCornack Road without having additional response times to locations south of the bridge on Big Timber Road corridor.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	The Village currently has no funding for this project. Once funding is established the project should take about two years.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High)	High

(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	The McCornack Bridge allows light traffic over Tyler Creek. It is not rated for heavy truck traffic including fire department apparatus. At this time, there are six occupied homes on this road. There is proposed 600 unit residential and commercial development around this bridge, however, the fire protection district is not in favor without an upgrade for the bridge. The village plans to upgrade the bridge to allow for heavier truck traffic including the fire department vehicles.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - The Village has not been able to fund this project but would still like to complete the work once funding is available. 2023/2024 Update: Ongoing

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Gilberts
Lead Agency/ Organization / Position	Public Works Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$450,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	This would eliminate the roadway surface being submerged under flood water for any period of time. Emergency vehicles and normal traffic will be able to use the roadway at all times and travel much safer without the blind dip in the road.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	The Village currently has no funding for this project. Once funding is established the project should take about a year.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	The Village of Gilberts annexed land in 2005 on the north side of Binnie Road extending east from Galligan Road for approximately 2000'. This annexation included the previous township road known as Binnie Road. At the extreme east end of the annex roadway is a dip (depression in the roadway that will hide a vehicle for a few seconds) in Binnie Road that is bordered by a restrictive wetlands area prone to flooding in spring with snow melt and during significant rain events. The

	village continually asphalt patches the lowest point to keep a reasonable roadway surface. There exists field tile on the south side near the wetlands that is compromised at times and requires excavation and mechanical pumping to help alleviate the standing water. The village would like to remove the existing roadway surface, install a series of engineered culverts, place road rock to an engineered height and then pave the new roadway raising the roadway out of the dip and out of the flood way.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - The Village has not been able to fund this project but would still like to complete the work once funding is available.

### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

- No completed or removed mitigation actions were identified.

# Village of Hampshire

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

### Flooding:

- The intersection of Park and Rinn floods during flash flooding
- The intersection of State and Panama floods during flash flooding

## Mitigation Strategies and Actions

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

### New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

New Storm Sewer	
Year Initiated	2023
Applicable Jurisdiction	Village of Hampshire
Lead Agency/ Organization / Position	Village of Hampshire (Administration)
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3
Estimated Cost & Analysis (Low, Medium, High)	\$663,000
Potential Funding Source	Remediation Plan funded by BRIC/HMGP and General Funds
Benefits (Loss Avoided)	The remediation project will eliminate standing water at this intersection allowing traffic to pass and avoiding property damage.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	2024
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High)	High

(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	New storm sewer from Park and Rinn north to Coon Creek <a href="#">Concept Plan</a>
2023 Plan Update Status and Changes in Priority	New mitigation plan for 2023

State & Panama Intersection Flood Remediation Project	
Year Initiated	2023
Applicable Jurisdiction	Village of Hampshire
Lead Agency/ Organization / Position	Village of Hampshire (Administration)
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3
Estimated Cost & Analysis (Low, Medium, High)	\$214,685 - See 30" Budget
Potential Funding Source	BRIC, HMGP
Benefits (Loss Avoided)	Avoid property loss - vehicle damage
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	2025
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Provides relief for the homes in the 100 Block of Panama Avenue. Remediation Plan, no funding available. <a href="#">Proposed Mediation</a>
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public	
Year Initiated	2023
Applicable Jurisdiction	Hampshire
Lead Agency / Organization / Position	Village of Hampshire Administration Department
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing

Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include: <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

- There are no ongoing mitigation actions.

### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

Improved Emergency Response	
Year Initiated	2009
Applicable Jurisdiction	Hampshire
Lead Agency/ Organization / Position	The Village of Hampshire and to be radio signal activated by the Hampshire police department.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	\$17,211.00
Potential Funding Source	



Benefits (Loss Avoided)	This will allow both the new Hampshire High School and the Gary D. Wright Elementary School at the intersection of Big Timber and Ketchum Roads as well as the residents of the Lakewood subdivision maximum audio volume from this warning device. There currently is a warning siren on the North/East side of the toll way but depending on prevailing wind conditions the toll way's height blocks the full effect of that siren.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	The Village currently has no funding for this project. Once funding is established the project should take about a year.
Actual Completion Date	2023
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Install a solar and battery powered early warning siren for the purpose of alerting the Hampshire residents in the Northeast corner of the Village of tornado, severe storms and other potential weather-related conditions.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - Due to funding restrictions no action has been taken on this project. 2023/2024 Update: Completed - Project funded and completed 4/23. All sirens are operational and tested monthly.

New Culvert at State and 72	
Year Initiated	2022
Applicable Jurisdiction	Hampshire
Lead Agency/ Organization / Position	Hampshire
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	2022
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	State and 72 new culvert remediating severe flash flooding of state route intersection

2023 Plan Update Status and Changes in Priority	Completed - Completed in 2022 - not in plan. Resources: <a href="#">Completion Plan</a>
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### Removed Mitigation Actions

Improved Emergency Response	
Year Initiated	2009
Applicable Jurisdiction	Hampshire
Lead Agency/ Organization / Position	Village of Hampshire's Public Safety Committee, Hampshire Police Department, and the Hampshire Fire Protection District.
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	The start-up cost would be approximately \$ 5,000 to \$ 10,000 with an annual expense of between \$ 5,000 and \$ 10,000. Currently, due to economic constraints, there is no local funding available.
Potential Funding Source	
Benefits (Loss Avoided)	The benefits of establishing a CERT program will provide citizens the training and knowledge to assist in a coordinated effort following large emergencies and disasters thereby reducing the overall effect of the incident.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	Start the project in 2010 and have an on-going program
Actual Completion Date	REMOVED
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Establish a Citizens Emergency Response Team (CERT) to assist first responders with lower priority tasks such as staffing telephone banks, messaging, traffic control, transportation (snowmobiles, small boats, canoes and pickup trucks) etc. as required by the first responders.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - The Village board is currently working with the Village Police Department and the Hampshire Fire Protection District to create the CERT program. The Village hopes to have a formal program established by the end of 2015. 2023/2024 Update: abandoned, removed - No longer necessary with full-time staff available.

# Village of Huntley

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

**Thunderstorms, Lightning, and Hail:** The Village of Huntley is uniquely vulnerable to thunderstorms/lightning due to the age/demographics of some of our residents. The Village of Huntley is home to Sun City Huntley, a 2,200-acre age-restricted community, as well as other age-restricted developments and care facilities. As such, the most recent (July 1, 2022) U.S. Census Bureau data estimates that 33.6% of Huntley's residents are 65 or over, compared to the State of Illinois estimate of 17.2%, taken from the same period. It is unknown if many of these homes and facilities have backup generator power. This is a concern because senior citizens are more susceptible to extreme temperatures during a power outage.

**High Winds and Microbursts:** The Village of Huntley is uniquely vulnerable to high winds/microbursts due to the age/demographics of some of our residents. The Village of Huntley is home to Sun City Huntley, a 2,200-acre age-restricted community, as well as other age-restricted developments and care facilities. As such, the most recent (July 1, 2022) U.S. Census Bureau data estimates that 33.6% of Huntley's residents are 65 or over, compared to the State of Illinois estimate of 17.2%, taken from the same period. It is unknown if many of these homes and facilities have backup generator power. This is a concern because senior citizens are more susceptible to extreme temperatures during a power outage.

**Tornadoes:** The Village of Huntley is uniquely vulnerable to tornadoes due to the age/demographics of some of our residents. The Village of Huntley is home to Sun City Huntley, a 2,200-acre age-restricted community, as well as other age-restricted developments and care facilities. As such, the most recent (July 1, 2022) U.S. Census Bureau data estimates that 33.6% of Huntley's residents are 65 or over, compared to the State of Illinois estimate of 17.2%, taken from the same period. Many of the homes in Sun City do not have basements. Even if the homes or senior care facilities have basements, the residents' mobility and functional access needs may make getting to the basement difficult.

**Blizzards and Ice Storms:** The Village of Huntley is uniquely vulnerable to blizzards and ice storms due to the age/demographics of some of our residents. The Village of Huntley is home to Sun City Huntley, a 2,200-acre age-restricted community, as well as other age-restricted developments and care facilities. As such, the most recent (July 1, 2022) U.S. Census Bureau data estimates that 33.6% of Huntley's residents are 65 or over, compared to the State of Illinois estimate of 17.2%, taken from the same period. It is unknown if many of these homes and facilities have backup generator power. This is a concern because senior citizens are more susceptible to extreme temperatures during a power outage.

**Extreme Heat:** The Village of Huntley is uniquely vulnerable to extreme heat due to the age/demographics of some of our residents. The Village of Huntley is home to Sun City Huntley, a 2,200-acre age-restricted community, as well as other age-restricted developments and care facilities. As such, the most recent (July 1, 2022) U.S. Census Bureau data estimates that

33.6% of Huntley’s residents are 65 or over, compared to the State of Illinois estimate of 17.2%, taken from the same period. It is unknown if many of these homes and facilities have backup generator power. This is a concern because senior citizens are more susceptible to extreme temperatures during a power outage.

**Earthquakes:** The Village of Huntley is uniquely vulnerable to earthquakes due to the age/demographics of some of our residents. The Village of Huntley is home to Sun City Huntley, a 2,200-acre age-restricted community, as well as other age-restricted developments and care facilities. As such, the most recent (July 1, 2022) U.S. Census Bureau data estimates that 33.6% of Huntley’s residents are 65 or over, compared to the State of Illinois estimate of 17.2%, taken from the same period. It is unknown if many of these homes and facilities have backup generator power. This is a concern because, during a power outage, senior citizens are more susceptible to extreme temperatures. Also, the residents' mobility and functional access needs may make taking appropriate shelter difficult.

## Mitigation Strategies and Actions

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

### New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Implementation of a Community Notification System	
Year Initiated	2023
Applicable Jurisdiction	Village of Huntley
Lead Agency/ Organization / Position	Village of Huntley Public Works and Engineering Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	\$56,800
Potential Funding Source	General Funds (and hopefully grants)
Benefits (Loss Avoided)	A community notification system can reduce the likelihood of accidents, mitigate emergencies and damages when they occur.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	2027
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High)	High

(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Research community notification system options before purchasing and implementing a system that meets the needs of the Village.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Streambank Shoreline Stabilization Projects	
Year Initiated	2023
Applicable Jurisdiction	Village of Huntley
Lead Agency/ Organization / Position	Village of Huntley Public Works and Engineering Department
Supporting Agencies/ Organizations	Illinois EPA
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	\$280,000
Potential Funding Source	General Funds (and hopefully grants)
Benefits (Loss Avoided)	Stabilizing the shorelines of retention basins will reduce erosion and protect water quality by filtering sediments and pollutants.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	2028
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Village staff will hire an engineering consulting firm to design, bid and oversee streambank improvement projects in retention basins located in Wing Pointe, Southwind and other locations in the community.
2023 Plan Update Status and Changes in Priority	New mitigation plan for 2023

Install a new Tornado Siren Control Management System	
Year Initiated	2023
Applicable Jurisdiction	Village of Huntley
Lead Agency/ Organization / Position	Village of Huntley Public Works and Engineering Department, Village Manager's office
Supporting Agencies/ Organizations	Southeast Emergency Communications (SEECOM) Joint Dispatch Center
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	\$270,000
Potential Funding Source	General funds, BRIC, HMGP

Benefits (Loss Avoided)	Installing a Motorola Optiwarn system (or an equivalent system) would correct our current activation issues and allow our consolidated joint dispatch agency, SEECOM, to activate the sirens through a STARCOM radio with Verizon LTE chips.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	2024
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Severe Summer Storms, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Village staff will work with SEECOM, the local fire protection district and other local agencies to purchase and install a new Tornado Siren Control Management System that meets the needs of the community
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Install a new salt dome to store salt for winter snow/ice operations</b>	
Year Initiated	2023
Applicable Jurisdiction	Village of Huntley
Lead Agency/ Organization / Position	Village of Huntley Public Works and Engineering Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	\$225,000
Potential Funding Source	General (and hopefully grants)
Benefits (Loss Avoided)	Given the supply, delivery and pricing uncertainty of the salt commodity, the Village would benefit by having another salt dome so that the Village can have a season's worth of salt storage to help mitigate the impacts of severe winter snow/ice storms.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	2025
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Severe Winter Storm
Action/Implementation Plan and Project Description, if applicable	Staff will coordinate the design, bid and construction of the salt dome.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023



Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public	
Year Initiated	2023
Applicable Jurisdiction	Huntley
Lead Agency / Organization / Position	Kane County Office of Emergency Management, Village of Huntley's Village Manager
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	<p>Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include:</p> <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

- There are no ongoing mitigation actions.

