Palatine

Hazard Mitigation Plan Point of Contact

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Jurisdiction Profile

The following is a summary of key information about the jurisdiction and its history:

Date of Incorporation: 1866

Current Population: The 2020 U.S. Census population was 67,908. The 2022 U.S. Census estimate indicated the population was 65,485.

Population Growth: The overall population has decreased by 3.77% between 2018 and 2022.

Location and Description: The Village covers approximately 14 square miles and is located 29 miles northwest of the Chicago Loop in Cook County. Five state and U.S. roads are included in its boundaries, and each of those roads gives easy access to the Interstate Road system in all four directions. The world's second busiest airport, O'Hare International, Airport is located within 20 minutes driving time (15 miles). There are 135 miles of roadway within the Village limits. This includes U.S. routes, state routes, county roads, township roads and Village streets. Palatine is a key station and commuter stop for the Metra Railroad. Palatine is one of the few villages or cities in the Chicagoland area that contains a dam within its boundaries. There are several small lakes and ponds located in the Village, and two branches of the Salt Creek and Buffalo Creek meander through its boundaries. Several large water retention areas managed by the Metropolitan Water Reclamation District of Chicago can also be found here as well as more than 50 parks, both large and small. There are 15 grammar schools, two high schools and one junior college located in the Village. A United States Postal Service distribution center is also located in Palatine. The tallest building in the Village is 14 stories high. There is a downtown area, which is undergoing significant redevelopment, as well as numerous full-scale shopping centers. Numerous smaller strip-shopping areas can also be found here. Two international corporations are located in Palatine, together with numerous businesses and manufacturing facilities.

Brief History: Palatine's roots reach back to the 1830s when settlers from New York and New England traveled west to stake their claim in the fertile green prairies they had heard so much about from soldiers who were returning from the 1832 Blackhawk War. Using Indian trails, they continued

north and west of the settlement at Fort Dearborn named Chicago, from the Indian phrase for the area which meant “wild onion place.” These early pioneers made their homes in the lush groves of trees that became known as Deer Grove, Plum Grove, Englishman’s Grove and Highland Grove. George Ela, who built his log cabin in Deer Grove in 1835, is credited with being the first European to live in the area. Two well-traveled Indian trails, Woodstock Trail and Lake Zurich Trail, are known as Algonquin Road and Rand Road today. The Illinois and Wisconsin Railroad made its way to the Deer Grove Trading Post in 1853. A thriving settlement soon grew around the railroad station, guided by the vision of Joel Wood, who surveyed and laid out the Village of Palatine in 1855. The village was incorporated March 19, 1866 and chartered by the state in 1869. The George Clayson House, built in 1873 at 224 E. Palatine Road, has been meticulously renovated and is listed on the National Register of Historic Places.

Climate: Palatine averages 36 inches of rain per year and 33 inches of snowfall. The average number of days with any measurable precipitation is 109. On average, there are 186 sunny days per year in Palatine. The July high is around 83 degrees and the January low is 11 degrees. The comfort index, which is based on humidity during the hot months, is a 46 out of 100, where higher is more comfortable.

Governing Body Format: Palatine operates under the Village Manager form of government, in which an elected council, consisting of a mayor and six council members, hires a professional manager to oversee the day-to-day operation of government services and programs. This body of Government will assume the responsibility for the adoption and implementation of this plan. In Palatine the council is known as the Village Council, and the chief elected official is the Mayor. The Village of Palatine operates 16 departments including; Building Department, Community Services, Emergency Management, Engineering Department, Environmental Health Division, Finance Department, Fire Department, Fire Prevention, Human Resources, Information Technology, Neighborhood Services Division, Planning & Zoning Department, Police Department, Public Works Department, Village Manager’s Office, and the Village Clerk’s Office.

Development Trends: Palatine is operating under a recently revised Comprehensive Plan that was adopted in 2011. Although much of Palatine’s previous growth occurred through annexation, Palatine today is a mature community. As such, the majority of anticipated future growth will likely come through redevelopment activities. Recently, several new in-fill residential subdivisions are being constructed. Also, the majority of commercial redevelopment activities are clustered along the Rand Road, Dundee Road, and Northwest Highway corridors. Downtown Palatine is a mixed-use, transit oriented design, which has focused upon residential, commercial, office, and open space development opportunities over the last 12 years.

The Comprehensive Plan also recommended mechanical changes and revisions of the Zoning Ordinance, Subdivision Ordinance, and Village Code as part of the implementation process. Many of those recommendations have either been implemented or are planned for implementation in the near term. Palatine’s Comprehensive Plan will serve as a guide for the managing current development plans and a resource to achieve and implement future development goals and objectives.

The leadership of Palatine constantly works to stay relevant and to offer its residents and those of nearby communities a plethora of services and opportunities to shop, be employed, entertain themselves, enjoy nature and recreational activities, and educate themselves and their children. So it is not surprising that a number of new businesses and facilities have opened or relocated within Palatine over the past year, with many new businesses coming in 2019.

Changes in Community Priorities: There have been no significant changes in priority regarding the hazards that could potentially impact the community or changes in priority regarding resilience.

Capability Assessment

The assessment of the jurisdiction's legal and regulatory capabilities is presented in the *Legal and Regulatory Capability Table* below. The assessment of the jurisdiction's fiscal capabilities is presented in the *Fiscal Capability Table* below. The assessment of the jurisdiction's administrative and technical capabilities is presented in the *Administrative and Technical Capability Table* below. Information on the community's National Flood Insurance Program (NFIP) compliance is presented in the *National Flood Insurance Program Compliance Table* below. Classifications under various community mitigation programs are presented in the *Community Classifications Table* below.

TABLE: LEGAL AND REGULATORY CAPABILITY					
	Local Authority	**State or Federal Prohibitions**	**Other Jurisdictional Authority**	**State Mandated**	**Comments**
Codes, Ordinances & Requirements					
Building Code	Yes	No	No	Yes	Chapter 6 Article 1-93 2011
Zonings	Yes	No	No	Yes	Appendix A Article 1-14.12, 1957
Subdivisions	Yes	No	No	No	Appendix B Article 1-9.03, 1966
Stormwater Management	Yes	No	Yes	Yes	Article V, Chapter 19, Sec. 6.09, Appendix B 2004
Post Disaster Recovery	Yes	No	No	No	2010, Annex of EOP
Real Estate Disclosure	Yes	No	Yes	Yes	Chapter 14 Article I-V1980
Growth Management	Yes	No	No	No	The Village of Palatine's Capital Improvement Plan is contained in the Village's 2011 Comprehensive Plan
Site Plan Review	Yes	No	No	No	The Village of Palatine's Site Review Plan is contained in the Village's 2011

					Comprehensive Plan
Public Health and Safety	Yes	No	Yes	Yes	Chapter 2 & 9
Environmental Protection	No	No	No	No	
Planning Documents					
General or Comprehensive Plan	Yes	No	No	No	The Comprehensive Plan for the Village of Palatine/2011
Is the plan equipped to provide integration to this mitigation plan?					Yes
Floodplain or Basin Plan	No	No	Yes	No	We follow FEMA guidance
Stormwater Plan	No	No	Yes	No	Regional stormwater impacts are managed by MWRD. The Village of Palatine lies within the Upper Salt Creek watershed planning area of MWRD's comprehensive Stormwater Master Planning Program
Capital Improvement Plan	Yes	No	No	No	The Village of Palatine's Capital Improvement Plan is contained in the Village's 2011 Comprehensive Plan
What types of capital facilities does the plan address?					Buildings, roads and other critical infrastructure
How often is the plan revised/updated?					Yearly
Habitat Conservation Plan	Yes	No	No	No	2011
Economic Development Plan	Yes	No	Yes	Yes	The Village of Palatine's Economic Development

					Plan is contained in the Village's 2011 Comprehensive Plan.
Shoreline Management Plan	N/A	No	No	No	N/A
Response/Recovery Planning					
Comprehensive Emergency Management Plan	Yes	No	No	Yes	2012 EOP is on File with the State of Illinois
Threat and Hazard Identification and Risk Assessment	No	No	Yes	No	Cook County EMRS Preparing THIRA
Terrorism Plan	Yes	No	No	Yes	The terrorism plan is contained in the 2012 Village EOP.
Post-Disaster Recovery Plan	Yes	No	No	No	The post disaster recovery plan is contained in the 2012 Village EOP.
Continuity of Operations Plan	Yes	No	No	No	The 2013 COOP is a standalone plan separate from the Village EOP.
Public Health Plans	No	No	Yes	No	Cook County DPH, Illinois DPH

