

**COOK COUNTY  
MULTI-JURISDICTIONAL  
HAZARD MITIGATION PLAN  
VOLUME 2 - Municipal Annexes**

**Matteson Annex**

**FINAL**

July 2019

Prepared for:



Cook County  
Department of Homeland Security and Emergency Management  
69 W. Washington St., Suite 2600  
Chicago, Illinois 60602

Toni Preckwinkle  
President  
Cook County Board of Commissioners

William Barnes  
Executive Director  
Cook County Department of Homeland  
Security & Emergency Management

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## Hazard Mitigation Point of Contact

Primary Point of Contact	Alternate Point of Contact
Gordon Hardin Superintendent of Public Works 21146 Tower Ave Matteson, IL 60443 Telephone: 708-283-5422 Email: <a href="mailto:ghardin@villageofmatteson.org">ghardin@villageofmatteson.org</a>	Anthony Burton Village Administrator 4900 Village Commons Matteson, IL 60443 Telephone: 708-283-4911 Email: <a href="mailto:aburton@villageofmatteson.org">aburton@villageofmatteson.org</a>

## Jurisdiction Profile

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

- **Date of Incorporation:** 1889
- **Current Population:** 20,180
- **Population Growth:** Based on the United States Census Bureau, the population in the year 2000 was 12,928; the population in 2010 was 19,009; and the 2012 population increased to 19,147. The population increase within a 10-year span from 2000 to 2010 was 32.5%. Increase in population from 2010 to 2012 was nearly 1% and the moderate growth has continued.
- **Location and Description:** The Village of Matteson is located within the County of Cook, and is considered a Metropolitan Chicago South Suburban Community. Matteson is part of the Chicago Southland. The Village is home to Lincoln Mall, one of Southland’s regional shopping centers including big box retailers, and several hotels and low/midrise office buildings. The 110-acre Matteson Auto Mall, just west of Interstate 57 along US Highway 30, is the largest agglomeration of automobile dealerships in Illinois. The Village encompasses 9.36 square miles and is 30.2 miles from downtown Chicago. The Village’s topography is mostly flat. Matteson is bordered by the Villages of Park Forest and Olympia Fields to the east, Country Club Hills and Tinley Park to the north, Frankfort to the west, and Richton Park to the south. I-57 runs through the Village of Matteson with highway exits at Lincoln Highway and Vollmer Road.
- **Brief History:** In 1848, Fredrick Illgen purchased 40 acres from the federal government. These 40 acres are now the southern section of Matteson. The Village was named after the 10th Governor of Illinois, Joel A. Matteson (pronounced Mat-te-son), who was in office at the time of the settlement. German settlers were among the first to arrive to the area and situated themselves at the intersection of the Illinois Central and New York Central railroads. In 1855, Charles Ohlendorf earned the honor of being the first homeowner, the first merchant and the first postmaster. In 1856, John Fox built a home and wagon shop about the same time that John Steichelman built and opened the first Village hotel. According to the 1880 census, Matteson’s population included 500 residents. Matteson incorporated in 1889. A village water system was placed into operation in 1914. Route 30 (Lincoln Highway) was paved in 1917 and a new school was constructed in 1918. The population rose to 1,211 by 1950. Two public schools were added as the population soared to 3,225 in 1960. Two more School Districts were established in the mid-1960s, creating the three-district system that serves Matteson today. In the 1970s, the Village annexed 195 acres, adding to the 1,003 acres annexed in 1961 and the 230 acres annexed in 1967. Lincoln Mall opened its doors in 1973. Matteson was a community of 11,378 by 1990. In September 1999, Matteson celebrated its diversity with a “Hands Across Southland” in honor of “Unity Month.” Residents formed a human chain that linked Matteson to other neighboring suburbs. As Matteson moves forward, it continues to prosper, to support its successful businesses and residents, and to celebrate its diversity.
- **Climate:** The climate in Matteson is classified as humid continental, with all four seasons distinctly represented: wet springs; hot/often humid summers; pleasant autumns; and cold winters. Annual precipitation is average - reaching its lowest points in the months of January and February and peaks in the months of May and June. Snowfall in the Village has ranged from

9.8 inches (1920–21) up to 89.7 inches (1978–79). Winter conditions can persist well into April and even occasionally into May. Thunderstorms are especially prevalent in the spring as the Village’s proximity to Chicago’s lakeside location makes it a center of conflicts between large volumes of warmer and colder air, triggering many kinds of severe weather. In the summer humidity is usually moderately high and temperatures ordinarily reach anywhere between 78 and 92 °F (26 and 33 °C). Overnight temperatures in summer usually drop to around 65–70 °F (18–21 °C). Although in July and August, there are usually several nights where the temperature drops below 60 °F (16 °C). The community’s yearly precipitation is on average 36 inches; however, during the summer, rain arises from short-lived, hit-or-miss rain rather than actual prolonged rainfalls as thunderstorms also occur with regularity at night. In a normal summer, temperatures exceed 90 °F (32 °C) on 23 days. Summer is both the rainiest and sunniest season. The extreme heat that Matteson is capable of experiencing during the height of the summer season can persist into the autumn season. Temperatures have reached 100 degrees as late as September 7 (with 99 °F or 37 °C occurring as late as September 29), and temperatures have reached the lower-to-mid 90s Fahrenheit (low 30s Celsius) as late as October 6. Conversely, temperatures have dropped below freezing overnight as early as September 23, and subzero temperatures (below –18 °C) have arrived as early as November 23. Therefore, Autumn, in some ways, is a calmer season than any of the other three in the Village of Matteson.

- **Governing Body Format:** Matteson thrives for many reasons, and the local government plays a major role in keeping Matteson running smoothly. A Village President, Village Clerk and six Trustees create the governing body. All eight positions are elected at large to staggered four-year terms. This body will assume the responsibility for the adoption and implementation of this plan. The Village Administrator runs the day-to-day operations of the Village and oversees the work efforts of the Department Heads relative to Building Services, Community Affairs, Community Development, Economic Development, Engineering, Finance, Fire, Police, Human Resources, Planning, Public Works, and Recreation.
- **Development Trends:** Matteson is a major retail hub as well as a strong market for commercial, office, and hotel development. Matteson is focused on attracting high-end quality retailers. Residents have the disposal income to support these types of businesses. With an average household income of \$97,328, residents are highly educated with white collar jobs and they desire quality stores. Businesses of all types and sizes are viewing Matteson as a great investment because of commitment to positive growth. Public/private collaborations attest to the community’s commitment to provide the highest level of shopping/commerce experience to residents and neighboring suburbs. Matteson offers the best of suburban living and convenience through an array of homes, shopping, restaurants, hotels, and business opportunities. The Village of Matteson’s comprehensive plan was adopted in 1987 and last amended September 2010 (land use intensity map). The Village also supports and follows the planning recommendations of the Chicago Metropolitan Agency for Planning (the GO TO 2040 Plan). Recently, in 2018, a master redevelopment plan for the 60 acre site, southeast of U.S. 30 and Cicero Avenue, was a top priority of Matteson Village President Sheila Chalmers-Currin upon being sworn into office in May of 2017. The redevelopment project called, Market Square Crossing, will offer significant commercial businesses, residential (townhome/condominiums), recreational facilities, entertainment and pedestrian paths. The redevelopment plan outlines

housing units (townhomes/condominiums) built into four-story buildings with commercial use at the ground levels. The redevelopment plan also calls for entertainment uses such as live theater performance, concerts as well as indoor/outdoor sports tournaments. This redevelopment plan came after several big box stores closed in Matteson.