### **Completed Mitigation Actions**

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

- No completed or removed mitigation actions were identified.

# Village of Lily Lake

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

### Thunderstorms, Lightning, and Hail

- Lack of an early warning system

### High Winds and Microbursts

- Lack of an early warning system

### Tornadoes

- The Village has no early warning system and is very vulnerable.

### Blizzards, Extreme Cold, and Ice

- 100-year-old grade school operable building - unsure of backup capabilities
- Village Hall has no backup generators in the event of any power failure.

### Drought

- Village has a large portion of undeveloped land currently farmed, which could carry a fire hazard.
- Loss of crops due to drought (mostly north and west of Rt. 47 and Empire Rd)

### Extreme Heat

- Grade School - 100-year-old building.
- Village Hall currently has no generators.

### Earthquakes

- Grade school - 100-year-old, three-story brick building.

### Flood

- Rt 47/Rt 64 high flood area in heavy rain - near wetlands
- Sunset Views Z Subdivision, Autumn Lan and Prairie Valley Dr. - flood from farm field to NW in Spring-Carry Silt and debris onto roadways.

### Erosion/Sinkholes

- Erosion off of farm field under Empire Rd onto private property near Rt 47 and Empire Rd (1/4 mile east)

## Mitigation Strategies and Actions

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

### New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Adopt Current or Recent IBC/CRC	
Year Initiated	2023
Applicable Jurisdiction	Lily Lake
Lead Agency/ Organization / Position	Lily Lake - Jesse Heffernan - Clerk
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 6
Estimated Cost & Analysis (Low, Medium, High)	\$2500
Potential Funding Source	General Funds, Explore outside sources of funding to support implementation
Benefits (Loss Avoided)	N/A
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	N/A
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Earthquake, Severe Summer Storms, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Adopt current or recent IBC/CRC - upgrade from current 2015
2023 Plan Update Status and Changes in Priority	New mitigation plan for 2023

Implement Early Warning Alert System	
Year Initiated	2023
Applicable Jurisdiction	Lily Lake
Lead Agency/ Organization / Position	Lily Lake - Jesse Heffernan - Clerk

Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1
Estimated Cost & Analysis (Low, Medium, High)	\$60,000?
Potential Funding Source	General Funds, Riverboat Grants
Benefits (Loss Avoided)	N/A
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	N/A
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Earthquake, Flooding, Severe Summer Storms, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Implement early warning alert system (with financial aid)
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public	
Year Initiated	2023
Applicable Jurisdiction	Lily Lake
Lead Agency / Organization / Position	Lily Lake Clerk
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include: <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> </ul>

	<ul style="list-style-type: none"> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

Urban Forestry	
Year Initiated	2009
Applicable Jurisdiction	Lily Lake
Lead Agency/ Organization / Position	Clerk's Office
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	\$2 per capita, staff time
Potential Funding Source	General Funds
Benefits (Loss Avoided)	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.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Each jurisdiction is encouraged to implement an urban forestry program and work towards Tree City USA designation as funding allows.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Severe Winter Storms, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Implement an urban forestry program that qualifies the municipality 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 6-10: <ul style="list-style-type: none"> <li>– A tree board or department</li> <li>– A tree care ordinance</li> <li>– A community forestry program with an annual budget of at least \$2 per capita</li> <li>– An Arbor Day observance and proclamation</li> </ul>



2023 Plan Update Status and Changes in Priority	On-going with Tree preservation Ordinance
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### **Completed Mitigation Actions**

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

- No completed or removed mitigation actions were identified.

# Village of Maple Park

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

**Thunderstorms:** The Village of Maple Park is in a rural agricultural area in both DeKalb and Kane Counties. Maple Park is vulnerable to thunderstorms, lightning, and hail due to the moisture from the ground and the crops being grown around the village. A loss of power would cause the water distribution system and wastewater treatment plants to fail due to no backup generators.

**High Winds:** The Village of Maple Park is surrounded by open farmland with very few wind-blocking structures or trees. The Village has been affected by more than 50 miles of wind gusts an hour. We have experienced power outages frequently over ten times a year. The power outages affect:

- Water distribution system - unable to supply water.
- Wastewater treatment is unable to remove wastewater, causing backups in residencies.
- Civic center and police department - unable to function and provide backup heating and cooling centers.

**Tornadoes:** The Village of Maple Park is in open farmland and is vulnerable to tornadoes. The Village has a population of 1444 residents, and a tornado would affect the entire village. Stationary backup generators are needed.

**Blizzards and Ice Storms:** The Village of Maple Park is in a rural agricultural area in both DeKalb and Kane Counties. Maple Park is vulnerable to thunderstorms, lightning, and hail due to the moisture from the ground and the crops being grown around the village. The Village of Maple Park is surrounded by open farmland with few wind-blocking structures or trees. The Village has been affected by more than 50 miles of wind gusts an hour. Old water mains breaking due to freeze/thaw cycle.

**Drought:** The Village of Maple Park is in a rural agricultural area in both DeKalb and Kane Counties. Maple Park is vulnerable to drought due to the changing weather climate in the area. Also, rain is needed for the ground and the crops grown around the village. Construction of a larger water tower is necessary.

### Extreme Heat:

- Power outages
- Need for stationary generators.

### Earthquakes

- The civic center and police department are older buildings (100 plus years old).

- The water mains are old.

**Flooding**

- Improve storm drain lines.
- Improve flow to retention ponds, drainage ditches.
- Replace culverts in affected areas.

**Mitigation Strategies and Actions**

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

**New Mitigation Actions**

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Installation of Three Stationary Backup Generators	
Year Initiated	2023
Applicable Jurisdiction	Maple Park
Lead Agency/ Organization / Position	Village of Maple Park - Water Department
Supporting Agencies/ Organizations	Village of Maple Park - Police Department
Applicable Goal(s)	1, 2, 3, 4
Estimated Cost & Analysis (Low, Medium, High)	\$2million
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Providing essential services - water delivery, wastewater removal, village operations
Benefits Analysis (Low, Medium, High)	HIGH
Projected Completion Date (Short-term, Long-term, or Ongoing)	TBD
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	HIGH
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes

Action/Implementation Plan and Project Description, if applicable	The installation of three stationary backup generators at the following locations: water treatment plant, wastewater treatment plant and civic center, due to none in place currently
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public</b>	
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Year Initiated	2023
Applicable Jurisdiction	Maple Park
Lead Agency / Organization / Position	Maple Park Administration Department, Village Administrator
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	<p>Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include:</p> <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

## Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Maple Park
Lead Agency/ Organization / Position	Village of Maple Park, Public Works Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	The estimated cost of this project is over \$500,000. At this time the Village does not have the resources to fund this project. Once funding is secured, the Village Engineers will develop a specific plan for the project to go forward.
Potential Funding Source	General Funds, BRIC, HMGP
Benefits (Loss Avoided)	This project will be beneficial to the surrounding homeowners who suffer basement flooding when heavy rainfall occurs. It will also benefit and alleviate flooding at the Well Pumping Station and Sanitary Sewer Lift Station.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Presently there is no funding in the village budget to complete this project.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	The Village of Maple Park is working on flooding issues, on the North side of Maple Park, near the water tower and the Heritage Hills Subdivision. Village engineers have begun mapping these areas where flooding occurs. The Village proposes to install new stormwater sewer lines and catch basins in these areas; the water on the north side of town will then flow to a detention pond to the west or to the drainage ditch to the south, to allow the water to flow away from these areas. In the Heritage Hills subdivision, increase the size of the existing storm sewers to the north, add a new storm sewer line and catch basin to the south, this water will then flow out to Union drainage ditch #2
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - In 2012, the village installed a storm drain at the NE corner of Elm & Broadway and also increased the size of the existing storm sewers in the Heritage Hills subdivision. In 2013, the village installed a new storm drain at the NW corner of Broadway and Willow. In 2014, the village installed a new storm sewer line on Willow Street from Liberty to Green. Although this is a large amount of

	<p>improvements for the area this will not completely solve the flooding issue. Currently, the village does not have any funds allocated in the current budget for any additional improvements. As funding becomes available the village will continue to implement improvements in this area.</p> <p>2023/2024 Update: Ongoing - Televising completed in 2022. Storm sewer televising completed on Pearl Street and Center St. 2023.</p>
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### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

- No completed or removed mitigation actions were identified.



# Village of Montgomery

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

### Flooding:

- Montgomery overflow in the Blackberry Creek area has repeated flooding that impacts Alcott Road, Countryside Subdivision, and other properties.
- Fox River flooding near downtown - upstream of Mill Road - residents being up to the river.

### Dam Failure

- No known unique hazards - most stormwater basins are excavated.

## Mitigation Strategies and Actions

Each jurisdiction's mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

### New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Montgomery Overflow Regional Flood Control Project	
Year Initiated	2023
Applicable Jurisdiction	Village of Montgomery
Lead Agency/ Organization / Position	Village of Montgomery Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3
Estimated Cost & Analysis (Low, Medium, High)	\$5 million
Potential Funding Source	Village TIF Area
Benefits (Loss Avoided)	Not calculated yet
Benefits Analysis (Low, Medium, High)	HIGH

Projected Completion Date (Short-term, Long-term, or Ongoing)	2027
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	HIGH
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Montgomery overflow regional flood control project: regional detention, eliminate flooding over Averett Road with new culverts; extend Mulberry for emergency access to Countryside Subdivision
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Fox River Flood Mitigation	
Year Initiated	2023
Applicable Jurisdiction	Village of Montgomery
Lead Agency/ Organization / Position	Village of Montgomery Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3
Estimated Cost & Analysis (Low, Medium, High)	High
Potential Funding Source	General and FEMA mitigation
Benefits (Loss Avoided)	Unknown
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	Unknown
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Fox River Flood Mitigation
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public	
Year Initiated	2023
Applicable Jurisdiction	Montgomery
Lead Agency / Organization / Position	Montgomery Communication and Public Information Department, PIO
Supporting Agencies/ Organizations	Kane County Office of Emergency Management

Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include: <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

Repetitive Loss Projects	
Year Initiated	2003
Applicable Jurisdiction	Kane County
Lead Agency/ Organization / Position	Kane County Departments (repetitive loss areas 8 and 9) and the appropriate office in Elgin (area 7) and Montgomery (areas 12 and 14).
Supporting Agencies/ Organizations	N/A

Applicable Goal(s)	1, 3
Estimated Cost & Analysis (Low, Medium, High)	Costs depend on individual property to be elevated or acquired. Staff time.
Potential Funding Source	General Funds
Benefits (Loss Avoided)	FEMA and IEMA only fund projects where the benefits are shown to exceed the costs. A benefit/cost analysis must be run for each property in order to qualify for FEMA funds.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	The Kane County Departments are continuing to work with IEMA and FEMA on the repetitive loss areas in the county.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Protect the buildings in repetitive loss areas 7, 8, 9, 12 and 14. These are the top priority areas based on the flood hazard and type of construction, as explained in the criteria on page 5-12. Acquisition is the recommended property protection approach for areas 7, 8, 9, and 12 and elevation is recommended for areas 9, 12 and 14. Properties in the other repetitive loss areas could be protected by retrofitting measures that could be funded for much less under the cost share program proposed in action item 4. The specific measure to use on each property should be determined by an audit of the building and the owner's preferences. In each case, no action should be taken without the owner's full willing cooperation.
2023 Plan Update Status and Changes in Priority	Ongoing

Flood Threat Recognition	
Year Initiated	2009
Applicable Jurisdiction	Montgomery
Lead Agency/ Organization / Position	Village of Montgomery, Village of Montgomery Police Department, Illinois Department of Natural Resources, and U.S. Geologic Survey.
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	\$25,000 to purchase and install the warning station and then yearly maintenance and operation costs of \$13,000.
Potential Funding Source	General Funds, BRIC, HMGP
Benefits (Loss Avoided)	Establishing the Parkview Estates Warning Station would allow the Village to warn residents in advance of flooding events. This will allow evacuation of people and property in a timely manner to prevent harm to people and reduce damage to property.
Benefits Analysis (Low, Medium, High)	High

Projected Completion Date (Short-term, Long-term, or Ongoing)	Once the Village secures funding for this project the warning station could be set up within a year. Village staff will continue to look for funding sources and include this item in our annual budget proposal process.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	There is a recurrent flooding problem in the Parkview Estates neighborhood in Montgomery from Waubonsie Creek. The Village would like to install a flood warning station to warn the Village of rising flood water and allow the Village to evacuate residents when necessary. The warning station would include a monitoring station and a SCADA (radio control) system to transmit data to the Village emergency responders.
2023 Plan Update Status and Changes in Priority	2015 Update: The village does not currently have funding for this project but will actively look for available funding options. 2023/2024 Update: Unsure if this was done