TABLE: FISCAL CAPABILITY	
Financial Resources	**Accessible or Eligible to Use?**
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes

Other	Yes

TABLE: ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	**Available?**	**Department/Agency/Position**
Planners or engineers with knowledge of land development and land management practices	Yes	Engineering/Planning and Economic Development
Engineers or professionals trained in building or infrastructure construction practices	Yes	Engineering/Community Services
Planners or engineers with an understanding of natural hazards	Yes	Engineering/Public Works
Staff with training in benefit/cost analysis	Yes	Finance
Surveyors	Yes	Public Works/Engineering
Personnel skilled or trained in GIS applications	Yes	Cook County GIS Consortium/VOP IT
Scientist familiar with natural hazards in local area	No	N/A
Emergency manager	Yes	Emergency Management/Coordinator
Grant writers	No	(No full time staff-each department does their own)

TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE	
What department is responsible for floodplain management in your jurisdiction?	Engineering
Who is your jurisdiction's floodplain administrator? (department/position)	Director of Engineering
Are any certified floodplain managers on staff in your jurisdiction?	Yes (3)
What is the date of adoption of your flood damage prevention ordinance?	1976
When was the most recent Community Assistance Visit or Community Assistance Contact?	2/27/2009
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? (If no, please state why)	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No
Does your jurisdiction participate in the Community Rating System (CRS)? If so, is your jurisdiction seeking to improve its CRS Classification? If not, is your jurisdiction interested in joining the CRS program?	Yes/No

NFIP Participation Activities

Maintaining compliance under the NFIP is an important component of flood risk reduction. All planning partners that participate in the NFIP have identified actions to maintain their compliance and good standing. Cook County entered the NFIP on April 15, 1981. Structures permitted or built in the County before then are called "pre-FIRM" structures, and structures built afterwards are called "post-FIRM." The insurance rate is different for the two types of structures. The effective date for the current countywide FIRM is August 19, 2008. This map is a DFIRM (digital flood insurance rate map).

The communities in Cook County that participate in the NFIP are shown in ***Table: NFIP Participating Communities in Cook County*** in **Volume I** of the Cook County MJ-HMP.

The NFIP makes federally-backed flood insurance available to homeowners, renters, and business owners in participating communities. The communities in Cook County that participate in the NFIP and their "Policies in Force," "Total Coverage," and "Total Written Premiums" are shown in ***Table: Cook County Flood Insurance Policies*** in **Volume I** of the Cook County MJ-HMP.

The following are NFIP-related activities completed by our community:

- Our staff provide the following services: permit reviews, GIS, inspections, engineering capability.
- My community's Floodplain Administrator is a Certified Floodplain Manager (CFM).
- My community teaches property owners or other stakeholders about the importance of flood insurance through public outreach events, workshops, and/or seminars.
- Our community enforces local floodplain regulations and monitors compliance.
- Our floodplain development regulations meet or exceed Federal Emergency Management Agency (FEMA) or State minimum requirements.

Substantial Improvement Rule and the Substantial Damage Rule

The IDNR/OWR has developed a model ordinance for floodplain management, which has been adopted by most communities in Illinois. The ordinance includes the minimum requirements an NFIP participating jurisdiction must adopt and enforce, as well as additional higher regulatory requirements. The optional, higher regulatory standards include a minimum one foot of freeboard above the base flood elevation and cumulative tracking of damage repairs and improvements to establish substantial damage and substantial improvement compliance. Some jurisdictions have chosen to exceed the requirements of the model ordinance and have adopted more restrictive ordinances. This is most common in the communities in northeastern Illinois.

Existing Municipal Code:

PALATINE CODE OF ORDINANCES – APPENDIX B – SUBDIVISION, SITE DEVELOPMENT AND FLOODPLAIN REGULATIONS

Substantial damage. Damage of any origin sustained by a structure whereby the cumulative percentage of damage during a 10-year period equals or exceeds forty (40) percent of the market value of the structure before the damage occurred regardless of actual repair work performed. Volunteer labor and materials must be included in this determination. (Ord. No.0-105-08, §2, 8/14/08)

Substantial improvement. Any repair, reconstruction, rehabilitation, addition or improvement of a building taking place during a 10-year period in which the cumulative percentage of improvements equals or exceeds forty (40) percent of the market value of the building before the improvement or repair is started. Volunteer labor and materials must be included in this determination. “Substantial Improvement” is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the building. This term includes structures which have incurred repetitive loss or substantial damage, regardless of the actual work done. The term does not, however, include either;

(a) any project for improvement of a structure to comply with existing state or local health, sanitary or safety code specifications which are solely necessary to assure safe living conditions, or (b) any alteration of a 'Historic Structure" listed on the National Register of Historic Places or the Illinois Register of Historic Places, provided that the alteration will not preclude the structure's continued designation as a historic structure. (Ord. No.0-105-08, §2, 8/14/08; Ord. No. 0-134-14, §1, 10/20/14)

6.08 Floodplain Regulations

Development of land in and adjacent to floodplains or containing watercourses or drainage ways shall be in accordance with following floodplain regulations of the Village of Palatine:

(c) Base Flood Elevation. (1) The corporate authorities shall obtain, review, and reasonably utilize base flood elevation data available from Federal, State, or other sources, as criteria for requiring that substantial improvements or other development conform with the provisions of Section 6.08(C), until such time as such data has been received from the Federal Insurance Administration. Base flood data received from the Federal Insurance Administration shall take precedence over data from other sources

(d) Regulations of the Floodplain Areas. All lands deemed to be in the floodplain including the floodway unless specifically noted, shall be subject to the following regulations: (1) Permitted Uses. The following uses are permitted in the floodplain where compensatory storage has been provided for any required fill unless specifically exempted:

r. Reconstruction of a building or structure destroyed or damaged by fire, or other act of nature where: i. Any building or structure so destroyed may be restored in its entirety if such building or structure and the use thereof conformed to all the regulations of the district in which such building or structure was located before such damage or destruction, and shall continue to so conform after restoration of such building or structure.

ii. If all or substantially all of such building or structure is designed or intended for a use which is not permitted in the district in which it is located, said building or structure may be restored unless the damage exceeds 40% of its market value before it was damaged, in which case it shall conform to this ordinance.

iii. The replacement structure shall not exceed the outside dimension of the building or structure destroyed or damaged and shall be designed to include floodproofing measures included in Section 6.08(C)(1)(o), in the case of non-residential buildings or elevated to two (2) feet above the base floodplain elevation in case of residential structures in accordance with Section 6.08(C) (1)(p). (Ord. No. 0-134-14, §1, 10/20/14)

s. Improvements or Additions to existing Buildings or Structures; provided that any such improvement shall be located wholly at or above the flood protection elevation and outside of the floodway, and shall meet the requirements specified in Section 6.08 (d)(1) p or q of this ordinance and all of the National Flood Insurance Program requirements for substantial improvements. Improvements shall not exceed 40% of the market value of the structure before the improvement or repair is started and shall be counted cumulatively for a ten (10) year period beginning at the start of the first improvement. (Ord. No. O-35-19, 04/08/19)

TABLE: COMMUNITY CLASSIFICATIONS			
	Participating?	**Classification**	**Date Classified**
Community Rating System	Yes	7	2004
Building Code Effectiveness Grading Schedule	No longer participate	4	2006
Public Protection/ISO	Yes	ISO 2	2012
StormReady	Yes	Gold (Countywide)	2014
Tree City USA	Yes	N/A	2013

Opportunities to Expand and Improve Capabilities

Opportunities to expand and improve capabilities include updating building codes.

Plan Integration

The capability assessment describes opportunities to "link" or integrate the mitigation plan into other planning mechanisms. The process and mechanism to identify opportunities to integrate the Cook County MJ-HMP into other planning mechanisms will occur during the Annual Update Process and be reflected in the Jurisdictional Annual Report each year. Specific plan integration opportunities will include:

- The goals and actions of the Hazard Mitigation Plan will be considered in the next capital improvement planning process.
- The hazards, goals, and actions of the Hazard Mitigation Plan will be considered in the next update of the Comprehensive Plan.
- The hazards, goals, and actions of the Hazard Mitigation Plan will be considered in the next update of the jurisdiction's land use plans, zoning, and subdivision codes.