## 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.

<b>TABLE: LEGAL AND REGULATORY CAPABILITY</b>					
	<b>Local Authority</b>	<b>State or Federal Prohibitions</b>	<b>Other Jurisdictional Authority</b>	<b>State Mandated</b>	<b>Comments</b>
<b>Codes, Ordinances &amp; Requirements</b>					
Building Code	Yes	No	Yes	Yes	2012 International Residential Code; 2012 International Building Code; 2004 Illinois State Plumbing Code; 2012 International Mechanical Code; 2011 National Electrical Code; 2012 International Energy Conservation Code; 2012 International Fire Code; 2012 International Fuel Gas Code; 1997 Illinois Accessibility Code & 1998 ANSI A117.1; 2012 Property Maintenance Code
Zonings	Yes	No	No	Yes	Zoning Ordinance No. 1226 as amended; adopted 8-2-84;

					last amended 10-15-2012
Subdivisions	Yes	No	No	No	Ordinance No. 4166; 11-15-2002
Stormwater Management	Yes	No	Yes	Yes	Floodplain and Stormwater Management Code. Ordinance No. 1471, July 1, 1991; amended October 16, 2000
Post Disaster Recovery	No	No	No	No	
Real Estate Disclosure	Yes	No	Yes	Yes	Existing Structure Inspection Document: Last Updated Oct. 24, 2013. Specific requirements outlined in 2012 International Residential Code; 2004 Illinois State Plumbing Code; 2011 National Electrical Code; 2012 International Fire Code; 1997 Illinois Accessibility Code & 1998 ANSI A117.1; 2012 Property Maintenance Code. Village Ordinance No. 4186 (IPMC 2012)
Growth Management	No	No	No	No	Village of Matteson Comprehensive Plan, 2010
Site Plan Review	Yes	No	No	No	<i>Not Found</i>



Public Health and Safety	No	No	Yes	No	Cook County Board of Health.
Environmental Protection	No	No	No	No	Yes
<b>Planning Documents</b>					
General or Comprehensive Plan	Yes	No	No	No	Matteson Comp. Plan Adopted 1987, Amended 2010
<i>Is the plan equipped to provide linkage to this mitigation plan?</i>					Yes
Floodplain or Basin Plan	No	No	Yes	No	Village Refers FEMA and 2008 Flood Maps regarding MWRD Requirements
Stormwater Plan	Yes	No	No	No	Ordinance No. 1471 – Floodplain & Storm Water Management Code (adopted July 1, 1991 & amended October 16, 2000)
Capital Improvement Plan	No	No	No	No	Yes
<i>What types of capital facilities does the plan address?</i>					N/A
<i>How often is the plan revised/updated?</i>					N/A
Habitat Conservation Plan	No	No	Yes	No	
Economic Development Plan	No	No	Yes	Yes	The Economic Development Commission is charged with reviewing all economic development related programs and incentives including tax incentives offered through the Cook

					County 6b program.
Shoreline Management Plan	No	No	No	No	
<b>Response/Recovery Planning</b>					
Comprehensive Emergency Management Plan	Yes	No	Yes	Yes	Resolution No. 0768-0804; August 16, 2004
Threat and Hazard Identification and Risk Assessment	No	No	Yes	Yes	Cook County DHSEM Preparing THIRA
Terrorism Plan	No	No	Yes	Yes	Cook County DHSEM
Post-Disaster Recovery Plan	No	No	No	No	Cook County DHSEM
Continuity of Operations Plan	No	No	Yes	Yes	Cook County DHSEM
Public Health Plans	No	No	Yes	Yes	Cook County DPH

<b>TABLE: FISCAL CAPABILITY</b>	
<b>Financial Resources</b>	<b>Accessible or Eligible to Use?</b>
Community Development Block Grants	Yes
Capital Improvements Project Funding	No
Authority to Levy Taxes for Specific Purposes	No
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	No
Withhold Public Expenditures in Hazard-Prone Areas	Unknown
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes

<b>TABLE: ADMINISTRATIVE AND TECHNICAL CAPABILITY</b>		
<b>Staff/Personnel Resources</b>	<b>Available?</b>	<b>Department/Agency/Position</b>
Planners or engineers with knowledge of land development and land management practices	Yes	Engineering Division, Economic Development, Community Development, Public Affairs, and Public Works Departments
Engineers or professionals trained in building or infrastructure construction practices	Yes	Engineering Division, Building Services, and Public Works Departments
Planners or engineers with an understanding of natural hazards	Yes	Engineering Division, Community Development, Economic Development, and Public Works Departments
Staff with training in benefit/cost analysis	Yes	Finance Department
Surveyors	Yes	Engineering Division
Personnel skilled or trained in GIS applications	Yes	Cook County GIS Consortium
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	Cook County DHSEM
Grant writers	Yes	Engineering Division

<b>TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE</b>	
What department is responsible for floodplain management in your jurisdiction?	Public Works Department
Who is your jurisdiction’s floodplain administrator? (department/position)	Public Works Director
Are any certified floodplain managers on staff in your jurisdiction?	Engineering Division
What is the date of adoption of your flood damage prevention ordinance?	None
When was the most recent Community Assistance Visit or Community Assistance Contact?	Village has not received a Community Assistance Visit
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	Not that we are aware of

Do your flood hazard maps adequately address the flood risk within your jurisdiction? (If no, please state why)	No! Still referring to 2008 Flood Maps per MWRD requirements.
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?	Yes! Technical Training and Equipment.
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?	No. But the Village is definitely interested in participating in the CRS program.

**TABLE: COMMUNITY CLASSIFICATIONS**

	<b>Participating?</b>	<b>Classification</b>	<b>Date Classified</b>
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	Yes	Unknown	Unknown
Public Protection/ISO	Yes	Unknown	Unknown
StormReady	Yes	Gold (Countywide)	2014
Tree City USA	Yes	N/A	March 2013

## Jurisdiction-Specific Natural Hazard Event

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: 1
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0

<b>TABLE: NATURAL HAZARD EVENTS</b>			
<b>Type of Event</b>	<b>FEMA Disaster # (if applicable)</b>	<b>Date</b>	<b>Preliminary Damage Assessment</b>
Severe Weather	-	6/30/2014	-
Severe Winter Snow Storms and Cold	-	12/2013 - 2/2014	Brutal impact on salt supply and overtime staff – public works and public safety. One of the worst winter storms (consistently) in all time. Severe cold, unimaginable snow and more. Deadly driving conditions and concerns for health and welfare of children and seniors. Severe flooding is expected in the Spring thaw. No preliminary damage estimates. No insurance claim data. Citizen input involves snow removal timely and consistently. Concerns for spring flooding
Severe Storms, Straight-Line Winds and Flooding	DR-4116	4/26/2013	Debris, Miscellaneous, Response, Flooding, Severe Storm. Efforts were made to combat the rising waters caused by floods that flowed above 3 feet into homes, basements and down streets. More than seven inches of rain fell in Matteson. Costs of additional equipment, overtime to staff, and bringing in other professional resources were approximately \$1,000,000. Citizen input included questions on infrastructure capacity to mitigate flood in the future. Questions arose regarding how residents could obtain help from FEMA. Preliminary damage estimates – not known; Insurance Claims – not known

<p>Severe Winter Storm and Snowstorm</p>	<p>DR-1960</p>	<p>1/31/2011</p>	<p>Damage assessment included the need for emergency protective measures, including snow assistance, for a continuous 48-hour period. Damage included significant debris, the need for additional, emergency services related to the disaster, and repairing or replacing damaged public facilities, such as roads, utilities and recreation areas. Storm cleanup severely strained the Village budget. Unplanned amounts (over \$1 million) for additional salt, over time for public works and public safety staff. Securing additional staff and professional contractors were needed during this period as well. Snow melting led to flooding issues shortly thereafter which caused significant problems because of current infrastructure not having capacity. Previous floods brought much wear and tear on public infrastructure, and this incident caused additional, unforeseen problems. The storm caused serious social disruption and caused great hardship to quality of life for a long period of time. Matteson is part of a regional emergency response plan. Property damage estimates – not known. Insurance Claims – not known.</p>
<p>Severe Storms and Flooding</p>	<p>DR-1935</p>	<p>7/9/2010</p>	<p>Exceptional flooding occurred; damage to property. Village spent in excess of \$1 million to cover overtime for public works and public safety; additional equipment; contractors; and more. Clean up of debris and other damage was excessive. Citizen input discussed the capacity of current public infrastructure regarding future floods. The storm caused serious social disruption and caused great hardship to quality of life for a long period of time. Property damage estimates – not known; insurance claims data – not known. Matteson is part of a regional emergency response plan.</p>
<p>Severe Storms and Flooding</p>	<p>DR-1800</p>	<p>9/13/2008</p>	<p>Significant flood damage to homes and businesses. Fallen debris required additional cleanup efforts. Severely damaged homes required significant rehabilitation. Loss of personal property conveyed. Village spent</p>

			over \$1 million for staff overtime regarding public safety and public works. Equipment maintenance and contractor resources were required as well. Citizen input conveyed concerns on capacity of current public infrastructure – and when the infrastructure will be able to handle severe flooding issues. The storm caused serious social disruption and caused great negative to quality of life for a long period of time. Insurance Claims not known; preliminary damage estimates-not known. Matteson is part of a regional emergency response plan.
Severe Storms and Flooding	DR-1729	8/20/2007	Severe damage to properties due to flooding and debris. The storm caused serious social disruption and caused great hardship to quality of life for a long period of time. Village spent over \$1 million on staff overtime public works and public safety, equipment, and contractors to ensure capacity to deal with aftermath of storm. Citizen input involves infrastructure capacity and when capacity will be enhanced to deal with flood issues. Insurance claims – not known. Matteson is part of a regional emergency response plan. Property damage estimates – not known; insurance claims data – not known.
Hurricane Katrina	-	12/11/2000	-
Flooding	DR-1188	8/16/1997	Severe flood problems were a result of overflows of water that submerged dry land within the Village. The ground was saturated where the water either could not run off or could not run off quickly enough to stop accumulating. This was a result of strong rains. In addition, some of the flooding occurred on impermeable surfaces, such as concrete and paving, and could not rapidly dissipate into the ground. Therefore, there are systematic negative impacts on the community each time it floods due to sewer pipes, toilets and sinks into buildings, seepage through building walls and floors; the accumulation of water on property and in public right-of-ways. This leads to a