Flood Control Projects	
Year Initiated	2014
Applicable Jurisdiction	Montgomery
Lead Agency/ Organization / Position	Village of Montgomery Public Works Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Phase I: \$15,000, Phase II: \$115,000, Phase III: \$22,000, Total \$152,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Phase I improvements increased detention release rates without causing downstream high-water issues, which allowed for a larger volume of available detention within the Lakewood West basin system. Phase II and III improvements will allow positive drainage paths that will greatly reduce or eliminate the storage of storm water runoff in the ComEd right-of-way.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	The village Public Works staff completed the Phase I improvements in the Fall of 2013 for \$15,000. The Village will monitor the area to determine the level of improvement achieved by the Phase I changes and will look to secure funding for Phase II and Phase III improvements, with installation to take place in the appropriate budget year following fund appropriation.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for	High

each mitigation action during the update process)	
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	In the spring of 2013, residents of the Lakewood Creek West subdivision whose homes back up to a large parcel of ComEd right-of-way experienced basement flooding after a 5.5" rain event within 24 hours. During heavy rains the low-lying ComEd depressional filled with stormwater runoff which rose to within 6" – 12" of ground level door thresholds. Although water did not flow directly into the homes, the high-water levels and increased burden placed on sump pumps caused basement flooding in adjacent homes. The Village Engineer and Public Works staff developed a 3-phase plan for reducing the elevation of stored stormwater. Phase I will include the upsizing of detention basin restrictor plates at downstream detention basins to allow improved passage of stormwater. Phase II will be the installation of a 24-inch storm sewer to bypass the ComEd depressional storage area and transmit the stormwater to the existing Lakewood West detention basin system. Phase III will be the construction of a secondary storm sewer outfall through the adjoining Lakewood Creek storm sewer/detention system.
2023 Plan Update Status and Changes in Priority	Ongoing - Phase II completed in 2019

### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

Improved Emergency Response	
Year Initiated	2014
Applicable Jurisdiction	Montgomery
Lead Agency/ Organization / Position	Village of Montgomery
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	\$45,000
Potential Funding Source	
Benefits (Loss Avoided)	The additional siren will provide coverage to all Montgomery properties and will work in conjunction with the existing sirens and City of Aurora system to provide early weather and emergency warnings to Montgomery residents.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	The village has identified funding for the installation of the siren and is working with vendors and contractors to initiate construction in 2014. The Village anticipates having the siren operational in 2015.
Actual Completion Date	Completed
Priority and Level of Importance (Low, Medium, High)	N/A



(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The village of Montgomery has identified the need for a third outdoor weather/emergency warning siren to cover newer residential areas on the west side of the community. There are currently two village-owned sirens in operation that work in conjunction with the City of Aurora emergency warning system to cover most of the village. With the expansion of residential areas to the west and south over the past decade, it was determined that our current mapped coverage area did not include all Montgomery properties. The new siren will be placed at 2525 Dickson Road at the Dickson-Murst Farm property and will cover an area bordered generally by Lakewood Creek Drive, U.S. Route 30, IL Route 47, and the BNSF railroad in Bristol, IL.
2023 Plan Update Status and Changes in Priority	Completed

### Removed Mitigation Actions

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Kane County / Montgomery
Lead Agency/ Organization / Position	Village of Montgomery and Kane County
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$100,000 for replacement of approximately 4500 feet of 12-inch drain tile
Potential Funding Source	
Benefits (Loss Avoided)	By replacing the drain tile normal drainage can be restored to the Montgomery Overflow area. This will restore the capacity of the soils for infiltration allowing the Overflow to function better in flooding events. Restoring normal drainage to the area will also allow the agricultural lands to be farmed and reduce the impacts that high water tables have had on surrounding residential areas.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently the Village has no funding for this project and a deadline will depend on when funding becomes available. The project can be constructed in phases with the first phase starting after funding is secured and the whole project completed within two years of funding.
Actual Completion Date	
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A

Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The Montgomery Overflow of Blackberry Creek conveys flood water from Blackberry Creek to the Fox River in large flooding events. In normal conditions the area is drained by a 12-inch agricultural drain tile which is currently in disrepair and there is standing water through much of the overflow route. The Village proposes to replace the drain tile and restore drainage to the area allowing the soils to drain and restoring their water holding and infiltration capacity allowing the Overflow to function better in flooding events.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - The Village has looked at this project during the 2015 update and decided that the project is still a good project but currently no funding is available for the project. 2023/2024 Update: Remove - The Village no longer pursuing this - but is being addressed with new project: Montgomery overflow regional flood control project

# Village of North Aurora

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

### Thunderstorms, Lightning, and Hail:

- Power outages - only 2 of 6 deep aquifer wall pumps have generators, and North Aurora solely depends on deep aquifers as a water source.
- The Village has no other water source of water.

### High Winds and Microbursts:

- Power outages - only 2 of 6 deep aquifer wall pumps have generators, and North Aurora solely depends on deep aquifers as a water source.

### Tornadoes:

- Power outages - only 2 of 6 deep aquifer wall pumps have generators, and North Aurora solely depends on deep aquifers as a water source.
- The Village has no other water source of water.
- The public works facility has no generator. An outage would make access difficult and prevent village vehicles from getting fuel.

### Blizzards, Extreme Cold, and Ice Storms

- Power outages - only 2 of 6 deep aquifer wall pumps have generators, and North Aurora solely depends on deep aquifers as a water source.
- The Village has no other water source of water.
- Most residents are not prepared to survive more than a few hours without power in freezing weather.
- We have several assisted living facilities, none of which have backup generators. (3 un-generated facilities)
- Power lines and poles along Rt. 31 are approximately 1-2 ft away from the roadway and at high risk of being hit by vehicles, causing power outages, including one assisted living facility, police department, and numerous traffic signals.

### Drought

- North Aurora solely depends on deep wells for water, and 4 of our six pumps have no backup generator.

### Extreme Heat

- The Village has several assisted living (approx. 3) facilities with no backup generators.

**Dam Failure**

- The Village has one Fox River Dam but are still determining how a failure would affect our community.

**Mitigation Strategies and Actions**

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

**New Mitigation Actions**

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Provide Backup Generation	
Year Initiated	2023
Applicable Jurisdiction	Village of North Aurora
Lead Agency/ Organization / Position	Public Works / Private owners
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2
Estimated Cost & Analysis (Low, Medium, High)	High
Potential Funding Source	General funds; BRIC, HMGP
Benefits (Loss Avoided)	Not given
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Not given
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Severe Summer Storms, Severe Winter Storms, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Provide backup generation to village facilities (public works 4 well pumps) as well as privately-owned critical facilities (3 assisted living facilities)
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Bury Electric Lines</b>	
Year Initiated	2023
Applicable Jurisdiction	Village of North Aurora
Lead Agency/ Organization / Position	Com Ed
Supporting Agencies/ Organizations	Village of North Aurora Public Works
Applicable Goal(s)	1, 2
Estimated Cost & Analysis (Low, Medium, High)	approximately \$50,000 per pole
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Not given
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Unknown
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Severe Summer Storms, Severe Winter Storms, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Bury electric lines along major thoroughfares (Rt. 31, 25, 56)
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public</b>	
Year Initiated	2023
Applicable Jurisdiction	North Aurora
Lead Agency / Organization / Position	North Aurora Administration Department, Village Administrator
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for	High

each mitigation action during the update process)	
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	<p>Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include:</p> <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

Retrofitting Incentives	
Year Initiated	2009
Applicable Jurisdiction	North Aurora
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	The average cost to install an overhead is between \$5,000 and \$8,000. The Village will pay half, or a maximum \$4,000 per household.
Potential Funding Source	General Funds
Benefits (Loss Avoided)	The Overhead will help prevent back-ups into basements during all rain events and other sewer blockages. This program will be offered on a Village-wide basis and therefore has the potential of helping the largest number of residents.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	This will be an ongoing project for a minimum of 11 years
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for	Medium



each mitigation action during the update process)	
Hazard(s) Mitigated	Flooding, Severe Summer Storms
Action/Implementation Plan and Project Description, if applicable	The village of North Aurora has identified a project to help residents install overhead sewer lines to prevent sewer backup. Overhead sewer means there are no direct openings to the sanitary sewer in the basement. All of the wastewater that is collected in the basement is discharged into a separate sump pit and pumped into the sanitary service line. The basement drainage is dependent on a pump and a continuous electric power supply. Generally, the plumbing from the fixtures on the main floor is installed just below the basement ceiling (hence, the term “overhead”), and is routed to the outside service line through an opening high up on the basement wall. Converting the plumbing to an overhead sewer is one of the most expensive ways to prevent basement backups. Nevertheless, it is generally considered to be the best method available. Only the residents who have experienced sewer back-ups and are concerned with taking an active role in resolving the problem will use the cost sharing program.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - The village reviewed this action item for the 2015 update and updated the cost of installation. Current plans are to continue the program for a minimum of 11 years. 2023/2024 Update: Ongoing

Drainage Maintenance	
Year Initiated	2015
Applicable Jurisdiction	North Aurora
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	The cost per budget year is roughly \$200,000 to \$250,000
Potential Funding Source	General Funds, BRIC, HMGP
Benefits (Loss Avoided)	Eliminate Inflow and Infiltration into the Sanitary Sewer System. This in return will eliminate backups into the homes.
Benefits Analysis (Low, Medium, High)	Medium
Projected Completion Date (Short-term, Long-term, or Ongoing)	3 years to finish the entire community
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Medium
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	The village of North Aurora has identified a need to install Cured-in-place Piping (C.I.P.P.). C.I.P.P. is formed by the insertion of a resin-impregnated flexible tube into the existing pipe. The tube is expanded to fit against the original conduit,

	and then heated to cure the resin. The finish product is a joint (less structural) pipe that is formed to the existing pipe. The cured-in-place pipe shall be chemically resistant to domestic sewage. Over the next (3) years the Village will also be entering into a manhole sealing program to help eliminate additional Inflow and Infiltration into the system.
2023 Plan Update Status and Changes in Priority	Ongoing

### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

- No completed or removed mitigation actions were identified.

# Village of Pingree Grove

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

- The Village of Pingree Grove did not indicate any unique/varied vulnerabilities not already addressed in Volume 1.

## Mitigation Strategies and Actions

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

## New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public	
Year Initiated	2023
Applicable Jurisdiction	Pingree Grove
Lead Agency / Organization / Position	Pingree Grove Village Manager
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for	High

each mitigation action during the update process)	
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include: <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

Urban Forestry	
Year Initiated	2015
Applicable Jurisdiction	Pingree Grove
Lead Agency/ Organization / Position	Pingree Grove Public Works Department
Supporting Agencies/ Organizations	Village of Pingree Grove
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	\$12,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	To mitigate some of the potential problems during high wind incidents and ice storms.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	The Village plans to have the Village designated as a "Tree City USA" community by the end of the year.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Severe Summer Storms, Tornadoes

Action/Implementation Plan and Project Description, if applicable	The Village is adding a tree/forestry program and in 2015 will be working towards a “Tree City USA” designation.
2023 Plan Update Status and Changes in Priority	Ongoing

### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

Improved Emergency Response	
Year Initiated	2003
Applicable Jurisdiction	Pingree Grove
Lead Agency/ Organization / Position	Village of Pingree Grove
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	This type of warning system greatly benefits the residents of Pingree Grove by alerting them in advance of severe weather allowing them to seek shelter and a place of safety
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	2013
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The village of Pingree grove has identified a need for outdoor warning sirens within the village. In 2008 the village installed its first warning siren on Reinking Rd to serve the residents of the Heritage District and Cambridge Lakes South area of the village. A second siren is needed for the Cambridge Lakes North area. This area is bordered by Rt. 47, Rt. 72, and Big Timber Rd. The planned siren would be consistent with the specifications of the current siren and would be installed based on the Village Engineer's recommendations for maximum coverage.
2023 Plan Update Status and Changes in Priority	2013 Update: Completed - The Village of Pingree Grove installed the storm sirens in 2013.

# Village of Sleepy Hollow

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

### Thunderstorms, Lightning, and Hail

- Loss of electrical service due to thunderstorms due to downed power lines
- A large number of trees overhang power lines throughout the village

### High Winds and Microbursts

- Risks are the same as thunderstorms, lightning, and hail.
- The communication tower along Boncosky Rd. is vulnerable to high winds.