Emergency Plan Integration:

Cook County EMRS is supporting communities to develop and update their respective Emergency Operations Plans, Continuity of Operations Plan/Continuity of Government Plan, and Recovery Plan in 2024. This is an ongoing countywide initiative and is being implemented in all municipalities.

Emergency Operations Plan (EOP)

An EOP template was created for all municipalities. The 2019 Cook County MJ-HMP and the hazards in the mitigation plan have been integrated into the Situation and Assumptions section of the EOP. Within that section, the natural hazards based on the 2019 MJ-HMP were added in the Initial Analysis and Assessment and Identification of Hazards section of the EOP. The hazards in the 2019 plan and the 2024 MJ-HMP did not change apart from adding wildfires for the Forest Preserve and unincorporated areas of the County. Future updates of the EOP will take into consideration any additional new natural hazards that are added to subsequent updates to the MJ-HMP.

Continuity of Operations Plan (COOP)

The Continuity of Operations Plan (COOP) for the municipality includes a Situation section that is based on the 2019 Cook County MJ-HMP jurisdictional annex, and specifically the hazards identified in the annex. The COOP-specific risk assessment is hazard-specific and based on likelihood of occurrence and severity of impact.

Recovery Plan

The goals of the Recovery Plan were developed to align with the 2019 Cook County MJ-HMP, and specifically prioritizes the responsibility of officials under this plan to save lives, protect property, relieve human suffering, sustain survivors, repair essential facilities, restore services, and protect the environment. The plan acknowledges that hazard mitigation is an important priority and consideration during the rebuilding process.

Jurisdiction-Specific Natural Hazard Event History

The information provided below was solicited from the jurisdiction and supported by NOAA and other relevant data sources.

The *Natural Hazard Events Table* lists all past occurrences of natural hazards within the jurisdiction. Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: 3 (3 Single Family)
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0

Federal Disasters Declared

Disaster Declaration Number	Date Declared	Event
DR-227	4/25/1967	Tornado
DR-351	9/4/1972	Flood
DR-373	4/26/1973	Flood
DR-509	6/18/1976	Severe Storm(s)
DR-643	6/30/1981	Severe Storm(s)
DR-776	10/7/1986	Flood
DR-798	8/21/1987	Flood
DR-997	7/9/1993	Flood
DR-1129	7/25/1996	Severe Storm(s)
DR-1188	9/17/1997	Severe Storm(s)
DR-1729	9/25/2007	Severe Storm(s)
DR-1800	10/3/2008	Severe Storm(s)
DR-1935	8/19/2010	Severe Storm(s)
DR-1960	3/17/2011	Snow
EM-3068	1/16/1979	Snow
EM-3134	1/8/1999	Snow
EM-3161	1/17/2001	Snow
EM-3230	9/7/2005	Hurricane – Katrina Evacuation
EM-3435	3/13/2020	Biological
DR-4116	5/10/2013	Flood
DR-4489	3/26/2020	Biological
DR-4728	8/15/2023	Severe Storm(s)
DR-4749	11/20/2023	Flood

State Disaster Declarations

Date Declared	Event
7/26/2010	Severe Storms, High Winds, Torrential Rain
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
2/6/2020	Severe Storms
3/12/2020 – present (reissued monthly)	COVID-19
2/16/2021	Winter Storms
2/1/2022	Winter Storms
8/1/2022 (reissued monthly through 10/28/2022)	Monkeypox

TABLE: NATURAL HAZARD EVENTS			
Type of Event	**FEMA Disaster Number (if applicable)**	**Date**	**Preliminary Damage Assessment/ Event Narrative**
Hail		8/2/2015	Hail 1.5 to 2.0 inches in diameter was reported across Palatine.
Severe Weather/Wind	-	9/5/2014	-
Lightning	-	6/30/2014	$25,000 in property damage.
Hail	-	5/12/2014	-
Hail	-	4/12/2014	Numerous reports of hail to the size of golf balls came in from the Palatine area.
Severe Winter Weather	-	2013-2014	-
Tornado	-	11/2013	-
Flood	-	4/2013	-
Severe Winter Weather/Wind	-	2013	-
Flood	FEMA	7/2011	-
		5/12/2011	Numerous reports of hail to the size of golf balls came in from the Palatine area.

Severe Winter Weather (Blizzard)	FEMA	2/2011	-
Flood	-	9/2009	-
Hail		8/4/2008	Nickel size hail was reported across much of Palatine, including at the intersections of Dundee Road and Route 53 and Dundee Road and Route 83.
Severe Weather	-	8/2007	-
Winter Storm		11/30/2006	Storm total snowfall in Palatine was 11.7 inches.
Severe Winter Weather/Wind	-	1/2005	-
Severe Winter Weather		3/2003	One woman died in Palatine from cold exposure.
Severe Winter Weather (Blizzard)	-	1/2002	-
Severe Winter Weather (Blizzard)	-	2/2000	-
Severe Winter Weather	-	1/1999	-
Heat	-	7/1995	-
Severe Winter Weather	-	2/1979	-
Flood	-	1988	-
Flood	-	1987	-
Flood	-	1986	-

Jurisdiction-Specific Hazards: Vulnerabilities and Impacts

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2024 Cook County Multi-Jurisdictional Hazard Mitigation Plan Update. This section only addresses the hazards and their associated impacts that are **relevant** and **unique** to the municipality.

Dam and Levee Failure: There are two dams in Palatine that if failed would impact the community.
Flooding: We have experienced consistent flooding at the intersection of Smith and Colfax streets. That flooding has caused cars to become submerged and damaged cars in the adjacent parking lot. Our flood-prone roads include Rohlwing Rd and Palatine Rd. near Kerwood and Northwest Highway by Greenwood/Forest.

Wind and Tornado: Wind gusts occur during both severe thunderstorms and winter storms and can cause damage in the community.
Hail: Frequently occurs; however, little damage is often caused.
Winter Storm: 10.5% of the population is 65 or older. Vulnerable populations will be considered when preparing for events.
Earthquake: While an earthquake impact has a minimal impact of having, while the area improves pump stations and debris removal plans, earthquakes preparation will be somewhat considered.

Indicator	Number	Percent
Families in poverty	1,424	6%
People with disabilities	7,686	8.4%
People over 65 years	13,459	14.7%
People under 5 years	6,171	6.7%
People of color	33,531	36.6%
Black	2,696	2.9%
Native American	337	0.4%
Hispanic	17,723	19.3%
Difficulty with English	5,562	6.5%
Households with no car	1,294	3.6%
Mobile homes	29	0.1%

Data are from the U.S. Census Bureau, American Community Survey. See methods for more information.

The community evaluated whether vulnerability, and subsequently the potential impacts, in hazard-prone areas had increased, decreased, or remained the same for each natural hazard identified in this Hazard Mitigation Plan. Climate change, infrastructure expansion, and economic shifts that can affect vulnerability were considered. For example, if planned development is in an identified hazard area or is not built to the updated building codes, it may increase the community's vulnerability to future hazards and disasters. On the other hand, if development occurred with mitigation practices in place, the vulnerability may have remained the same or decreased. Additionally, shifting demographics were taken into consideration when assessing development trends.

Jurisdiction-Specific Climate Change Vulnerability and Impacts
The table below outlines if climate change, as assessed by the local planning team, has increased or decreased the municipality's vulnerability/exposure, and thereby the potential impacts, to each natural hazard over the past five (5) years (**Current Vulnerability**), and the effect of climate change in the future probability of occurrence and impacts (**Future Vulnerability**) from each natural hazard.

Future studies are needed to better understand the impact of climate change on the community's assets.

Hazard	Vulnerability
Current Vulnerability	
Dam and Levee Failure	Remained the Same
Drought	Increased
Earthquake	Not Applicable
Flood (Riverine, Urban, Shoreline)	Increased
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Wings)	Increased

Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	Increased
Tornado	Increased
Wildfire (Wildfire Smoke)	Increased

Hazard	Vulnerability
Future Vulnerability	
Dam and Levee Failure	Unknown
Drought	Increase
Earthquake	No Change is Anticipated
Flood (Riverine, Urban, Shoreline)	Increase
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Wings)	Increase
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	Increase
Tornado	Increase
Wildfire (Wildfire Smoke)	Increase

Jurisdiction-Specific Changes (or Expected Changes) in Development Trends in Hazard-Prone Areas

The table below outlines if development, as assessed by the local planning team, over the past five (5) years (**Current Vulnerability**) has increased or decreased the jurisdiction's vulnerability / exposure, and thereby the potential impacts, to these natural hazards, and the anticipated effects changes in development may have on the future probability of occurrence and impacts (**Future Vulnerability**) from these natural hazards.