			negative impact on quality of life. It costs the Village over \$1 million each time a natural disaster occurs - costs for overtime public safety staff, overtime public works and building staff, etc.; purchase of new equipment or repairing old; costs additional contractors; and more. Preliminary damage estimates not known. Insurance claims not known. Citizen input involves questions regarding the capacity of current public infrastructure; and when the capacity to handle flooding issues will be resolved
Flooding	DR-1129	7/17/1996	Severe flood problems were a result of overflows of water that submerged dry land within the Village. The ground was saturated where the water either could not run off or could not run off quickly enough to stop accumulating. This was a result of strong rains. In addition, some of the flooding occurred on impermeable surfaces, such as concrete and paving, and could not rapidly dissipate into the ground. Therefore, there are systematic negative impacts on the community each time it floods due to sewer pipes, toilets and sinks into buildings, seepage through building walls and floors; the accumulation of water on property and in public right-of-ways. This leads to a negative impact on quality of life. It costs the Village over \$1 million each time a natural disaster occurs - costs for overtime public safety staff, overtime public works and building staff, etc.; purchase of new equipment or repairing old; costs additional contractors; and more. Preliminary damage estimates not known. Insurance claims not known. Citizen input involves questions regarding the capacity of current public infrastructure; and when the capacity to handle flooding issues will be resolved.
Flooding, Severe Storms	DR-997	4/13/1993	The event included an unusual force of heavy rain fall and exceptionally strong winds with violent outbreaks of thunder and lightning. Severe flood problems were a result of overflows of water that submerged dry land within the Village. The ground was



			<p>saturated where the water either could not run off or could not run off quickly enough to stop accumulating. This was a result of strong rains. In addition, some of the flooding occurred on impermeable surfaces, such as concrete and paving, and could not rapidly dissipate into the ground. Therefore, there are systematic negative impacts on the community each time it floods due to sewer pipes, toilets and sinks into buildings, seepage through building walls and floors; the accumulation of water on property and in public right-of-ways. This leads to a negative impact on quality of life. It costs the Village over \$1 million each time a natural disaster occurs - costs for overtime public safety staff, overtime public works and building staff, etc.; purchase of new equipment or repairing old; costs additional contractors; and more. Preliminary damage estimates not known. Insurance claims not known. Citizen input involves questions regarding the capacity of current public infrastructure; and when the capacity to handle flooding issues will be resolved</p>
<p>Severe Storms, Flooding</p>	<p>DR-798</p>	<p>8/13/1987</p>	<p>The event included an unusual force of heavy rain fall and exceptionally strong winds with violent outbreaks of thunder and lightning. Severe flood problems were a result of overflows of water that submerged dry land within the Village. The ground was saturated where the water either could not run off or could not run off quickly enough to stop accumulating. This was a result of strong rains. In addition, some of the flooding occurred on impermeable surfaces, such as concrete and paving, and could not rapidly dissipate into the ground. Therefore, there are systematic negative impacts on the community each time it floods due to sewer pipes, toilets and sinks into buildings, seepage through building walls and floors; the accumulation of water on property and in public right-of-ways. This leads to a negative impact on quality of life. It costs the Village over \$1 million each time a natural disaster occurs - costs for overtime public</p>

			safety staff, overtime public works and building staff, etc.; purchase of new equipment or repairing old; costs additional contractors; and more. Preliminary damage estimates not known. Insurance claims not known. Citizen input involves questions regarding the capacity of current public infrastructure; and when the capacity to handle flooding issues will be resolved.
Severe Storms, Flooding	DR-776	9/21/1988	The event included an unusual force of heavy rain fall and exceptionally strong winds with violent outbreaks of thunder and lightning. Severe flood problems were a result of overflows of water that submerged dry land within the Village. The ground was saturated where the water either could not run off or could not run off quickly enough to stop accumulating. This was a result of strong rains. In addition, some of the flooding occurred on impermeable surfaces, such as concrete and paving, and could not rapidly dissipate into the ground. Therefore, there are systematic negative impacts on the community each time it floods due to sewer pipes, toilets and sinks into buildings, seepage through building walls and floors; the accumulation of water on property and in public right-of-ways. This leads to a negative impact on quality of life. It costs the Village over \$1 million each time a natural disaster occurs - costs for overtime public safety staff, overtime public works and building staff, etc.; purchase of new equipment or repairing old; costs additional contractors; and more. Preliminary damage estimates not known. Insurance claims not known. Citizen input involves questions regarding the capacity of current public infrastructure; and when the capacity to handle flooding issues will be resolved.
Winter Snow Storm	EM-3134	1/16/1979	Extreme cold, horrid driving conditions. Exhausted village resources in purchase of salt, equipment, overtime staff, and public safety. No damage estimates, insurance claim data. Citizen complaints on timely snow removal.

<p>Severe Storms, Flooding, Tornadoes</p>	<p>DR-509</p>	<p>6/18/1976</p>	<p>The event of high winds was a violent occurrence with an unusual force of heavy rain fall and exceptionally strong winds with violent outbreaks of thunder and lightning. Severe flood problems were a result of overflows of water that submerged dry land within the Village. The ground was saturated where the water either could not run off or could not run off quickly enough to stop accumulating. This was a result of strong rains. In addition, some of the flooding occurred on impermeable surfaces, such as concrete and paving, and could not rapidly dissipate into the ground. Therefore, there are systematic negative impacts on the community each time it floods due to sewer pipes, toilets and sinks into buildings, seepage through building walls and floors; the accumulation of water on property and in public right-of-ways. This leads to a negative impact on quality of life. It costs the Village over \$1 million each time a natural disaster occurs - costs for overtime public safety staff, overtime public works and building staff, etc.; purchase of new equipment or repairing old; costs additional contractors; and more. Preliminary damage estimates not known. Insurance claims not known. Citizen input involves questions regarding the capacity of current public infrastructure; and when the capacity to handle flooding issues will be resolved</p>
<p>Severe Storms, Flooding</p>	<p>DR-373</p>	<p>4/26/1973</p>	<p>The event included an unusual force of heavy rain fall and exceptionally strong winds with violent outbreaks of thunder and lightning. Severe flood problems were a result of overflows of water that submerged dry land within the Village. The ground was saturated where the water either could not run off or could not run off quickly enough to stop accumulating. This was a result of strong rains. In addition, some of the flooding occurred on impermeable surfaces, such as concrete and paving, and could not rapidly dissipate into the ground. Therefore, there are systematic negative impacts on the community each time it floods due to</p>

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<p>Severe Storms, Flooding</p>	<p>DR-351</p>	<p>9/4/1972</p>	<p>The event included an unusual force of heavy rain fall and exceptionally strong winds with violent outbreaks of thunder and lightning. Severe flood problems were a result of overflows of water that submerged dry land within the Village. The ground was saturated where the water either could not run off or could not run off quickly enough to stop accumulating. This was a result of strong rains. In addition, some of the flooding occurred on impermeable surfaces, such as concrete and paving, and could not rapidly dissipate into the ground. Therefore, there are systematic negative impacts on the community each time it floods due to sewer pipes, toilets and sinks into buildings, seepage through building walls and floors; the accumulation of water on property and in public right-of-ways. This leads to a negative impact on quality of life. It costs the Village over \$1 million each time a natural disaster occurs - costs for overtime public safety staff, overtime public works and building staff, etc.; purchase of new equipment or repairing old; costs additional contractors; and more. Preliminary damage estimates not known. Insurance claims not known. Citizen input involves questions regarding the capacity of current public infrastructure; and when the capacity to handle flooding issues will be resolved.</p>

Tornadoes	DR-227	4/25/1967	Tornadoes with heavy rains and strong winds caused much damage within the Matteson community. However, the extent of natural disaster damage is not always clear. However, what is clear - this event was a violent occurrence that exhausted a negative impact on quality of life and the economy. No preliminary damage estimates available. No insurance claims data available. When flooding is not the primary issue, very little citizen input in this regard
Severe Winter Storm	EM-3161	-	Although Matteson, Illinois was not one of its hardest hit areas within the nation, the community felt devastating impact from its winds and floods. Caused evacuation, structural damage to the infrastructure, and utility damage. No preliminary damage estimates. No insurance claim data. Citizen input was that of understanding to other states who were hardest hit. Village expended nearly \$2 million to manage disaster outcomes

**Jurisdiction-Specific Hazards and Impacts**

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2019 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.