### Tornadoes

- Currently, there is no siren coverage throughout the village.

### Blizzards, Extreme Cold, and Ice Storms

- Risks as the same as thunderstorms, lightning, and hail

### Drought

- Droughts allow for the risk of wildfires around Village Hall

### Extreme Heat

- The Village's current older population are vulnerable to extreme heat during power outages.

### Earthquake

- Seismically unreinforced structures: Village Hall, Rutland/Dundee Fire District Building

### Flooding

- There is widespread flooding during significant rain events east of Sleep Hollow Road.

### Dam Failure



- Pinecone Lake Dam is positioned such that the lower village will flood and hinder access to public safety buildings.

**Erosion/Sinkholes**

- Significant rain events cause extensive erosion along Sleepy Hollow Rd, which impacts drainage and the potential for landslides along the slopes of Sleep Hollow Rd, where homes reside on slopes.

**Mitigation Strategies and Actions**

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

**New Mitigation Actions**

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Improve Flood Control and Drainage	
Year Initiated	2023
Applicable Jurisdiction	Sleepy Hollow
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$250,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Resolve repeated flooding and erosion along Sleepy Hollow Rd
Benefits Analysis (Low, Medium, High)	HIGH
Projected Completion Date (Short-term, Long-term, or Ongoing)	Unknown, village does not currently have funding
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	HIGH
Hazard(s) Mitigated	Flooding, Ground Failure/Erosion
Action/Implementation Plan and Project Description, if applicable	Large rain events cause extensive erosion along Sleepy Hollow Rd which impacts drainage and the potential for landslides along

	slopes above and along Sleepy Hollow Rd which affect homes on slopes
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Purchase Properties located within flood-prone areas and convert them into mitigation areas</b>	
Year Initiated	2023
Applicable Jurisdiction	Sleepy Hollow
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$2 Million (depends on the number of properties purchased)
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Mitigate and resolve repeated flooding in low lying areas.
Benefits Analysis (Low, Medium, High)	HIGH
Projected Completion Date (Short-term, Long-term, or Ongoing)	Unknown, village does not currently have funding
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	HIGH
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	There are multiple properties located within the low-lying areas of Sleepy Hollow that experience flooding. There are properties that are both vacant and have a home on them that experience greater flooding issues than others. The intent is to purchase these properties and convert them to mitigation areas to assist in other flood control projects and reduce flooding elsewhere in the low-lying area. This will assist in reducing flooding of roads and properties and allow for the unimpeded flow of traffic and access to critical infrastructure within the Village (Rutland Dundee Fire Station, Police Department, Public Works, and Village Hall).
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public</b>	
Year Initiated	2023
Applicable Jurisdiction	Sleepy Hollow
Lead Agency / Organization / Position	Sleepy Hollow Clerk's Office, Board of Trustees
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP

Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include: <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Sleepy Hollow
Lead Agency/ Organization / Position	Board of Trustees/Village Engineers and Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$750,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Resolve repeated flooding of property within the described boundaries.

Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	The Village does not currently have funding for this project.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	The village has experienced flooding in the area along Sleepy Creek between Winmoor Drive on the west and Locust on the east and Sycamore on the north and Willow on the south. Correcting this situation will require re-grading of existing swale and storm drainage as well as possible repair, replacement or removal of existing dams.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - The Village does not have the funding, but still desires to complete this project. 2023/2024 Update: Ongoing

Improved Emergency Response	
Year Initiated	2009
Applicable Jurisdiction	Sleepy Hollow
Lead Agency/ Organization / Position	Board of Trustees/Village Engineers and Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	\$1,250,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	resolve repeated flooding of property within the described boundaries including the critical facilities listed above.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	The Village does not currently have funding for this project.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	The village has experienced flooding in the area along Jelkes Creek between Sleepy Hollow Road on the west and Bullfrog Lane on the east and Route 72 on the north and Boncosky Road on the south. Critical facilities in this area, which experienced flooding, include the Village Hall, Village Police Department, Village Public Works and the Natural Hazards Mitigation Plan 10–42 May 2015 Rutland-Dundee Fire Protection District fire station. This will require possible

	remaindering of the creek along with increasing the height of the bank downstream as well as establishing additional detention/retention along with swale and drainage reengineering.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - The Village does not have the funding for this project but still desires to complete this project. 2023/2024 Update: Ongoing

### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	Sleepy Hollow
Lead Agency/ Organization / Position	Sleepy Hollow
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	Resolve repeated flooding of streets and property within the described boundaries
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	2012
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The village has identified Saddle Club subdivision and Deer Creek subdivision water shed area as having flooding problems. The village would like to Re-engineer and re-grad swales and storm drainage along with resizing and replacement of culverts.
2023 Plan Update Status and Changes in Priority	2012 Update: Completed - This project was completed in 2012.

# Village of South Elgin

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

**Blizzards:** Extreme cold for an extended period of time may cause flooding on the Fox River due to ice dams. One government building and multiple residential buildings located within the Special Flood Hazard Area are vulnerable to this hazard.

## Mitigation Strategies and Actions

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

## New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

<b>Construction of New Police Station (w/EOC)</b>	
Year Initiated	2023
Applicable Jurisdiction	Village of South Elgin
Lead Agency/ Organization / Position	Village of South Elgin, Community Development Department, Public Works
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 4
Estimated Cost & Analysis (Low, Medium, High)	\$18,000,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	The new Police Station will provide a state-of-the-art building and equipment to allow staff to address community hazards more effectively.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	2024
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High)	High



(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	The new Police Station will consolidate two of the Village's existing police facilities. The new Police Station will be a two-story brick building with adequate parking for police squad cars, employee vehicles, and for the public. The new Police Station will have a state-of-the-art multi-use training and meeting room which will allow space for small and large public meetings, and the Village's future EOC. All hazards will be partially mitigated by the operation of the EOC.
2023 Plan Update Status and Changes in Priority	New mitigation action 2023

Acquire Flood Hazard Area Properties	
Year Initiated	2023
Applicable Jurisdiction	Village of South Elgin
Lead Agency/ Organization / Position	Community Development Department
Supporting Agencies/ Organizations	Administration Dept.
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	Varies
Potential Funding Source	Grants and General Funds
Benefits (Loss Avoided)	Avoid future losses
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	No Date
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Severe Winter Storms
Action/Implementation Plan and Project Description, if applicable	Acquire flood hazard area effected by ice damming
2023 Plan Update Status and Changes in Priority	New mitigation actions for 2023

Acquire Flood Hazard Area Properties	
Year Initiated	2023
Applicable Jurisdiction	Village of South Elgin
Lead Agency/ Organization / Position	Community Development Department
Supporting Agencies/ Organizations	Administration Dept.

Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	Varies
Potential Funding Source	Grants and General Funds
Benefits (Loss Avoided)	Avoid future losses
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	No Date
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Acquire flood hazard area properties, including but not limited to, properties on Riverside Ave.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public</b>	
Year Initiated	2023
Applicable Jurisdiction	South Elgin
Lead Agency / Organization / Position	Kane County Office of Emergency Management, South Elgin Administration Department, Communications Staff
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County

	<p>will assist participating jurisdictions in their outreach and education efforts. Activities may include:</p> <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	<p>This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.</p>

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

- There are no ongoing mitigation actions.

### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

Improved Emergency Response	
Year Initiated	2003
Applicable Jurisdiction	South Elgin
Lead Agency/ Organization / Position	Village of South Elgin
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	The purchase of this sandbagging machine should expedite the filling of sandbags for residents, and it is expected the response time of filled sandbags to the affected area will improve.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	2010
Priority and Level of Importance (Low, Medium, High)	N/A

(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The Village of South Elgin has had several major flooding events affect its residents in the past several years. The village would like to improve the response time for sandbagging operations and increases the overall sandbagging effort for the residents. The village has identified a need to purchase a four-chute sandbagging machine to address this issue
2023 Plan Update Status and Changes in Priority	2010 Update: Completed - The Village of South Elgin purchased the four-chute sandbagging equipment in 2010.

Flood Control Projects	
Year Initiated	2009
Applicable Jurisdiction	South Elgin
Lead Agency/ Organization / Position	South Elgin
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	By installing the 36-inch storm sewer and other improvements in the area the amount of storm water moved out of the area directly to the Fox River will be increased, thereby preventing or reducing future flooding in the area
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	2011
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Within the Village of South Elgin, the area in and near the Renee Detention Pond floods during large rain events. During the September 13, 2008, rain event, the village received 9.38 inches of rain and as a result of this event the village initiated an immediate storm water study in the area resulting of a regional solution to the problem. The village will install a 36-inch storm sewer on Kane Street to carry the storm water from the Kane Street Detention Pond straight to the Fox River thereby avoiding the nearby neighborhood. Rear yard storm sewers will be constructed on Martin Drive between Spring Street and Kane Street. Residents will be allowed to hook up to the new storm sewers once constructed. Other area improvements such as more inlets on the area streets for

	drainage will be constructed as well as improvements on the Renee Detention Pond.
2023 Plan Update Status and Changes in Priority	2011 Update: Completed - The Village of South Elgin completed the 36" storm sewer in 2011. This sewer has greatly improved the capacity of the storm sewer system as well as making several neighborhoods safer during storm events due to the elimination of street flooding.

Review of Plans and Development Regulations	
Year Initiated	2015
Applicable Jurisdiction	South Elgin
Lead Agency/ Organization / Position	South Elgin Community Development
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	Low - \$5,000
Potential Funding Source	
Benefits (Loss Avoided)	The Unified Development Ordinance will identify areas subject to special flood hazards as well as special flood hazard regulations thereby keeping future development safer during a flood.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	2017
Actual Completion Date	2018
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	South Elgin has received free local assistance from CMAP to develop a Unified Development Ordinance. This Ordinance will include open space, floodplain, and other mitigation provisions.
2023 Plan Update Status and Changes in Priority	Completed - Completed in 2018

# City of St. Charles

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

### Tornadoes

- Possible relocation of downtown siren to improve coverage.

### Flood

- Dean and N. 12th Street, aging and undersized storm sewer
- Fern Avenue east of 7th Ave. Undersized and obstructed culvert
- Route 25 at 7th Ave. Creek. Undersized and partially obstructed
- 7th Avenue Creek and State Street Creek watershed improvements

### Dam Failure

- Fox River dam downtown. Impact to property and bridges
- East side industrial detention area. Railroad embankment acts as dam. Abandoned railroad.

## Mitigation Strategies and Actions

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

### New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Relocate Tornado Siren	
Year Initiated	2023
Applicable Jurisdiction	City of St. Charles, IL
Lead Agency/ Organization / Position	City of St. Charles, IL, St. Charles EMA
Supporting Agencies/ Organizations	City of St. Charles, IL
Applicable Goal(s)	1, 3



Estimated Cost & Analysis (Low, Medium, High)	Medium
Potential Funding Source	General Funds
Benefits (Loss Avoided)	Potential improved device-neutral coverage
Benefits Analysis (Low, Medium, High)	Low
Projected Completion Date (Short-term, Long-term, or Ongoing)	TBD
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Low
Hazard(s) Mitigated	Tornadoes
Action/Implementation Plan and Project Description, if applicable	St Charles EMA is researching the potential benefits of relocation the downtown tornado siren to the north in order to provide better sound coverage in relation to other sirens in the area.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Flood Reduction	
Year Initiated	2023
Applicable Jurisdiction	City of St. Charles, IL
Lead Agency/ Organization / Position	City of St. Charles, IL, Public Works Department
Supporting Agencies/ Organizations	City of St. Charles, IL
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	Variable
Potential Funding Source	General Funds, BRIC, HMGP
Benefits (Loss Avoided)	Reduced flood damage during large storm events
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	TBD
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Replace and upsize stormwater culverts to prevent overtopping of streets and flooding of adjacent properties. This work applies to multiple locations in the 7th Ave. Creek and State Street Creek watersheds.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Upgrade audio/visual equipment in the EOC</b>	
Year Initiated	2023
Applicable Jurisdiction	City of St. Charles, IL
Lead Agency/ Organization / Position	City of St. Charles, IL, Information Systems Department
Supporting Agencies/ Organizations	City of St. Charles, IL
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	High
Potential Funding Source	General Funds, SHSGP
Benefits (Loss Avoided)	Better distribution of critical information between EOC devices.
Benefits Analysis (Low, Medium, High)	Low
Projected Completion Date (Short-term, Long-term, or Ongoing)	2026
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	Low
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	The project will encompass upgrades to the EOC audio/visual equipment, and the infrastructure to properly distribute (share) visual needs to monitors and computers.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public</b>	
Year Initiated	2023
Applicable Jurisdiction	St. Charles
Lead Agency / Organization / Position	St. Charles City Administration, Mayor
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High)	High

(Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	<p>Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include:</p> <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

- There are no ongoing mitigation actions.

### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

Improved Emergency Response	
Year Initiated	2009
Applicable Jurisdiction	St. Charles
Lead Agency/ Organization / Position	Fire Department
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	Total cost for construction and equipment is approximately \$325,000
Potential Funding Source	
Benefits (Loss Avoided)	A new EOC will function as the command center during any emergency impacting the community. It will have dispatching capabilities and will be able to act as a back-up to Tri Com

	when called to do so. This will have the effect of providing seamless response during large scale events
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	Upon completion of the building, approximately two budget years will be needed to acquire the radio equipment and antennas.
Actual Completion Date	This work was completed prior to 2020
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The current Emergency Operations Center for the City of St. Charles is located in the basement of City Hall. It is cramped and floods during heavy rain events. Adequate space is not available for all radios, computers and other technology required to operate a functional center. The city is currently constructing a new Central Administrative Headquarters Fire Station and room was made available for an EOC. Money was allocated for basic construction costs to finish the space; however additional funding will be needed for outfitting the center.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - The building has been completed and some of the necessary communication and technology equipment has been purchased. Due to budget constraints, there remains another year to complete the purchases of the necessary communication and technology equipment to realize the EOC's full potential. 2023/2024 Update: Completed - This work was completed prior to 2020

### Removed Mitigation Actions

Improved Emergency Response	
Year Initiated	2009
Applicable Jurisdiction	St. Charles
Lead Agency/ Organization / Position	Fire Department
Supporting Agencies/ Organizations	
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	\$35,000
Potential Funding Source	
Benefits (Loss Avoided)	The Emergency Management Agency would be able to provide rapid information to those in attendance for festivals, concerts, and other gatherings on impending severe weather, sheltering locations, lost children and need for evacuation when called for. Other uses could be for the dissemination of general information in the broadcast area.
Benefits Analysis (Low, Medium, High)	

Projected Completion Date (Short-term, Long-term, or Ongoing)	About one year once funding is available.
Actual Completion Date	REMOVED
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The City of St. Charles plays host to a number of festivals, concerts, and other large gatherings in the downtown area. The largest of these can bring tens of thousands of people into the downtown during any particular day. Currently, there is no rapid method of disseminating information concerning impending severe weather or other threats to public health. The city would like to install an AM Radio Station in the EOC and the EOC can be staffed during these events and information can be passed rapidly to the vendors and attendees.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - This project is still viable, however, due to budget constraints there is no funding available for Fiscal 2015/2016. The project will be re-evaluated during the budgeting process for Fiscal 2016/2017. 2023/2024 Update: REMOVE - Covered by social media, twitter, etc.

# Village of Sugar Grove

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

- **Ground Failure:** Unknown/unmapped drain tiles causing sinkholes.

## Mitigation Strategies and Actions

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

## New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public	
Year Initiated	2023
Applicable Jurisdiction	Sugar Grove
Lead Agency / Organization / Position	Village of Sugar Grove Administration Department, Clerk
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for	High



each mitigation action during the update process)	
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include: <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

- There are no ongoing mitigation actions.

### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

### Removed Mitigation Actions

Improved Emergency Response	
Year Initiated	2009
Applicable Jurisdiction	Sugar Grove
Lead Agency/ Organization / Position	Police Department
Supporting Agencies/ Organizations	1, 2, 3, 5
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	\$25,000
Potential Funding Source	
Benefits (Loss Avoided)	This trailer, once fully equipped will give the village flexibility in coordinating the village's response to natural hazards.

Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	About one year once funding is available
Actual Completion Date	
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	The Village purchased a Federal Government FEMA Surplus Trailer that can be converted to a moveable temporary EOC Center. The Village intends to equip the trailer with communications equipment, emergency supplies, and other equipment.
2023 Plan Update Status and Changes in Priority	2015 Update: Ongoing - The Village has not been able to fund the communication equipment part of this project. Once funding is available it should take about a year to outfit the trailer. 2023/2024 Update: REMOVE - Trailer not fitted with communication equipment.

# Village of Virgil

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

### Tornadoes

- The Village of Virgil currently does not have a tornado siren to warn its residents of a tornado.
- Virgil lacks the manpower for a robust emergency response team (police, public works, etc.).

### Blizzards and Ice Storms

- Virgil has no manpower (i.e., public works/police/fire) that could help mitigate a situation. Most homes lack backup generators necessary to restore power for heat, which could be a hazard in prolonged electricity outages.
- Virgil is very small (<300 population) and rural, so it typically takes longer for power to be restored than larger/more urban communities.
- Virgil lacks the manpower for robust emergency response (police, public works, etc.).

### Extreme Heat

- Many homes lack backup generators, which could pose a threat in a heat wave.
- Virgil does not have a public cooling area for its residents.
- Virgil is very small (<300 population) and rural, which means it typically takes longer for power to be restored compared to larger/more urban communities in the event of a power outage in the event of a heat wave.

### Flood

- Virgil has a high-water table; any torrential storm can overwhelm currently installed water management systems.

## Mitigation Strategies and Actions

Each jurisdiction's mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

## New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public	
Year Initiated	2023
Applicable Jurisdiction	Virgil
Lead Agency / Organization / Position	Virgil Village Board
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	<p>Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County will assist participating jurisdictions in their outreach and education efforts. Activities may include:</p> <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

## Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

<b>Improved Emergency Response</b>	
Year Initiated	2009
Applicable Jurisdiction	Virgil
Lead Agency/ Organization / Position	Village Board
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3, 5
Estimated Cost & Analysis (Low, Medium, High)	\$25,000
Potential Funding Source	General Funds
Benefits (Loss Avoided)	This will allow the residents of the Village of Virgil to be alerted in the event there is a tornado approaching the village area.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently, the village has no funding for this project. Installation should take about one year once funding is available.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	There currently is no tornado warning siren in the Village of Virgil. The village would like to install a warning siren for the purpose of alerting the residents of approaching tornados. The siren would be radio signal activated by a member of the Virgil Village Board or by a committee member.
2023 Plan Update Status and Changes in Priority	2015 Update: The village would still like to have a tornado siren but currently no funding is available for this project. 2023/2024 Update: Ongoing

## Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

- No completed or removed mitigation actions were identified.

# Village of West Dundee

## Hazards Analysis

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2023 Kane County Multi-Hazard Mitigation Plan (Volume I). This section only addresses the hazards and their associated impacts that are relevant and unique to the municipality/area.

### Thunderstorms, Lightning, and Hail

West Dundee, IL, like many other areas, can be vulnerable to thunderstorms, lightning, and hail. While there may not be any specific population subgroup uniquely vulnerable to these hazards, the village can experience specific vulnerabilities due to its geographical location and infrastructure.

#### Geographical Factors:

- Proximity to water bodies: West Dundee is located near the Fox River, which increases its vulnerability to thunderstorms. Thunderstorms often develop in areas where warm, moist air interacts with cool air masses, and proximity to a water body can enhance the formation and severity of storms.
- Topography: The village is situated in a relatively flat region, which means no natural barriers impede the progression of severe weather systems. This makes it more susceptible to thunderstorms, lightning, and hail impacts.

#### Infrastructure and Urban Environment:

- Tree density: West Dundee has a significant number of trees in its residential areas and parks. While trees provide numerous benefits, they can become vulnerable to lightning strikes during severe thunderstorms, increasing the risk of fires and property damage.
- Power lines and utility infrastructure: The village's infrastructure, including power lines and utility poles, can be susceptible to damage from strong winds associated with thunderstorms. This may lead to power outages and disrupt essential services, affecting the entire community.
- Residential and commercial buildings: The village has a mix of older and newer structures. Older buildings may need more resilience against severe weather events, such as high winds and hail, which can result in more significant damage. Additionally, residential and commercial buildings with insufficient storm-resistant construction may be more prone to wind and hail damage.

#### Socioeconomic Factors:

- Vulnerable populations: While there may not be a specific subgroup uniquely vulnerable to thunderstorms, lightning, and hail, socioeconomic factors can play a role in exacerbating vulnerabilities. Lower-income households or individuals needing access to proper shelter, insurance coverage, or transportation may face more significant challenges in preparing for and recovering from severe weather events.



- Lightning could cause outages to pump stations and wells serving the community with water supply.

## High winds / Microbursts

West Dundee, IL, can be uniquely vulnerable to high winds and microbursts due to various factors, including its geographical location and the presence of certain population subgroups. Here are some specific vulnerabilities associated with these hazards:

### Geographical Factors:

- **Flat topography:** West Dundee's relatively flat terrain allows unimpeded movement of robust wind systems. This makes the area more susceptible to the impacts of high winds and microbursts, which can occur during severe thunderstorms or intense weather systems passing through the region.
- **Proximity to open spaces:** The village has open spaces, such as parks, recreational areas, and undeveloped land. These areas lack natural windbreaks and can experience higher wind speeds and increased vulnerability to the effects of microbursts and strong winds.

### Population Subgroups:

- **Manufactured homes and RVs:** West Dundee, like many other areas, has specific neighborhoods or communities where people live in manufactured homes or RVs. These structures are typically less sturdy than traditional homes, making them more vulnerable to high winds and microbursts. Their lightweight construction and elevated profile can result in severe damage or even overturning during extreme wind events.

### Infrastructure and Urban Environment:

- **Power lines and utility infrastructure:** The village's power lines, poles, and other utility infrastructure can be particularly vulnerable to high winds and microbursts. Strong winds can cause trees, branches, or debris to fall onto power lines, leading to power outages and potential safety hazards.
- **Building construction:** While West Dundee has a mix of older and newer structures, those not built to withstand high wind loads or lack proper maintenance can be at higher risk during severe weather events. Poorly constructed roofs, weakened foundations, or inadequate anchoring of structures can make them more susceptible to wind damage.

### Emergency Response and Preparedness:

- **Limited emergency shelters:** The availability of emergency shelters in the village may be limited. In severe wind events or microbursts, providing immediate shelter and assistance to affected individuals or families, especially those residing in vulnerable structures, could be challenging.
- **The elevated water storage tower is susceptible to damage—mature tree canopy in forested areas and older downtown neighborhoods - overhead utility.**

## Tornadoes

Like many areas in the Midwest, West Dundee, IL, can be vulnerable to tornadoes. Tornadoes are highly destructive and can cause significant damage to communities. Here are some specific vulnerabilities associated with tornadoes in West Dundee:

### Geographical Factors:

- **Tornado Alley proximity:** West Dundee is located in the Midwest, which is part of the region commonly referred to as Tornado Alley. This area is known for experiencing a higher frequency of tornadoes than other regions, making the village more susceptible to tornado activity.

### Population Subgroups: Warning Systems and Preparedness:

- **Gaps in warning siren coverage:** West Dundee may have areas with limited coverage of tornado warning sirens to the west side of town. These sirens play a crucial role in alerting residents to the presence of a tornado threat. In areas without proper siren coverage, individuals may not receive timely warnings, increasing their vulnerability to tornadoes.
- **Lack of awareness and preparedness:** A lack of understanding or preparedness among the general population can make individuals more vulnerable during tornado events. This can include not knowing the appropriate actions to take, such as seeking shelter in a basement or an interior room on the lowest level of a building or needing emergency supply kits readily available.

## Blizzards and Ice Storms

West Dundee, IL, can be uniquely vulnerable to blizzards and ice storms due to its geographical location and certain population subgroups. Here are some specific vulnerabilities associated with these hazards:

### Geographical Factors:

- **Northern climate:** West Dundee experiences a north continental climate characterized by cold winters. This increases the likelihood of blizzards and ice storms, bringing heavy snowfall, freezing rain, and strong winds to the area.

### Population Subgroups:

- **Elderly and individuals with disabilities:** The village has a population of elderly individuals and people with disabilities who may be more vulnerable during blizzards and ice storms. These individuals may have mobility challenges or require specialized care, making evacuation or accessing necessary resources during severe winter weather more difficult.
- **Long-term care facilities:** West Dundee has long-term care facilities, such as nursing homes or assisted living facilities; they may be vulnerable if they lack backup generators. Power outages caused by blizzards or ice storms can disrupt essential services,

including heating, medical equipment, and communication systems, endangering the health and safety of residents.