Hazard	Vulnerability
Current Vulnerability	
Dam and Levee Failure	Remained the Same
Drought	Remained the Same
Earthquake	Not Applicable
Flood (Riverine, Urban, Shoreline)	Remained the Same
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Wings)	Remained the Same
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	Remained the Same
Tornado	Remained the Same
Wildfire (Wildfire Smoke)	Remained the Same

Hazard	Vulnerability
Future Vulnerability	
Dam and Levee Failure	No Change is Anticipated
Drought	No Change is Anticipated
Earthquake	No Change is Anticipated
Flood (Riverine, Urban, Shoreline)	No Change is Anticipated
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Wings)	No Change is Anticipated
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	No Change is Anticipated
Tornado	No Change is Anticipated

Wildfire (Wildfire Smoke)	No Change is Anticipated

Our community does not anticipate future major assets may be exposed or vulnerable to any of the natural hazards identified in this Hazard Mitigation Plan. Any new assets (e.g., new construction in hazard prone areas) will be constructed to adhere to the latest building codes and standards, and mitigation to protect them from identified and anticipated hazards, especially those that are expected to increase due to climate change.

Hazard Risk Ranking

The *Hazard Risk Ranking Table* below presents the ranking of the hazards of concern. Hazard area extent and location maps are included at the end of this chapter. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes.

TABLE: HAZARD RISK RANKING	
Rank	**Hazard Type**
1	Severe Weather
2	Severe Winter Weather
3	Tornado
4	Flood (Urban)
5	Earthquake
6	Drought
7	Dam Failure

New Mitigation Actions

The following are new mitigation actions created during the 2024 update.

Action P-1.31

Mitigation Action #31: Install Randville Lift Station Generator Replacement.					
Lead Agency/Department Organization: Public Works	**Supporting Agencies/ Organizations:**	**Estimated Cost:** Low	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** Earthquake Flood (Riverine, Urban, Coastal/Shoreline) Severe Weather (Extreme Heat, Lightning. Hail, Fog, High Winds) Severe Winter Weather (Ice Storm, Heavy Snow, Blizzards, Extreme Cold) Tornado
Year Initiated	2025				
Applicable Jurisdiction	Village of Palatine				
Applicable Goal	2,3				
Applicable Objective	2				
Cost Analysis (Low, Medium, High)	Low				
Priority and Level of Importance (Low, Medium, High)	Medium				
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium				
Action/Implementation Plan and Project Description:	Install Randville Lift Station Generator Replacement. $180,000. Local funds. Short term.				
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority	N				

Completion status legend: **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed	

Ongoing Mitigation Actions

The following are ongoing actions with no definitive end or that are still in progress. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended, as needed.

Action P-1.1

Mitigation Action #1: Create a debris removal plan					
Lead Agency/Department Organization: Public Works	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $2,000; low	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** Earthquake, Tornado, Wind Events
Year Initiated		2014			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1,5			
Applicable Objective		1, 2, 8			
Cost Analysis (Low, Medium, High)		Low			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Medium			
Action/Implementation Plan and Project Description:		No action was completed at this point in time due to a combination of a lack of funding and personnel.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: **N** = New; **I** = In Progress Toward Completion;		O			

O = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed	

Action P-1.8

Mitigation Action #8: Continue creek stabilization program					
Lead Agency/Department Organization: Public Works	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $25,000; medium	**Potential Funding Source:** CIP	**Estimated Projected Completion Date:** Ongoing	**Hazard(s) Mitigated:** Urban Flooding
Year Initiated		2014			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1,2,3			
Applicable Objective		2, 3, 7, 9			
Cost Analysis (Low, Medium, High)		Medium			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Medium			
Action/Implementation Plan and Project Description:					
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		O			

Action P-1.9

Mitigation Action #9: Continue creek outfall structure rehabilitation program

Lead Agency/Department Organization: Public Works	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $30,000; medium	**Potential Funding Source:** CIP	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** Urban Flooding
Year Initiated		2014			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1,2,3			
Applicable Objective		2, 3, 7, 9			
Cost Analysis (Low, Medium, High)		Medium			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Medium			
Action/Implementation Plan and Project Description:					
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		O			

Action P-1.10

Mitigation Action #10: Continue storm sewer and drain tile replacement and expansion program					
Lead Agency/Department Organization: Public Works	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $400,000; medium	**Potential Funding Source:** CIP	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** Urban Flooding
Year Initiated		2014			
Applicable Jurisdiction		Village of Palatine			

Applicable Goal	1,2,3
Applicable Objective	2, 3, 7, 9
Cost Analysis (Low, Medium, High)	Medium
Priority and Level of Importance (Low, Medium, High)	High
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium
Action/Implementation Plan and Project Description:	
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority Completion status legend: **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed	O

Action P-1.13

Mitigation Action #13: Continue to support the countywide actions identified in this plan.					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** Low	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Short- and Long-term	**Hazard(s) Mitigated:** All
Year Initiated		2014			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1,5			
Applicable Objective		All			
Cost Analysis (Low, Medium, High)		Low			
Priority and Level of Importance (Low, Medium, High)		High			

Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Medium
Action/Implementation Plan and Project Description:	
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority **Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed	O

Action P-1.14

Mitigation Action #14: Actively participate in the plan maintenance strategy identified in this plan.					
Lead Agency/Department Organization: EMRS, Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** Low	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** All
Year Initiated		2014			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1,5			
Applicable Objective		3,4,6			
Cost Analysis (Low, Medium, High)		Low			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Medium			
Action/Implementation Plan and Project Description:					
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority		O			

Completion status legend: **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed	

Action P-1.16

Mitigation Action #16: Maintain good standing under the National Flood Insurance Program by implementing programs that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impacts.					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** Low	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** Flooding
Year Initiated		2014			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1,2,5			
Applicable Objective		4,6,9			
Cost Analysis (Low, Medium, High)		Low			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Medium			
Action/Implementation Plan and Project Description:					
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority **Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed;		O			

R = Want Removed from Annex; **X** = No Action Taken/Delayed	

Action P-1.18

Mitigation Action #18: Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.					
Lead Agency/Department Organization: Engineering, Planning, and Economic Development Departments	**Supporting Agencies/ Organizations:**	**Estimated Cost:** Low	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Short-term and ongoing	**Hazard(s) Mitigated:** All
Year Initiated		2014			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1,5			
Applicable Objective		3,4,6,10,13			
Cost Analysis (Low, Medium, High)		Low			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Medium			
Action/Implementation Plan and Project Description:					
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		O			

Action P-1.19

Mitigation Action #19: Implement Smith & Colfax Stormwater Capacity Improvement					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $5,000,000; High	**Potential Funding Source:** MWRD, General Fund	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** Flooding
Year Initiated		2019			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1,2,3			
Applicable Objective		2, 3, 7, 12			
Cost Analysis (Low, Medium, High)		High—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Protect property damage, allow access for emergency vehicles 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.			
Action/Implementation Plan and Project Description:		Storm sewer replacement, realignment, and upsizing to increase capacity. This would reduce the frequency of closure of the intersection of two roadways, providing primary access into the central business district. It would further mitigate the future costs to nearby and adjacent private and public buildings, including a commuter train station and parking deck.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority **Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		O Phase I engineering complete			

Action P-1.20

Mitigation Action #20: Implement Salt Creek Erosion Control and Bank Stabilization					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $1,500,000; High	**Potential Funding Source:** MWRD Grant, General Fund	**Estimated Projected Completion Date:** Short Term	**Hazard(s) Mitigated:** Flooding
Year Initiated		2019			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1,2,3			
Applicable Objective		2,3			
Cost Analysis (Low, Medium, High)		High—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Protect property damage 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.			
Action/Implementation Plan and Project Description:		Streambank improvements to counteract existing severe erosion to the scope and toe of the bank. Removal of sedimentation at the stream floor to improve capacity and flood conveyance.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority **Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		O Phase II engineering in progress			