**Flooding:** Very heavy rains fell across parts of southern Cook County. In Matteson, viaducts flooded on Governors Highway. The viaduct at 214th street had 5 feet of water and the viaduct at 218th street had 9 feet of water. A city rain gauge measured 1.50 inches of rain in 45 minutes and 3 inches in four hours. Numerous other streets were flooded along with some flooded basements. Basement flooding was also reported in Richton Park. Storm total rainfall amounts included 3.13 inches in Park Forest, 2.81 inches in Lansing and 2.09 inches in Manhattan.

**Severe Weather:** Trees up to 60 feet tall were blown over and large tree limbs were blown down near Lincoln Highway and Governors Highway.

**High Wind:** There were numerous reports of funnel clouds from Matteson to Peotone to Beecher. / In Matteson there was sporadic damage to commercial buildings across a half mile wide path along and south of Route 30 and Cicero Ave. Garage doors were blown in at a service station, and there was damage to roofs and HVAC units on roofs to a few buildings around the Lincoln Mall Shopping Center. There were a few trees blown down in a wooded area just southeast of the mall. Two semis were overturned on I-57 near Sauk Trail.

**Hail, Snow, Blizzard, Extreme Cold, Ice Storms:** Penny size hail was reported at Route 30 and Governors Highway.

**Tornado:** There was an intense narrow path of damage starting just southeast of the intersection of Lincoln Highway and Governors Highway. The concentrated path went from near Memorial Park to the train platform at Main Street and Hickory. In this neighborhood many large limbs were down and some trees were uprooted. A garage was destroyed and the roof of the train platform was damaged. Winds through this area were likely 90 to 105 mph, which is EF1 on the enhanced Fujita Scale. The path of the damage was from northwest to southeast, but many of the trees were blown from southwest to northeast, across the damage path. This indicated there was likely rotation. Several residents reported seeing rotation or a funnel cloud in this area. Lighter damage continued southeast of the railroad tracks near Wildwood Park and east to the Norwood Plaza at Western and 26th Street. It appears that the tornado dissipated in the forest preserve near 26th Street.

**Widespread Power Outage:** Roof damage to a business building. Power lines also blown down. Powerful and damaging thunderstorms moved across northern Illinois producing widespread wind damage. The most intense wind damage occurred along a path which began in far western Dupage County near the intersection of Roosevelt Road and Washington Street in West Chicago and continued east through the northern portions Lombard and Glen Ellyn, into Northlake, then across the north side of Chicago to the Lake Michigan Shore near Montrose Harbor.

## 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.

<b>TABLE: HAZARD RISK RANKING</b>		
<b>Rank</b>	<b>Hazard Type</b>	<b>Risk Rating Score (Probability x Impact)</b>
1	Flood	54
2	Severe Weather	54
3	Severe Winter	54
4	Tornado	54
5	Earthquake	30
6	Drought	2
7	Dam Failure	0

## 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. This section is organized as follows:

- New Mitigation Actions - New actions identified during this 2019 update process
- Ongoing Mitigation Actions - Ongoing actions with no definitive end or that are still in progress. During the 2019 update, these "ongoing" mitigation actions and projects were modified and/or amended, as needed.
- Completed Mitigation Actions - An archive of all identified and completed projects, including completed actions since 2014.

The *Hazard Mitigation Action Plan Matrix Table* below lists the actions that make up the jurisdiction’s hazard mitigation plan. The *Mitigation Strategy Priority Schedule Table* identifies the priority for each action.

TABLE: HAZARD MITIGATION ACTION PLAN MATRIX						
Status	Hazards Mitigated	Objectives Met	Lead Agencies	Estimated Cost	Sources of Funding	Timeline/projected Completion Date (a)
<b>Action M2.1</b> —IMPROVE PUBLIC INFRASTRUCTURE regarding mitigation of floods and other hazards with specific concentrations on water/sewer infrastructure projects. Some other mitigation efforts include: sewer lining and smoke testing for combined sewer overflow; street reconstruction/drainage; new sidewalk design/construction to include better drainage; elevated tank raising; water main replacements for sustainability; elevated tank painting for better sustainability; sanitary sewer cleaning; utility upgrades/efficiency regarding public street lights; local roads and bridge assessments to ensure sustainability. Basic premise is to increase resilience of infrastructure and critical facilities which also includes the establishment of public rain gardens as well.						
Completed	All	1, 2, 3, 7, 9, 12	Matteson	\$20,000.00; High	Some Local Government Resources. Seeking Cook County, State, and Federal Grants	Completed



<b>Action M2.2—STRENGTHEN BUILDING AND ZONING CODES – impacts of natural hazards on future land uses; integrate hazard mitigation policies; strengthen land-use planning efforts; reduce natural hazard risk and vulnerability to potentially isolated populations.</b>						
Ongoing	All	2, 4, 10, 12	Matteson	Low	Some Local Government Resources. Cook County	Short-term
<b>Action M2.3—72-HOUR SELF SUFFICIENCY – increase Matteson capacity to handle hazards and related crisis within its own government immediately and strengthen intergovernmental agreements and cooperation during and after hazards as well. Specifics increasing local capacity through all phases of emergency management; increase resilience; improve systems that provide early warnings; establish new partnerships and strengthen existing partnerships.</b>						
Ongoing	All	1, 2, 5, 8	Matteson	\$50,000; Medium	Local Government Resources. Cook County, State, and Federal Grants	Short-term
<b>Action M2.4—ENHANCE TORNADO WARNING PROTOCOL – help minimize disruption of Matteson government operations; improve early warning systems and emergency response communications; enhance partnerships regarding warning protocol.</b>						
Ongoing	All	1, 5, 8	Matteson	\$100,000; Medium	Local Government Resources. Cook County, State and Federal Grants	Short-term
<b>Action M2.5—PROVIDE SHELTER FACILITIES - working alongside early warning program; established partnerships with other governments and communities; reduce loss of injury/save lives.</b>						
Completed	All	5, 8, 12	Matteson and Township	\$500,000; High	Local Government Resources. Cook	Completed

					County, State, and Federal Grants. Foundation Grants	
<p><b>Action M2.6</b>—DEVELOP EVACUATION PLAN - working alongside early warning program; established partnerships with other governments and communities; reduce loss of injury/save lives.</p>						
Completed	All	5, 8, 12	Matteson and Township	\$100,000; Medium	Local Government Resources. Cook County, State, and Federal Grants. Foundation Grants	Completed
<p><b>Action M2.7</b>—DEVELOP POST-DISASTER RECOVERY PLAN - utilizing resilience of critical facilities; development, improvements, and protection of early warning and post warning systems; utilizing good data; establishment of good partnerships with neighboring communities and other governments; encouragement of natural environment mitigation efforts.</p>						
Completed	All	2, 5, 6, 8, 13	Matteson and Township	\$100,000; Medium	Local Government Resources. Cook County, State, and Federal Grants. Foundation Grants	Completed
<p><b>Action M2.8</b>—DEVELOP PUBLIC EDUCATION PROGRAMS – Although it would be most helpful to have all planning programs in place prior to outreach and education, its crucial to involve residents and businesses with what keeps them safe. Outreach and education include posting information on Village Website; discussions about private rain gardens; keeping your home safe with proactive measures. Education programs will involve village hazard mitigation policies; early warning systems; utilizing the best data available and technologies to educate public; partnership identifications with other governments, agencies, and communities and where to seek help while in a disaster; education about codes and land use within the area; and encourage residents and businesses as to when and how to mitigate hazards regarding their own properties.</p>						

Completed	All	4, 5, 6, 8, 10, 11, 13	Matteson	\$150,000	Local Government Resources. Cook County, State, and Federal Grants. Foundation and Education Grants	Completed
<b>Action M2.9</b> —Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.						
Ongoing	All	7, 13	Matteson	High	FEMA Hazard Mitigation Grants	Long-term (depending on funding)
<b>Action M2.10</b> —Continue to support the county-wide actions identified in Cook County's Hazardous Mitigation plan.						
Ongoing	All	All	Matteson	Low	General Fund	Short- and long-term
<b>Action M2.11</b> —Actively participate in the plan maintenance strategy identified in this plan.						
Ongoing	All	3, 4, 6	DHSEM Matteson	Low	General Fund	Short-term
<b>Action M2.12</b> —Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.						
Ongoing	All	3, 4, 5, 6, 7, 9, 10, 11, 13	Matteson	Low	General Fund	Long-term
<b>Action M2.13</b> —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.						
Ongoing	All	4, 6, 9	Matteson	Low	General Fund	Short-term and ongoing
<b>Action M2.14</b> —Where feasible, implement a program to record high water marks following high-water events.						