#### Infrastructure and Services:

- Power outages: Blizzards and ice storms can lead to power outages due to downed power lines or equipment failure. Prolonged power outages can disrupt heating systems, leaving residents vulnerable to extreme cold temperatures.
- Transportation disruptions: Heavy snowfall and icy road conditions during blizzards and ice storms can result in transportation disruptions, making it challenging for emergency services, utility crews, and residents to navigate the area. This can delay response times and hinder access to critical resources.
- Ice dams on Fox River could cause structural damage to bridges, erosion, etc.

### Drought

Like other areas in the Midwest, West Dundee, IL, can experience drought vulnerability. Although the village is not situated in a region typically associated with prolonged droughts, certain factors can contribute to its unique vulnerability:

#### Climate and Precipitation:

- Average rainfall patterns: West Dundee may have a climate with average precipitation levels susceptible to fluctuations. If the region receives relatively low annual rainfall, prolonged periods of below-average precipitation can increase drought risk.  
Dependence on specific water sources: The village relies on specific water sources that are susceptible to drought, such as deep wells; a prolonged dry spell can reduce the availability of water resources.

#### Agricultural Activities:

- Agricultural reliance: Although West Dundee is primarily a residential community, nearby rural areas can be affected by drought. If drought impacts the farm sector, it can indirectly affect the local economy and potentially affect residents' livelihoods.

#### Environmental Factors:

- Vegetation and ecosystem impact: Drought can negatively impact the local environment, including forests, natural habitats, and vegetation. Reduced moisture levels can lead to the degradation of ecosystems, affecting biodiversity and wildlife habitats.
- Soil moisture and water scarcity: Prolonged drought can decrease soil moisture, impacting agricultural productivity, landscaping, and plant health. Water scarcity can also affect recreational activities and contribute to water use restrictions.

#### Water Management and Infrastructure:

- Water supply and infrastructure: West Dundee's water supply infrastructure, including water treatment facilities, distribution systems, and storage reservoirs, may need to be

equipped to handle extended drought conditions. Reduced water availability can strain the existing infrastructure and lead to supply challenges.

- Groundwater depletion: Prolonged droughts can result in increased demand for groundwater resources. Overuse or unsustainable practices can deplete groundwater reserves, affecting water availability for residential and agricultural purposes.

## Extreme Heat

West Dundee, IL, like many other regions, can be uniquely vulnerable to extreme heat events. Here are some specific vulnerabilities associated with extreme heat in West Dundee:

### Climate and Weather Patterns:

- Hot and humid summers: West Dundee experiences hot and humid summers, with temperatures often reaching or exceeding 90°F (32°C). These prolonged periods of high temperatures can increase the risk of heat-related illnesses and stress on the population.

### Population Subgroups:

- Elderly population: The village has a significant elderly population who can be more vulnerable to extreme heat. Older adults are more susceptible to heat-related health issues due to age-related physiological changes, chronic medical conditions, and potential limitations in their ability to respond to heat stress.
- Individuals with chronic health conditions: Those with chronic health conditions, such as cardiovascular diseases, respiratory diseases, or diabetes, may be more vulnerable to the impacts of extreme heat. Heat can exacerbate these conditions, leading to increased health risks.
- Low-income households: People with limited financial resources may need help accessing adequate cooling and may be more vulnerable to extreme heat due to a lack of air conditioning or inability to afford higher utility costs associated with cooling their homes.
- Homeless population: Individuals experiencing homelessness may lack access to safe shelter, air conditioning, or other resources to mitigate the effects of extreme heat. They are particularly vulnerable to heat-related illnesses and can face life-threatening conditions during heatwaves.

### Infrastructure and Services:

- Insufficient cooling infrastructure: Some long-term care facilities, residential buildings, or public spaces in West Dundee may need more air conditioning or cooling infrastructure to provide relief during extreme heat events. This can put residents, especially vulnerable populations, at increased risk of heat-related illnesses.
- Power outages and lack of backup systems: Extreme heat events can strain the electrical grid, leading to power outages. Residents may face additional health risks during prolonged power disruptions if long-term care facilities or critical infrastructure lack backup generators or alternative cooling systems.

## Earthquakes

Elevated water tank river bridges

## Flooding

Flash Floods:

- Low-lying areas and poor drainage: West Dundee has low-lying areas or areas with poor drainage systems; they can be particularly susceptible to flash floods. During intense rainfall events, water can accumulate rapidly, overwhelming the capacity of stormwater drains and causing flooding.
- Urban infrastructure impact: Flash floods can inundate roadways, parking lots, and underpasses, making transportation difficult or impossible. Additionally, flash flooding can damage critical infrastructure such as bridges, culverts, and sewer systems, leading to further disruption and increased repair costs.

Riverine Floods:

- Proximity to water bodies: West Dundee is located near a river, creeks, or other bodies of water; it may be prone to riverine flooding. Heavy rainfall or snowmelt can cause water levels to rise, exceeding the river's capacity and resulting in flooding.
- Floodplain development: Subdivisions or areas within floodplains are particularly vulnerable to riverine flooding. Construction and development in flood-prone areas can restrict the natural flow of water and increase the risk of flooding during periods of high-water levels.
- Village-wide flooding at creeks and Fox River. Fox Rivers Dams and Pedestrian Bridges.

## Dam Failure

Fox River Dams and Storm Basin Embankment

## Erosion / Sink Holes

Erosion:

- Riverbanks and water bodies: West Dundee is near a river and streams. The erosion of riverbanks can occur over time due to water flow, currents, and wave action. Erosion can lead to the loss of land, damage to infrastructure near water bodies, and potentially affect nearby properties.
- Slopes and hillsides: Areas with steep slopes or hillsides may experience erosion due to heavy rainfall, runoff, and inadequate drainage. Erosion in these areas can result in soil loss, destabilization of slopes, and potential damage to structures built on or near slopes.
- Stream erosion from urbanization

## Mitigation Strategies and Actions

Each jurisdiction’s mitigation actions are organized as follows:

- **New Mitigation Actions** - New actions identified during this 2024 update process.
- **Ongoing Mitigation Actions** - Ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.
- **Completed Mitigation Actions** - Completed actions.

### New Mitigation Actions

The following mitigation actions in this section are "New Mitigation Actions" identified during this 2024 update process.

Village Wide Drainage Plan	
Year Initiated	2023
Applicable Jurisdiction	Village of West Dundee
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	WBR Engineering
Applicable Goal(s)	1, 2, 3, 4, 5, 6
Estimated Cost & Analysis (Low, Medium, High)	Medium
Potential Funding Source	General Funds
Benefits (Loss Avoided)	None given
Benefits Analysis (Low, Medium, High)	HIGH
Projected Completion Date (Short-term, Long-term, or Ongoing)	Unknown
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	HIGH
Hazard(s) Mitigated	Flooding, High Hazard Dams, Ground Failure/Erosion
Action/Implementation Plan and Project Description, if applicable	Village-wide Watershed or Drainage Plan & Hazard assessment to include outreach, identification, prioritization and capital planning
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

Construct and Improve Drainage Infrastructure	
Year Initiated	2023
Applicable Jurisdiction	Village of West Dundee
Lead Agency/ Organization / Position	Public Works
Supporting Agencies/ Organizations	WBR Engineering



Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	High
Potential Funding Source	General Funds
Benefits (Loss Avoided)	None given
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	TBD
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Flooding
Action/Implementation Plan and Project Description, if applicable	Construct and improve drainage infrastructure: culverts, channels, bridges, stormwater facilities, but not limited to.
2023 Plan Update Status and Changes in Priority	New mitigation action for 2023

<b>Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices and Resources Available to the Public</b>	
Year Initiated	2023
Applicable Jurisdiction	West Dundee
Lead Agency / Organization / Position	Kane County Office of Emergency Management, West Dundee Administration and Finance Department, Village Board
Supporting Agencies/ Organizations	Kane County Office of Emergency Management
Applicable Goal(s)	1, 3, 4, 5
Estimated Cost & Analysis (Low, Medium, High)	Low
Potential Funding Source	General Funds, Staff Time, SHSGP
Benefits (Loss Avoided)	Life safety and greater resilience amongst residents, especially those who are underserved and/or have functional and access needs.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Ongoing
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Drought, Earthquake, Extreme Heat, Flooding, High Hazard Dams, Severe Summer Storms, Severe Winter Storms, Ground Failure/Erosion, Tornadoes
Action/Implementation Plan and Project Description, if applicable	Develop and implement public outreach and education programs on disaster awareness and resilience. Kane County

	<p>will assist participating jurisdictions in their outreach and education efforts. Activities may include:</p> <ul style="list-style-type: none"> <li>• Warning, public information, and education materials, such as signing up for CodeRed.</li> <li>• Family disaster plans and supply kits.</li> <li>• Preparedness events.</li> <li>• Web site or content for county and municipality websites and social media.</li> <li>• Content for county and municipal newsletters, brochures, etc.</li> <li>• Trainings</li> </ul>
2023 Plan Update Status and Changes in Priority	This is a new mitigation action for the jurisdiction. Inclusion of this action is a reflection on the increasing need to ensure residents are better prepared for natural hazards, and that the community's most vulnerable and underserved populations are supported with the necessary resources and tools to ensure their safety.

### Ongoing Mitigation Actions

The following are ongoing actions that have not been completed or have no definitive end. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended as needed.

Urban Forestry	
Year Initiated	2009
Applicable Jurisdiction	West Dundee
Lead Agency/ Organization / Position	Village of West Dundee Public Works Department
Supporting Agencies/ Organizations	N/A
Applicable Goal(s)	1, 2, 3
Estimated Cost & Analysis (Low, Medium, High)	\$50,000 annually
Potential Funding Source	General Funds
Benefits (Loss Avoided)	It maintains a healthy, green canopy of municipal parkway trees. The Preventative Maintenance removes dead/broken/weak branches under controlled circumstances. Limits storm/severe weather breakage and roadway debris.
Benefits Analysis (Low, Medium, High)	High
Projected Completion Date (Short-term, Long-term, or Ongoing)	Currently, the village has no funding for this project. Once funding is identified the project will be incorporated into the Public Works department.
Actual Completion Date	N/A
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	High
Hazard(s) Mitigated	Severe Summer Storms, Tornadoes
Action/Implementation Plan and Project Description, if applicable	The neighborhood tree trimming project has been ongoing under the supervision of the Public Works Department. This

	<p>project, on a seven-to-eight-year cycle, allows for every parkway tree within West Dundee to be examined, preventatively maintained (i.e. removal of dead or broken branches, obstructions removed, and structural integrity analyzed) and hazardous trees to be identified and removed as needed. The program enhances the vitality of the urban tree canopy and limits the amount of roadway obstructions, debris and potential to damage property through branches being damaged in storm/ice events. The previous budgeted amount to conduct this program was \$50,000 a year. However, under the fiscally constrained budget, this program is no longer being funded. A limited amount is available to remove hazardous trees by a contractor in the event that staff cannot safely remove the tree. In the event that funding becomes available, this program will resume its scheduled activities.</p>
2023 Plan Update Status and Changes in Priority	<p>2015 Update: Ongoing - The program is ongoing. \$55,000 was approved for forestry-related expenditures for the new/current fiscal year. Tree trimming by contract and by staff is a part of that in addition to tree removals, tree planting, and stump grinding by contract and by staff.</p> <p>2023/2024 Update: Ongoing - Need updates from public works</p>

### Completed Mitigation Actions

The following section represents completed mitigation actions and serves as an archive of identified and completed projects.

Improved Emergency Response	
Year Initiated	2003
Applicable Jurisdiction	West Dundee
Lead Agency/ Organization / Position	Village of West Dundee
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	<p>The position would be responsible for the coordination of the Village's Emergency Operations Plan with the departments of Administration, Community Development &amp; Building, Fire, Police and Public Works. The Part-Time EMA Coordinator would be tasked with the revision and development of a Village of West Dundee Emergency Operations Plan, incorporating the guidelines and practices of the National Incident Management System. The function of the EMA Coordinator would be the preparation of all Village Departments in the event of a natural and/or man-made disaster; and to coordinate the efforts with the surrounding municipalities of Carpentersville, East Dundee, Elgin, Gilberts, Sleepy Hollow as well as the Kane County Office of Emergency Management.</p>
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	

Actual Completion Date	
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Historically, the Village of West Dundee has provided itself with a part-time Emergency Management Agency (EMA) Coordinator. This position was incorporated into the job description of the Deputy Fire Chief, which also was a part-time position. Due to fiscal restraints and the current state of economic affairs with the Village, the position of Deputy Chief has been eliminated and not replaced. However, the village would like to establish an EMA coordinator as soon as the financial situation allows.
2023 Plan Update Status and Changes in Priority	Date not listed - Completed - The Village has secured a part-time EMA Coordinator; however not at the proposed compensation rate.