Action P-1.21

Mitigation Action #21: Install Lilly Lift Station Generator Replacement					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $500,000; Medium	**Potential Funding Source:** MWRD Grants, General Fund	**Estimated Projected Completion Date:** Short Term	**Hazard(s) Mitigated:** Earthquake, Flood, Lightning, Tornado, Power Outage
Year Initiated		2019			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1,2,3			
Applicable Objective		2			
Cost Analysis (Low, Medium, High)		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.			
Priority and Level of Importance (Low, Medium, High)		High Priority			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Protect properties served by this sanitary sewer lift station 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.			
Action/Implementation Plan and Project Description:		Removal and replacement of the generator for the Lilly sanitary sewer lift station to current standards and capacities.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority **Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		O Scheduled for replacement in 2033			

Action P-1.22

Mitigation Action #22: Train Station Roof Replacement					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $500,000	**Potential Funding Source:** BRIC, HMGP	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** Lightning, High Wind, Snow, Blizzard, Ice Storms, Tornado
Year Initiated		2019			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1,2,3,5			
Applicable Objective		1,2			
Cost Analysis (Low, Medium, High)		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.			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Protect traveling public and public transit High—Project will provide an immediate reduction of risk exposure for life and property.			
Action/Implementation Plan and Project Description:		Replacement of the slate roof at the Palatine Metra Train Station.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority **Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		O Scheduled for replacement in 2031			

Action P-1.23

Mitigation Action #23: South Supply Pump Station Rebuild

Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $4,000,000; High	**Potential Funding Source:** HMGP, BRIC	**Estimated Projected Completion Date:** Short Term;2024	**Hazard(s) Mitigated:** Earthquake, Flooding, Lightning, Tornado
Year Initiated		2019			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1,2,3			
Applicable Objective		12,13			
Cost Analysis (Low, Medium, High)		High—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Protect public by providing safe drinking water High—Project will provide an immediate reduction of risk exposure for life and property.			
Action/Implementation Plan and Project Description:		Replacement of the existing equipment.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority **Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		O Grant money needed to fund project			

Action P-1.24

Mitigation Action #24: Install Peppertree Lift Station Gravity Sewer Conversion					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $1,250,000; Medium	**Potential Funding Source:**	**Estimated Projected**	**Hazard(s) Mitigated:** Flooding

			HMGP, BRIC, FMA	**Completion Date:** Short-term	
Year Initiated		2019			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1,2,3			
Applicable Objective		2, 3, 7, 9, 13			
Cost Analysis (Low, Medium, High)		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.			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Protect public by reducing flooding and protecting property from damage 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.			
Action/Implementation Plan and Project Description:		Replacement of the existing Peppertree sanitary sewer lift station with a gravity sewer.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority **Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		O Phase II engineering in progress.			

Action P-1.25

Mitigation Action #25: Implement Buffalo Creek Bank Restoration and Armoring					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $2,000,000; High	**Potential Funding Source:**	**Estimated Projected Completion Date:**	**Hazard(s) Mitigated:** Flooding, Severe Winter Weather

			MWRD Grants, General Fund	Short-term; 2025	
Year Initiated		2019			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1,2			
Applicable Objective		2, 3, 7, 9, 13			
Cost Analysis (Low, Medium, High)		High—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Reduction in sediment and erosion to protect property from damage High—Project will provide an immediate reduction of risk exposure for life and property.			
Action/Implementation Plan and Project Description:		Removal of all volunteer growth, regrading of slopes and improvement of flow. Armor toe at slopes to provide erosion control. Implementation of all current BMPs for creek flow. Addition of native planting on side slopes to promote and enhance erosion control.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority **Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		O Grant money needed to fund project			

Action P-1.26

Mitigation Action #26: Implement Kasuba Lift Station Rebuild					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $2,500,000; High	**Potential Funding Source:**	**Estimated Projected Completion Date:**	**Hazard(s) Mitigated:**

			MWRD Grants, General Fund	Short-term	Earthquake, Flooding, Tornado
Year Initiated		2019			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1,2,3			
Applicable Objective		2, 3, 7			
Cost Analysis (Low, Medium, High)		High—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).			
Priority and Level of Importance (Low, Medium, High)		High			
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)		Protect properties served by this lift station 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.			
Action/Implementation Plan and Project Description:		Removal of damaged equipment and station and rebuild it to current standards.			
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority Completion status legend: **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed		O			

Action P-1.27

Mitigation Action #27: Install Gateway Center Parking Deck Generator Replacement					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $350,000; Medium	**Potential Funding Source:** BRIC, HMGP	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** Flooding, Widespread Power Outage

Year Initiated	2019
Applicable Jurisdiction	Village of Palatine
Applicable Goal	1,2,3
Applicable Objective	2,13
Cost Analysis (Low, Medium, High)	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.
Priority and Level of Importance (Low, Medium, High)	Medium
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Protect public by maintaining lighting and operation of elevators and emergency phones High—Project will provide an immediate reduction of risk exposure for life and property.
Action/Implementation Plan and Project Description:	Replacement of existing generator to meet current standards.
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority **Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed	O Scheduled for replacement in 2027

Action P-1.28

Mitigation Action #28: Implement Smith and Colfax Traffic Signal Replacement					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** 250,000	**Potential Funding Source:** BRIC, HMGP	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** Flooding, Widespread Power Outage
Year Initiated		2019			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1,2,3			

Applicable Objective	1,2
Cost Analysis (Low, Medium, High)	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.
Priority and Level of Importance (Low, Medium, High)	Medium
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Protect motoring public High—Project will provide an immediate reduction of risk exposure for life and property.
Action/Implementation Plan and Project Description:	Removal of existing signals and pre-emption equipment and replacement to meet current standards.
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority **Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed	O This will take place after P1.19 is complete

Action P-1.29

Mitigation Action #29: Peppertree Lift Station Conversion					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $1,000,000	**Potential Funding Source:** HMGP, BRIC	**Estimated Projected Completion Date:** 2024	**Hazard(s) Mitigated:** Flooding, Widespread Power Outage
Year Initiated		2021			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1			
Applicable Objective		1, 2, 7			
Cost Analysis (Low, Medium, High)		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.			

Priority and Level of Importance (Low, Medium, High)	High
Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Converting Peppertree sanitary life station to a gravity feed line High—Project will provide an immediate reduction of risk exposure for life and property.
Action/Implementation Plan and Project Description:	Abandoning the existing peppertree sanitary lift station which feeds adjacent regional area. Converting the system to a gravity feed thus eliminating our lift which includes pumps, electrical. The benefits would include maintaining the system without any impacts from natural disasters and power outages.
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority **Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed	O

Action P-1.30

Mitigation Action #30: Reduce Flooding at Smith and Colfax Sts					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $1,000,000	**Potential Funding Source:** HMGP, BRIC, FMA	**Estimated Projected Completion Date:** 2025	**Hazard(s) Mitigated:** Flooding, Widespread Power Outage
Year Initiated		2021			
Applicable Jurisdiction		Village of Palatine			
Applicable Goal		1,2,3,4			
Applicable Objective		1, 2, 3, 9			
Cost Analysis (Low, Medium, High)		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.			
Priority and Level of Importance (Low, Medium, High)		High			

Benefits of the Mitigation Project (Loss Avoided or Issue Being Mitigated)	Adjustment to the Reimer Reservoir to improve the intersection of Smith and Colfax. High—Project will provide an immediate reduction of risk exposure for life and property.
Action/Implementation Plan and Project Description:	Initially will need to obtain conceptual approval from the National Resource Conservation Service for the adjustment to the Reimer Reservoir to improve the intersection of Smith and Colfax. This will reduce flooding, road closures, loss of vehicles, and power.
Actual Completion Date or Ongoing Indefinite	
Project Status & Changes in Priority **Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed	O

Completed Actions

Completed Mitigation Actions - An archive of all identified and completed projects, including completed actions since 2014.