Ongoing	Flooding, Severe Weather	3, 6, 9	Matteson	Medium	General Fund; FEMA Grant Funds (Public Assistance)	Long-term
<b>Action M2.15</b> —Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.						
Ongoing	All	3, 4, 6, 10, 13	Engineering Division, Economic Development, Community Development, Public Affairs, and Public Works Departments	Low	General Fund	Short-term
<b>Action M2.16</b> —Consider the development and implementation of a Capital Improvements Program (CIP) to increase the Village’s regulatory, financial and technical capability to implement mitigation actions.						
Ongoing	All	1, 2, 7	Public Works	High	CIP component of general fund (if implemented)	Long-term
<b>Action M2.17</b> —Demolition has been complete regarding the properties located at Lincoln Mall. There is now vacant land on 90% of the property. Vacant land allows for additional drainage within the community. Much of property will be turned into green space						
Ongoing	Flood	7, 12, 13	Matteson	TBD	TBD	Long-term
<b>Action M2.18</b> —Project compliance with MWRD Watershed Management Ordinance Article 8, Inflow & Infiltration Control Program (IICP) for the sanitary sewers owned by Matteson. In July of 2014 MWRD enacted the new IICP. (Project not previously identified in 2016 report).						

Ongoing	Flood	2, 12, 13	Matteson and MWRD	High	MWRD	Short-term
<b>Action M2.19—Historical Old Mitigation, Storm Mitigation Project</b>						
New	Flood, Lightning, Hail, Fog, High Wind, Snow, Blizzard, Extreme Cold, Ice Storms, Tornado, Widespread Power Outage	1, 2, 3, 4, 7	TBD	\$2,000,000	TBD	2025

(a) Ongoing indicates continuation of an action that is already in place. Short-term indicates implementation within five years. Long-term indicates implementation after five years.

**TABLE: MITIGATION STRATEGY PRIORITY SCHEDULE**

Action Number	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/budgets?	Priority (a)
1	6	High	High	Yes	Yes	No	Medium
2	4	Medium	Low	Yes	No	Yes	High
3	4	High	Medium	Yes	No	Yes	High
4	3	High	Medium	Yes	Yes	Yes	High
5	3	High	High	Yes	Yes	No	Medium
6	3	High	Medium	Yes	Yes	No	High
7	6	Medium	Medium	Yes	Yes	Yes	Medium
8	2	High	High	Yes	Yes	No	Medium
9	13	Medium	Low	Yes	No	Yes	High
10	3	Medium	Low	Yes	Yes	Yes	High
11	9	Medium	Low	Yes	No	Yes	Medium
12	3	Medium	Low	Yes	No	Yes	High
13	3	Medium	Medium	Yes	Yes	No	Medium

14	5	Medium	Low	Yes	No	Yes	High
15	3	High	High	Yes	No	No	Medium
16	2	High	High	Yes	Yes	No	Medium
17	3	High	High	Yes	Yes	Unknown	High
18	3	High	High	Yes	Yes	Yes	High
19	5	High	High	Yes	Yes	Unknown	High

(a) See Chapter 1 for explanation of priorities.

### New Mitigation Actions

The following are new mitigation actions created during the 2019 update.

**Action M2.19**

<b>Mitigation Action</b>	Historical Old Mitigation, Storm Mitigation Project
<b>Year Initiated</b>	2019
<b>Applicable Jurisdiction</b>	
<b>Lead Agency/Organization</b>	
<b>Supporting Agencies/Organizations</b>	MWRD
<b>Applicable Goal</b>	<ul style="list-style-type: none"> <li>• Develop and implement sustainable, cost-effective, and environmentally sound risk-reduction (mitigation) projects.</li> <li>• Protect the lives, health, safety, and property of the citizens of Cook Country from the impacts of natural hazards.</li> <li>• Protect public services and critical facilities, including infrastructure, from loss of use during natural hazard events.</li> <li>• Promote public understanding of and support for hazard mitigation.</li> </ul>
<b>Applicable Objective</b>	<ul style="list-style-type: none"> <li>• Eliminate or minimize disruption of local government operations caused by natural hazards through all phases of emergency management.</li> <li>• Increase the resilience of (or protect and maintain) infrastructure and critical facilities.</li> <li>• Consider the impacts of natural hazards on future land uses in the planning area, including possible impacts from climate change.</li> <li>• Integrate hazard mitigation policies into land use plans in the planning area.</li> <li>• Reduce natural hazard-related risks and vulnerability to potentially isolated populations within the planning area.</li> </ul>
<b>Potential Funding Source</b>	TBD
<b>Estimated Cost</b>	\$2,000,000
<b>Benefits (loss avoided)</b>	TBD
<b>Projected Completion Date</b>	2025
<b>Priority and Level of Importance (Low, Medium, High)</b>	High Priority
<b>Benefit Analysis (Low, Medium, High)</b>	High
<b>Cost Analysis (Low, Medium, High)</b>	High



<b>Actual Completion Date</b>	
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**Recommended Mitigation Action/Implementation Plan and Project Description**

<b>Action/Implementation Plan and Project Description:</b>	
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**Mitigation Action and Project Maintenance**

Year	Status	Comments
2019	New	
2020		
2021		
2022		
2023		

**Mitigated Hazards**

	<b>All Hazards</b>
	Dam/Levee Failure
	Drought
	Earthquake
X	Flood
	Extreme Heat
X	Lightning
X	Hail
X	Fog
X	High Wind
X	Snow
X	Blizzard
X	Extreme Cold
X	Ice Storms
X	Tornado
	Epidemic or pandemic
	Nuclear Power Plant Incident
X	Widespread Power Outage
	Coastal Erosion
	Secondary Impacts from Mass Influx of Evacuees
	Hazardous Materials Incident

### Ongoing Mitigation Actions

The following are ongoing actions with no definitive end or that are still in progress. During the 2019 update, these "ongoing" mitigation actions and projects were modified and/or amended, as needed.

**Action M2.2**

<b>TABLE: ACTION PLAN MATRIX</b>		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2—Y	STRENGTHEN BUILDING AND ZONING CODES – impacts of natural hazards on future land uses; integrate hazard mitigation policies; strengthen land-use planning efforts; reduce natural hazard risk and vulnerability to potentially isolated populations.	
Status Description: Yes	Especially in regards to new business development and maintaining existing structures, the Village has improved various building codes along the way per ordinance and resolution updates. This is a forever ongoing effort to ensure ordinances and codes are up to date with ever-changing vulnerabilities and risk assessments.	O
Completion status legend: <b>N</b> = New <b>O</b> = Action Ongoing toward Completion <b>C</b> = Project Completed <b>R</b> = Want Removed from Annex <b>X</b> = No Action Taken		

**Action M2.3**

<b>TABLE: ACTION PLAN MATRIX</b>		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 3—Y	72-HOUR SELF SUFFICIENCY – increase Matteson capacity to handle hazards and related crisis within its own government immediately and strengthen intergovernmental agreements and cooperation during and after hazards as well. Specifics increasing local capacity through all phases of emergency management; increase resilience; improve systems that provide early warnings; establish new partnerships and strengthen existing partnerships.	
Status Description: Yes	Self Sufficiency is always ongoing. The Village has increased its capacity to handle hazards and related crisis through various partnerships and training efforts. The Village practices regarding hazard mitigation supports general community objectives of economic vitality, social welfare, and environmental protection and conservation. As a community, these practices include disaster-resistant housing, employment opportunities, transportation, and public services which helps our community to become more sustainable and	O

	robust. Strengthening local capacity and resilience for disaster includes improved systems and early warnings.	
<p style="text-align: center;">Completion status legend:</p> <p style="text-align: center;"><b>N</b> = New    <b>O</b> = Action Ongoing toward Completion</p> <p style="text-align: center;"><b>C</b> = Project Completed    <b>R</b> = Want Removed from Annex    <b>X</b> = No Action Taken</p>		

**Action M2.4**

<b>TABLE: ACTION PLAN MATRIX</b>		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 4—Y	ENHANCE TORNADO WARNING PROTOCOL – help minimize disruption of Matteson government operations; improve early warning systems and emergency response communications; enhance partnerships regarding warning protocol.	
Status Description: Yes	The Village's public safety personnel: Police, Fire, and Public Works including public relations have put forth new avenues to improve warning protocol. Always, an ongoing process - for ever-changing times	O
Completion status legend: <b>N</b> = New <b>O</b> = Action Ongoing toward Completion <b>C</b> = Project Completed <b>R</b> = Want Removed from Annex <b>X</b> = No Action Taken		

**Action M2.9**

<b>TABLE: ACTION PLAN MATRIX</b>		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 9—Y	Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.	
Status Description: Yes	Where appropriate the Village has implemented a retrofitting to give priority to properties with exposure to repetitive losses.	O
Completion status legend: <b>N</b> = New <b>O</b> = Action Ongoing toward Completion <b>C</b> = Project Completed <b>R</b> = Want Removed from Annex <b>X</b> = No Action Taken		