Improved Emergency Response	
Year Initiated	2003
Applicable Jurisdiction	West Dundee and Carpentersville
Lead Agency/ Organization / Position	Village of West Dundee and Village of Carpentersville
Supporting Agencies/ Organizations	
Applicable Goal(s)	
Estimated Cost & Analysis (Low, Medium, High)	
Potential Funding Source	
Benefits (Loss Avoided)	This project will provide emergency access to adjacent community's water supply in the event of extended high fire flows, catastrophic event of reservoir supply (tower failure) or extended disruption of water production capability. Also, this project will enhance the ability to perform preventative maintenance on existing water distribution/production system with little to no impact on maintaining current and required water system pressures.
Benefits Analysis (Low, Medium, High)	
Projected Completion Date (Short-term, Long-term, or Ongoing)	
Actual Completion Date	
Priority and Level of Importance (Low, Medium, High) (Based on STAPLEE and/or Feasibility Analysis conducted for each mitigation action during the update process)	N/A
Hazard(s) Mitigated	
Action/Implementation Plan and Project Description, if applicable	Administrative staff has met with our equivalents from Carpentersville to discuss the possibility of a water system interconnect. Carpentersville's west water tower is in need of routine maintenance, including cleaning and painting.

	<p>However, without that tower, their water distribution system would have a difficult time maintaining adequate water pressure through the western half of their Village. West Dundee will face similar obstacles when the Randall Road Water Tower is serviced in the future. A resolution for both communities needs would be to interconnect each Village's water systems. This would allow for one community's tower to be taken out of service and then utilize the other community's tower to maintain their system's pressures. The interconnect would be utilized only during times of tower maintenance, high fire volume flows or in response to a catastrophic event. Pending approval by the two communities, construction would be in 2010 with the interconnect available for use by spring, 2011. The estimated cost for this project would be split between the two communities.</p>
2023 Plan Update Status and Changes in Priority	Date not listed - Completed - This project has been completed.

# Appendix A: Jurisdiction Participation

## 2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information

Local Mitigation Planning Team					
Last Name	First Name	Email Address	Phone	Title	Organization
Wilford	Anne	WilfordAnne@KaneCountyIL.gov	630-232-3496	Water Sources Engineer	Kane County Department of Environmental and Water Resources
Mensching	Jon	MenschingJonathan@KaneCountyIL.gov	630-208-2050	Acting Director	Kane County OEM
Linke	Rob	linkerobert@KaneCountyIL.gov	630-232-3498	Senior Water Resources Engineer	Kane County Department of Environmental and Water Resources
Verachttert	Jason	verachttertjason@KaneCountyIL.gov	630-2088655	GIS Manager	Kane County
Nicoski	Thomas	nicoskithomas@KaneCountyIL.gov		Chief of GIS	Kane County
Wakileh	Nisreen	wakilehnisreen@countyofkane.org	630-232-3428	Manager for Homeless Services	Kane County
Klee	Ivy	Kleelvy@co.kane.il.us	630-208-8665	Resource Management Coordinator	Kane County
Lebo	Kurt	lebokurt@KaneCountyIL.gov		Spatial Solutions Officer	Kane County
Wollnik	Jodie	wollnikjodie@co.kane.il.us		Kane County Water Resources	Kane County
Orlik	Deanne	orlikdeanne@co.kane.il.us	630-444-1174	Development Technician	Kane County Water Resources
Swick	Gary	swick@mc.net		Friends of the Fox River	Friends of the Fox River
Zakosek	Mike	zakosekmike@co.kane.il.us	630-584-1170	Asst. County Engineer	Kane County Division of Transportation
Berg Meyer	Courtney	meyercourtney@co.kane.il.us	630-232-3497	Admin Asst.	Kane County
Krueger	Nicholas	kruegernicholas@co.kane.il.us		GIS Specialist	Kane County



Tegge	Zach	teggezach@kaneforest.com		Landscape Architect	Forest Preserve District of Kane County
Tansley	Matt	tansleymatthew@co.kane.il.us	630-232-3493	Planner	Kane County Development and Community Services
Braski	Brent	braskibrent@kanecountyil.gov		Director of Building Maintenance	Kane County
Kious	Chris	Ckious@kanecoboard.org	630-444-1223	Commissioner	County Board
O'Connell	Jennifer	oconnelljennifer@co.kane.il.us	630-406-7333	Chief of Design	Kane County Division of Transportation
Miller	Karen Ann	millerkane@co.kane.il.us	630- 232-3418.	Executive Planner	Kane County
Smith	Marc	smithmarcus@co.kane.il.us		Director of Capital Projects	Kane County
Way	Mike	WayMichael@co.kane.il.us	360-406-7359	Maintenance Supervisor	Kane County Department of Transportation
VanKerkhoff	Mark	vankerkhoffmark@co.kane.il.us		Community Development	Kane County

**Documentation of Participation in the 2023 Hazard Mitigation Plan Update**

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Kane County	X	X	X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Wilford	Anne	X	X	X	X	
Mensching	Jon		X	X	X	
Linke	Robert	X		X	X	
Wakileh	Nisreen	X				
Klee	Ivy	X	X		X	

Lebo	Kurt	X				
Wollnik	Jodie	X		X		
Swick	Gary	X				
Orlik	Deanne	X	X	X		
Zokosek	Mike	X		X		
Berg Meyer	Courtney	X				
Krueger	Nicholas	X				
Tegge	Zach	X				
Tansley	Matt	X	X			
Verachtert	Jason	X	X	X	X	
Braski	Brent	X		X		
Kious	Chris	X	X			
O'Connell	Jennifer	X	X		X	
Miller	Karen Ann	X				
Smith	Marc	X				
Nicoski	Thomas			X		
Way	Mike		X	X	X	
Kious	Chris		X			

## Village of Algonquin

### **2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information**

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Zimmerman	Michele	Asst. Public Works Director	Algonquin	847-658-2754	michelezimmerman@algonquin.org

### **Documentation of Participation in the 2023 Hazard Mitigation Plan Update**

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Kane County	X	X	X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Zimmerman	Michele	X		X		Met with planning team on 9/29

## City of Aurora

### 2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Wiza	Natalie	Emergency Management Coordinator	Aurora Emergency Management Agency	630-256-5800	wizan@aurora.il.us
Thavong	Souts	Review Engineer/CRS Coordinator	City of Aurora Public Works / Engineering	630-256-3207	ThavongS@aurora.il.us
Ream	Joshua	Director of Development Services	City of Aurora	630-256-3133	reamj@aurora.il.us
Curley	John	Chief Development Services Officer	City of Aurora Development Services Building	630-878-1852	curleyj@aurora.il.us
Houston	Michael	Superintendent	City of Aurora, Water and Sewer	630-256-3712	houstonm@aurora.il.us
Witkowski	Brian	New Development Engineer	Aurora Engineering Department	630-256-3226	witkowskib@aurora.il.us

### Documentation of Participation in the 2023 Hazard Mitigation Plan Update

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Aurora	X	X	X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Wiza	Natalie	X	X	X	X	

Thabong	Souts	X	X	X	X	
Curley	John		X	X		
Beneke	Herman			X		
Houston	Mike		X			
Witkowski	Brian		X	X	X	

## City of Batavia

### **2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information**

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Holm	Gary	Director of Public Works	City of Batavia	630-454-2309	gholm@cityofbatavia.net
Rackow	Drew	Planning and Zoning Officer	Community and Economic Development	630-454-2707	drackow@cityofBatavia.net

### **Documentation of Participation in the 2023 Hazard Mitigation Plan Update**

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Batavia	X	X		X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Holm	Gary	X		X		



## Village of Big Rock

### 2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Carey	Angela	Village Clerk	Village of Big Rock	630-556-4365	admin@villageofbigrock.us
May	Tim	FOIA Officer	Village of Big Rock	630-556-4365	admin@villageofbigrock.us

### Documentation of Participation in the 2023 Hazard Mitigation Plan Update

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Big Rock	X	X	X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Carey	Angela	X	X			

## Village of Burlington

### **2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information**

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Jones	Christine	Village Clerk	Village of Burlington	847-683-2283	clerk@vil.burlington.il.us
Paulson	Tim	Senior Project Manager	Engineering Enterprises, Inc	630-466-6727	tpaulson@eeiweb.com
Whitehouse	John	Senior Project Manager, Village Engineer	Engineering Enterprises, Inc	630-466-6717	jwhitehouse@eeiweb.com

### **Documentation of Participation in the 2023 Hazard Mitigation Plan Update**

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Burlington	X	X	X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Paulson	Tim	X	X			
Jones	Christine			X		
Whitehouse	John		X		X	

## Village of Campton Hills

### **2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information**

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Buchard	Denise	Village Administrator	Village of Campton Hills	630-524-6252	dburchard@camptonhills.illinois.gov
Stipetic	Dory	Executive Assistant	Village of Campton Hills		dstipetic@camptonhills.illinois.gov

### **Documentation of Participation in the 2023 Hazard Mitigation Plan Update**

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Campton Hills	X		X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Buchard	Denise		X	X	X	

## Village of Carpentersville

### 2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Schilling	John Paul	Fire Chief / ESDA Coordinator	Village of Carpentersville Fire Department	224-293-1803	jps1102@cville.org
Brinkmann	Tim	Assistant Community Development Director	Village of Carpentersville, Community Development	224-293-1652	tbrinkmann@cville.org
Gray	Kevin	Director of Public Works and Engineering	Village of Carpentersville	224-293-1613	kgray@cville.org
Gilbertsen	Logan				lgilbertsen@hrgreen.com
Jain	Ajay	Practice Leader - Water Resources	HR Green - on behalf of Carpentersville	815-509-8302	Ajain@hrgreen.com
Szydlowski	Ed	Assistant Director of Public Works	Village of Carpentersville	224-293-1657	eszydlowski@cville.org

### Documentation of Participation in the 2023 Hazard Mitigation Plan Update

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Carpentersville	X		X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Brinkmann	Tim		X	X	X	
Gray	Kevin		X		X	

Jain	Ajay		X			
Szydlowski	Ed		X		X	

## Village of East Dundee

### 2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Kirstein	Jodi		East Dundee Road District		jodi@dundeeroaddist.org
Heinz	Joseph	Village Consultant Engineer	Village of East Dundee		jheinz@glheinzinc.com
Ranieri	Chris	Building Inspector	Village of East Dundee		cranieri@eastdundee.net

### Documentation of Participation in the 2023 Hazard Mitigation Plan Update

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
East Dundee	X	X		X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Kirstein	Jodi	X				
Heinz	Joseph	X				



## Village of Elburn

### 2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Sikora	Nick	Chief of Police	Village of Elburn		policechief@elburn.il.us
Nevenhoven	John	Village Administrator	Village of Elburn	630-365-5060	jnevenhoven@elburn.il.us
Walter	Jeff	Village President	Village of Elburn	630-365-5060	jwalter@elburn.il.us
Schlachta	Erich	Deputy Chief of Police	Village of Elburn	630-365-5070	eschlachta@elburn.il.us

### Documentation of Participation in the 2023 Hazard Mitigation Plan Update

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Elburn	X	X	X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Sikora	Nicholas	X	X			
Schlachta	Erich		X	X		
Nevenhoven	John		X	X	X	

## City of Elgin

### **2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information**

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Kies	Emily	Senior Director of Emergency Management	Elgin Community College	224-325-1125	ekies@elgin.edu
Stassen	Stephen	Emergency Management Specialist	Elgin Community College	847-214-7002	sstassen@elgin.edu
Oine	Mike	Division Chief of EMS / Emergency Management	City of Elgin	847-931-6628	oine_m@cityofelgin.org
Olsen	Amanda	Engineer	City of Elgin, Engineering Dept.	847-931-5960	Olsen_A@cityofelgin.org
Rudd	Ron	City Engineer	City of Elgin	847-931-6081	Rudd_R@cityofelgin.org
Jain	Ajay	Practice Leader - Water Resources	HR Green on behalf of Elgin	815-509-8302	Ajain@hrgreen.com
Daufenbach	Brandon	Land Management Supervisor	City of Elgin Parks and Recreation	847-344-1044	daufenbach_b@cityofelgin.org
Falco	Matthew	Building and Development Manager	City of Elgin Community Development	847-931-5926	falco_m@cityofelgin.org
Latinovic	Damir	Senior Planner	City of Elgin Community Development	847-931-5943	Latinovic_D@cityofelgin.org
Heidgen	Max	Engineer I	City of Elgin Engineering Department	847-214-5416	heidgen_m@cityofelgin.org