Completed Action Items
Upgrade reverse 911 system
Upgrade Emergency Operations Center
Replacement of south supply water pumping station generator

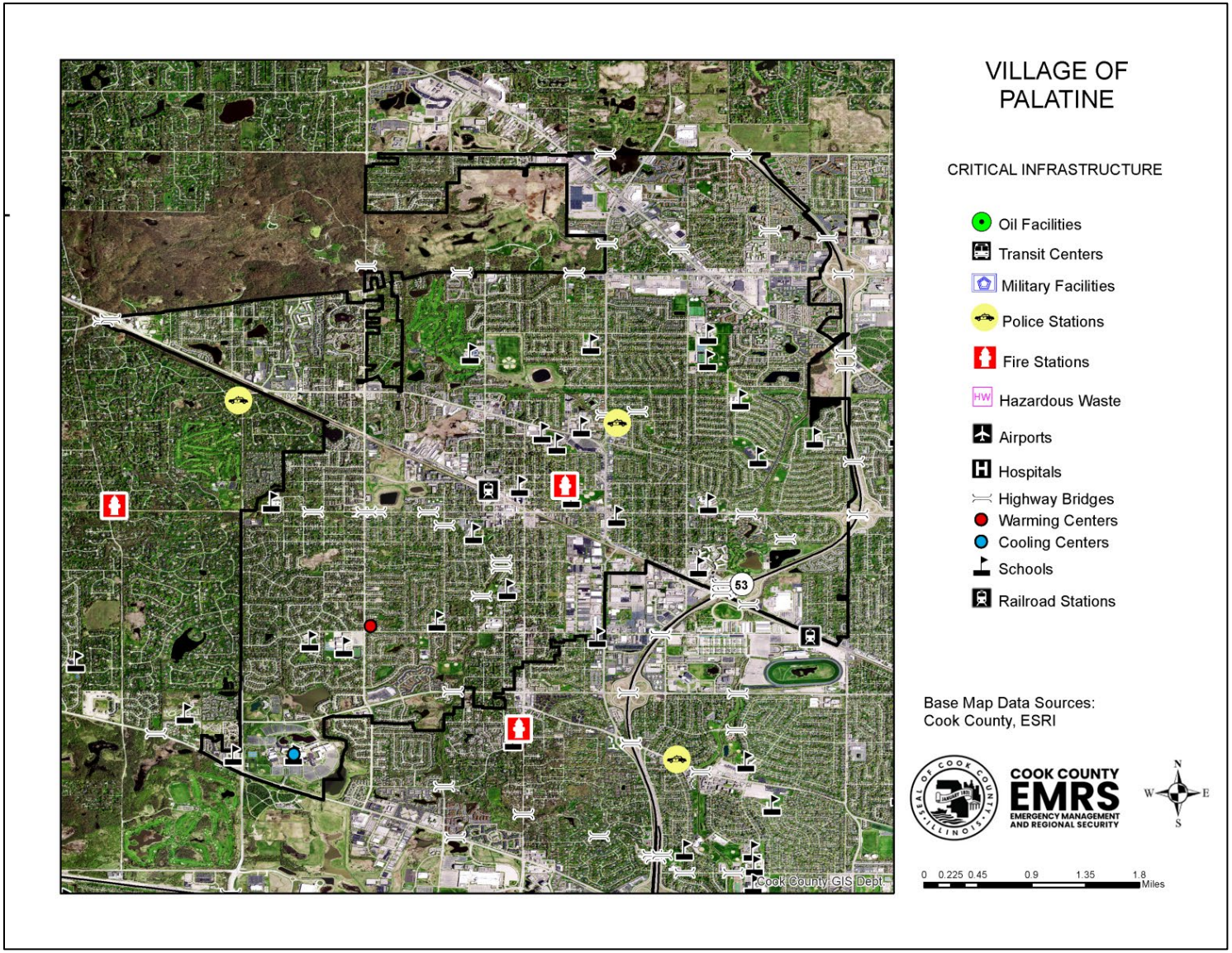
Future Needs to Better Understand Risk/Vulnerability

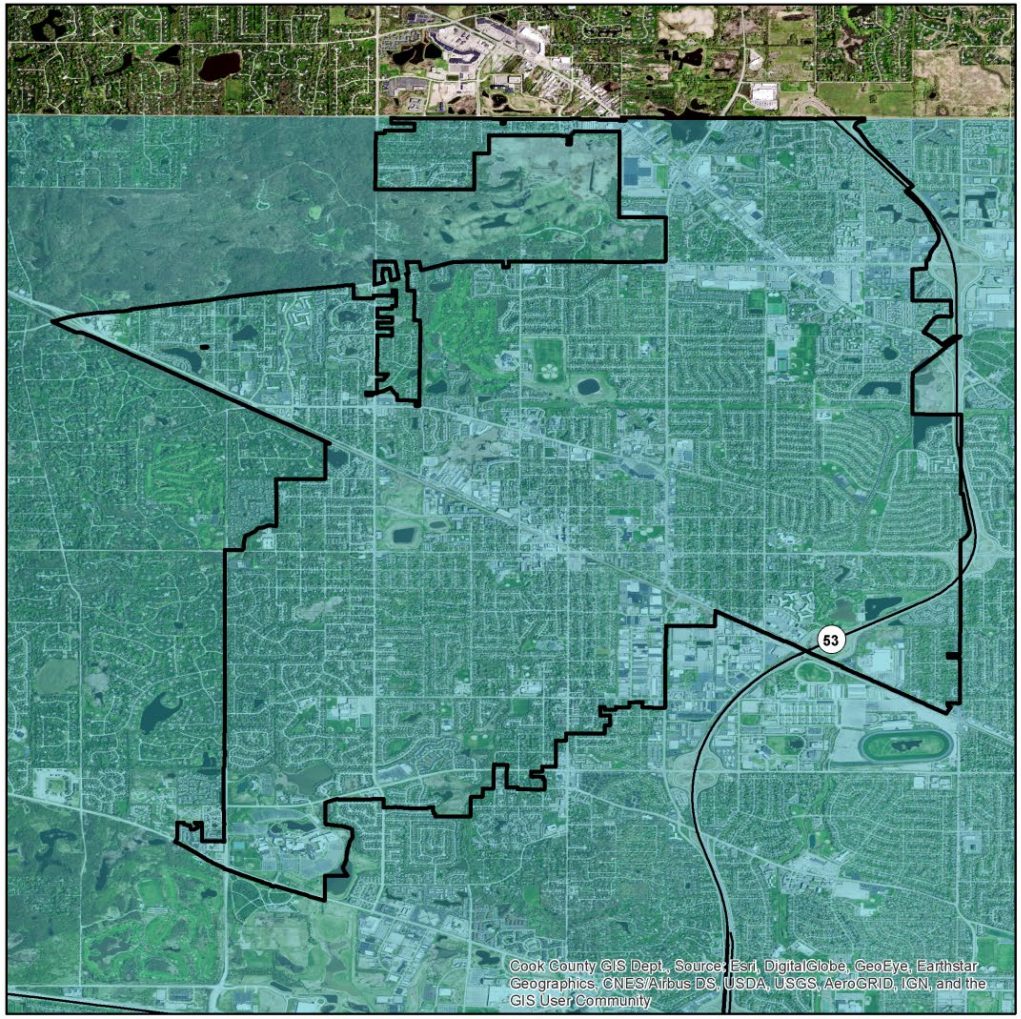
Grant money to assist funding these large projects.

Additional Comments

No additional comments at this time.