**Action M2.10**

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 10—Y	Continue to support the county-wide actions identified in Cook County's Hazardous Mitigation plan.	
Status Description: Yes	Ongoing.	O
Completion status legend: <b>N</b> = New <b>O</b> = Action Ongoing toward Completion <b>C</b> = Project Completed <b>R</b> = Want Removed from Annex <b>X</b> = No Action Taken		

**Action M2.11**

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 11—Y	Actively participate in the plan maintenance strategy identified in this plan.	
Status Description: Yes	Plan maintenance strategy is an ongoing effort.	O
Completion status legend: <b>N</b> = New <b>O</b> = Action Ongoing toward Completion <b>C</b> = Project Completed <b>R</b> = Want Removed from Annex <b>X</b> = No Action Taken		

**Action M2.12**

<b>TABLE: ACTION PLAN MATRIX</b>		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 12—Y	Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady	
Status Description: Yes	The Village looks forward to doing more than meeting the minimum NFIP requirements to help its citizens prevent or reduce flood losses. To begin the application process for CRS, the Village plans to submit a letter of interest to FEMA. Village is also looking into a Tree City application as well.	O
Completion status legend: <b>N</b> = New <b>O</b> = Action Ongoing toward Completion <b>C</b> = Project Completed <b>R</b> = Want Removed from Annex <b>X</b> = No Action Taken		

**Action M2.13**

<b>TABLE: ACTION PLAN MATRIX</b>		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 13—Y	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.	
Status Description: Yes	The Village implements an ongoing effort to ensure good standing under the NFIP program. Ordinances, flood plain map updates, public assistance, etc., are ongoing to meet the demands of ever-changing issues	O
Completion status legend: <b>N</b> = New <b>O</b> = Action Ongoing toward Completion <b>C</b> = Project Completed <b>R</b> = Want Removed from Annex <b>X</b> = No Action Taken		

**Action M2.14**

<b>TABLE: ACTION PLAN MATRIX</b>		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
#14—N	Where feasible, implement a program to record high water marks following high-water events.	
Status Description: No	Limited resources at this time	X
Completion status legend: <b>N</b> = New <b>O</b> = Action Ongoing toward Completion <b>C</b> = Project Completed <b>R</b> = Want Removed from Annex <b>X</b> = No Action Taken		

**Action M2.15**

<b>TABLE: ACTION PLAN MATRIX</b>		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
#15—Y	Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.	
Status Description: Yes	This is an ongoing effort. The Village's 2014 Hazard Mitigation plan and the County's Hazard Mitigation plan has been (and will continue to be) included in local economic development efforts, other plans, and the update of ordinances.	O
Completion status legend: <b>N</b> = New <b>O</b> = Action Ongoing toward Completion <b>C</b> = Project Completed <b>R</b> = Want Removed from Annex <b>X</b> = No Action Taken		



**Action M2.16**

<b>TABLE: ACTION PLAN MATRIX</b>		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
#16—N	Consider the development and implementation of a Capital Improvements Program (CIP) to increase the Village’s regulatory, financial and technical capability to implement mitigation actions.	
Status Description: No	Limited resources at this time to undergo this effort. To prevent flooding, we are currently working on infrastructure.	X
Completion status legend: <b>N</b> = New <b>O</b> = Action Ongoing toward Completion <b>C</b> = Project Completed <b>R</b> = Want Removed from Annex <b>X</b> = No Action Taken		

**Action M2.17**

<b>TABLE: ACTION PLAN MATRIX</b>		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
#17—Y	Demolition of the formerly known Lincoln Mall (Project not previously identified in 2016 report)	
Status Description: Yes	Demolition has been complete regarding the properties located at Lincoln Mall. There is now vacant land on 90% of the property. Vacant land allows for additional drainage within the community. Much of property will be turned into green space.	O
Completion status legend: <b>N</b> = New <b>O</b> = Action Ongoing toward Completion <b>C</b> = Project Completed <b>R</b> = Want Removed from Annex <b>X</b> = No Action Taken		

**Action M2.18**

<b>TABLE: ACTION PLAN MATRIX</b>		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
#18—Y	Project compliance with MWRD Watershed Management Ordinance Article 8, Inflow & Infiltration Control Program (IICP) for the sanitary sewers owned by Matteson. In July of 2014 MWRD enacted the new IICP. (Project not previously identified in 2016 report).	
Status Description: Yes	Village program is divided into Short and Long Term. The Short Term Program includes identifying and repairing defects and cross connections in the worst 10% area of the sanitary sewer system, the High Priority Area. This includes approximately 17,800 feet of sewer, 85 Manholes and 356 properties.	O
Completion status legend: <b>N</b> = New <b>O</b> = Action Ongoing toward Completion <b>C</b> = Project Completed <b>R</b> = Want Removed from Annex <b>X</b> = No Action Taken		

### Completed Mitigation Actions

The following section represents completed mitigation actions, and serves as an archive of identified and completed projects.

**Action M2.1**

<b>TABLE: ACTION PLAN MATRIX</b>		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 1—Y	IMPROVE PUBLIC INFRASTRUCTURE regarding mitigation of floods and other hazards with specific concentrations on water/sewer infrastructure projects. Some other mitigation efforts include: sewer lining and smoke testing for combined sewer overflow; street reconstruction/drainage; new sidewalk design/construction to include better drainage; elevated tank raising; water main replacements for sustainability; elevated tank painting for better sustainability; sanitary sewer cleaning; utility upgrades/efficiency regarding public street lights; local roads and bridge assessments to ensure sustainability.	
Status Description: Yes	The Village completed engineering/design and construction plans for improved sanitary sewers, CIPP, and point repairs. Construction project complete	C
Completion status legend: <b>N</b> = New <b>O</b> = Action Ongoing toward Completion <b>C</b> = Project Completed <b>R</b> = Want Removed from Annex <b>X</b> = No Action Taken		

**Action M2.5**

<b>TABLE: ACTION PLAN MATRIX</b>		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 5— Y	PROVIDE SHELTER FACILITIES - working alongside early warning program; established partnerships with other governments and communities; reduce loss of injury/save lives.	
Status Description: Yes	The Village has several properties that are exceptionally large to serve as shelter facilities including a community center, library, village hall, fire department, and more. These facilities have the best technology and upgrades regarding back-up generators, etc.	C
Completion status legend: <b>N</b> = New <b>O</b> = Action Ongoing toward Completion <b>C</b> = Project Completed <b>R</b> = Want Removed from Annex <b>X</b> = No Action Taken		

**Action M2.6**

<b>TABLE: ACTION PLAN MATRIX</b>		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 6—Y	DEVELOP EVACUATION PLAN - working alongside early warning program; established partnerships with other governments and communities; reduce loss of injury/save lives.	
Status Description: Yes	Although the Village has completed a comprehensive hazard mitigation plan that includes an evacuation plan. This effort is ongoing based on need and can be adapted accordingly. This also includes working with neighboring communities	C
<p style="text-align: center;">Completion status legend:  <b>N</b> = New    <b>O</b> = Action Ongoing toward Completion  <b>C</b> = Project Completed    <b>R</b> = Want Removed from Annex    <b>X</b> = No Action Taken</p>		

**Action M2.7**

<b>TABLE: ACTION PLAN MATRIX</b>		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 7—Y	DEVELOP POST-DISASTER RECOVERY PLAN - utilizing resilience of critical facilities; development, improvements, and protection of early warning and post warning systems; utilizing good data; establishment of good partnerships with neighboring communities and other governments; encouragement of natural environment mitigation efforts	
Status Description: Yes	The Village's Hazardous Mitigation Plan completed	C
<p style="text-align: center;">Completion status legend:  <b>N</b> = New    <b>O</b> = Action Ongoing toward Completion  <b>C</b> = Project Completed    <b>R</b> = Want Removed from Annex    <b>X</b> = No Action Taken</p>		

**Action M2.8**

<b>TABLE: ACTION PLAN MATRIX</b>		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 8—Y	DEVELOP PUBLIC EDUCATION PROGRAMS – Although it would be most helpful to have all planning programs in place prior to outreach and education, its crucial to involve residents and businesses with what keeps them safe. Outreach and education include posting information on Village Website; discussions about private rain gardens; keeping your home safe with proactive measures. Education programs will involve village hazard mitigation policies; early warning systems; utilizing the best data available and technologies to educate public; partnership identifications with other governments, agencies, and communities and where to seek help while in a disaster; education about codes and land use within the area; and encourage	
Status Description: Yes	Within the City's Comprehensive Hazardous Mitigation Plan, the Village includes public education programs. Those programs have been conveyed to public and implemented.	C
Completion status legend: <b>N</b> = New <b>O</b> = Action Ongoing toward Completion <b>C</b> = Project Completed <b>R</b> = Want Removed from Annex <b>X</b> = No Action Taken		

## Future Needs to Better Understand Risk/Vulnerability

Since disasters often follow natural hazards and a disaster's severity depends on how much impact a hazard has on society and the environment, need better understanding and training as to the scale of the impact and how this depends on the choices we make for our lives and for our environment. We need better understanding to the vulnerabilities involved with the choices relative to how we grow our food, where and how we build our homes, what kind of government we have, how our financial system works and even what we teach in schools. More understanding as to how each decision and action makes us more vulnerable to disasters - or more resilient to them.