### **Documentation of Participation in the 2023 Hazard Mitigation Plan Update**

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Elgin	X	X	X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Kies	Emily	X	X	X		
Stassen	Stephen	X				
Oine	Mike		X	X	X	
Olsen	Amanda		X	X	X	
Falco	Matthew		X	X		
Latinovic	Damir		X	X		
Jain	Ajay		X			
Heidgen	Max		X		X	
Rudd	Ron		X		X	

## City of Geneva

### 2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Antenore	Michael	Fire Chief	City of Geneva Fire Department	630-232-2530	mantenore@geneva.il.us
Byrne	Brian	Building Commissioner	Building and Zoning Division - Geneva	630-262-0282	bbyrne@geneva.il.us

### Documentation of Participation in the 2023 Hazard Mitigation Plan Update

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Geneva	X	X		X	X	N/A

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Antenore	Michael	X		X		

## Village of Gilberts

### 2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Wellbank	Jacob	Engineer	Robinson Engineering on behalf of Gilberts		jwellbank@reltd.com
Lynch	Ryley	Management Analyst	Village of Gilberts	847-428-2861	rlynch@villageofgilberts.com
Block	Todd	Chief of Police	Gilberts Police Department	847-428-2954	TBlock@villageofgilberts.com
Zabrocki	Jon	Engineer	Robinson Engineering on behalf of Gilberts		jzabrocki@reltd.com

### Documentation of Participation in the 2023 Hazard Mitigation Plan Update

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Gilberts	X	X		X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Wellbank	Jacob	X				
Zabrocki	Jon			X		Met with planning team 10/26/2023

## Village of Hampshire

### **2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information**

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Hedges	Jay	Village Manager	Village of Hampshire	312-550-9641	jhedges@hampshireil.org
Wray	Josh	Development Manager and Asst. to the Village Manager	Village of Hampshire	(847) 683-2181 ext. 28	jwray@hampshireil.org
Paulson	Tim	Senior Project Manager	Engineering Enterprises, Inc	630-466-6727	tpaulson@eeiweb.com
Urlacher	Shauna	Consulting Engineer	on behalf for Hampshire		shauna@urbanhydroeng.com
Pann	Douglas	Chief of Police	Hampshire Police Department	847-683-2240	dpann@hampshireil.org

### **Documentation of Participation in the 2023 Hazard Mitigation Plan Update**

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Hampshire	X	X	X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Hedges	Jay	X	X	X	X	
Wray	Josh	X		X		
Paulson	Tim	X				
Urlacher	Shauna	X		X		
Pann	Douglas			X		



## Village of Huntley

### 2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Hajek	Scott	Village Engineer Development	Village of Huntley	847-515-5237	shajek@Huntley.il.us
Ullrich	Patrick	Emergency Response & Preparedness Manager	Huntley Police Department	847-515-5371	pullrich@huntley.il.us
D'Agostino	Peter	Administrative Services Manager	Huntley Public Works	847-515-5275	pdagostino@huntley.il.us

### Documentation of Participation in the 2023 Hazard Mitigation Plan Update

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Huntley	X	X	X	X	X	NA

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Hajek	Scott	X		X	X	
Ullrich	Patrick	X	X	X	X	
D'Agostino	Peter		X		X	

## Village of Lily Lake

### **2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information**

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Heffernan	Jesse	Village President	Village of Lily Lake	630-365-9677	clerk@villageoflilylake.org

### **Documentation of Participation in the 2023 Hazard Mitigation Plan Update**

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Lily Lake		X	X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Heffernan	Jesse	X	X	X	X	

## Village of Maple Park

### 2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Krull	David	Chief of Police	Village of Maple Park	815-827-3286	dkrull@villageofmaplepark.com
Lin	Jeremy	Engineer	LinTech Engineering		jlin@litechengineering.com
Aldridge	Cheryl	Village Administrator	Village of Maple Park	815-827-3309	caldrige@villageofmaplepark.com

### Documentation of Participation in the 2023 Hazard Mitigation Plan Update

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Maple Park	X		X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Krull	David		X	X	X	
Aldridge	Cheryl		X	X	X	

## Village of Montgomery

### 2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Paulson	Tim	Senior Project Manager / Village Engineering Consultant	Engineering Enterprises, Inc	630-466-6727	tpaulson@eeiweb.com
Wolfe	Mark	Director of Public Works	Village of Montgomery	630-896-9241	mwolf@montgomeryil.org

### Documentation of Participation in the 2023 Hazard Mitigation Plan Update

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Montgomery		X	X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Paulson	Tim	X	X		X	

## Village of North Aurora

### **2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information**

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Tonarelli	Brandon	Assistant Public Works Director and Village Engineer	Village of North Aurora	331-385-6432	btonarelli@northaurora.org
Richter	Brian	Public Works Director	Village of North Aurora	331-385-6256	brichter@northaurora.org
Gorski	Joe	Deputy Chief	North Aurora PD	630-897-8705	kgorski@northaurora.org
Buziecki	Scott	Deputy Chief	North Aurora PD / EMA	630-897-8705	sbuziecki@northaurora.org
Bosco	Steven	Village Administrator	North Aurora	630-897-8228	sbosco@northaurora.org
Klemencic	Mike	Fire Chief	North Aurora Fire Department	630-897-9698	mklemencic@nafed.org
Darga	Nathan	Community Development Director	North Aurora	331-385-6171	ndarga@northaurora.org

### **Documentation of Participation in the 2023 Hazard Mitigation Plan Update**

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
North Aurora	X	X	X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Tonarelli	Brandon	X	X	X		
Richter	Brian	X	X	X		
Gorski	Joe		X	X		
Buziecki	Scott		X		X	
Klemencic	Mike		X			
Darga	Nathan		X	X		
Bosco	Steven		X			



## Village of Pingree Grove

### 2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Parsons	Jeff	Chief of Police	Pingree Grove Police Department	847-646-4600	jparsons@pingreepolice.org
Doherty	Pat	Director of Public Works	Village of Pingree Grove / Public Works	224-535-1335	pdoherty@pingreegrove.org

### Documentation of Participation in the 2023 Hazard Mitigation Plan Update

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Pingree Grove	X			X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
						Met with planning team

## Village of Sleepy Hollow

### 2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Steele	Jeff	Village Engineer	Village of Sleepy Hollow	847-426-4535 ext. 1014	jsteele@glheinzinc.com
Thorne	Mark	Village Trustee	Village of Sleepy Hollow	630-797-8606	mthorne@sleepyhollowil.org
Pickett	Stephen	Village President	Village of Sleepy Hollow	847-426-6700	spickett@sleepyhollowil.org

### Documentation of Participation in the 2023 Hazard Mitigation Plan Update

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Sleepy Hollow	X	X	X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Steele	Jeff	X	X	X		
Thorne	Mark	X	X			
Pickett	Stephen	X	X		X	

## Village of South Elgin

### **2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information**

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Kruse	Paul	Building and Code Enforcement Manager	Village of South Elgin	847-774-1710	pkruse@southelgin.com
Blayney	Lauren	Planner	Village of South Elgin	847-741-3894	lblayney@southelgin.com

### **Documentation of Participation in the 2023 Hazard Mitigation Plan Update**

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
South Elgin	X	X	X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Kruse	Paul	X	X	X	X	
Blayney	Lauren	X	X	X	X	

## City of St. Charles

### **2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information**

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Spain	Ashley	Civil Engineer I	City of St. Charles	630-762-6904	aspain@stcharlesil.gov
Gottlieb	Chris	Public Works Manager	City of St. Charles	630-377-4405	cgottlieb@stcharlesil.gov
Chmura	Mark				mchmura@stcharlesil.gov
Jain	Ajay	Practice Leader - Water Resources	HR Green on behalf of St. Charles	815-509-8302	Ajain@hrgreen.com

### **Documentation of Participation in the 2023 Hazard Mitigation Plan Update**

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
St. Charles	X	X	X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Herrmann	Brian	X	X	X		
Spain	Ashley	X	X	X		
Gottlieb	Chris	X			X	
Jain	Ajay		X			

## Village of Sugar Grove

### **2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information**

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Rollins	Pat	Chief of Police	Sugar Grove Police Department	630-391-7250	prollins@sugargroveil.gov
Paulson	Tim	Senior Project Manager	Engineering Enterprises, Inc	630-466-6727	tpaulson@eeiweb.com
Schiber	Brian	Village Engineer	Sugar Grove	630-391-7230	bschiber@sugargroveil.gov

### **Documentation of Participation in the 2023 Hazard Mitigation Plan Update**

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Sugar Grove	X		X	X	X	N/A

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Paulson	Tim	X				
Schiber	Brian		X		X	

## Village of Virgil

### 2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
LeBanc	Daniela	Village Clerk	Village of Virgil		clerk@villageofvirgil.net
Siegfried	Paul	Water Resources Dept. Manager	Village of Virgil	815-444-3360	psiegfried@baxterwoodman.com
Wenzel	Sarah	Consultant	Village of Virgil		swenzel@baxterwoodman.com

### Documentation of Participation in the 2023 Hazard Mitigation Plan Update

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
Virgil	X		X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Siegfried	Paul		X			
Wenzel	Sarah					X - reached out to Kane County on 8/23 and ISC followed up.
LeBanc	Daniela					Met with planning group 10/2

## Village of West Dundee

### **2023 Hazard Mitigation Plan Update: Local Mitigation Planning Team Representative(s) and Contact Information**

Local Mitigation Planning Team					
Last Name	First name	Title/Position	Organization	Phone Number	E-mail
Spiro	Mike	IT Director / Fire Chief	Village of West Dundee	847-551-3805	mSPIRO@wdundee.org
Chismark	Greg	President	West Dundee / WBK Engineering	847-344-5619	gchismark@wbkengineering.com

### **Documentation of Participation in the 2023 Hazard Mitigation Plan Update**

2023 Jurisdiction Participation Checklist						
Jurisdiction	Community Mitigation Survey Participation (includes participation from general public)	Represented at a Webinar	Represented at a Workshop/Meeting(s)	Submitted a Hazard Analysis for the Jurisdiction	Submitted New Mitigation Project(s), if applicable	Reviewed/Updated Past Mitigation Project(s), as applicable
West Dundee	X		X	X	X	X

2023 Plan Update Participation and Involvement						
Last Name	First Name	Webinar	Workshop/Meeting(s) Attendance	Registered and Accessed the KMS (Online Planning System)	Provided Feedback on the Plan (via the KMS comment tool or other mechanism)	Other Participation Activities
Spiro	Mike			X	X	
Chismark	Greg		X		X	



# VILLAGE OF ALGONQUIN

Resolution No. \_\_\_\_\_

## A RESOLUTION AUTHORIZING THE ADOPTION OF THE KANE COUNTY NATURAL HAZARD MITIGATION PLAN

**WHEREAS**, the mission of Kane County and the participating jurisdiction of Village of Algonquin include the charge to protect the health, safety, and the general welfare of the people of the County and municipalities; and

**WHEREAS**, Kane County, Illinois, is subject to flooding, tornadoes, winter storms, and other hazards; and

**WHEREAS**, pro-active mitigation of known hazards before and after a disaster event can reduce or eliminate long-term risk to life and property; and

**WHEREAS**, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre- and post-disaster hazard mitigation programs; and

**WHEREAS** to remain eligible to receive mitigation monies, Kane County prepared a Hazard Mitigation Plan (the "PLAN") for the County and all communities in the County; and

**WHEREAS**, Kane County and the Village of Algonquin have participated in and completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of hazards, develops a mitigation strategy consistent with a set of uniform goals, and creates a plan for implementing, evaluating and revising this strategy;

**NOW THEREFORE BE IT RESOLVED** that Village of Algonquin:

- 1.) Adopts in its entirety the Kane County Natural Hazard Mitigation Plan (Plan), and specifically Volume II of the Plan as it pertains to this jurisdiction.
- 2.) Will use the adopted and approved portions of the Plan to guide pre- and post-disaster mitigation of the hazards identified.
- 3.) Will coordinate the strategies identified in the Plan with other planning programs and mechanisms under its jurisdictional authority.
- 4.) Will continue its support of the Hazard Mitigation Steering Committee and continue to participate in the planning partnership as described by the Plan.
- 5.) Will help to promote and support the mitigation successes of all planning partners.

**PASSED AND ADOPTED** on this \_\_\_ day in August, 2024 by the following vote:

Voting Aye:

Voting Nay:

Abstain:

Absent:

(SEAL)

\_\_\_\_\_  
Village President, Debby Sosine

ATTEST: \_\_\_\_\_  
Village Clerk, Fred Martin