Hazard Mapping





VILLAGE OF PALATINE

PEAK GROUND ACCELERATION FOR A 100 YEAR EARTHQUAKE EVENT

Mercalli Scale, Potential Shaking

II-III Weak

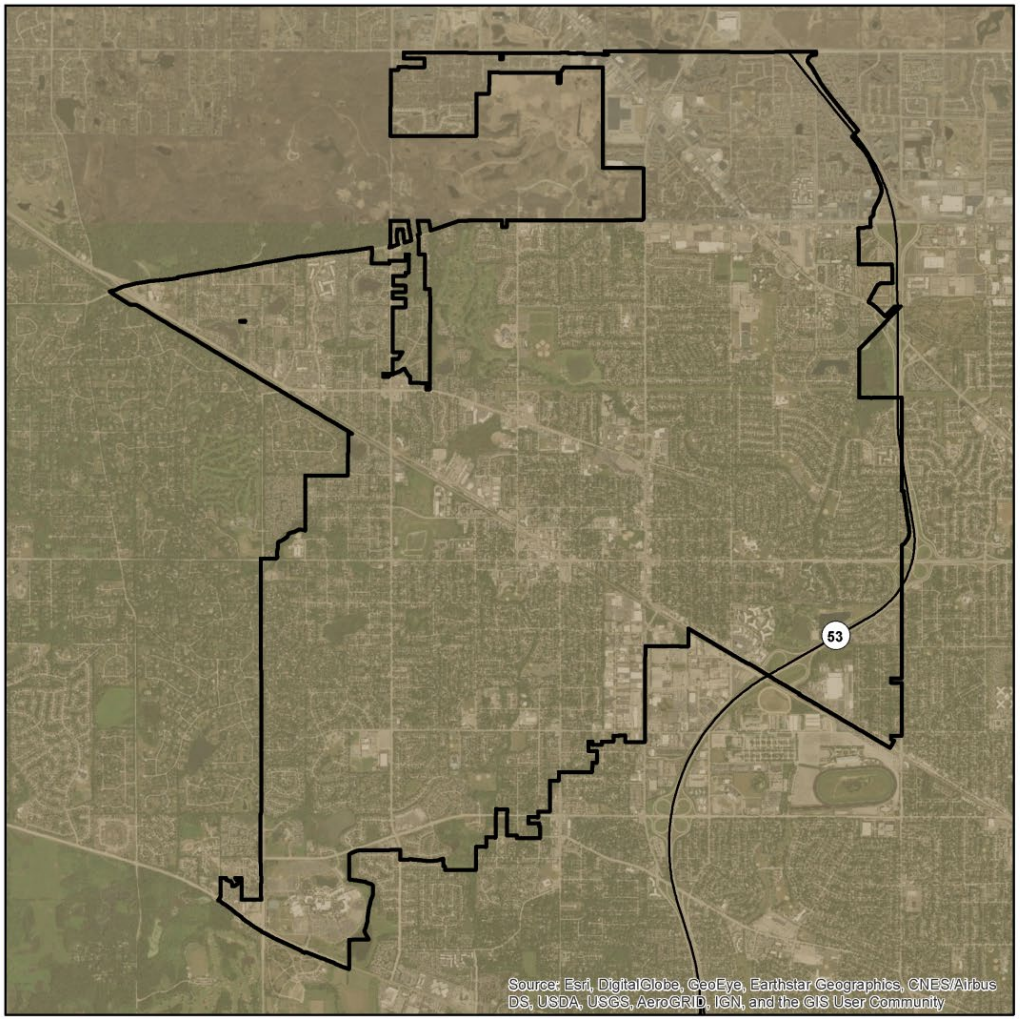
Data provided by the USGS Earthquake Hazards Program and Cook County.

Probabilistic seismic-hazard maps were prepared for the conterminous United States for 2014 portraying peak horizontal acceleration and horizontal spectral response acceleration for 0.2- and 1.0-second periods with probabilities of exceedance of 10 percent in 50 years and 2 percent in 50 years. All of the maps were prepared by combining the hazard derived from spatially smoothed historical seismicity with the hazard from fault-specific sources. The acceleration values contoured are the random horizontal component. The reference site condition is firm rock, defined as having an average shear-wave velocity of 760 m/s in the top 30 meters corresponding to the boundary between NEHRP (National Earthquake Hazards Reduction program) site classes B and C.

COOK COUNTY EMRS
EMERGENCY MANAGEMENT AND REGIONAL SECURITY

N W E S

0 0.225 0.45 0.9 1.35 1.8 Miles



VILLAGE OF PALATINE

NATIONAL EARTHQUAKE HAZARD REDUCTION PROGRAM (NEHRP) SOIL CLASSIFICATION

TYPE

- C - Very Dense Soil, Soft Rock
- D - Stiff Soil
- F- Site Specific Evaluation

Data provided by the Illinois State Geological Survey and Cook County.

The Central United States Earthquake Consortium (CUSEC) State Geologists produced a regional Soil Site Class map (NEHRP Soil Profile Type Map), a Liquefaction Susceptibility Map and a Soil Response Map for the 8 states to be used in the FEMA New Madrid Catastrophic Planning Initiative Phase II work. The USGS Geologic Investigation Series I-2789 Map of Surficial Deposits and Materials in the Eastern and Central United State (East of 102 degrees West Longitude) by David S. Fullerton, Charles A. Bush and Jean N. Pennell (2003) was the base map used for this work. Each State Geological Survey produced its own state map version of the Soil Site Class and Liquefaction Susceptibility maps. The procedures outlined in the NEHRP provisions (Building Seismic Safety Council, 2004) and the 2003 International Building Codes (International Code Council, 2002) were followed to produce the soil site class maps. CUSEC State Geologists used the entire column of soils material down to bedrock and did not include any bedrock in the calculation of the average shear wave velocity for the column, since it is the soil column and the difference in shear wave velocity of the soils in comparison to the bedrock which influences much of the amplification.

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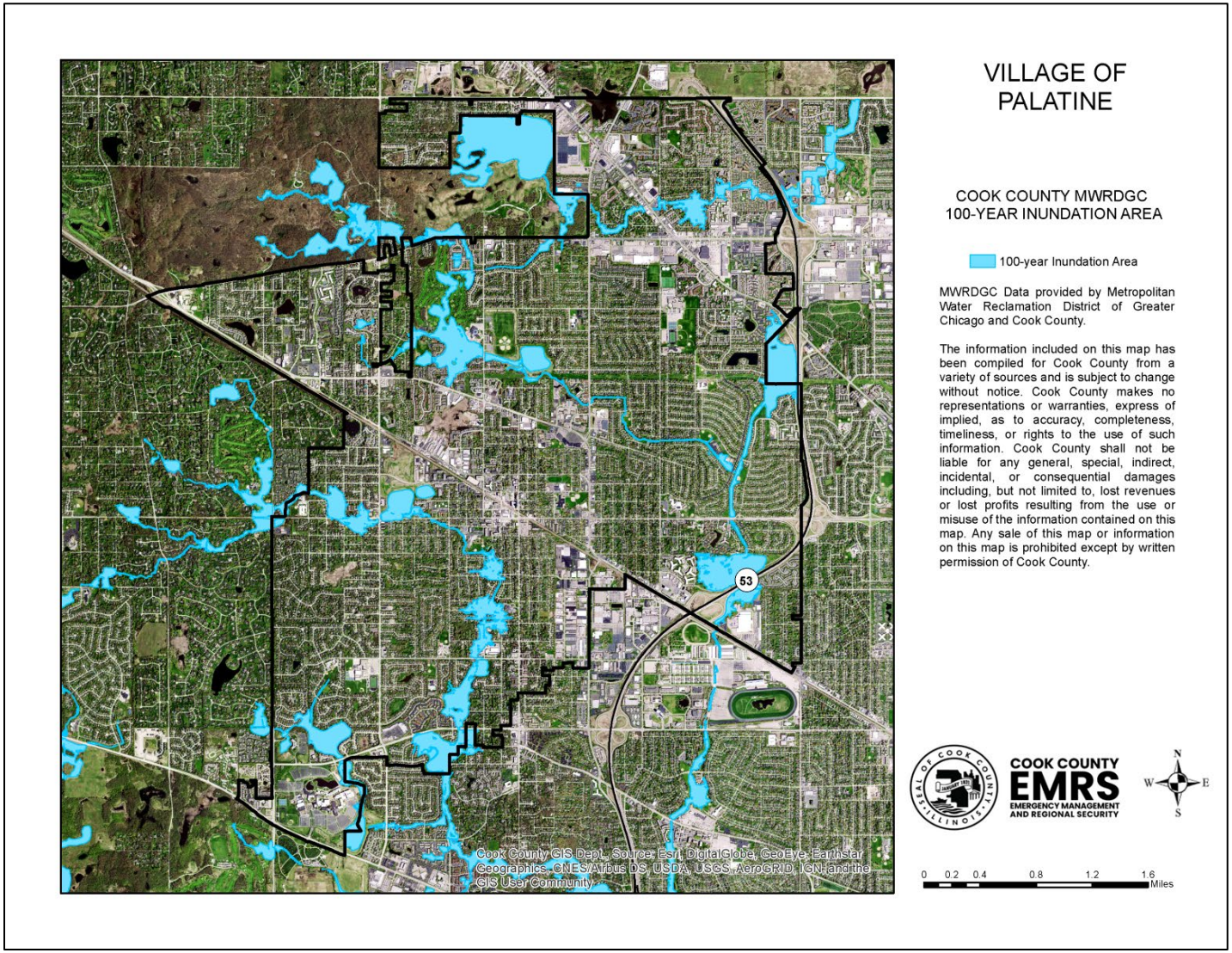
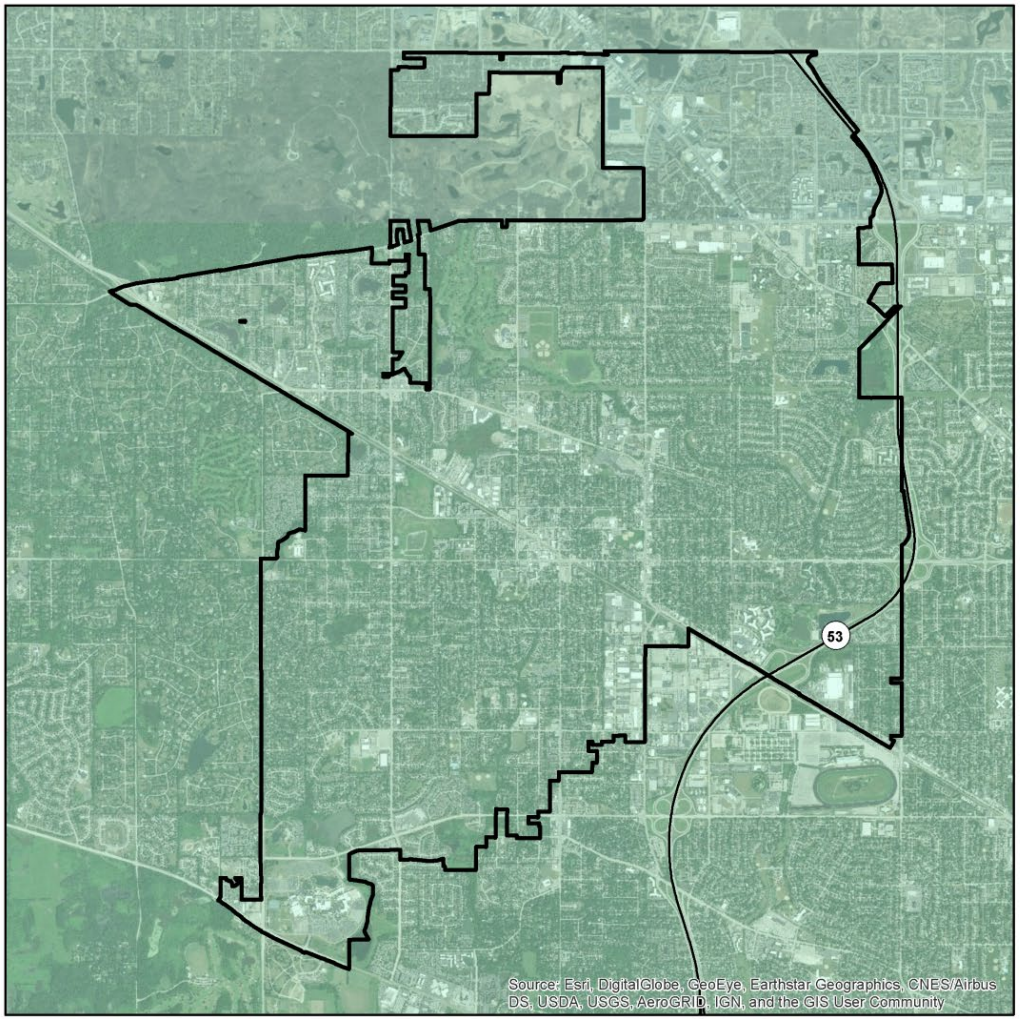
N W E S