## Additional Comments

Regarding the needs of the Village of Matteson - improved public infrastructure that would help to mitigate flood and alleviate severe weather hazards and updated planning measures, would assist greatly with improving quality of life during and after natural hazard events. This is with the understanding that all planning and construction programs will be sustainable and energy efficient. In addition, the Village is looking forward to implementing educational outreach programs regarding hazard mitigation and improving public safety and public works measures to complement hazardous mitigation programming as well.



### HAZUS-MH Risk Assessment Results

<b>MATTESON EXISTING CONDITIONS</b>	
2010 Population	19,009
Total Assessed Value of Structures and Contents	\$4,141,589,229
Area in 100-Year Floodplain	854.56 acres
Area in 500-Year Floodplain	910.28 acres
Number of Critical Facilities	39

<b>HAZARD EXPOSURE IN MATTESON</b>						
	Number Exposed		Value Exposed to Hazard		Total	% of Total Assessed Value Exposed
	Population	Buildings	Structure	Contents		
<b>Dam Failure</b>						
Buffalo Creek	0	0	\$0	\$0	<b>\$0</b>	0.00%
U. Salt Cr. #2	0	0	\$0	\$0	<b>\$0</b>	0.00%
Touhy	0	0	\$0	\$0	<b>\$0</b>	0.00%
U. Salt Cr. #3	0	0	\$0	\$0	<b>\$0</b>	0.00%
U. Salt Cr. #4	0	0	\$0	\$0	<b>\$0</b>	0.00%
<b>Flood</b>						
100-Year	312	96	\$76,463,097	\$64,487,430	<b>\$140,950,527</b>	3.40%

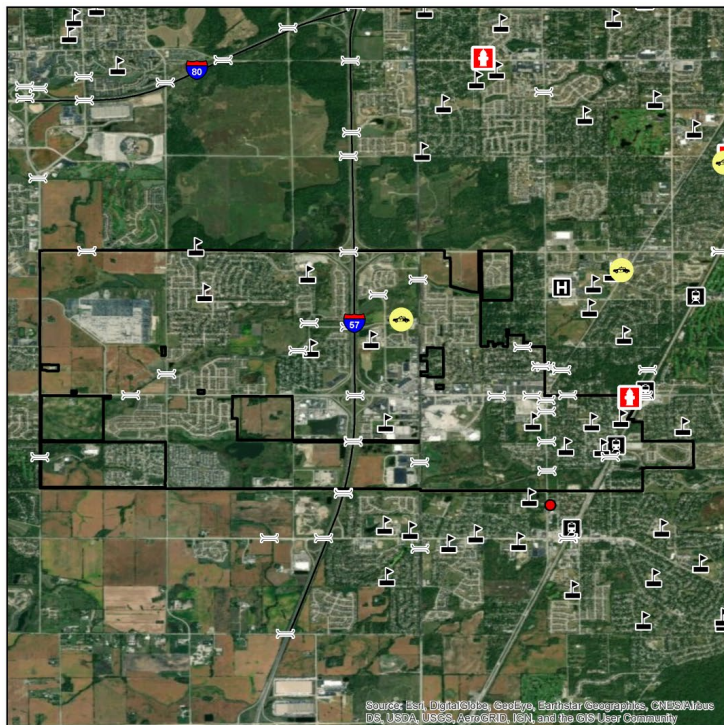
500-Year	442	136	\$88,502,390	\$71,001,976	<b>\$159,504,366</b>	3.85%
<b>Tornado</b>						
100-Year	—	—	\$173,113,303	\$94,601,756	<b>\$267,715,059</b>	6.46%
500-Year	—	—	\$525,365,189	\$262,768,490	<b>\$788,133,679</b>	19.03%

**ESTIMATED PROPERTY DAMAGE VALUES IN MATTESON**

	Estimated Damage Associated with Hazard			% of Total Assessed Value Damaged
	Building	Contents	Total	
<b>Dam Failure</b>				
Buffalo Creek	\$0	\$0	<b>\$0</b>	0.00%
U. Salt Cr. #2	\$0	\$0	<b>\$0</b>	0.00%
Touhy	\$0	\$0	<b>\$0</b>	0.00%
U. Salt Cr. #3	\$0	\$0	<b>\$0</b>	0.00%
U. Salt Cr. #4	\$0	\$0	<b>\$0</b>	0.00%
<b>Earthquake</b>				
1909 Historical Event	\$19,534,898	\$5,657,785	<b>\$25,192,684</b>	0.61%
<b>Flood</b>				
10-Year	\$209,714	\$172,264	<b>\$381,978</b>	0.01%
100-Year	\$2,993,443	\$5,207,608	<b>\$8,201,050</b>	0.20%
500-Year	\$5,392,374	\$9,686,433	<b>\$15,078,807</b>	0.36%

<b>Tornado</b>				
100-Year	\$17,311,330	\$9,460,176	<b>\$26,771,506</b>	0.65%
500-Year	\$76,703,318	\$38,364,199	<b>\$115,067,517</b>	2.78%

# Hazard Mapping



## VILLAGE OF MATTESON

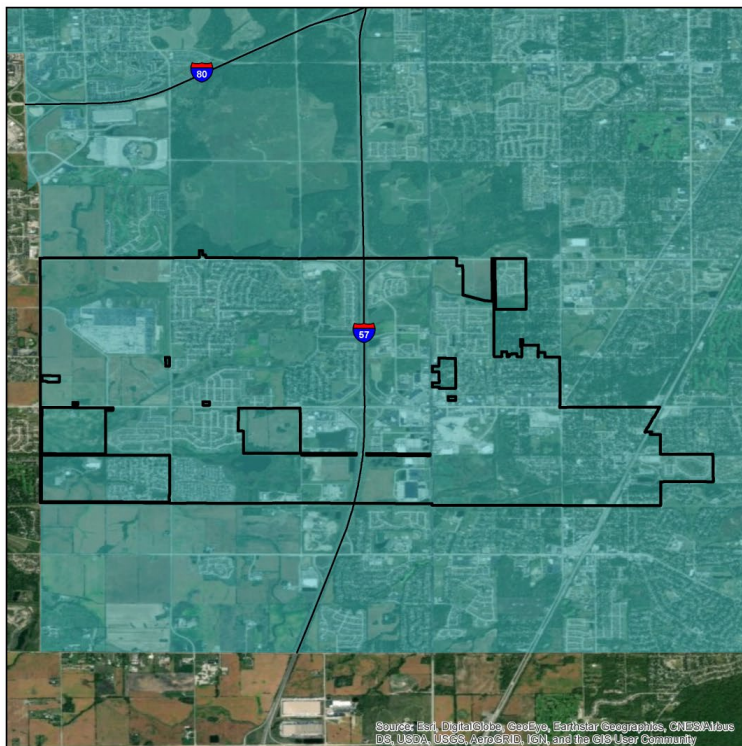
### CRITICAL INFRASTRUCTURE

- Oil Facilities
- Transit Centers
- Military Facilities
- Police Stations
- Fire Stations
- Hazardous Waste
- Airports
- Hospitals
- Highway Bridges
- Warming Centers
- Cooling Centers
- Schools
- Railroad Stations

Base Map Data Sources:  
Cook County, ESRI



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



## VILLAGE OF MATTESON

### PEAK GROUND ACCELERATION FOR A 100 YEAR EARTHQUAKE EVENT

**Mercalli Scale, Potential Shaking**  
II-III Weak

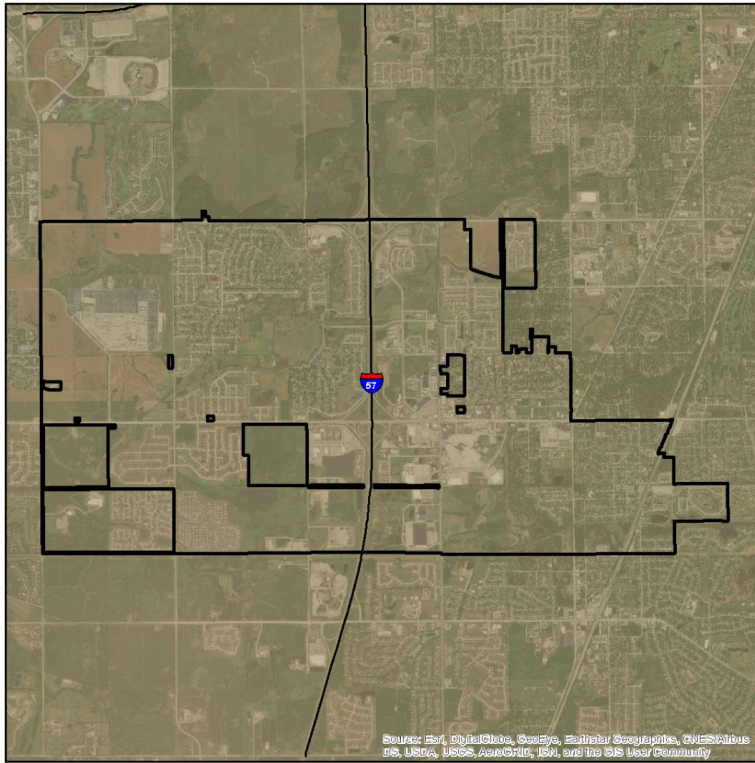
Data provided by the USGS Earthquake Hazards Program and Cook County

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.