0 0.2 0.4 0.8 1.2 1.6 Miles

DISCLAIMER: The Cook County MWRDGC 100-year Inundation Map is provided to show general flood risk information regarding floodplains and inundation areas. This map is not regulatory. Official FEMA Flood Insurance Study information and regulatory maps can be obtained from http://www.fema.gov.





VILLAGE OF PALATINE

LIQUEFACTION SUSCEPTIBILITY

LIQUEFACTION SUSCEPTIBILITY

- high
- low
- very low

Data provided by the Illinois State Geological Survey and Cook County.

The Central United States Earthquake Consortium (CUSEC) State Geologists produced a regional Soil Site Class map (NEHRP Soil Profile Type Map), a Liquefaction Susceptibility Map and a Soil Response Map for the 8 states to be used in the FEMA New Madrid Catastrophic Planning Initiative Phase II work. The USGS Geologic Investigation Series I-2789 Map of Surficial Deposits and Materials in the Eastern and Central United State (East of 102 degrees West Longitude) by David S. Fullerton, Charles A. Bush and Jean N. Pennell (2003) was the base map used for this work. Each State Geological Survey produced its own state map version of the Soil Site Class and Liquefaction Susceptibility maps. The procedures outlined in the NEHRP provisions (Building Seismic Safety Council, 2004) and the 2003 International Building Codes (International Code Council, 2002) were followed to produce the soil site class maps. CUSEC State Geologists used the entire column of soils material down to bedrock and did not include any bedrock in the calculation of the average shear wave velocity for the column, since it is the soil column and the difference in shear wave velocity of the soils in comparison to the bedrock which influences much of the amplification.

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EMERGENCY MANAGEMENT AND REGIONAL SECURITY

N
W E
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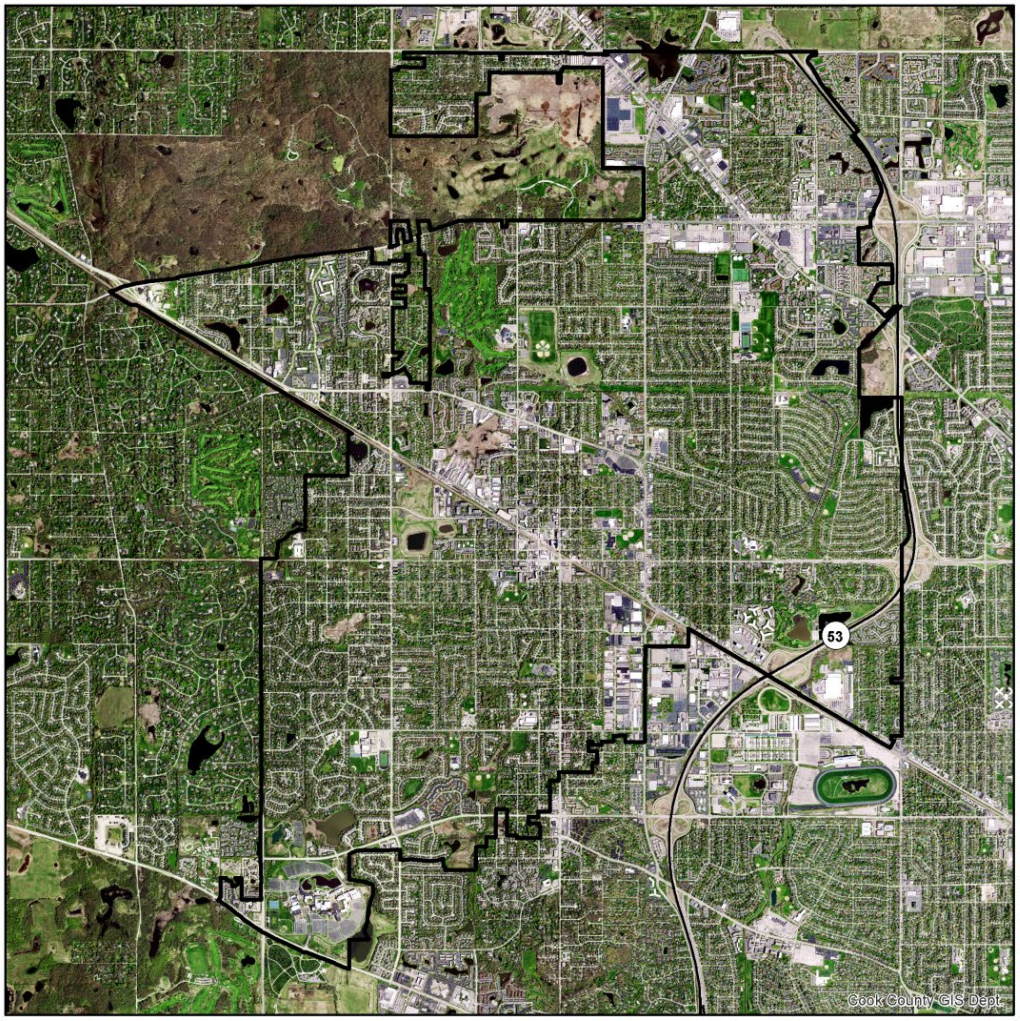
0 0.2 0.4 0.8 1.2 1.6 Miles



VILLAGE OF PALATINE

100- AND 500- YEAR TORNADO EVENTS

Magnitude

4 (100 year event)

5 (500 year event)

Historic tornado data provided by NOAA/NWS showing the initial points and paths of all F4 and F5 events observed from 1950 to 2017.

COOK COUNTY EMRS
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N
W E
S

0 0.2 0.4 0.8 1.2 1.6 Miles