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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



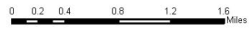
**VILLAGE OF MATTESON**  
**NATIONAL EARTHQUAKE HAZARD REDUCTION PROGRAM (NEHRP) SOIL CLASSIFICATION**

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

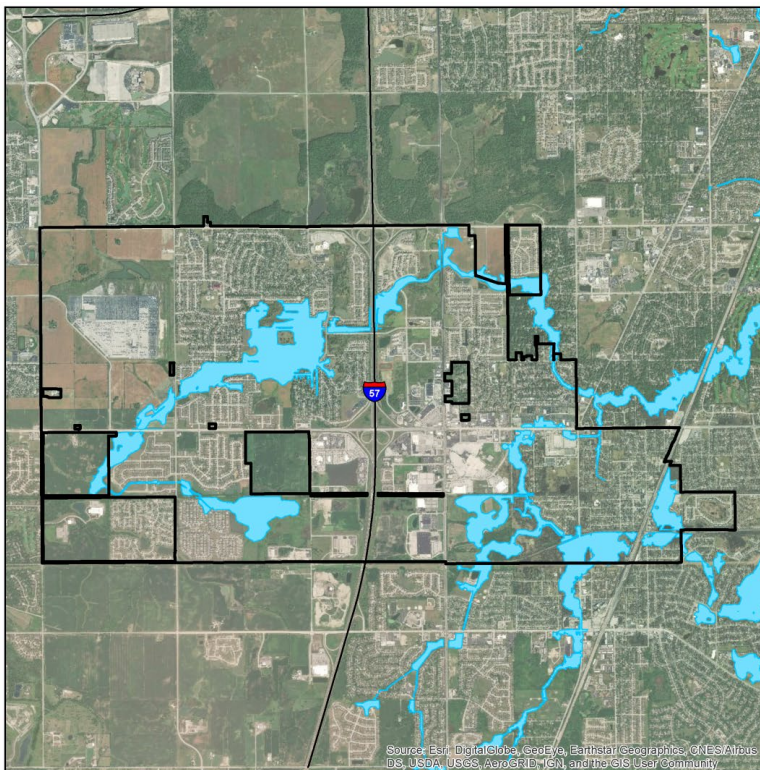
Data provided by the Illinois State Geological Survey and Cook County.

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 Flooding Initiative Phase II work. The USGS Geologic Investigation Series I-2789 Map of Surficial Deposits and Materials in the Eastern and Central United States (East of 102 degrees West Longitude) by David S. Fullerton, Charles A. Bush and Jean N. Parnell (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 map. CUSEC State Geologists used the entire z 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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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**VILLAGE OF MATTESON**  
**COOK COUNTY MWRDGC 100-YEAR INUNDATION AREA**

**COOK COUNTY MWRDGC 100-YEAR INUNDATION AREA**

- 100-year Inundation Area

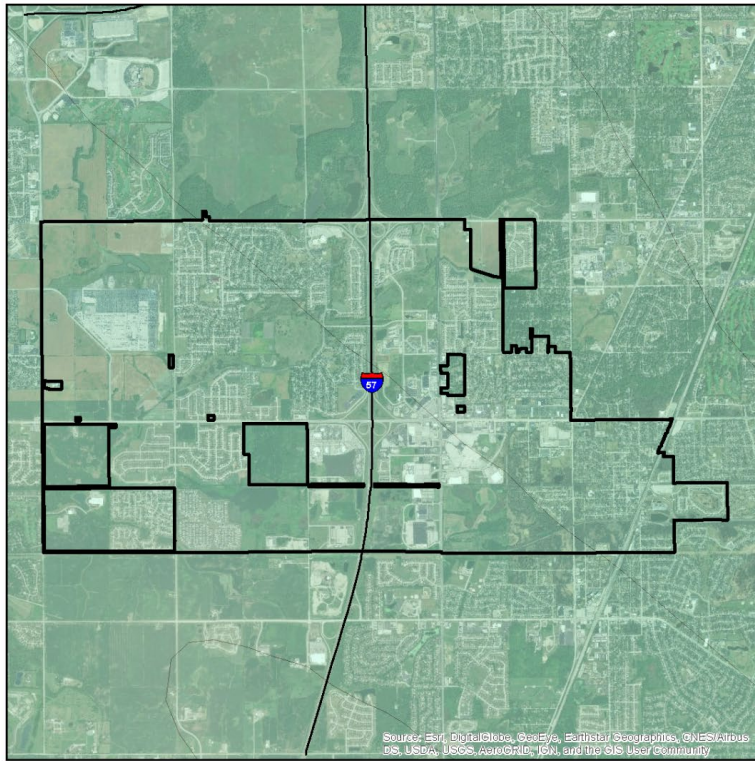
MWRDGC Data provided by Metropolitan Water Reclamation District of Greater Chicago and Cook County.

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**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>.

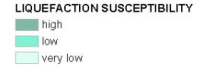


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



### VILLAGE OF MATTESON

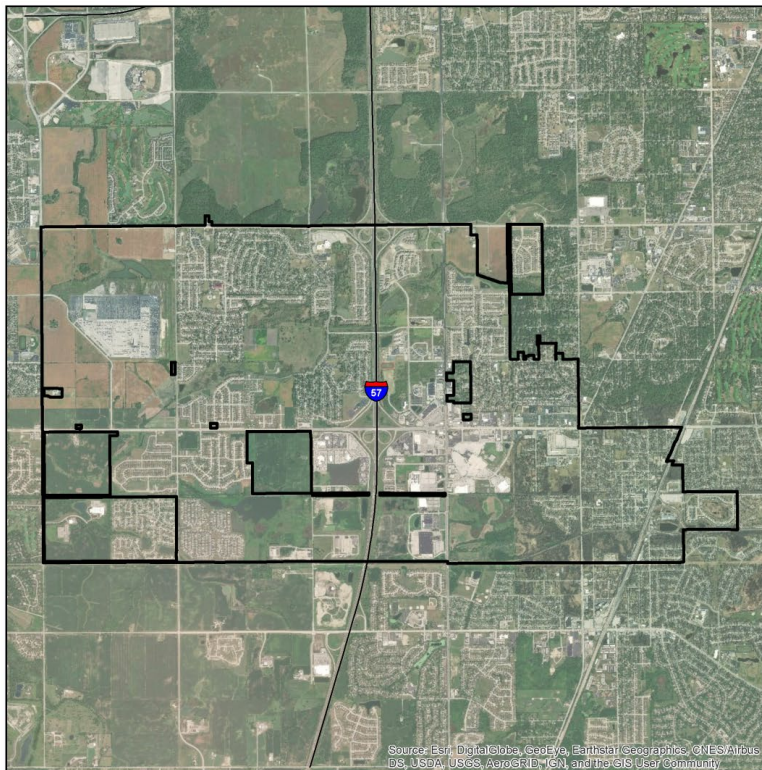
#### LIQUEFACTION SUSCEPTIBILITY



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

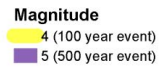
The Central United States Earthquake Consortium (CUSEC) State Geologists produced a regional Soil Site Class map (NEHRP Soil Profile Type Map), a Liquefaction Susceptibility Map and a Soil Response Map for the 8 states to be used in the FEMA New Madrid Catastrophic Planning Initiative Phase II work. The USGS Geologic Investigation Series I-2789 Map of Surficial Deposits and Materials in the Eastern and Central United States (East of 102 degrees West Longitude) by David S. Fullerton, Charles A. Bush and Jean N. Pinnerl (2002) 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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### VILLAGE OF MATTESON

#### 100- AND 500- YEAR TORNADO EVENTS



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

